The curve presented in Figure 2.1-1[3] represents the conditions at which the minimum allowable DNBR is predicted to occur for the limiting combination of thermal power and number of operating reactor coolant pumps. This curve is based upon the design nuclear peaking factors which include the potential effects of fuel densification[4]:

$$F_{\Delta H}^{N} = 1.71$$

$$F_{Z}^{N} = 1.50$$

Since power peaking is not a directly measurable quantity, DNBR limited power peaks and fuel melt limited power peaks are separately correlated to measurable reactor power and power imbalance. The reactor power imbalance limits, Figure 2.1-2[5], define the values of reactor power as a function of axial imbalance that correspond to the more restrictive of two thermal limits - MDNBR equal to the DNBR limit or the linear heat rate equal to the centerline fuel melt limit.

The core protection safety limits are based on an RCS flow less than or equal to 385,440 gpm (4 pump operation). Three and two pump operation are analyzed assuming 74.7 percent and 49.0 percent of four pump flow, respectively. The maximum thermal power for three pump operation is 88.07 percent (Figure 2.1-2) due to a power level trip produced by the flux/flow ratio (74.7 percent flow x 1.07 = 79.92 percent power = 88.07 percent power adding the maximum calibration and instrument error). The maximum thermal power for 2 pump operation, 60.63 percent, is produced in a similar manner.

## 3.2 HIGH PRESSURE INJECTION AND CHEMICAL ADDITION SYSTEMS

Applicability

Applies to the high pressure injection and the chemical addition systems.

Objective

To provide for adequate boration under all operating conditions to assure ability to bring the reactor to a cold shutdown condition.

Specification

The reactor shall not be critical unless the following conditions are met:

3.2.1 Two high pressure injection pumps per unit are operable except as specified in 3.3.

3.2.2 One source per unit of concentrated soluble boric acid in addition to the borated water storage tank is available and operable.

This source will be the concentrated boric acid storage tank containing at least the equivalent of 1100 $ft^3$ of 11,000 ppm boron as boric acid solution with a temperature at least 10°F above the crystallization temperature. System piping and valves necessary to establish a flow path from the tank to the high pressure injection system shall be operable and shall have the same temperature requirement as the concentrated boric acid storage tank. At least one channel of heat tracing capable of meeting the above temperature requirement shall be in operation. One associated boric acid pump shall be operable.

If the concentrated boric acid storage tank with its associated flowpath is unavailable, but the borated water storage tank is available and operable, the concentrated boric acid storage tank shall be restored to operability within 72 hours or the reactor shall be placed in a hot shutdown condition and be borated to a shutdown margin equivalent to 1% $\Delta k/k$ at 200°F within the next twelve hours; if the concentrated boric acid storage tank has not been restored to operability within the next 7 days the reactor shall be placed in a cold shutdown condition within an additional 30 hours.

If the concentrated boric acid storage tank is available but the borated water storage tank is neither available nor operable, the borated water storage tank shall be restored to operability within one hour or the reactor shall be placed in a hot shutdown condition within 6 hours and in a cold shutdown condition within an additional 30 hours.

Bases

The high pressure injection system and chemical addition system provide control of the reactor coolant system boron concentration.(1) This is normally accomplished by using any of the three high pressure injection pumps in series with a boric acid pump associated with either the boric acid mix tank or the concentrated boric acid storage tank. An alternate method of boration will be the use of the high pressure injection pumps taking suction directly from the borated water storage tank.(2)

The quantity of boric acid in storage in the concentrated boric acid storage tank or the borated water storage tank is sufficient to borate the reactor coolant system to a 1% Δk/k subcritical margin at cold conditions (70°F) with the maximum worth stuck rod and no credit for xenon at the worst time in core life. The current cycles for each unit were analyzed with the most limiting case selected as the basis for all three units. Since only the present cycles were analyzed, the specifications will be re-evaluated with each reload. A minimum of 1100 $ft^3$ of 11,000 ppm boric acid in the concentrated boric acid storage tank, or a minimum of 350,000 gallons of 1950 ppm boric acid in the borated water storage tank (3) will satisfy the requirements. The volume requirements include a 10% margin and, in addition, allow for a deviation of 10 EFPD in the cycle length. The specification assures that two supplies are available whenever the reactor is critical so that a single failure will not prevent boration to a cold condition. The required amount of boric acid can be added in several ways. Using only one 10 gpm boric acid pump taking suction from the concentrated boric acid storage tank would require approximately 12.7 hours to inject the required boron. An alternate method of addition is to inject boric acid from the borated water storage tank using the makeup pumps. The required boric acid can be injected in less than six hours using only one of the makeup pumps.

