Florida Power & Light Company, 6351 S. Ocean Drive, Jensen Beach, FL 34957

L-2000-001
January 19, 2000 10 CFR 50.90

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Proposed License Amendments
Main Steam and Pressurizer Code Safety Valve
Setpoint Setting and Setpoint Testing Requirements

Pursuant to 10 CFR 50.90, Florida Power and Light Company (FPL) requests to amend Facility Operating Licenses DPR-67 for St. Lucie Unit 1 and NPF-16 for St. Lucie Unit 2 by incorporating the attached Technical Specifications (TS) revisions. These proposed license amendments will revise the Unit 1 and 2 Technical Specifications to be consistent with the Standard Technical Specifications (STS) requirements that allow for an expanded as-found testing acceptance tolerance (i.e., beyond ±1%) for the main steam safety valves (MSSVs) and pressurizer code safety valves (PSVs), whereas the existing St. Lucie Technical Specifications do not. Expanding the as-found acceptance limits will allow the test program to accept MSSVs and PSVs whose setpoints are found to be within accident analysis assumptions. The ±1% as-left criteria will remain unchanged. Mode 5 operability requirements for the PSVs will also be deleted.

Attachment 1 is an evaluation of the proposed changes. Attachment 2 is the "Determination of No Significant Hazards Consideration." Attachments 3 and 4 contain copies of the affected Technical Specifications pages marked up to show the proposed changes.

The proposed amendments have been reviewed by the St. Lucie Facility Review Group and the FPL Company Nuclear Review Board. In accordance with 10 CFR 50.91 (b) (1), copies of the proposed amendments are being forwarded to the State Designee for the State of Florida. Please contact us if there are any questions about this submittal.

Very truly yours,

J. A. Stall
Vice President
St. Lucie Plant

JAS/EJW/KWF

Attachments

cc: Regional Administrator, Region II, USNRC
Senior Resident Inspector, USNRC, St. Lucie Plant
Mr. W. A. Passetti, Florida Department of Health and Rehabilitative Services

A001

STATE OF FLORIDA)
) ss.
COUNTY OF ST. LUCIE)

J. A. Stall being first duly sworn, deposes and says:

That he is Vice President, St. Lucie Plant, for the Nuclear Division of Florida Power and Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

J. A. Stall

STATE OF FLORIDA

COUNTY OF St. Lucie

Sworn to and subscribed before me

this 19 day of January, ~~19~~ 2000

by J. A. Stall, who is personally known to me.

Signature of Notary Public, State of Florida

MY COMMISSION # CC645183 EXPIRES
May 12, 2001
BONDED THRU TROY FAIN INSURANCE, INC.

Leslie J. Whitwell
Name of Notary Public (Print, Type, or Stamp)

Attachment 1 to FPL Letter L-2000-001

EVALUATION OF PROPOSED TS CHANGES

Introduction

Florida Power and Light Company (FPL) requests to amend Facility Operating Licenses DPR-67 for St. Lucie Unit 1 and NPF-16 for St. Lucie Unit 2 by incorporating the attached Technical Specifications (TS) revisions. These proposed license amendments (PLA) will revise the Unit 1 and 2 main steam safety valve (MSSV) and pressurizer code safety valve (PSV) Technical Specifications to be consistent with the Standard Technical Specifications (STS). The STS include a provision for MSSV and PSV setpoint setting and setpoint testing that currently does not exist in the St. Lucie Technical Specifications. Specifically, the STS allow an expanded setpoint surveillance testing acceptance tolerance (i.e., beyond ±1%), whereas the existing St. Lucie Technical Specifications do not. Expanding the as-found acceptance limits will allow the test program to accept MSSVs and PSVs whose setpoints are found to be within accident analysis assumptions. The ±1% as-left criteria will remain unchanged.

St. Lucie Plant and industry experience with safety valves has shown that valve setpoint drift is a common phenomena whereby, over time, the as-found setting of a safety valve may "drift" beyond the original setting tolerance of ±1%. Both the ASME Code and the Standard Technical Specifications for Combustion Engineering Plants recognize setpoint drift and both allow for expanded as-found acceptance limits. The ASME Code accepts a deviation of up to +3% (the Code does not address a negative tolerance). The Standard Technical Specifications, based in part on the ASME Code, accepts a deviation of up to ±3%.

These PLAs will also revise the applicability of the PSV LCOs to be consistent with the STS. Currently, there is a PSV LCO for Modes 1, 2, and 3 and a second PSV LCO for Modes 4 and 5. The STS format consists of a single PSV LCO, applicable in Modes 1, 2, 3 and Mode 4 with RCS cold leg temperatures above the low temperature overpressure protection (LTOP) limit; below the LTOP temperature limit a separate LTOP LCO is applicable.

Background/Discussion

The setpoint tolerance for the MSSVs and the PSVs is currently ±1%. This ±1% band has been used as an acceptance criterion for the periodic lift testing of the valves. Per Technical Specification Surveillance Requirements, MSSVs and PSVs are lift tested in accordance with the Inservice Testing Program, procedure ADM-29.01, "Inservice Testing (IST) Program for Pumps and Valves." This lift testing has historically produced results where one or more of the tested valves lifts at a pressure that is outside the ±1% band. Although the as-found lift pressure may be bounded by the accident analysis, FPL is required to initiate a licensee event report (LER) as a condition prohibited by the Technical Specifications because they do not explicitly allow for an as-found lift setpoint tolerance.

