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Rick J. King
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RBG-46012

November 7, 2002

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

SUBJECT: River Bend Station, Unit 1
Docket No. 50-458
Response to Requests for Additional Information
Appendix K Measurement Uncertainty Recovery – Power Uprate
Request (License Amendment Request (LAR) 2002-15)

REFERENCES:

1. Entergy letter dated May 14, 2002, Appendix K Measurement Uncertainty Recovery – Power Uprate Request (LAR 2002-15) (RBG-45951)
2. Entergy letter dated August 2, 2002, Response to Requests for Additional Information Appendix K Measurement Uncertainty Recovery – Power Uprate Request (RBG-45984)
3. Entergy letter dated September 16, 2002, Response to Requests for Additional Information Appendix K Measurement Uncertainty Recovery – Power Uprate Request (RBG-46011)

Dear Sir or Madam:

Entergy Operations, Inc. (Entergy) requested approval of changes to the River Bend Station (RBS) Operating License and Technical Specifications associated with an increase in the licensed power level in Reference 1. The changes involve a proposed increase in the power level from 3,039 MWt to 3,091 MWt. Based on that submittal, NRC reviewers in the Civil and Mechanical Engineering Branch (MCEB) have asked some questions.

Responses to the questions from the mechanical, I&C, and electrical reviewers were provided in References 2 and 3. Responses to questions from the Materials, Reactor Systems, and Human Performance reviewers are provided in Attachments 1, 2, and 3, respectively. The original no significant hazards considerations included in Reference 1 is not affected by any information contained in this supplemental letter.

New commitments made in this submittal are included as Attachment 4. Should you have any questions or comments concerning this request, please contact Jerry Burford at (601) 368-5755.

A001

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 7, 2002.

Sincerely,

Rick J. King
Director, Nuclear Safety Assurance

RJK/FGB

Attachments:
1. Response to Materials RAI
2. Response to Reactor Systems RAI
3. Response to Human Performance RAI
4. Summary of Commitments

cc: U. S. Nuclear Regulatory Commission
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U.S. Nuclear Regulatory Commission
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Attachment 1

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Response to Materials RAI

Attachment 1
Response to NRC Materials RAI for RBS Power Uprate

1. On page 3-5 of the GE Safety Analysis report, a table summarizes the evaluation of the piping inside containment. Piping for systems such as main steam and feedwater include erosion/corrosion as a concern under power uprate conditions. However, the following systems do not include erosion/corrosion as a concern: the recirculation system, the RPV bottom head drain line, residual heat removal, low pressure core spray, high pressure core spray, and RWCU. The staff requests the licensee to provide information supporting the exclusion of erosion/corrosion for the above listed systems.

Response:

Carbon steel piping can be affected by flow accelerated corrosion (FAC), which in turn is affected by changes in fluid velocity, temperature and moisture content. RBS has established a program for monitoring pipe wall thinning in single and two-phase high-energy carbon steel piping. The RBS FAC program is controlled under Procedure RBNP-081. This program, which considers the guidance of Generic Letter 89-08, defines the criteria for the inspection of piping and components subject to FAC. In order to focus resources on the appropriate issues, guidance for the exclusion of systems from FAC consideration was developed using the EPRI guidance in NSAC 202L (e.g., steam quality >99.5%, fluid temperatures < 200 ^{O}F, usage <2%, fluid types (air, oil, raw water), pipe material content >2.25% chromium).

The piping in the Reactor Recirculation, High Pressure Core Spray, and Low Pressure Core Spray Systems has been excluded from the FAC program on the above bases. For example, the Reactor Recirculation System piping is stainless steel and the core spray systems are both low temperature and low usage systems. However, the RPV bottom head drain line and the Residual Heat Removal and RWCU System piping are monitored in the RBS FAC program.

2. Since the effects of flow-accelerated corrosion (FAC) on degradation of carbon steel components are plant-specific, the staff requests the licensee to provide a predictive analysis methodology that must include the values of the parameters affecting FAC, such as velocity and temperature, and the corresponding changes in component wear rates of the systems most susceptible to FAC before and after the power uprate. Please include predicted FAC wear rate changes in balance of plant components and those components most susceptible to FAC.