The concentration of boron in the concentrated boric acid storage tank may be higher than the concentration which would crystallize at ambient conditions. For this reason, and to assure a flow of boric acid is available when needed, these tanks and their associated piping will be kept at least 10°F above the crystallization temperature for the concentration present. The boric acid concentration of 11,000 ppm in the concentrated boric acid storage tank corresponds to a crystallization temperature of 88°F and therefore a temperature requirement of 98°F. Once in the high pressure injection system, the concentrate is sufficiently well mixed and diluted so that normal system temperatures assure boric acid solubility.

REFERENCES


(1) FSAR, Sections 9.3.1, and 9.3.2
(2) FSAR, Figure 6.0.2
(3) Technical Specification 3.3

b. The BWST shall contain a minimum level of 46 feet of water having a minimum concentration of 1950 ppm boron at a minimum temperature of 50°F. The manual valve, LP-28, on the discharge line shall be locked open. If these requirements are not met, the BWST shall be considered unavailable and action initiated in accordance with Specification 3.2.

3.3.5 Reactor Building Cooling (RBC) System

a. Prior to initiating maintenance on any component of the RBC system, the redundant component shall be tested to assure operability.

b. When the RCS, with fuel in the core, is in a condition with pressure equal to or greater than 350 psig or temperature equal to or greater than 250°F and subcritical:

(1) Two independent RBC trains, each comprised of an RBC fan, associated cooling unit, and associated ESF valves shall be operable.

(2) Tests or maintenance shall be allowed on any component of the RBC system provided one train of the RBC and one train of the RBS are operable. If the RBC system is not restored to meet the requirements of Specification 3.3.5b(1) above within 24 hours, the reactor shall be placed in a condition with RCS pressure below 350 psig and RCS temperature below 250°F within an additional 24 hours.

c. When the reactor is critical:

(1) In addition to the requirements of Specification 3.3.5.b(1) above, the remaining RBC fan, associated cooling unit, and associated ESF valves shall be operable.

(2) Tests or maintenance shall be allowed on one RBC train under either of the following conditions:

(a) One RBC train may be out of service for 24 hours.

(b) One RBC train may be out of service for 7 days provided both RBS trains are operable.

(c) If the inoperable RBC train is not restored to meet the requirements of Specification 3.3.5.c(1) within the time permitted by Specification 3.3.5.c(2) (a) or (b), the reactor shall be placed in a hot shutdown condition within 12 hours. If the requirements of Specification 3.3.5.c(1) are not met within an additional 24 hours following hot shutdown, the reactor shall be placed in a condition with RCS pressure below 350 psig and RCS temperature below 250°F within an additional 24 hours.

Three-hundred and fifty thousand (350,000) gallons of borated water ( a level of 46 feet in the BWST) are required to supply emergency core cooling and reactor building spray in the event of a loss-of-core cooling accident. This amount fulfills requirements for emergency core cooling. The borated water storage tank capacity of 388,000 gallons is based on refueling volume requirements. Heaters maintain the borated water supply at a temperature above 50°F to lessen the potential for thermal shock of the reactor vessel during high pressure injection system operation. The boron concentration is set at the amount of boron required to maintain the core 1 percent subcritical at 70°F without any control rods in the core. The minimum value specified in the tanks is 1950 ppm boron.

It has been shown for the worst design basis loss-of-coolant accident (a 14.1 $ft^2$ hot leg break) that the Reactor Building design pressure will not be exceeded with one spray and two coolers operable. (4) Therefore, a maintenance period of seven days is acceptable for one Reactor Building cooling fan and its associated cooling unit provided two Reactor Building spray systems are operable for seven days or one Reactor Building spray system provided all three Reactor Building cooling units are operable.

Three low pressure service water pumps serve Oconee Units 1 and 2 and two low pressure service water pumps serve Oconee Unit 3. There is a manual cross-connection on the supply headers for Unit 1, 2, and 3. One low pressure service water pump per unit is required for normal operation. The normal operating requirements are greater than the emergency requirements following a loss-of-coolant accident.

Prior to initiating maintenance on any of the components, the redundant component(s) shall be tested to assure operability. Operability shall be based on the results of testing as required by Technical Specification 4.5. The maintenance period of up to 24 hours is acceptable if the operability of equipment redundant to that removed from service is demonstrated within 24 hours prior to removal. The 24 hour period prior to removal is adequate to permit efficient scheduling of manpower and equipment testing while ensuring that the testing is performed directly prior to removal. The basis of acceptability is the low likelihood of failure within a clearly defined 48 hours following redundant component testing.