St. Lucie Plant and industry experience with safety valves has shown that valve setpoint drift is a common phenomena whereby, over time, the as-found setting of a safety valve may "drift" beyond the original setting tolerance of ±1%. Both the ASME Code, ASME/ANSI OM-1987, "Operation and Maintenance of Nuclear Power Plants, Part 1 – Requirements for Inservice Performance Testing of Nuclear Power Plant Pressure Relief Devices," and the Standard Technical Specifications for Combustion Engineering Plants, NUREG-1432, recognize setpoint drift and both allow for expanded as-found acceptance limits. The ASME Code accepts a deviation of up to +3% (the Code does not address a negative tolerance). The Standard Technical Specifications accepts a deviation of up to ±3%.

Description of the Proposed Changes

The proposed Technical Specification changes are summarized below. Marked-up Technical Specification pages for this proposed change are provided as Attachments 3 and 4.

Note - This evaluation does not revise the requirement to set the MSSVs and PSVs within a tolerance of ±1% .

MSSVs

Technical Specification 3.7.1.1 (both units), Turbine Cycle Safety Valves, requires the MSSVs to be operable with settings in accordance with Table 4.7-1 (Unit 1) and Table 3.7-2 (Unit 2). Both of these tables identify a setpoint tolerance of ±1%. The Bases for Technical Specification 3.7.1.1 (both units) do not discuss setpoint tolerances and/or setpoint drift.

Section 3.7.1 of the STS provides a clear distinction between the tolerance used for setting of the lift setpoint and the tolerance used for surveillance testing of the lift setpoint. Specifically, Surveillance Requirement 3.7.1.1 states the following:

> Verify each required MSSV lift setpoint per Table 3.7.1-2 in accordance with the Inservice Testing Program. Following testing, lift settings shall be within ±1%.

STS Table 3.7.1-2 lists the MSSVs and identifies the lift setting as "psig ±[3]%" (the use of the "[]" parentheses indicates that a plant specific value is to be provided). The Bases for this STS specification states:

> Table 3.7.1-2 allows a ±[3%] setpoint tolerance for OPERABILITY; however, the valves are reset to ±1% during the Surveillance to allow for drift.

The proposed changes of Attachments 3 and 4 provide an expanded setpoint tolerance for valve testing that is based on existing plant accident analyses. The Bases of the above MSSV Technical Specifications will be revised to distinguish between the as-found surveillance testing acceptance criteria added by this evaluation and the unchanged as-left setpoint acceptance criteria. Table 4.7-1 (Unit 1) and Table 3.7-2 (Unit 2) will be revised to reflect the as-left setpoint range rather than a specific setpoint value. Although this table format is slightly different than the table format presented in the STS, it will provide consistency with the format of the PSV specification (the STS formats for the PSV and MSSV specifications are inconsistent). The wording of the Action for TS 3.7.1.1 is being revised to change the "Cold Shutdown...30 hours" requirement to a "Hot Shutdown...12 hours" requirement. This is consistent with the STS and is acceptable since the LCO does not require MSSV operability in Hot Shutdown. Action "b" is retained in lieu of using the STS note regarding Modes 1 and 2 applicability of the Surveillance Requirement.

In addition to the above changes, the MSSV orifice size is being deleted from Table 4.7-1 (Unit 1) and Table 3.7-2 (Unit 2). The orifice size is a design feature that cannot be changed without a formal modification to the valves. The STS do not include valve orifice size requirements.

PSVs

Technical Specifications 3.4.2 (Unit 1) and 3.4.2.1 (Unit 2), Reactor Coolant System Safety Valves – Shutdown, and Technical Specifications 3.4.3 (Unit 1) and 3.4.2.2 (Unit 2), Safety Valves – Operating, require the PSVs to be operable with a lift setting of 2500 psia ±1%. The Bases for these Technical Specifications do not discuss setpoint tolerances and/or setpoint drift.

Section 3.4.10 of the STS provides a clear distinction between the tolerance used for setting of the lift setpoint and the tolerance used for surveillance testing of the lift setpoint. Specifically, Surveillance Requirement 3.4.10.1 states the following:

> Verify each pressurizer safety valve is OPERABLE in accordance with the Inservice Testing Program. Following testing, lift settings shall be within ±1%.

The Bases for this STS specification states:

> The pressurizer safety valve setpoint is ±[3%] for OPERABILITY; however, the valves are reset to ±1% during the Surveillance to allow for drift.

The proposed changes of Attachments 3 and 4 provide an expanded setpoint tolerance for valve testing that is based on existing plant accident analyses. As such, the referenced Technical Specifications will be revised to note these setpoint tolerances. Also, the wording of the associated LCOs, Actions, Surveillance Requirements, and corresponding Bases will be revised in a manner similar to the STS.

Note that the STS have a single PSV LCO that is applicable in Modes 1, 2, 3 and Mode 4 >[285]°F. At or below [285]°F a separate LTOP LCO is applicable and the PSVs are no longer required to be operable. The St. Lucie TS currently include two LCOs for RCS overpressure protection in Modes 4 and 5: one LCO for the PSVs and one LCO for the LTOP system. The St. Lucie TS also include an LCO for PSV operability in Modes 1, 2, and 3. These proposed license amendments revise the St. Lucie TS to adopt the STS format. This will delete the "overlap" in required RCS overpressure protection.

In addition, the LCOs will be revised to reflect the as-left PSV setpoint acceptance tolerance values in units of psig in lieu of psia. The actual setpoint value of 2500 psia is not being changed. The acceptance tolerance range is calculated based on the setpoint value of 2500 psia, then converted to units of psig. The Bases will be revised to explain the above. This change will make the Technical Specifications consistent with implementing procedures, which use units of psig.