Response:

The systems most susceptible to FAC are those identified in the table on page 3-5 of the GE TSAR as clarified in Response 1 above. These include the main steam and feedwater systems and the main steam drain lines. The RBS FAC program utilizes CHECWORKS software, operating experience and EPRI guidance to predict the susceptibility of the subject piping to erosion/corrosion effects and to establish a recommended inspection schedule. In the RBS FAC program, observed changes in the plant operating conditions and corrosion rates are evaluated against the predicted corrosion rates. The RBS FAC inspection program will be modified if wear rates increase or decrease due to power uprate conditions.

3. The staff requests that the licensee indicate the degree of compliance with the NRC Generic Letter 89-08, "Erosion/Corrosion in Piping." This letter requires that an effective program be implemented to maintain structural integrity of high-energy carbon steel systems. The licensee should describe how the current program incorporates this guidance.

Response:

RBS provided a response to the NRC regarding Generic Letter 89-08 in RBG-31261. In that letter, the program to address erosion/corrosion concerns was described. Basically, it was noted that the program was based on significant operating experience up to that date and that it provided for expansion in scope as appropriate based on the evaluation of inspection results. This program identifies the piping components and locations to be monitored, the acceptance criteria for these locations and components, and the corrective actions to be taken should these acceptance criteria not be met. The current FAC program at RBS was developed in accordance with EPRI and industry guidance.

4. In Section 3.5.2, "Balance of Plant Piping Evaluation", the licensee states that the RBS erosion/corrosion program uses CHECWORKS™. The staff requests the licensee to discuss:

   a. The licensee's methodology for CHECWORKS™ to monitor and inspect systems affected by FAC.
   b. The license's plans for modifying CHECWORKS™ or other applicable FAC predictive methodologies to account for the power uprate.
   c. Other plant systems such as feedwater, main steam, and associated piping that uses a generic computer code (e.g., CHECWORKS™) for predicting wall thinning by FAC. If the code is plant-specific, please provide its description.

Response:

a) In the RBS FAC Program, piping susceptible to FAC that can be modeled is input into the CHECWORKS software. The RBS FAC program utilizes the CHECWORKS software to predict the susceptibility of the subject piping to erosion/corrosion effects and to establish a recommended inspection schedule. In the RBS FAC program, observed changes in the plant operating conditions and corrosion rates are evaluated against the predicted corrosion rates. The susceptibility is determined in a separate independently verified analysis. Components to be inspected are then selected considering the following inputs:

   - components from the CHECWORKS model
   - components from the 'susceptible – not modeled' analysis
   - re-inspections (based on the results of prior inspections)
   - industry experience
   - plant experience

b). RBS does not anticipate that any modifications to the CHECWORKS software will be required to account for the power uprate. The power level associated with the TPO uprate will be input, as appropriate, into the model to determine if inspection frequencies for components need revising. System operating conditions will be appropriately considered when determining if uprate has an effect on the component selection process

c) RBS utilizes CHECWORKS and does not utilize any other software for predicting wall thinning in its FAC Program.

Attachment 2

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Response to Reactor Systems RAI

Attachment 2
Response to NRC Reactor Systems Branch RAI for RBS Power Uprate

1. Executive Summary – On page S-2 it is stated that "the evaluations were conducted in accordance with the criteria of TLTR Appendix B." But item number 11 in the TLTR Appendix B concerning review of the UFSAR is not addressed. Add item number 11 to the list to confirm that the UFSAR review was performed for TPO.

Response:

The RBS Design Control Program provides for a review of the latest UFSAR and of design changes / 50.59 reviews implemented, but not yet shown in the UFSAR. This ensures adequate evaluation of the licensing basis for the effect of TPO through the date of that evaluation. Additionally, 50.59 reviews for changes not yet implemented were reviewed for the effects of increased power.

2. Section 1.1 Overview – Reference is made to BWR Thermal Power Optimization (TPO) report NEDC-32938P, which is under staff review for evaluations of several sections in the River Bend Station (RBS) report. However, the TPO report covers power uprate to 1.5% only. Additional evaluations are required to support the RBS application. In some cases, reference to TPO with 1.5% may be still valid. In other cases, TPO reference may not be valid. Identify the areas where the TPO is not valid and provides the bases for the additional 0.2% power uprate.

Response:

Every reference made to the TPO Licensing Topical Report (TLTR) in the River Bend Station (RBS) TPO Safety Analysis Report (TSAR) is valid.

The methodology for the evaluation of the RBS for operation at the TPO uprated power level involved one of the following three approaches:

(a) use of an existing analysis conducted at 102% or greater of current licensed thermal power (CLTP), which is bounding for the TPO power uprate;
(b) a new plant-specific analysis was conducted; or
(c) a generic analysis methodology is applicable.