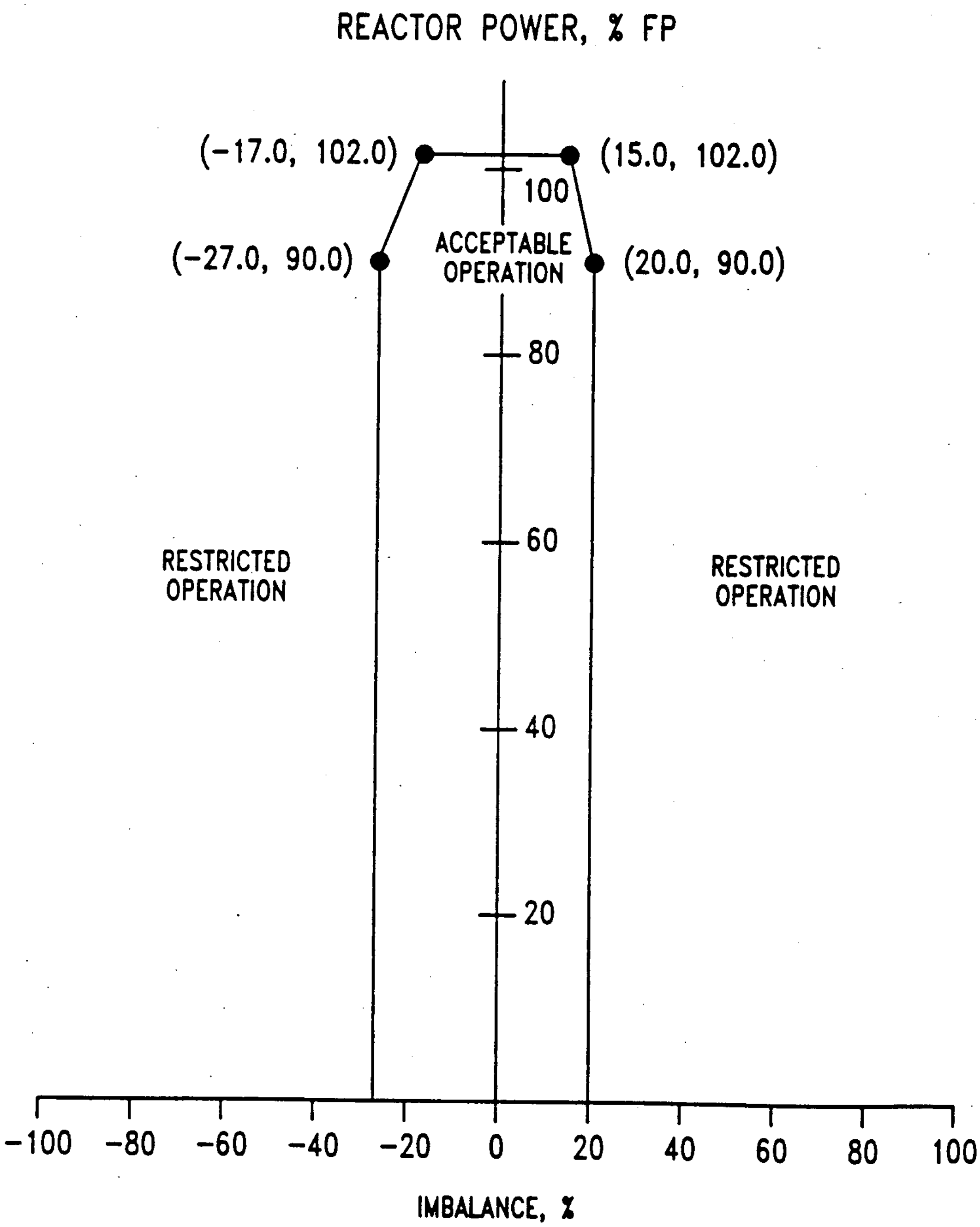
REFERENCES


(1) ECCS Analysis of B&W's 177-FA Lowered-Loop NSS, BAW-10103, Babcock & Wilcox, Lynchburg, Virginia, June 1975.

(2) Duke Power Company to NRC letter, July 14, 1978, "Proposed Modifications of High Pressure Injection System".

