

DCS MS-016

Docket No. 50-335

SEP 16 1983

Dr. Robert E. Uhrig  
Vice President  
Advanced Systems & Technology  
Florida Power & Light Company  
P. O. Box 14000  
Juno Beach, Florida 33408

Dear Dr. Uhrig :

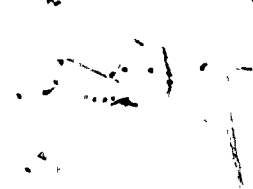
SUBJECT: NUREG-0737, ITEM II.B.1, REACTOR COOLANT SYSTEM VENTS -  
ST. LUCIE PLANT, UNIT NO. 1

By letters dated August 10, 1981, February 8, March 2 and May 7, 1982, Florida Power and Light Company has provided information and details relating to the design of the reactor coolant system vents (RCSV) for the St. Lucie Plant, Unit No. 1. However, the implementation, schedule and requirement for a pre-implementation review have been superseded by the requirements of 10 CFR 50.44(c)(3)(iii). All operating reactors, in order to provide the improved operational capability required by the rule, must have the RCS vents installed, operational, procedures established and personnel trained in accordance with the schedule provided in the rule. An exemption is necessary if the specific design or schedular requirements of 10 CFR 50.44(c)(3)(iii) cannot be complied with.

The guidance in NUREG-0737, Item II.B.1, provides an acceptable means of meeting the design requirements of the rule for the RCS vents. Prior to promulgation of the rule, we have reviewed your responses identified above. The enclosed Safety Evaluation (SE) is based on the Technical Evaluation Report (TER) prepared by our consultant, Lawrence Livermore National Laboratory, and additional items which were outside the scope of the TER. The TER is attached to the SE. You will note our evaluation identifies specific items which are being addressed in conjunction with other ongoing NRC actions and areas where deficiencies may exist or confirmation is necessary to assure conformance with the rule.

We are providing the results of our review for your information. In addition, we have provided the information to Region II to assist them, as they deem appropriate, in determining your compliance with the requirements of 10 CFR 50.44(c)(3)(iii). If you have any questions relating to the enclosed SE, please contact Donald E. Sells, the NRC Project Manager for your facility.

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PDR



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Dr. Robert E. Uhrig

- 2 -

We consider NUREG-0737, Item II.B.1, actions to be completed based on the requirements and promulgation of 10 CFR 50.44(c)(3)(iii).

Sincerely,

Original Signed by J. R. Miller,

James R. Miller, Chief  
Operating Reactors Branch #3  
Division of Licensing

Enclosure:  
As stated

cc: See next page

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JRMiller  
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MEMORANDUM FOR THE DIRECTOR, FBI

RE: [Illegible]

DATE: [Illegible]

BY: [Illegible]

SUBJECT: [Illegible]

[Illegible text block]

Florida Power & Light Company

cc:

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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

SAFETY EVALUATION

ST. LUCIE PLANT UNIT NO. 1

FLORIDA POWER AND LIGHT COMPANY

DOCKET NO. 50-335

INTRODUCTION

The requirement for RCS vessel head and high point vents is stated in 10 CFR 50.44 paragraph (c)(3)(iii). Guidance is provided in NUREG-0737 "Clarification of TMI Action Plan Requirements," November 1980, Item II.B.1 Reactor Coolant System Vents and NUREG-0800 "Standard Review Plan," July 1981, Section 5.4.12 Reactor Coolant System High Point Vents. The requirements of 10 CFR 50.44 for RCS high point vents specifically provide that the vent system shall: (1) be designed to ensure low probability of inadvertent or irreversible actuation and a high probability of operating when needed, (2) be remotely operable from the control room, (3) not aggravate the challenge to containment or the course of the accident, and (4) conform to the requirements of Appendix A and B of 10 CFR 50.

The licensee has responded to the above requirements in references 1 and 2. These responses have been evaluated by Lawrence Livermore Laboratory under contract to the Nuclear Regulatory Commission (NRC). The results of this evaluation are presented in the attachment entitled "Reactor Coolant Systems Vents (NUREG-0737, Item II.B.1), Final Technical Evaluation Report for St. Lucie 1."