Bases/Justification of the Proposed Changes

UFSAR

Section 5.2.2.1 of the Unit 1 UFSAR and Section 10.3.2 of the Unit 2 Updated Final Safety Analysis Report (UFSAR) provide similar descriptions of the MSSVs. The MSSVs are described as providing overpressure protection for the shell side of the steam generators and the main steam line piping up to the main steam isolation valves. The MSSVs are ASME Code, spring loaded, open bonnet, flange mounted safety valves that discharge to atmosphere. There are eight MSSVs installed on each main steam header, four of which are set at 985.3 psig (1000 psia) and four of which are set at 1025.3 psig (1040 psia). Table 5.5-2 (Unit 1) and Table 10.3-1 (Unit 2) provide design information on the MSSVs, including setpoint values. There is no detailed discussion in the UFSARs regarding setpoint testing requirements and/or acceptance limits.

Section 5.5.3 of the Unit 1 UFSAR and Section 5.4.13 of the Unit 2 UFSAR provide similar descriptions of the PSVs. The PSVs are described as providing overpressure protection for the reactor coolant system. The PSVs are ASME Code, spring loaded, enclosed bonnet, flange mounted safety valves that discharge to the quench tank. There are three PSVs installed on top of the pressurizer, each of which is set at 2485.3 psig (2500 psia). Table 5.5-4 (Unit 1) and Table 5.4-8 (Unit 2) provide design information on the PSVs, including setpoint values. There is no detailed discussion in the UFSARs regarding setpoint testing requirements and/or acceptance limits.

For both the MSSVs and the PSVs, Unit 1 and 2 UFSAR Chapter 15 accident analyses describe valve actuation assumed at varying pressure values. The values assumed therein are for analysis purposes only and are not intended to represent setpoint requirements. A review of setpoint tolerances with respect to plant accident analyses is provided in the evaluation below.

Evaluation and Justification of Changes

The Reference 3 Standard Technical Specifications distinguish between the safety valve setpoint tolerance and the tolerance used for surveillance testing of the MSSVs and PSVs. This distinction is made in the Bases section of the STS. Specifically, the STS describe a "±[3%] setpoint tolerance for OPERABILITY; however, the valves are reset to ±1% during the Surveillance to allow for drift." Note that the STS refer to testing in accordance with the ASME Code and the ±3% value is likely used in the STS since +3% is the value recognized in the Code (Reference 2) as a tolerance beyond which the valve is considered to have failed its lift test. The Code does not address negative tolerances.

As noted above, MSSV and PSV setpoints are established within a ±1% tolerance; however, as identified in the STS, plant specific tolerances should be provided for determination of operability. The tolerance to be specified for valve operability is logically limited by the ability of each plant's accident analyses to accommodate the tolerance. FPL reviewed the relevant accident analyses to provide the following analysis.

Setpoint Tolerances - St. Lucie Unit 1

The safety analysis inputs are documented in SAPP-1, Revision 3, "St. Lucie Unit 1 Safety Analysis Plant Parameters." The safety analysis impacted by the PSV and the MSSV set pressures are:

1) Loss of External Load (LOEL), and
2) Small Break LOCA

The analysis for LOEL assumes that openings of safety valves do not occur until the pressure reaches a value corresponding to valve tolerance of +1% for MSSVs and +3% for PSVs (SPC report EMF-96-135, "St. Lucie Unit 1 Chapter 15 Event Review and Analysis for 30% Steam Generator Tube Plugging," May, 1996 and SPC letter TMH:97:210, T.M. Howe (SPC) to J. Polavarapu (FPL), "Assessment of Change in Calculated Peak Secondary Side Pressure due to Changes in Modeling of St. Lucie Unit 1 MSSVs," July 16, 1997). The negative tolerance for the MSSVs has no adverse effect on this analysis.

For the PSVs, the tolerance on the negative side is limited by the reactor trip, such that the PSVs do not open prior to the trip setpoint. The analysis assumes late opening of the PSVs to maximize the overpressure calculation. The high pressure trip setpoint is 2400 psia with an uncertainty of 22 psi. Since the valve lift setpoint is 2500 psia, a tolerance on the negative side of up to 2.5% will not affect the analysis results, assuming a conservative uncertainty of 37 psi on the trip setpoint.

The analysis for a small break LOCA supports an MSSV setpoint tolerance of +3% (SPC report EMF-1987, "St. Lucie Unit 1 Small Break LOCA Analysis with Asymmetric HPSI Flow," November, 1997 and SPC letter RIW:99:141, R.I. Wescott (SPC) to R.J. Rodriguez (FPL), "Transmittal of Small Break LOCA FSAR Update Package," June 14, 1999). Since

there is no analytical concern regarding the negative setpoint tolerance for the MSSVs, the STS value of –3% is used.

The following as-found setpoint tolerance limits are therefore acceptable based on the current UFSAR analysis:

MSSVs	-	+1%, -3%
PSVs	-	+3%, -2.5%

Setpoint Tolerances - St. Lucie Unit 2

The analysis inputs for St. Lucie Unit 2 are documented in SAPP-2, Revision 4, "St. Lucie Unit 2 Safety Analysis Plant Parameters," and the values supported by the analysis, submitted to the NRC as part of Reload Process Improvement (RPI), are presented in ABB letter F2-99-048, G. Singh (ABB-CE) to R. J. Rodriguez (FPL), "Transmittal of St. Lucie Unit 2 Reload Checklist Document, Revision 3," May 24, 1999. Since there is no analytical concern regarding the negative setpoint tolerance for the MSSVs, the STS value of –3% is used. Based on these references, the following values of MSSV and PSV as-found setpoint tolerances are supported by the UFSAR analysis to be incorporated in Cycle 12:

MSSVs	-	+1%, -3%
PSVs	-	±2%

Since the above analysis was performed for Cycle 12 and the plant is currently operating in Cycle 11, a review was performed to determine the applicability of the proposed tolerances for EOC 11 setpoint testing. The review concluded the RPI analysis bounds the conditions at EOC 11; therefore, the setpoint tolerances proposed above remain applicable for the year 2000 refueling outage.