(3) FSAR, Section 9.3.3.2

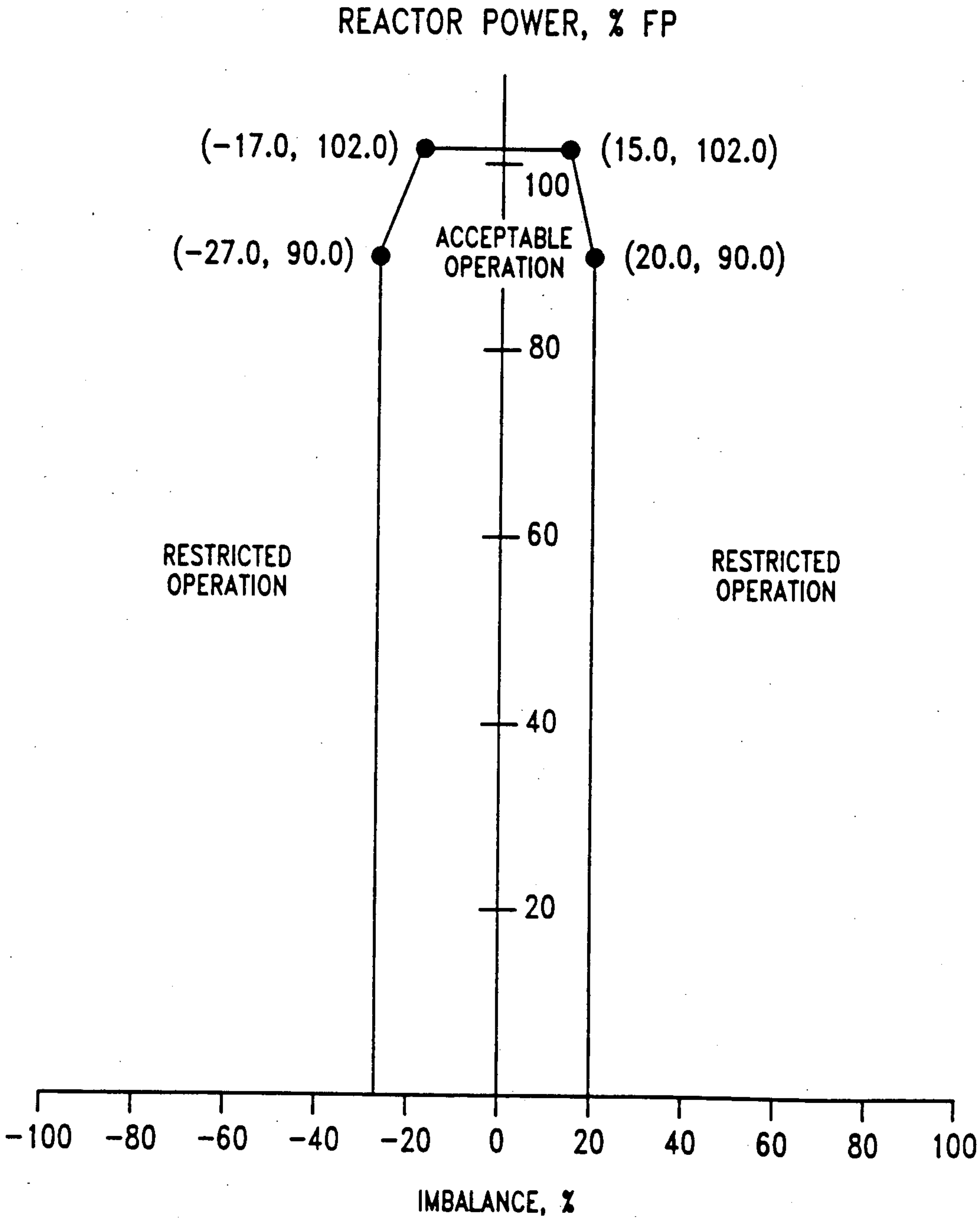
(4) FSAR, Section 15.14.5




OPERATIONAL POWER
IMBALANCE ENVELOPE
FROM 0 EFPD TO EOC UNIT 1

**OCONEE NUCLEAR STATION**

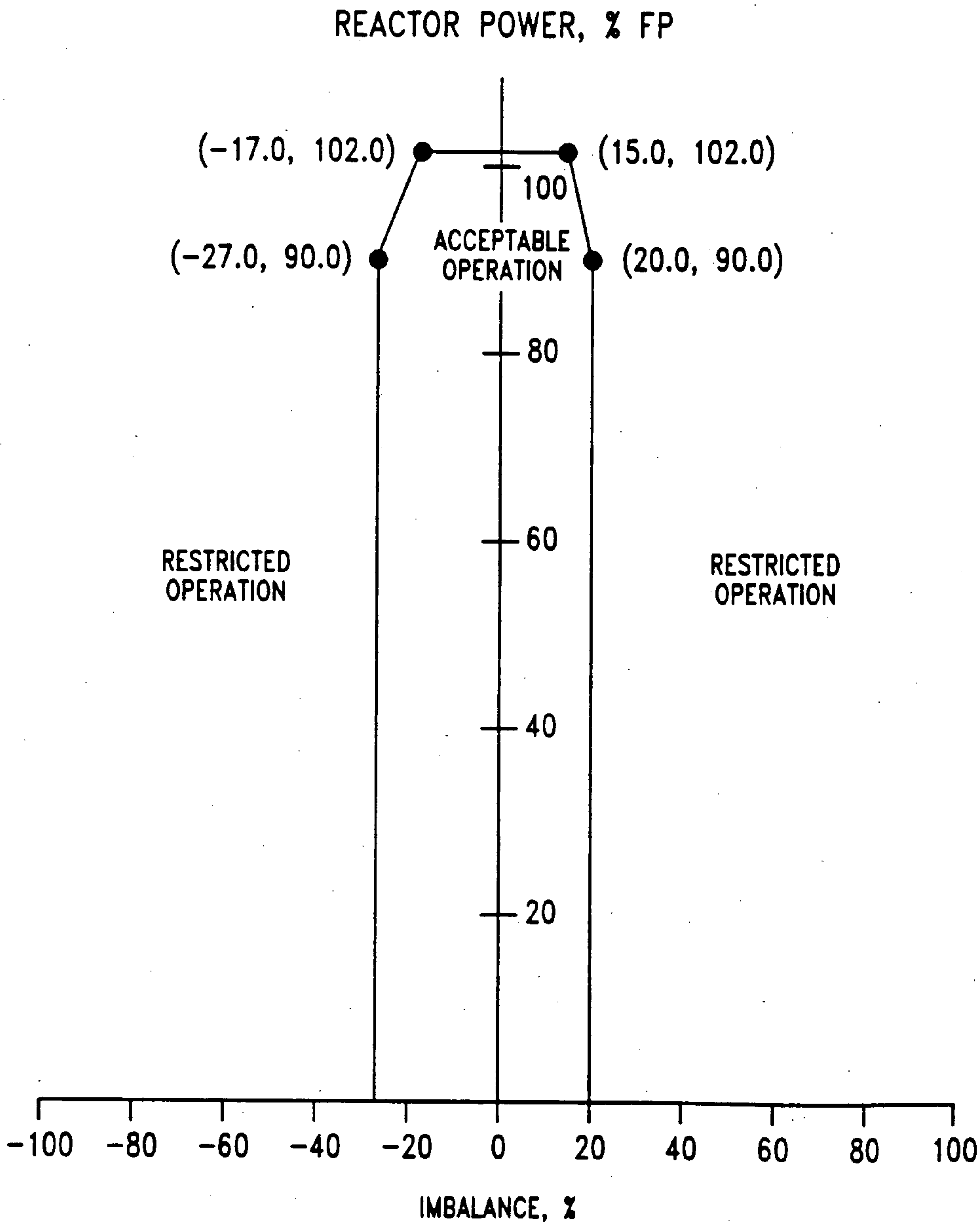
Figure 3.5.2-10




OPERATIONAL POWER
IMBALANCE ENVELOPE
FROM 0 EFPD TO EOC UNIT 2

**OCONEE NUCLEAR STATION**

Figure 3.5.2-11




OPERATIONAL POWER IMBALANCE ENVELOPE FROM 0 EFPD TO EOC UNIT 3

**OCONEE NUCLEAR STATION**

Figure 3.5.2-12

These procedures, the above specifications, and the design of the fuel handling equipment as described in Section 9.1.4 of the FSAR incorporating built-in interlocks and safety features, provide assurance that no incident could occur during the refueling operations that would result in a hazard to public health and safety. If no change is being made in core geometry, one flux monitor is sufficient. This permits maintenance on the instrumentation.

Continuous monitoring of radiation levels and neutron flux provides immediate indication of an unsafe condition. The low pressure injection pump is used to maintain a uniform boron concentration. (1) The shutdown margin indicated in Specification 3.8.4 will keep the core subcritical, even with all control rods withdrawn from the core. (2) The boron concentration will be maintained above 1950 ppm. Although this concentration is sufficient to maintain the core $K_{eff} \leq 0.99$ if all the control rods were removed from the core, only a few control rods will be removed at any one time during fuel shuffling and replacement. The $K_{eff}$ with all rods in the core and with refueling boron concentration is approximately 0.90. Specification 3.8.5 allows the control room operator to inform the reactor building personnel of any impending unsafe condition detected from the main control board indicators during fuel movement.

The specification requiring testing of the Reactor Building purge isolation is to verify that these components will function as required should a fuel handling accident occur which resulted in the release of significant fission products.

Specification 3.8.11 is required, as the safety analysis for the fuel handling accident was based on the assumption that the reactor had been shutdown for 72 hours.(3)

The off-site doses for the fuel handling accident are within the guidelines of 10 CFR 100; however, to further reduce the doses resulting from this accident, it is required that the spent fuel pool ventilation system be operable whenever the possibility of a fuel handling accident could exist.

Specification 3.8.13 is required as the safety analysis for a postulated cask handling accident was based on the assumptions that spent fuel stored as indicated has decayed for the amount of time specified for each spent fuel pool.

Specification 3.8.14 is required to prohibit transport of loads greater than a fuel assembly with a control rod and the associated fuel handling tool(s).

REFERENCES

(1) FSAR, Section 9.1.4
(2) FSAR, Section 15.11.1
(3) FSAR, Section 15.11.2.1

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

Attachment 2

No Significant Hazards Consideration Evaluation

No Significant Hazards Consideration Evaluation

Duke Power Company has determined that the present amendment request poses no significant hazards as defined by NRC regulations in 10CFR 50.92. This ensures that 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; or

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.