The NRC staff review is based upon the Technical Evaluation Report (TER) and has been extended to items outside the scope of the TER, as specifically identified herein.

Certain items identified below may be subject to confirmation including a post-implementation review and audit to ensure compliance with 10 CFR 50.44(c)(3)(iii).

### EVALUATION

The staff concurs with the TER recommendation that the St. Lucie 1 vent system design is acceptable provided the following items are satisfactorily resolved:

NUREG-0737 Item II.B.1 Clarification A (12) concerning human factor analysis requires consideration of the addition of vent system controls to the control room. Although this was discussed in the TER, the human factor analysis of control room modifications will be further addressed on an audit basis as part of the review of TMI Item I.D.1 "Control Room Design Reviews".

The construction codes and standards for the piping and valves used in the Reactor Coolant System Vents were not specifically identified. The Codes and Standards shall be identified and available for NRC audit.

The facility uses a solenoid operated valve system which may be susceptible to common mode failure; the licensee is required to evaluate this susceptibility and implement any necessary corrective action. This item must be confirmed by the licensee.

The current design does not provide for continuous valve position indication in the control room per the requirement of NUREG-0737, Item II.B.1, subitem A (5) and subitem A (6) concerning the requirements for operability of the vent system from the control room. An acceptable resolution would be for the licensee to restore continuous control power supply to the RCS vents system by deleting its commitment to remove control power during normal operation. The staff has evaluated that the related requirements in 10 CFR 50.44(c)(3)(iii) for the inadvertent or irreversible actuation of a vent have been adequately met by other features of the system design, therefore, removal of power is not necessary. The licensee is required to take the necessary action to meet these requirements. This item must be confirmed by the licensee.

The following items are identified in the TER as being outside the scope of the contractor's review: seismic and environmental qualification, operating guidelines and procedures, technical specifications, and the inservice inspection program. The resolution of these items is as follows:



Seismic and Environmental Qualification: Seismic and environmental qualification will be audited in conjunction with generic audits of the licensee's Seismic and Environmental qualification program.

Operating Guidelines and Procedures: NUREG-0737 item II.B.1 requested procedures and analyses for operator use of the vents including the identification of the information available to the operator for initiating or terminating vent usage. The staff review of NUREG-0737 Item I.C.1 includes vent operating guidelines as an integral part of emergency operating procedures guidelines. It is our judgment that the owners group emergency operating guidelines as approved by the staff will provide an acceptable basis for the development of plant specific operating procedures. The plant procedures will be subject to NRC audits. We consider this approach a satisfactory resolution of operating procedures for RCS vents.

Technical Specifications: It is currently proposed to issue a generic letter to all licensees regarding the submittal of Proposed Technical Specifications for a number of NUREG-0737 items, including item II.B.1, which were required to be implemented after December 31, 1981. Technical specification requirements for the RCS vents will be included in this forthcoming licensing action.

Inservice Inspection Program: The vent system is an extension of the reactor coolant pressure boundary and must meet applicable inservice inspection requirements described by 10 CFR 50.55(g). The staff requires that the licensee include the RCS vent system in the inservice inspection program which is subject to NRC review and audit.

### CONCLUSION

The staff safety evaluation is based on a review of the Technical Evaluation Report (TER) performed by Lawrence Livermore National Laboratory (attached), and the staff reviews of additional items / outside the scope of the TER. The staff finds that the vent system at St. Lucie 1 is acceptable and in conformance with the requirements of 10 CFR 50.44 paragraph (c)(3)(iii) and the guidelines of NUREG-0737 Item II.B.1, and NUREG-0800 section 5.4.12. Certain items are subject to confirmation including post implementation NRC audit in conjunction with other ongoing actions/programs. These items are: (1) human factors analysis of control room modifications, (2) identification of construction codes and standards, (3) confirm acceptable resolution of susceptibility of solenoid operated valve systems to common mode failure, (4) confirm restoration of continuous positive valve position indication within, and operability of the RCS vents from, the control

room during normal operation, (5) seismic and environmental qualification, (6) operating procedures, and (7) the in-service inspection program.

Technical Specifications will be the subject of a separate future licensing action.

Attachment: LLNL Technical  
Evaluation Report

Principal Contributor:  
R. Licciardo