Note that for both the Unit 1 and Unit 2 analyses above, the setpoint tolerances were calculated using the current Technical Specification MSSV and PSV setpoint values in units of psia.

Deletion of MSSV Orifice Size

The MSSV orifice size data is being deleted from Table 4.7-1 (Unit 1) and Table 3.7-2 (Unit 2). While it is appropriate for the Technical Specifications to identify safety valve setpoints and to provide surveillance testing to ensure proper valve performance, safety valve orifice size is a passive, fixed design feature that cannot "drift" or otherwise be changed without a formal modification to the valves. There is no existing TS Surveillance associated with this design feature and the STS do not include valve orifice size requirements. As such, it is acceptable to delete this unnecessary detail from the Technical Specifications.

PSV LCO Reformatting – Unit 1

The original Unit 1 TS, issued in 1976, did not include an LCO specifically for LTOP conditions. RCS overpressure protection was provided solely via TS 3.4.2, for PSV operability in Modes 4 and 5, and TS 3.4.3, for PSV operability in Modes 1, 2, and 3. TS Amendment #60, issued in 1983, subsequently added TS 3.4.13 for LTOP, which utilizes the PORVs for RCS overpressure protection whenever cold leg temperatures are below a predetermined limit, which includes operation in Modes 4 (partial), Mode 5 and Mode 6. Amendment #60 did not modify the existing PSV LCOs, thus it created an overlap in the TS required RCS overpressure protection provided by the PSVs and PORVs. At the time Amendment #60 was issued it was apparently not recognized that the PSV LCOs should have been revised.

The STS format provides a single LCO for PSV operability and a single LCO for LTOP protection. STS 3.4.10 requires the PSVs to be operable in "MODES 1, 2, and 3, MODE 4 with all RCS cold leg temperatures > [285] °F. STS 3.4.12 requires the PORVs to be operable for LTOP protection in "MODE 4 when any RCS cold leg temperature is ≤ [285] °F, MODE 5, MODE 6..." The Bases for these specifications describe "[285] °F" as the RCS cold leg temperature for which, based on plant-specific analysis, LTOP protection is required. The applicability of these two LCOs is such that they provide for continual RCS overpressure protection from Mode 1 through Mode 6 without any overlap between them.

The proposed changes provided in Attachment 3 will combine TS 3.4.2 and 3.4.3 into a single LCO and will eliminate the PSV LCO applicability for Mode 5. Additionally, PSV Mode 4 applicability will be limited to the condition when all RCS cold leg temperatures are greater than 281°F, which is the point at which, during a cooldown, the PORVs are required to be operable for LTOP protection (TS 3.4.13). The cooldown LTOP "ceiling" of 281°F was selected since it is more limiting than the heatup "ceiling" of 304 °F.

This change is acceptable since it does not diminish the ability of the Technical Specifications to provide required overpressure protection of the RCS and since it is consistent with the STS format. There is no accident analysis that is affected by this change.

PSV LCO Reformatting – Unit 2

With respect to the PSVs and PORVs, the original Unit 2 TS (issued in 1983) were similar to the Unit 1 TS as of Amendment #60. Unit 2 TS 3.4.2.1 requires PSV operability in Modes 4 and 5, and TS 3.4.2.2 requires PSV operability in Modes 1, 2 and 3. Additionally, TS 3.4.9.3 requires the PORVs to be operable for RCS overpressure protection whenever cold leg temperatures are below a predetermined limit, which includes operation in Modes 4 (partial), Mode 5, and Mode 6.

The proposed changes to the Unit 2 TS are similar to those described above for Unit 1 and are provided in Attachment 4. The only significant difference between the units is the

temperature for which LTOP is required - 230°F for Unit 2. The justification for this Unit 2 change is the same as for the Unit 1 change.

Environmental Consideration

The proposed license amendments change requirements with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The proposed amendments involve 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. FPL has concluded that the proposed amendments involve no significant hazards consideration and meets the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9) and that, pursuant to 10 CFR 51.22(b), an environmental impact statement or environmental assessment need not be prepared in connection with issuance of the amendments.

Conclusion

There is no safety significance associated with the proposed changes. The MSSVs and PSVs will continue to be set to the as-left tolerance of ±1% and will perform as assumed in plant accident analyses. The proposed changes simply clarify that as long as MSSV and PSV as-found lift setpoints are within accident analyses assumptions, the valves may be considered operable. This change allows for a limited amount of setpoint drift and is consistent with the provisions of the Standard Technical Specifications and ASME Code. The PSV lower mode LCO changes will provide a clear distinction between PSV and PORV/LTOP requirements while ensuring the required RCS overpressure protection is provided.

Converting the PSV setpoint value to units of psig is acceptable since the actual valve lift setpoint and as-left setpoint tolerances are effectively not changing. Applying the as-found acceptance tolerances to the lift setpoint in units of psia and then converting to units of psig is acceptable since it is consistent with the above accident analysis review.

The proposed Technical Specification changes governing MSSV and PSV as-found set pressures are acceptable since they are based on existing accident analyses assumptions and they are consistent with the STS and ASME Code, which allow up to a ±3% tolerance for as-found setpoint testing. The valves will continue to be set within the existing required ±1% setpoint tolerance.

Attachment 2 to FPL Letter L-2000-001

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

Description of amendment request: The proposed license amendments (PLAs) to Facility Operating Licenses DPR-67 for St. Lucie Unit 1 and NPF-16 for St. Lucie Unit 2 will revise the Unit 1 and 2 Technical Specifications to be consistent with the Standard Technical Specifications (STS) requirements for main steam safety valve (MSSV) and pressurizer code safety valve (PSV) setpoint setting and setpoint testing. Specifically, the STS allow an expanded setpoint surveillance testing acceptance tolerance (i.e., beyond ±1%), whereas the existing St. Lucie Technical Specifications do not. There is no safety significance associated with the proposed changes.