The Commission has provided guidance concerning the application of the standards for determining whether a significant hazards consideration exists by providing certain examples (48FR14870) of amendments that are considered not likely to involve a significant hazards consideration. Example (iii) relates to nuclear power reactor core reloads.

Example (iii) of amendments not likely to involve significant hazards considerations expressly applies in that:

1) no fuel assemblies are significantly different from those found previously acceptable to the NRC or a previous core at the facility in question are involved;

2) no significant changes have been made to the acceptance criteria for the Technical Specifications;

3) the analytical methods used to demonstrate conformance with the Technical Specifications and regulations are not significantly changed; and

4) the NRC has previously found such methods acceptable.

The Batch 13 MK-B7 fuel assemblies are similar in design to the MK-B6 fuel first demonstrated in the Oconee 1 Cycle 11 Reload. Like the MK-B6 fuel design, the MK-B7 features intermediate zircaloy grids, a skirtless inconnel upper end grid (dimensionally equivalent to the intermediate zircaloy grids), and a removable upper end fitting. New features for the MK-B7 include slightly longer fuel rods and a shorter lower end fitting. The longer fuel rods have increased plenum volume allowing for higher fuel burnup. At the same time, a net increase in shoulder gap (fuel rod to nozzle gap) has also been included to provide additional margin for fuel rod growth.

The Oconee 3, Cycle 11 core will have 60 BPRAs inserted in the Batch 13 fuel assemblies. 44 of the BPRAs will be new, and the remaining 16 will be reinserted from the Cycle 10 core (once burned). In addition, 32 fuel assemblies from the Unit 3 spent fuel pool have been reinserted for Cycle 11.

The Oconee 3, Cycle 11 Reload Report (Attachment 3) justifies the operation of the eleventh cycle at the rated core power of 2568 MWt. Included are the required analyses as outlined in the US NRC document "Guidance for Proposed

License Amendments Relating to Refueling," June 1985. The Reload Report employs analytical techniques and design bases established in reports submitted for previous reloads which were accepted by the NRC and its predecessor. These techniques are described in the Reload Report references.

As discussed in Section 7 of the Reload Report, a generic LOCA analysis for the B&W 177-FA, lowered loop NSSS has been performed using the Final Acceptance Criteria ECCS Evaluation Model (as reported in BAW-10103, Rev. 3). The LOCA-Limited Maximum Allowable Linear Heat Rate given in BAW-10103 has been impacted by TACO2, NUREG-0630, and FLECSET. The net effect of these factors is summarized by the LOCA kw/ft limits in BAW-1915P. A Safety Evaluation Report (SER) from A.C. Thadani (NRC) to C.H. Turk (BWOG) provided NRC acceptance of BAW-1915P. The LOCA kw/ft limits given in BAW-1915P were used in the design of Oconee 3, Cycle 11.

Revisions to Technical Specifications included in this amendment request account for minor changes in power peaking and control rod worths, and beginning of cycle boron concentration requirements.

Specific proposed changes are discussed below.

1) Page 2.1-2. The Bases of Specification 2.1 Safety Limits, Reactor Core have been updated to state that the core protection safety limits are based on a Reactor Coolant System (RCS) flow less than or equal to 385,440 gpm (109.5 percent of design flow). This corresponds to the Unit 3, Cycle 11 thermal hydraulic design condition of 109.5 percent of design flow. The assumed RCS flow in the thermal hydraulic analysis was increased for Unit 3 in order to offset beginning of cycle power distribution predictions.

   As stated in the Bases of proposed Specification 2.1, the thermal design flow at Oconee is less than or equal to 385,440 gpm (109.5% of design flow). This parameter was increased from 106.5% of design flow for Unit 3 Cycle 11 to offset beginning of cycle power distribution predictions. The thermal hydraulic analyses for Units 1 and 2 continue to be based on 106.5% of design flow. RCS flow is monitored to assure that actual flow is greater than that assumed in the thermal hydraulic analysis. As discussed in Section 6 of the Reload Report using NRC approved methodology, the minimum Departure from Nucleate Boiling Ratio (DNBR) has been determined to be greater than the applicable BWC or BAW-2 critical Heat Flux (CHF) correlation limit.

2) Page 3.2-1. Specification 3.2 High Pressure Injection and Chemical Addition Systems has been updated to increase the minimum required Concentrated Boric Acid Storage Tank (CBAST) volume from 1020 $ft^3$ to 1100 $ft^3$. This increase will ensure that the CBAST can borate the RCS to 1 percent Delta k/k subcritical at cold conditions with the maximum worth stuck rod and no credit for xenon at the most limiting time in core life.