Where the generic analysis in the TLTR was determined applicable, a confirmation was made that the generic analysis at the 1.5% uprate is valid for the RBS 1.7% uprate. Each section of the TSAR presents the summary of one of these three methodologies.

As an example, TSAR Section 4.1 states that the previous containment evaluations are based on 102% or greater of CLTP and therefore bound the RBS uprate of 101.7% of CLTP. In another case, TSAR Section 3.2.1 presents the evaluation for the fracture toughness of the reactor vessel based on new plant specific analysis performed at RBS TPO conditions of 101.7% of CLTP. As a third example, TSAR Section 3.8 states that the generic evaluation for the Main Steam Isolation Valves (MSIV) provide in the TLTR is applicable to RBS because the requirements for the MSIVs remain unchanged for the RBS TPO conditions at 101.7% of CLTP.

3. Section 1.2.1 TPO Analysis Basis – It is stated that "Some analyses may be performed at 100% TPO RTP (101.7% of CLTP), because the uncertainty factor is accounted for in the methods, or the additional 2% margin is not required (e.g., ATWS)." Describe in detail which methods and which analyses. How much margin is there for ATWS analysis at present? What are the parameters which got the 2% margin?

   Generic TPO ATWS evaluations are based on GE methodology and GE fuel. Discuss the impact of Framatome fuel in the ATWS analyses.

Response:

The limiting transient analyses used to develop the current RBS core operating limits are all performed at rated power because the uncertainty in core power is included in the MCPR safety limit and LHGR methods. This will be the practice applied for the analyses to develop the core operating limits for the RBS cycle in which TPO uprate is implemented. The non-limiting transient analyses performed to support RBS have generally been performed at a power of 104.2% Original Licensed Thermal Power (OLTP).

The current ATWS analyses have been performed at CLTP power. As described in Section 9.3.1 of the TSAR, this analysis demonstrates 200 psi margin to the RPV pressure limit of 1500 psig and 4.7 °F margin to the suppression pool temperature limit of 185 °F, which is well in excess of the criteria established in the TLTR.

The analyses summarized in the TLTR were based on a full core of GE-11 fuel. For RBS, a peak RPV pressure evaluation was performed for the mixed core (GE-11 and ATRIUM™-10 fuel) for the current cycle. The results indicate a margin to the RPV pressure limit of 197 psi, which greatly exceeds the criteria established in the TLTR.

The ATWS containment analysis has been performed at the CLTP of 3039 MW. As described in Section 5.3.5 and Appendix L.3 of NEDC-32938P, the impact of TPO on suppression pool temperature is less than 1°F. This value is based on reactor cores made up of GE fuel, including pre-GE11 fuels, GE11, GE13 and GE14. As stated previously, RBS has a mixed fuel core consisting of GE11 and Atrium-10 fuel.

The primary factors that affect the peak suppression pool temperature are the time to achieve hot shutdown and the average power level during the reactor vessel level control stage. The time required to achieve hot shutdown from boron injection is not strongly affected by fuel types. The reduced core flow and the resulting power are self-regulating and are relatively independent of fuel types. Therefore, it is expected that the impact of the RBS mixed core on the peak suppression pool temperature for a 1.7% uprate is far less than the current suppression pool temperature margin of 4.7 degrees F.

4. Section 1.2.2 Margins Table 1-1 – List of Computer Codes used for TPO Analyses is incomplete. Include all applicable codes, both GE and Framatome evaluation models.

Response:

The purpose of Table 1-1 of the River Bend Station (RBS) TPO Safety Analysis Report (TSAR), NEDC-33051P, is to identify those computer codes used in the RBS TPO analyses that are not part of the existing design basis.

For example, ISCOR was used to perform the reactor heat balance for the RBS TPO evaluation (TSAR Section 1.3.1). Consequently, ISCOR is included in Table 1-1 because it is a code used to perform a plant-specific TPO analysis.

Each section of the TSAR identifies the basis for the evaluation. As an example, the TPO evaluation of the containment system (TSAR Section 4.1) relies upon the existing design basis analyses. Those related computer codes are not identified in Table 1-1 because the analyses are part of the existing design basis or reload analysis and were not performed specifically for the RBS TPO evaluation. As discussed in the RBS TSAR, these analyses were performed at conditions which bound the TPO operating condition, or as in the case of the ATWS analysis, exhibit little sensitivity to the power change. Some examples of these codes include COTRANSA2, RODEX2, RODEX2A, and GESTR-LOCA/SAFER. No new analyses were performed using these programs for the TPO uprate.