Expanding the as-found acceptance limits will allow the test program to accept MSSVs and PSVs whose setpoints are found to be within accident analysis assumptions. The ±1% as-left criteria will remain unchanged. The proposed changes simply clarify that as long as MSSV and PSV as-found lift setpoints are within accident analyses assumptions, the valves may be considered operable. This change allows for a limited amount of setpoint drift and is consistent with the provisions of the Standard Technical Specifications and ASME Code. The PSV lower mode LCO changes will provide a clear distinction between PSV and PORV/LTOP requirements while ensuring the required RCS overpressure protection is provided.

Pursuant to 10 CFR 50.92, a determination may be made that a proposed license amendment involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; (2) create the possibility of a new or different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety. Each standard is discussed as follows.

(1) Operation of the facility in accordance with the proposed amendments would not involve a significant increase in the probability or consequences of an accident previously evaluated.

The probability of occurrence of an accident previously evaluated has not been increased. The changes provided in this safety evaluation do not affect the assumptions or results of any accident evaluated in the UFSAR. The actual setpoints and as-left setpoint tolerances of the MSSVs and PSVs are not changed as a result of this evaluation.

Likewise, the consequences of any accident previously evaluated have not been increased. The ability of the MSSVs and PSVs to respond to accident conditions as assumed in any accident analysis has not been affected (i.e., adequate overpressure protection is provided). The proposed changes allow for the acceptance of safety

valve lift test results based on tolerances that are consistent with accident analysis assumptions.

(2) Operation of the facility in accordance with the proposed amendments would not create the possibility of a new or different kind of accident from any accident previously evaluated.

The proposed activity does not create the possibility of an accident of a different type than any previously evaluated. No physical plant changes are being made and no new failure modes have been introduced by the proposed changes. This evaluation revises the acceptance criteria for MSSV and PSV lift test results based on tolerances that are consistent with accident analysis assumptions. The actual setpoints and as-left setpoint tolerances of the MSSVs and PSVs are not changed as a result of this evaluation.

(3) Operation of the facility in accordance with the proposed amendments would not involve a significant reduction in a margin of safety.

The margin of safety as defined in the basis for any Technical Specification or in any licensing document has not been reduced. MSSV and PSV setpoint values are not being changed. MSSV and PSV setpoints are still required to be set within a tolerance of ±1% (the as-left setpoint tolerance). This evaluation allows for the revision of acceptance criteria for MSSV and PSV lift test results such that testing criteria is consistent with accident analysis assumptions. This will allow for the accommodation of setpoint drift without invalidating the accident analyses. The proposed changes are consistent with the Standard Technical Specifications, which require MSSV and PSV setting within a ±1% tolerance, but allow surveillance testing to accept valves that lift within "±[3]%." A review of the plants' accident analyses has identified the plant-specific tolerances that may be used for this surveillance testing. These values have been used in the Attachment 3 and 4 proposed changes.

Conclusion

Based on the above discussion and the supporting Evaluation of Technical Specification changes, FPL has determined that the proposed license amendments involve no significant hazards consideration.

Attachment 3 to FPL Letter L-2000-001

ST. LUCIE UNIT 1 MARKED UP TECHNICAL SPECIFICATION PAGES

TS Page IV

TS Page 3/4 4-2

TS Page 3/4 4-3

TS Page B-3/4 4-1

TS Page B-3/4 4-2

TS Page 3/4 7-1

TS Page 3/4 7-3

TS Page B-3/4 7-2

LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS

SAFETY VALVES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.2 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2500 PSIA ± 1%.

APPLICABILITY: MODES 4 and 5.

ACTION:

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes and place an OPERABLE shutdown cooling loop into operation.

Deleted

SURVEILLANCE REQUIREMENTS

4.4.2 No additional Surveillance Requirements other than those required by the Inservice Testing Program.

REACTOR COOLANT SYSTEM

SAFETY VALVES - OPERATING

LIMITING CONDITION FOR OPERATION

3.4.3 All pressurizer code safety valves shall be OPERABLE with a lift setting ~~of 2500 PSIA ±1%.~~ ≥ 2460.3 psig and ≤ 2510.3 psig as-left

APPLICABILITY: MODES ~~1, 2 and 3.~~ 1, 2, 3, and 4 with all RCS cold leg temperatures > 281 °F

ACTION:

~~With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in HOT SHUTDOWN within 12 hours.~~

Insert 1

SURVEILLANCE REQUIREMENTS

4.4.3 ~~No additional Surveillance Requirements other than those required by the Inservice Testing Program.~~

Insert 2

3/4.4 REACTOR COOLANT SYSTEM

BASES

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

The plant is designed to operate with both reactor coolant loops and associated reactor coolant pumps in operation, and maintain DNBR above the DNBR limit during all normal operations and anticipated transients. In MODES 1 and 2 with one reactor coolant loop not in operation, this specification requires that the plant be in at least HOT STANDBY within 1 hour.

In MODE 3, a single reactor coolant loop provides sufficient heat removal capability for removing decay heat; however, single failure considerations require that two loops be OPERABLE.

In MODE 4, and in MODE 5 with reactor coolant loops filled, a single reactor coolant loop or shutdown cooling loop provides sufficient heat removal capability for removing decay heat; but single failure considerations require that at least two loops (either shutdown cooling or RCS) be OPERABLE.

In MODE 5 with reactor coolant loops not filled, a single shutdown cooling loop provides sufficient heat removal capability for removing decay heat; but single failure considerations and the unavailability of the steam generators as a heat removing component, require that at least two shutdown cooling loops be OPERABLE.

