ATTACHMENT 1

PROPOSED CHANGED PAGES

UNIT 1	REVISION
Page 3/4 2-13	Replace
Page B 3/4 2-5	Replace
Page B 3/4 2-6	Add

UNIT 2	REVISION
Page 3/4 2-13	Replace
Page B 3/4 2-5	Replace
Page B 3/4 2-6	Add

ACTION: (Continued)

2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.

3. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL POWER may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified at 95% or greater RATED THERMAL POWER.

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.2.4.1 The QUADRANT POWER TILT RATIO shall be determined to be within the limit above 50% of RATED THERMAL POWER by:

a. Calculating the ratio at least once per 7 days when the alarm is OPERABLE.

b. Calculating the ratio at least once per 12 hours during steady state operation when the alarm is inoperable.

4.2.4.2 The QUADRANT POWER TILT RATIO shall be determined to be within the limit above 75% of RATED THERMAL POWER with one Power Range Channel inoperable by using the movable incore detectors to confirm that the normalized incore symmetric power distribution is consistent with the indicated QUADRANT POWER TILT RATIO limit at least once per 12 hours. The normalized incore symmetric power distribution shall be obtained using a minimum of two thimbles per core quadrant, each with a symmetric counterpart. In lieu of QPTR calculations, a full core flux map may be obtained per Technical Specification 3.3.3.2 at least once per 12 hours.

The radial peaking factor $F_{xy}(Z)$, is measured periodically to provide additional assurance that the hot channel factor, $F_Q(Z)$, remains within its limit. The F_{xy} limit for RATED THERMAL POWER (F_{xy}^{RTP}) as provided in the Radial Peaking Factor limit report per Specification 6.9.1.11 was determined from expected power control maneuvers over the full range of burnup conditions in the core.

3/4.2.4 QUADRANT POWER TILT RATIO

The quadrant power tilt ratio limit assures that the radial power distribution satisfies the design values used in the power capability analysis. Radial power distribution measurements are made during startup testing and periodically during power operation. The purpose of the QPTR Technical Specification is to limit the gross changes in quadrant to quadrant power distribution in the interval between the full core flux map surveillances.

The limit of 1.02, at which corrective action is required, provides DNB and linear heat generation rate protection with x-y plane power tilts.

The two hour time allowance for operation with a tilt condition greater than 1.02 but less than 1.09 is provided to allow identification and correction of a dropped or misaligned control rod. In the event such action does not correct the tilt, the margin for uncertainty on F_Q is reinstated by reducing the maximum allowed power by 3 percent for each percent of tilt in excess of 1.0.

For purposes of monitoring QUADRANT POWER TILT RATIO when one excore Power Range Channel is inoperable above 75% of RATED THERMAL POWER, the movable incore detectors are used to confirm that the incore quadrant tilt is within the limit of the QUADRANT POWER TILT RATIO of 1.02. For incore monitoring, the following two (2) sets of four (4) unique symmetric thimbles are recommended for the surveillance:

1. E-05, E-11, L-05 and L-11
2. H-03, C-08, H-13 and N-08

These thimbles provide the necessary coverage of the core to assure that the incore quadrant tilt is within the QPTR limit. If any of these thimbles are unavailable, then another thimble in the affected quadrant can replace the unavailable thimble provided the selected thimble and its symmetric counterpart are also monitored (mirrored or rotational).

As an alternative to the partial symmetric core flux map, a full core flux map may be taken. Thus the peaking factors can be monitored directly and a QPTR calculation will not be required.

3/4.2.5 DNB PARAMETERS

The limits on the DNB related parameters assure that each of the parameters are maintained within the normal steady state envelope of operation assumed in the transient and accident analyses. The limits are consistent with the initial FSAR assumptions and have been analytically demonstrated adequate to maintain a minimum DNBR of 1.30 throughout each analyzed transient.

The 12 hour periodic surveillance of these parameters through instrument readout is sufficient to ensure that the parameters are restored within their limits following load changes and other expected transient operation. The 18 month periodic measurement of the RCS total flow rate is adequate to detect flow degradation and ensure correlation of the flow indication channels with measured flow such that the indicated percent flow will provide sufficient verification of flow rate on a 12 hour basis.

ACTION: (Continued)

2. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.

3. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL POWER may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified at 95% or greater RATED THERMAL POWER.

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.2.4.1 The QUADRANT POWER TILT RATIO shall be determined to be within the limit above 50% of RATED THERMAL POWER by:

a. Calculating the ratio at least once per 7 days when the alarm is OPERABLE.

b. Calculating the ratio at least once per 12 hours during steady state operation when the alarm is inoperable.