5. Section 1.3.2 Reactor Performance Improvement Features – Confirm that the analyses performed for reactor performance improvement features bounds 101.7 power level.

Response:

The TPO evaluations found the currently licensed performance features acceptable at the TPO condition of 101.7% of licensed power.

6. Table 1-3 Summary of Effect of TPO Uprate on Licensing Criteria – It is stated that for ATWS peak vessel pressure, the effect of 1.7% power increase is less than 20 psig. Confirm that this is true. For Pressure Regulator Failure event, the pressure increase may be more than 20 psig.

Response:

An exact value of the effect of the TPO increase for RBS is not available since an ATWS plant-specific evaluation was not conducted for the RBS TPO evaluation.

It is true that the Pressure Regulator Failure event may have a pressure increase greater than 20 psi. The generic criteria were discussed in response to RAI 18 regarding the TPO Licensing Topical Report, NEDC-32938P. As stated in Section 9.3.1 of the River Bend Station TPO Safety Analysis Report, NEDC-33051P, Revision 1, the margin between the calculated peak vessel pressure and the ASME Code limit is sufficient to negate the need for a plant specific evaluation. The information contained in Table 1-3 is an estimated value based on previous analyses.

7. Section 2.1 Fuel Design and operation – Describe the current operating Cycle 11 mix core. How many GE 11 fuel bundles and how many Framatome fuel bundles are in the core now and in the next Cycle when the TPO is implemented?

Response:

The Cycle 11 core design consists of 200 Framatome ATRIUM-10 and 424 General Electric GE-11 fuel bundles. The current plan for the Cycle 12 design calls for 416 Framatome ATRIUM-10 and 208 General Electric GE-11 fuel bundles.

8. Section 2.4 Stability – Refer NEDO-31960-A and NEDO-32339A to support Option 1A.

Confirm that RPV level control strategy includes lowering the vessel level below the feedwater sparger.

Response:

River Bend Station has implemented the RPV level control strategy that includes lowering the vessel level below the feedwater sparger to address stability issues. This strategy was a recommendation in BWROG EPG/SAG Revision 1. This strategy is implemented in RBS procedure EOP-0001.

9. Reactivity Control – In the staff ELTR-2 SER it is stated that "the plant specific submittal for BWR/6 plants must provide assurance that the scram insertion speeds used in the transient analyses are slower than the requirements in the plant TSs." Confirm that this is true for River Bend.

Describe in detail the "CONTRANSA2" methodology and the relation to control rod velocity, steam pressure and control rod position. If there is no pressure increase for TPO update, how additional pressurization can take place?

Response:

It is confirmed that the RBS transient analyses apply scram speeds that are slower than the requirements in the Technical Specifications.

The control rod scram speed in the COTRANSA2 model is a function of time-dependent steam dome pressure, utilizing bounding (slower) values of the position-specific pressure-dependent scram insertion times in the RBS Technical Specifications. Effectively, the COTRANSA2 methodology applies a control rod velocity that is a function of both the instantaneous steam dome pressure and the instantaneous control rod position. The scram times to be applied in the RBS transient analyses for the cycle in which TPO is to be implemented will consider the additional pressurization associated with TPO.

For certain events, the pressurization transient associated with TPO can be more severe than that at the current rated power. Even though the initial steam dome pressure is not increased, the higher steam flow associated with TPO results in slightly more severe pressurization transients for those events associated with closure of valves in the steam line.

10. Section 3.1 Nuclear system pressure relief/overpressure protection – Identify the GE Framatome approved methodology and refer the analyses given in the reload analyses.

These analyses assumed no valve out of service options. But in section 1.3.2, Reactor Performance Improvement Features, seven safety relief valves out of service and 3% SRV set point tolerance evaluations are mentioned. Clarify why these two analyses are inconsistent.

Response:

The RBS Cycle 11 overpressure protection analysis is documented in EMF-2616(P), "River Bend Station Cycle 11 Plant Transient Analysis". These calculations were performed with the NRC-approved COTRANSA2 methodology in ANF-913(P)(A), "COTRANSA2: A Computer Program for Boiling Water Reactor Transient Analyses".