   Within the third paragraph of Specification 3.2.2 the phrase "and be borated to a shutdown margin" was inadvertently deleted when amendment 142/142/139 was issued. The subject phrase has been reinserted in this proposal.

3) Page 3.2-2. The Bases of Specification 3.2 have been updated to provide consistency with the revised CBAST volume requirements of Specification 3.2.2. In addition, the minimum required boron concentration in the Borated Water Storage Tank (BWST) has been updated to be 1950 ppm. Currently, the minimum BWST boron concentration is 1835 ppm, with a footnote requiring Unit 3, Cycle 10 BWST boron concentration to be 2010 ppm. This increase will ensure that adequate shutdown margin exists during refueling operations. The footnote regarding Unit 3, Cycle 10 has been deleted as the 2010 ppm boron limit is not applicable to Cycle 11.

As Bases are not a part of the Technical Specifications (in accordance with 10CFR 50.36(a)) and are therefore not incorporated into the facility operating licenses, no license amendment is necessary prior to updating the Bases. The above information regarding CBAST volume and BWST boron concentration is included for information only.

4) Page 3.3-3. Specification 3.3.4.b <u>Borated Water Storage Tank</u> has been updated to increase the minimum required BWST boron concentration to 1950 ppm. This increase will ensure that adequate shutdown margin exists during refueling or a LOCA. The footnote regarding Unit 3, Cycle 10 BWST boron concentration has been deleted as the 2010 ppm limit is not applicable to Cycle 11.

5) Page 3.3-6. The Bases of Specification 3.3 have been updated to provide consistency with the revised BWST boron concentration requirements of Specification 3.3.4.b. The footnote regarding Unit 3, Cycle 10 BWST boron concentration has been deleted as the 2010 ppm limit is not applicable to Cycle 11.

As Bases are not a part of the Technical Specifications (in accordance with 10CFR 50.36(a)) and are therefore not incorporated into the facility operating licenses, no license amendment is necessary prior to updating the Bases. The above information regarding BWST boron concentration is included for information only.

6) Pages 3.5-24, -25, -26. Figures 3.5.2-10, -11, -12 <u>Operational Power Imbalance Envelope</u> have been updated to provide a more conservative envelope for all three units. These limits were developed in accordance with the LOCA linear heat rate limits discussed in Section 7 of the reload report and the operational DNB limits based on methods described in Section 6 of the reload report.

7) Page 3.8-3. The Bases of Specification 3.8 <u>Fuel Loading and Refueling</u> have been updated to provide consistency with the revised minimum BWST boron concentration. In addition, the footnote regarding Unit 3, Cycle 10 BWST boron concentration has been deleted as the 2010 ppm limit is not applicable to Cycle 11.

As Bases are not a part of the Technical Specifications (in accordance with 10CFR 50.36(a)) and are therefore not incorporated into the facility operating licenses, no license amendment is necessary prior to updating the Bases. The above information regarding BWST boron concentration is included for information only.

With supporting reference to previously performed analyses, the following evaluation measures aspects of this amendment request against the Part 50.92(c) requirements to demonstrate that all three standards are satisfied.

First Standard

(Amendment would not) involve a significant increase in the probability or consequences of an accident previously evaluated.

Each accident analysis addressed in the Oconee Final Safety Analysis Report (FSAR) has been examined with respect to changes in Cycle 10 parameters to determine the effect of the Cycle 11 reload and to ensure that thermal performance during hypothetical transients is not degraded. The transient evaluation of Cycle 11 is considered to be bounded by previously accepted analyses. Section 7 of the Reload Report addresses "Accident and Transient Analysis" for this core reload. This analysis ensures that the proposed reload will not involve a significant increase in the probability or consequences of an accident previously evaluated.

As specified in the NRC Safety Evaluation dated July 29, 1981 for the Duke Reload Design Methodology Technical Report NFS-1001 the RCS flow rate for four pump operation is obtained from the lowest value of flow rate measurements and a downward adjustment of measurement uncertainty. Further, the Safety Evaluation recognizes that the coolant flow rate listed in the Technical Specifications must be evaluated to ensure that it is the minimum acceptable flow rate needed to obtain adequate cooling. As discussed in Section 6 of the Reload Report, using NRC approved methodology the minimum DNBR has been determined to be greater than the applicable BWC or BAW-2 CHF correlation limit. An acceptable flow rate needed to obtain adequate core cooling is therefore is assured. RCS flow is monitored to assure that actual flow is greater than assumed in the thermal hydraulic analysis. Thus, the proposed change to the assumed flow in the thermal hydraulic analysis is not an initiator or contributor to any design basic accident addressed in the Oconee FSAR. Therefore, the proposed change to Specification 2.1 Bases will not involve a significant increase in the probability or consequences of previously analyzed accidents.