The operation of one Reactor Coolant Pump or one shutdown cooling pump provides adequate flow to ensure mixing, prevent stratification and produce gradual reactivity changes during boron concentration reductions in the Reactor Coolant System. The reactivity change rate associated with boron reductions will, therefore, be within the capability of operator recognition and control.

The restrictions on starting a Reactor Coolant Pump are provided to prevent RCS pressure transients, caused by energy additions from the secondary system, which could exceed the limits of Appendix G to 10 CFR 50. The RCS will be protected against overpressure transients and will not exceed the limits of Appendix G by restricting starting of the Reactor Coolant Pumps to when the secondary water temperature of each steam generator is less than 30°F above each of the Reactor Coolant System cold leg temperatures.

~~3/4.4.2 and~~ 3/4.4.3 SAFETY VALVES

The pressurizer code safety valves operate to prevent the RCS from being pressurized above its Safety Limit of 2750 psia. Each safety valve is designed to relieve 2×10^5 lbs per hour of saturated steam at the valve setpoint. The relief capacity of a single safety valve is adequate to relieve any overpressure condition which could occur during shutdown. In the event that no safety valves are OPERABLE, an operating shutdown cooling loop, connected to the RCS, provides overpressure relief capability and will prevent RCS overpressurization.

3/4.4.2 and 3/4.4.3 SAFETY VALVES (Continued)

During operation, all pressurizer code safety valves must be OPERABLE to prevent the RCS from being pressurized above its safety limit of 2750 psia. The combined relief capacity of these valves is sufficient to limit the Reactor Coolant System pressure to within its Safety Limit of 2750 psia following a complete loss of turbine generator load while operating at RATED THERMAL POWER and assuming no reactor trip until the first Reactor Protective System trip setpoint (Pressurizer Pressure-High) is reached (i.e., no credit is taken for a direct reactor trip on the loss of turbine) and also assuming no operation of the pressurizer power operated relief valve or steam dump valves.

~~Demonstration of the safety valves' lift settings will occur only during shutdown and will be performed in accordance with the provisions of the Inservice Testing Program.~~

Insert 3

3/4.4.4 PRESSURIZER

A steam bubble in the pressurizer ensures that the RCS is not a hydraulically solid system and is capable of accommodating pressure surges during operation. The steam bubble also protects the pressurizer code safety valves and power operated relief valve against water relief. The power operated relief valve and steam bubble function to relieve RCS pressure during all design transients. Operation of the power operated relief valve in conjunction with a reactor trip on a Pressurizer-Pressure-High signal minimizes the undesirable opening of the spring-loaded pressurizer code safety valves. The required pressuzier heater capacity is capable of maintaining natural circulation sub-cooling. Operability of the heaters, which are powered by a diesel generator bus, ensures ability to maintain pressure control even with loss of offsite power.

3/4.4.5 STEAM GENERATORS

One OPERABLE steam generator provides sufficient heat removal capability to remove decay heat after a reactor shutdown. The requirement for two steam generators capable of removing decay heat, combined with the requirements of Specifications 3.7.1.1, 3.7.1.2 and 3.7.1.3 ensures adequate decay heat removal capabilities for RCS temperatures greater than 325°F if one steam generator becomes inoperable due to single failure considerations. Below 325°F, decay heat is removed by the shutdown cooling system.

The Surveillance Requirements for inspection of the steam generator tubes ensure that the structural integrity of this portion of the RCS will be maintained. The program for inservice inspection of steam generator tubes is based on a modification of Regulatory Guide 1.83, Revision 1. Inservice inspection of steam generator tubing is essential in order to maintain surveillance of the conditions of the tubes in the event that there is evidence of mechanical damage or progressive degradation due to design, manufacturing errors, or in-service conditions that lead to corrosion. Inservice inspection of Steam generator tubing also provides a means of characterizing the nature and cause of any tube degradation so that corrective measures can be taken.

3.4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE ~~with lift settings~~ as specified in Table 4.7-1.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With ~~both reactor coolant loops and associated steam generators in operation and with~~ one or more main steam line code safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided that within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Level-High trip setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 12 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 ~~No additional Surveillance Requirements other than those required by the Inservice Testing Program.~~

Insert 4

TABLE 4.7-1

STEAM LINE SAFETY VALVES PER LOOP

VALVE NUMBER			AS-LEFT LIFT SETTING (± 1%)	ORIFICE SIZE
	Header A	Header B		
a.	8201	8205	~~1000 psia~~ ≥ 975.3 psig and ≤ 995.3 psig	16 in.^{2}
b.	8202	8206	~~1000 psia~~ "	16 in.^{2}
c.	8203	8207	~~1000 psia~~ "	16 in.^{2}
d.	8204	8208	~~1000 psia~~ "	16 in.^{2}
e.	8209	8213	~~1040 psia~~ ≥ 1014.9 psig and ≤ 1035.7 psig	16 in.^{2}
f.	8210	8214	~~1040 psia~~ "	16 in.^{2}
g.	8211	8215	~~1040 psia~~ "	16 in.^{2}
h.	8212	8216	~~1040 psia~~ "	16 in.^{2}

106.5 = Power Level-High Trip Setpoint for two loop operation

X = Total relieving capacity of all safety valves per steam line in lbs/hour (6.192×10^6 lbs/hr.)

Y $\leq$ Maximum relieving capacity of any one safety valve in lbs/hour (7.74×10^5 lbs/hr.)

Insert 5

3/4.7.1.2 AUXILIARY FEEDWATER PUMPS

The OPERABILITY of the auxiliary feedwater pumps ensures that the Reactor Coolant System can be cooled down to less than 325°F from normal operating conditions in the event of a total loss of off-site power.