4.2.4.2 The QUADRANT POWER TILT RATIO shall be determined to be within the limit above 75% of RATED THERMAL POWER with one Power Range Channel inoperable by using the movable incore detectors to confirm that the normalized incore symmetric power distribution is consistent with the indicated QUADRANT POWER TILT RATIO limit at least once per 12 hours. The normalized incore symmetric power distribution shall be obtained using a minimum of two thimbles per core quadrant, each with a symmetric counterpart. In lieu of QPTR calculations, a full core flux map may be obtained per Technical Specification 3.3.3.2 at least once per 12 hours.

The radial peaking factor $F_{xy}(Z)$, is measured periodically to provide additional assurance that the hot channel factor, $F_Q(Z)$, remains within its limit. The F_{xy} limit for RATED THERMAL POWER (F_{xy}^{RTP}) as provided in the Radial Peaking Factor limit report per Specification 6.9.1.11 was determined from expected power control maneuvers over the full range of burnup conditions in the core.

3/4.2.4 QUADRANT POWER TILT RATIO

The quadrant power tilt ratio limit assures that the radial power distribution satisfies the design values used in the power capability analysis. Radial power distribution measurements are made during startup testing and periodically during power operation. The purpose of the QPTR Technical Specification is to limit the gross changes in quadrant to quadrant power distribution in the interval between the full core flux map surveillances.

The limit of 1.02, at which corrective action is required, provides DNB and linear heat generation rate protection with x-y plane power tilts.

The two hour time allowance for operation with a tilt condition greater than 1.02 but less than 1.09 is provided to allow identification and correction of a dropped or misaligned control rod. In the event such action does not correct the tilt, the margin for uncertainty on F_Q is reinstated by reducing the maximum allowed power by 3 percent for each percent of tilt in excess of 1.0.

For purposes of monitoring QUADRANT POWER TILT RATIO when one excore Power Range Channel is inoperable above 75% of RATED THERMAL POWER, the movable incore detectors are used to confirm that the incore quadrant tilt is within the limit of the QUADRANT POWER TILT RATIO of 1.02. For incore monitoring, the following two (2) sets of four (4) unique symmetric thimbles are recommended for the surveillance:

1. E-05, E-11, L-05 and L-11
2. H-03, C-08, H-13 and N-08

These thimbles provide the necessary coverage of the core to assure that the incore quadrant tilt is within the QPTR limit. If any of these thimbles are unavailable, then another thimble in the affected quadrant can replace the unavailable thimble provided the selected thimble and its symmetric counterpart are also monitored (mirrored or rotational).

As an alternative to the partial symmetric core flux map, a full core flux map may be taken. Thus the peaking factors can be monitored directly and a QPTR calculation will not be required.

BASES (Continued)

3/4.2.5 DNB PARAMETERS

The limits on the DNB related parameters assure that each of the parameters are maintained within the normal steady state envelope of operation assumed in the transient and accident analyses. The limits are consistent with the initial FSAR assumptions and have been analytically demonstrated adequate to maintain a minimum DNBR of 1.30 throughout each analyzed transient.

The 12 hour periodic surveillance of these parameters through instrument readout is sufficient to ensure that the parameters are restored within their limits following load changes and other expected transient operation. The 18 month periodic measurement of the RCS total flow rate is adequate to detect flow degradation and ensure correlation of the flow indication channels with measured flow such that the indicated percent flow will provide sufficient verification of flow rate on a 12 hour basis.

ATTACHMENT 2

SIGNIFICANT HAZARDS CONSIDERATION EVALUATION
PURSUANT TO 10 CFR 50.92

SIGNIFICANT HAZARDS CONSIDERATION EVALUATION
PURSUANT TO 10 CFR 50.92 FOR THE PROPOSED CHANGE
TO THE QUADRANT POWER TILT RATIO (QPTR)
TECHNICAL SPECIFICATIONS SURVEILLANCE REQUIREMENTS

Proposed Change

Revise the Quadrant Power Tilt Ratio (QPTR) surveillance requirements (Technical Specification 4.2.4.2 and the associated Bases B 3/4.2.4) from requiring two sets of four unique symmetric thimbles to allow for substitutions of other thimbles. Specifically, if any of these eight unique symmetric thimbles are unavailable, then another thimble in the affected quadrant can replace the unavailable thimble provided that the selected thimble and its symmetric counterpart (mirrored or rotational) are monitored. It also clarifies that when a full core flux map is taken, compliance with the peaking factors limits is carried out directly without the QPTR determination.