A key physics parameter affected by the Oconee 3, Cycle 11 design is the beginning of cycle (BOC) boron concentration. The limiting accident analysis with respect to changes in the boron concentration is the moderator dilution accident at power. The combined effect of the boron concentration and the differential boron worth are the key physics parameter which establish the positive reactivity addition rate associated with a moderator dilution accident. A comparison of the boron concentration and differential boron worth calculated for Oconee 3, Cycle 11 to the values assumed in the FSAR indicates that the Oconee 3, Cycle 11 values would result in an insertion rate less than the value assumed in the FSAR. Therefore, the moderator dilution accident presented in the FSAR remains conservative for Oconee 3, Cycle 11.

In addition to evaluating the impact of the predicted boron concentrations while operating at power, the predicted boron concentration required to maintain the core 1% subcritical at 70 degrees-F with all control rods out of the core (ARO) during refueling or a LOCA has been compared to the current Technical Specification value for the BWST. Currently, the required BWST boron concentration is 1835 ppm for all three units (2010 ppm for Unit 3, Cycle 10 only). For Unit 3, Cycle 10 the predicted BOC, ARO, 70 degrees-F, 1% subcritical boron concentration was 1873 ppm. For Unit 3, Cycle 11 the predicted BOC, ARO, 70 degrees-F, 1% subcritical boron

concentration is 1846 ppm. In order to provide additional shutdown margin during refueling or a LOCA, a more conservative BWST boron concentration of 1950 ppm has been proposed for all three units. As a result, the proposed Technical Specification for the BWST does not involve a significant increase in the probability or consequences of an accident previously evaluated.

Changes to the Operational Power Imbalance Envelope (Figures 3.5.2-10, -11, -12) provide more conservative envelopes for all three units. The revised Operational Power Imbalance Envelope ensures that the initial power distributions assumed for a LOCA or a loss of flow accident remain bounding. As such, this change will not involve a significant increase in the probability or consequences of accidents previously evaluated.

Second Standard

(Amendment would not) create the possibility of a new or different kind of accident from any accident previously evaluated.

The analyses performed in support of this reload are in accordance with the US NRC document "Guidance for Proposed License Amendments Relating to Refueling," June 1975. The conclusion of the overall analysis is that the proposed reload does not in any way create the possibility of a new or different kind of accident from any accident previously evaluated.

Using NRC approved methodology, analysis of the revision to core protection safety limit bases has shown that the proposed change to RCS flow assumed in the thermal-hydraulic analysis is within all acceptance criteria. As such, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

Analysis of the revision to minimum BWST boron concentration and minimum CBAST volume has indicated that the 1950 ppm minimum BWST boron concentration and 1100 $ft^3$ minimum CBAST volume are well within all acceptance criteria. For refueling and LOCA conditions the proposed BWST boron concentration is sufficient to maintain the core greater than 1% subcritical at 70 degrees-F with all control rods out of the core. The proposed CBAST volume ensures that sufficient boron is present in the CBAST to borate the RCS to 1% $\Delta k/k$ subcritical margin at cold conditions (70 degrees F) with the maximum worth stuck rod and no credit for xenon at the worst time in core life. Therefore, this change will not create the possibility of a new or different kind of accident from any accident previously evaluated.

Analysis of the changes to the Operational Power Imbalance Envelope (Figures 3.5.2-10, -11, -12) has indicated that the proposed envelopes are more conservative than those presently included in the Technical Specifications. As a result, this change will not create the possibility of a new or different kind of accident from accidents previously evaluated.

Third Standard

(Amendment would not) involve a significant reduction in a margin of safety.

The issue of margin of safety for a reload modification involves the following areas:

1. Fuel System Design considerations,

2. Nuclear Design considerations, and

3. Thermal-Hydraulic Design considerations.

Sections 4, 5, and 6 of the Oconee Unit 3, Cycle 11 Reload Report addresses the above areas, respectively. The value limits and margins discussed in these areas are well within the allowable limits and requirements, and reflect no significant reductions to any margins of safety. By examining these Sections of the Reload Report and the Cycle 11 core thermal and kinetic properties (with respect to previous cycle values), it can be concluded that this core reload will not reduce the ability of Oconee Unit 3 to operate safely during Cycle 11.

The proposed values for minimum BWST boron concentration and minimum CBAST volume are well within all acceptance criteria. As such, there will be no reduction to any margin of safety due to this change.

Changes to the Operational Power Imbalance Envelopes provide more conservative envelopes. As such, this change will not involve a significant reduction in a margin of safety.

The above evaluation, with its accompanying references shows that the three Part 50.92(c) standards are satisfied. In summary, Duke has determined and submits that the proposed reload described herein does not represent any significant hazards.

DUKE POWER COMPANY

OCONEE NUCLEAR STATION

Attachment 3

Oconee Unit 3, Cycle 11 Reload Report