Any two of the three auxiliary feedwater pumps have the required capacity to provide sufficient feedwater flow to remove reactor decay heat and reduce the RCS temperature to 325°F where the shutdown cooling system may be placed into operation for continued cooldown.

3/4.7.1.3 CONDENSATE STORAGE TANK

The OPERABILITY of the condensate storage tank with the minimum water volume ensures that sufficient water is available for cooldown of the Reactor Coolant System to less than 325°F in the event of a total loss of off-site power. The minimum water volume is sufficient to maintain the RCS at HOT STANDBY conditions for 8 hours with steam discharge to atmosphere.

3/4.7.1.4 ACTIVITY

The limitations on secondary system specific activity ensure that the resultant off-site radiation dose will be limited to a small fraction of 10 CFR Part 100 limits in the event of a steam line rupture. The dose calculations for an assumed steam line rupture include the effects of a coincident 1.0 GPM primary to secondary tube leak in the steam generator of the affected steam line and a concurrent loss of offsite electrical power. These values are consistent with the assumptions used in the accident analyses.

Insert 1

a. With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in HOT STANDBY within 6 hours and in HOT SHUTDOWN within the next 6 hours.
b. With two or more pressurizer code safety valves inoperable, be in HOT STANDBY within 6 hours and in HOT SHUTDOWN with all RCS cold leg temperatures ≤ 281°F within the next 6 hours.

Insert 2

Verify each pressurizer code safety valve is OPERABLE in accordance with the Inservice Testing Program. Following testing, as-left lift settings shall be within ±1%.

Insert 3

Surveillance Requirements are specified in the Inservice Testing Program. Pressurizer code safety valves are to be tested in accordance with the requirements of Section XI of the ASME Code, which provides the activities and the frequency necessary to satisfy the Surveillance Requirements. No additional requirements are specified.

The pressurizer code safety valve as found setpoint is 2500 psia +3/-2.5% for OPERABILITY; however, the valves are reset to 2500 psia ±1% during the Surveillance to allow for drift. The LCO is expressed in units of psig for consistency with implementing procedures.

Insert 4

Verify each main steam line code safety valve is OPERABLE in accordance with the Inservice Testing Program. Following testing, as-left lift settings shall be within ±1%.

Insert 5

Surveillance Requirement 4.7.1.1 verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the Inservice Testing Program. The MSSV setpoints are 1000 psia +1/-3% (4 valves each header) and 1040 psia +1/-3% (4 valves each header) for OPERABILITY; however, the valves are reset to 1000 psia ±1% and 1040 psia ±1% respectively during the Surveillance to allow for drift. The LCO is expressed in units of psig for consistency with implementing procedures.

The provisions of Specification 3.0.4 do not apply. This allows entry into and operation in MODE 3 prior to performing the Surveillance Requirement so that the MSSVs may be tested under hot conditions.

Attachment 4 to FPL Letter L-2000-001

ST. LUCIE UNIT 2 MARKED UP TECHNICAL SPECIFICATION PAGES

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LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS

3/4.4.2 SAFETY VALVES

SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.4.2.1 A minimum of one pressurizer code safety valve shall be OPERABLE with a lift setting of 2500 psia ± 1%. *

APPLICABILITY: MODES 4 and 5.

ACTION:

With no pressurizer code safety valve OPERABLE, immediately suspend all operations involving positive reactivity changes and place an OPERABLE shutdown cooling loop into operation.

Deleted

SURVEILLANCE REQUIREMENTS

4.4.2.1 No additional Surveillance Requirements other than those required by the Inservice Testing Program.

* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

REACTOR COOLANT SYSTEM

OPERATING

LIMITING CONDITION FOR OPERATION

3.4.2.2 All pressurizer code safety valves shall be OPERABLE with a lift setting ~~of 2500 psia ±1%.*~~ ≥ 2460.3 psig and ≤ 2510.3 psig.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or be in ~~at least~~ HOT STANDBY within 6 hours and in HOT SHUTDOWN within the ~~following~~ next 6 hours.

* Insert 1

SURVEILLANCE REQUIREMENTS

4.4.2.2 ~~No additional Surveillance Requirements other than those required by the Inservice Testing Program.~~

↑
Insert 2

* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.

SAFETY VALVES (Continued)

During operation, all pressurizer code safety valves must be OPERABLE to prevent the RCS from being pressurized above its safety limit of 2750 psia. The combined relief capacity of these valves is sufficient to limit the system pressure to within its Safety Limit of 2750 psia following a complete loss of turbine generator load while operating at RATED THERMAL POWER and assuming no reactor trip until the first Reactor Protective System trip setpoint (Pressurizer Pressure-High) is reached (i.e., no credit is taken for a direct reactor trip on the loss of turbine) and also assuming no operation of the pressurizer power-operated relief valve or steam dump valves.

~~Demonstration of the safety valves' lift settings will occur only during shutdown and will be performed in accordance with the provisions of the Inservice Testing Program.~~

Insert 3

3/4.4.3 PRESSURIZER

An OPERABLE pressurizer provides pressure control for the Reactor Coolant System during operations with both forced reactor coolant flow and with natural circulation flow. The minimum water level in the pressurizer assures the pressurizer heaters, which are required to achieve and maintain pressure control, remain covered with water to prevent failure, which could occur if the heaters were energized uncovered. The maximum water level in the pressurizer ensures that this parameter is maintained within the envelope of operation assumed in the safety analysis. The maximum water level also ensures that the RCS is not a hydraulically solid system and that a steam bubble will be provided to accommodate pressure surges during operation. The steam bubble also protects the pressurizer code safety valves against water relief. The requirement to verify that on an Engineered Safety Features Actuation test signal concurrent with a loss of offsite power the pressurizer heaters are automatically shed from the emergency power sources is to ensure that the non-Class 1E heaters do not reduce the reliability of or overload the emergency power source. The requirement that a minimum number of pressurizer heaters be OPERABLE enhances the capability to control Reactor Coolant System pressure and establish and maintain natural circulation.