RBS has licensed all the performance improvement features reported in Section 1.3.2 including seven SRVs out of service and 3% SRV tolerance. As noted in Section 3.1, the overpressurization analyses considered the valve out-of-service option, which has the largest impact on pressurization results out of all the performance improvement features. The remaining performance improvement features including 3% SRV tolerance and MEOD were also considered in the overpressurization analysis but just were not mentioned in Section 3.1.

The reload analyses for Cycle 12 (the cycle in which TPO implementation is intended) will, as a minimum, assume the same performance improvement features reported in Section 1.3.2.

11. Section 3.6 Reactor Recirculation System – What is the licensed maximum core flow for RBS? Discuss the pump NPSH and the cavitation interlock aspects.

Response:

The rated core flow for RBS is 84.5 Mlb/hr, as shown in the RBS TPO SAR, Table 1-2, with a licensed maximum core flow of 107% of rated or 90.4 Mlb/hr.

As described in Section 4.4.3.3.3 of the RBS USAR, design features have been incorporated to maintain power and flow conditions within the power / flow map. These features include interlocks to ensure that the recirculation pumps and flow control valves do not experience cavitation. The parameters that serve as the inputs to the interlock functions and the setpoints that provide the protection function are not affected by the TPO uprate. Section 4.4.3.3.1 also describes the lower line of the power / flow map as the cavitation protection line. This line is based in part on NPSH requirements and ensures that pump NPSH requirements will be acceptable for TPO operation.

12. Section 4.3 Emergency Core Cooling System Performance – Framatome methodology used for the LOCA analyses is not discussed. How are 10CFR50.46 criteria met? What is the PCT? What is the limiting break? More discussion is required.

Which is the analysis of record for LOCA analysis? Is it GE analysis or Framatome analysis or both?

Response:

The Framatome fuel was analyzed with Framatome's NRC-approved RELAX, EXEM, and HUXY models, while the GE fuel is analyzed with GE's NRC-approved SAFER/GESTR model.

These analyses were performed at 102% of CLTP. In both evaluations, the limiting case was the double-ended guillotine break of the recirculation line with failure of the High Pressure Core Spray (HPCS) system. Both of the analyses, for each respective fuel type, yielded PCTs less than 1875 °F, maximum local oxidation thickness less than 1%, and core-wide metal-water reactions less than 0.2%. These results comply with the 10CFR50.46 requirements with significant margin.

The RBS analysis of record for LOCA is both analyses. The GE analysis is applicable to the GE11 fuel in the RBS core while the Framatome analysis is applicable to the ATRIUM-10 fuel.

13. Section 5.3.2 TSV Closure Scram, TCV Fast Closure Scram, and Recirculation Pump Trip Bypasses – It is stated "The AL for the TFSP that activates the T/G trip scram and RPT at high power remains the same value in terms of percent RTP. This is contrary to TLTR Section F.4.2.3, which states that the AL would remain the same in terms of absolute main steam turbine steam flow (lb/hr), and indicated as a pressure signal (psig)."

Since this is a deviation from the TLTR, a more detailed description is required.

Response:

Section 5.3.2 of the RBS TSAR states the TSV Closure Scram, TCV Fast Closure Scram, and Recirculation Trip Bypasses (P_{Bypass}) remain the same in relative power. This is a deviation from the TLTR, but is consistent with the approach used in the 5% power uprate previously implemented at RBS. This parameter, P_{Bypass}, is considered in the determination of the cycle thermal limits.

RBS implemented a "flow only" 5% power uprate in the middle of Cycle 10. A review of the calculated minimum critical power ratio (MCPR) values for the original licensed power and for the 5% uprate indicates that the power increase had little effect on the calculated MCPR values when the value of P_{Bypass} was maintained constant in terms of relative power. As the power increase associated with the TPO uprate is small by comparison to the 5% uprate value, the impact of pressurization events on the calculated MCPR values is also expected to insignificant.

Attachment 3

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Response to Human Performance RAI

Attachment 3
Response to NRC Human Performance Branch RAI for RBS Power Uprate

1. Describe how the proposed power uprate will change the plant emergency and abnormal operating procedures, if known at this time. Discuss if your operating procedure change control process requires the identification and update of the affected operating procedures associated with a modification. Discuss if the procedures that impact plant operation have been identified and if they will be revised prior to operation above the current licensed thermal power level.