Background

The current Technical Specification 4.2.4.2 specifies that when one excore Power Range Channel is inoperable above 75% Rated Thermal Power, the QPTR verification be done through the movable incore detectors to confirm that the ratio is within its limit. The purpose of the QPTR limit is to restrict the gross changes in quadrant to quadrant power distributions in the interval between the full core flux map surveillances. This ensures that the core peaking factors (i.e., $F_Q(z)$, $F_{xy}(z)$, and F^N_H) are below their limits; thus, the design basis analyses remain valid. The QPTR verification per Technical Specification 4.2.4.2, as discussed above, is performed at least once per 12 hours by using either a full core flux map or the two sets of four unique symmetric thimble locations specified in the Bases section B 3/4.2.4. In the event that one or more of these unique thimbles is unavailable, a full core flux map should be taken once every 12 hours.

The proposed change allows for substitutions of other thimbles in the event any of the unique thimbles are not available, provided that the selected thimble and its symmetric counterpart (mirrored or rotational) in another quadrant are also monitored. This modification was identified to improve the operational flexibility of the units while still maintaining the necessary coverage of the core to assure that the incore quadrant tilt is within the QPTR limit and all the applicable safety analyses in the Farley FSAR remain bounding.

In addition, a clarification is made that when a full core flux map is taken, the peaking factors can be monitored directly without the QPTR determination, since, as stated above, the purpose of the QPTR technical specification is to limit the gross changes in quadrant to quadrant power distributions in the interval between the full core flux map surveillances, thus ensuring compliance with the peaking factor limits.

Analysis

Southern Nuclear Operating Company has reviewed the requirements of 10 CFR 50.92 as they relate to the proposed amendment and considers this does not involve a significant hazards consideration. In support of this conclusion, the following analysis is provided:

1) Operation of Farley Units 1 and 2 in accordance with the proposed license amendment does not involve a significant increase in the probability or consequences of an accident previously evaluated. The effect of modifying the surveillance procedure to determine the Quadrant Power Tilt Ratio for the Farley units from requiring two sets of four unique symmetric thimbles to allowing for substitution of other thimbles, provided that the selected thimble and its symmetric counterpart (mirrored or rotational) in another quadrant are also monitored, has been evaluated. The potential effect on the FSAR analyses results for the LOCA and non-LOCA transients was shown, without exception, to not result in any design or regulatory limits being exceeded. All assumptions used in the present analysis of record are unaffected by this change in procedure and, therefore, the current analyses remain bounding. In addition, since this change does not impact any conditions that would inititate a transient, the probability of previously analyzed events is not increased. Therefore, the change to the QPTR surveillance procedure does not involve a significant increase in the probability or consequence of an accident previously evaluated and would be covered by the safety analysis presented in the Farley FSAR.

2) The proposed license amendment does not create the possibility of a new or different kind of accident from any accident previously evaluated. Revising the surveillance procedure for the QPTR will not propagate to a new or different accident, based on the fact that the evaluation performed concluded that all accident conditions are within the limits established in the Farley FSAR. In addition, the transients analyzed will not degrade into new failure modes which are not covered by the FSAR. Therefore, this change to the Technical Specifications does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3) The proposed license amendment does not involve a significant reduction in a margin of safety. As stated before, the use of the substitute thimble locations still allows valid QPTR determination such that core peaking factors can be assured to remain within their prescribed limits. Core axial power distributions, as well as other core physics parameters, are not affected by this specification change. The current safety analyses have been reviewed, and it was determined that this change will not impact the shutdown margin and the current analyses remain bounding with this change. Finally, there will be no impact on the operabililty of the units, and this change in operation will require no changes to the present safety analyses or to the safety system setpoints. Therefore, this change to the Technical Specifications does not involve a significant reduction in the margin of safety.

Conclusion

Based upon the analysis provided herein, Southern Nuclear Operating Company has determined that the operation of Farley Units 1 and 2 in accordance with the proposed change to the Technical Specifications will not significantly increase the probability or consequences of an accident previously evaluated, create the possibility of a new or different kind of accident from any accident previously evaluated, or involve a significant reduction in a margin of safety. Therefore, Southern Nuclear Operating Company has determined that the proposed change meets the requirements of 10 CFR 50.92(c) and does not involve a significant hazards consideration.

ATTACHMENT 3

ENVIRONMENTAL CONSIDERATION

ATTACHMENT 3

ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.22(c)(9), the proposed license amendment change can be categorically excluded from the requirement to perform an environmental assessment or an environmental impact statement based upon the following evaluation:

Southern Nuclear Operating Company has determined that the proposed change to the technical specifications does not affect the types or amounts of any radiological or non-radiological effluents that may be released offsite. No increase in individual or cumulative occupational radiation exposure will result from this change. Additionally, this change does not involve the use of any resources not previously considered in the Final Environmental Statement related to the operation of Farley Nuclear Plant.

Based upon this evaluation it can be concluded pursuant to 10 CFR 51.22(b) that it is not necessary to perform an environmental assessment nor environmental impact statement.