3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.1 All main steam line code safety valves shall be OPERABLE ~~with lift settings and orifice sizes as shown~~ specified in Table 3.7-2.

APPLICABILITY: MODES 1, 2 and 3.

ACTION:

a. With ~~both reactor coolant loops and associated steam generators in operation and~~ ~~with~~ one or more main steam line code safety valves inoperable, operation in MODES 1, 2 and 3 may proceed provided that, within 4 hours, either the inoperable valve is restored to OPERABLE status or the Power Level-High trip setpoint is reduced per Table 3.7-1; otherwise, be in at least HOT STANDBY within the next 6 hours and in ~~COLD~~ HOT SHUTDOWN within the following ~~30~~ 12 hours.

b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.1 ~~No additional Surveillance Requirements other than those required by the Inservice Testing Program.~~

↑
Insert 4

TABLE 3.7-2

STEAM LINE SAFETY VALVES PER LOOP

VALVE NUMBER			AS-LEFT LIFT SETTING (± 1%)	ORIFICE SIZE
	Header A	Header B		
a.	8201	8205	~~1000 psia~~ ≥ 975.3 psig and ≤ 995.3 psig	16 in.^{2}
b.	8202	8206	~~1000 psia~~ "	16 in.^{2}
c.	8203	8207	~~1000 psia~~ "	16 in.^{2}
d.	8204	8208	~~1000 psia~~ "	16 in.^{2}
e.	8209	8213	~~1040 psia~~ ≥ 1014.9 psig and ≤ 1035.7 psig	16 in.^{2}
f.	8210	8214	~~1040 psia~~ "	16 in.^{2}
g.	8211	8215	~~1040 psia~~ "	16 in.^{2}
h.	8212	8216	~~1040 psia~~ "	16 in.^{2}

3/4.7 PLANT SYSTEMS

BASES

3/4.7.1 TURBINE CYCLE

3/4.7.1.1 SAFETY VALVES

The OPERABILITY of the main steam line code safety valves ensures that the secondary system pressure will be limited to within 110% (1100 psia) of its design pressure of 1000 psia during the most severe anticipated system operational transient. The maximum relieving capacity is associated with a turbine trip from 100% RATED THERMAL POWER coincident with an assumed loss of condenser heat sink (i.e., no steam bypass to the condenser).

The specified valve lift settings and relieving capacities are in accordance with the requirements of Section III of the ASME Boiler and Pressure Vessel Code, 1971 Edition, and ASME Code for Pumps and Valves, Class II. The total relieving capacity for all valves on all of the steam lines is 12.49×10^6 lbs/hr which is 103.8% of the total secondary steam flow of 12.03×10^6 lbs/hr at 100% RATED THERMAL POWER. A minimum of two OPERABLE safety valves per steam generator ensures that sufficient relieving capacity is available for removing decay heat.

STARTUP and/or POWER OPERATION is allowable with safety valves inoperable within the limitations of the ACTION requirements on the basis of the reduction in secondary system steam flow and THERMAL POWER required by the reduced reactor trip settings of the Power Level-High channels. The reactor trip setpoint reductions are derived on the following bases:

For two loop operation:

$$SP = \left[\frac{(X) - (Y)(V)}{X} \times (107.0)\right] - 0.9$$

where:

SP = reduced reactor trip setpoint in percent of RATED THERMAL POWER

V = maximum number of inoperable safety valves per steam line

107.0 = Power Level-High Trip Setpoint for two loop operation

0.9 = Equipment processing uncertainty

X = Total relieving capacity of all safety valves per steam line in lbs/hour (6.247×10^6 lbs/hr)

Insert 5

Y = Maximum relieving capacity of any one safety valve in lbs/hour (7.74×10^5 lbs/hr)

Insert 1

b. With two or more pressurizer code safety valves inoperable, be in HOT STANDBY within 6 hours and in HOT SHUTDOWN with all RCS cold leg temperatures ≤ 230°F within the next 6 hours.

Insert 2

Verify each pressurizer code safety valve is OPERABLE in accordance with the Inservice Testing Program. Following testing, as-left lift settings shall be within ±1%.

Insert 3

Surveillance Requirements are specified in the Inservice Testing Program. Pressurizer code safety valves are to be tested in accordance with the requirements of Section XI of the ASME Code, which provides the activities and the frequency necessary to satisfy the Surveillance Requirements. No additional requirements are specified.

The pressurizer code safety valve as found setpoint is 2500 psia ±2% for OPERABILITY; however, the valves are reset to 2500 psia ±1% during the Surveillance to allow for drift. The LCO is expressed in units of psig for consistency with implementing procedures.

Insert 4

Verify each main steam line code safety valve is OPERABLE in accordance with the Inservice Testing Program. Following testing, as-left lift settings shall be within ±1%.

Insert 5

Surveillance Requirement 4.7.1.1 verifies the OPERABILITY of the MSSVs by the verification of each MSSV lift setpoint in accordance with the Inservice Testing Program. The MSSV setpoints are 1000 psia +1/-3% (4 valves each header) and 1040 psia +1/-3% (4 valves each header) for OPERABILITY; however, the valves are reset to 1000 psia ±1% and 1040 psia ±1% respectively during the Surveillance to allow for drift. The LCO is expressed in units of psig for consistency with implementing procedures.

The provisions of Specification 3.0.4 do not apply. This allows entry into and operation in MODE 3 prior to performing the Surveillance Requirement so that the MSSVs may be tested under hot conditions