Response:

The RBS Design Control Program requires that the implementing procedures be identified during the modification development. RBS reviewed the list of procedures affected by the recent 5% uprate and considered the impact of the TPO uprate on these procedures. Operating procedures changes necessary to reflect operation at the TPO uprate power conditions are identified as part of the associated modification process. These procedures will be revised prior to operation at the increased power level. As noted in Section 10.6 of the TSAR, no special additional training is required for the uprate; minor changes to the Technical Specifications, power/flow map, flow-referenced setpoint and the like will be communicated through routine operator training prior to operation at the uprated power level. See also Section 10.8 of the RBS TSAR.

2. Describe any changes the proposed power uprate will have on the operator interfaces for control room controls, displays, and alarms. For example, what zone markings (e.g., normal, marginal, and out-of-tolerance ranges) on meters will change? What setpoints will change? How will the operators know of the change? Describe any controls, displays, and alarms that will be upgraded from analog to digital instruments as a result of the proposed power uprate and how operators were tested to determine they could use the instruments reliably.

Response:

Operator interface changes to support the proposed power uprate include the addition of computer points to provide indication of feedwater flow, feedwater temperature and feedwater pressure signals from the new, more accurate, flow meter. The only setpoint changes will be to variables such as Turbine Stop Valve closure and Turbine Control Valve fast closure scram bypass, and Rod Pattern Controller low and high power setpoints, which will remain the same in terms of absolute power level, but will be slightly lower in terms of percent of rated thermal power. The analytical limits for these setpoints will remain the same in terms of percent RTP as noted in TSAR Sections 5.3.2 and 5.3.8. No changes to zone markings on control room meters are anticipated. No control room displays or controls will be upgraded from analog to digital.

3. Describe any changes the proposed power uprate will have on the Safety Parameter Display System. How will the operators know of the changes?

Response:

The power uprate will have negligible impact on the Safety Parameter Display System (SPDS). The SPDS monitors and provides a status-board display of key parameters that are entry points into the emergency procedures. None of the entry conditions are affected by the TPO uprate. All points remain within their existing ranges. Affected operating values, such as reactor coolant temperature and pressure, are addressed in the applicable operating procedures

4. a.) With regard to operator training, the licensee stated that no additional training (apart from normal training) is required to operate the plant in the uprated condition. For the uprated condition, operator response to transient, accident, and special events are not affected. Operator actions for maintaining safe shutdown, core cooling, containment cooling, etc., do not change for the power uprate. Minor changes to the power/flow map, Technical Specifications, and the like, will be communicated through normal operator training. Please indicate the implementation schedule for the training/changes discussed above (i.e., prior to operation above the current licensed thermal power level).

Response:

See response to item 1 above; training on the affected procedures will be completed prior to operation at the increased power level.

4. b.) With regard to the control room simulator, the licensee stated that simulator changes and validation for the power uprate will be performed in accordance with ANSI/ANS 3.5-1985. Please describe the simulator changes (hardware and software) to the extent that they are known at this time, and provide the implementation schedule for making the changes (i.e., prior to operation above the current licensed thermal power level).

Response:

River Bend Station, along with Entergy Nuclear South, has revised its simulator configuration control program to comply with revision 3 of Reg. Guide 1.149 and the 1998 version of ANSI/ANS 3.5. Therefore, the commitment to perform simulator changes and validation in accordance with ANSI/ANS 3.5-1985 is hereby revised to perform those changes and validation in accordance with ANSI/ANS 3.5-1998.

Changes made to plant systems for this power uprate project will also be made in the simulator for those systems currently modeled. Simulator changes identified at this time include those setpoints identified in response to item 2 above, the 100% thermal power reference value, and the addition of computer points to reflect the new flow input.

At this time no hardware changes to the simulator have been identified. Changes made to the simulator to support this power uprate project will be completed prior to operation above the current licensed thermal power level.

Attachment 4

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Summary of Commitments

Summary of Regulatory Commitments

The following table identifies those actions committed to by Entergy in this document. Other statements in this submittal are provided for information purposes and are not considered to be regulatory commitments.

COMMITMENT	TYPE (Check one)	
	ONE-TIME ACTION	CONTINUING COMPLIANCE
Minor changes to the Technical Specifications, power/flow map, flow-referenced setpoint and the like will be communicated through routine operator training prior to operation at the uprated power level.	X	
The procedures that impact plant operation have been identified and will be implemented prior to operation above CLTP.	X	
Changes made to the simulator to support this power uprate project will be completed prior to operation above the current licensed thermal power level.	X	