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June 10, 1997  
JSPLTR #97-0111

US Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

**Subject:** Supplement to Additional Information Regarding Dresden Nuclear Power Station Unit 3 Cycle 15 Confirmation of Minimum Critical Power Ratio Safety Limit Based on Revised SPC ATRIUM-9B Additive Constant Uncertainties,  
Operating License Nos. DPR-19 and DPR-25,  
NRC Docket Nos. 50-237 and 50-249.

**Reference:** ComEd letter, "Additional Information Regarding Dresden Nuclear Power Station Unit 3 Cycle 15 Confirmation of Minimum Critical Power Ratio Safety Limit Based on Revised SPC ATRIUM-9B Additive Constant Uncertainties,  
J.M. Heffley to U.S. NRC, JMHLTR: 97-0053, May 6, 1997,  
Operating License Nos. DPR-19 and DPR-25,  
NRC Docket Nos. 50-237 and 50-249.

The referenced document provided information requested by the Nuclear Regulatory Commission (NRC) regarding the Dresden Unit 3 Cycle 15 Minimum Critical Power Ratio (MCPR) Safety Limit calculations. The intent of that letter was to provide clarifying information that supports maintaining the Dresden Unit 3 Cycle 15 MCPR Safety Limit at the Technical Specification value of 1.08 with an interim conservative ATRIUM-9B additive constant uncertainty of 0.029. The purpose of this letter is to formally transmit the clarifying information provided in the enclosed attachment.

The attached table contains results of calculations showing the sensitivity of the MCPR Safety Limit (and corresponding number of fuel rods in boiling transition) to the ATRIUM-9B additive constant uncertainty. On June 9, 1997, the attached table was informally provided to the NRC Staff via facsimile transmittal and was the subject of a telephone conference held that day. During that telephone conference, ComEd agreed to docket the calculation results. The attached table shows that the current Dresden Technical Specification MCPR Safety Limit of 1.08 is supported by the analysis performed for Dresden Unit 3 Cycle 15 operation.

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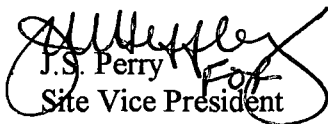
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- The attached table provides the percentage of fuel rods calculated to be in boiling transition (BT) for ATRIUM-9B additive constant uncertainties of 0.0100, 0.0195, and 0.029 over a range of assumed safety limits (MCPR Safety Limit). An additive constant uncertainty of 0.020 is used for 9x9-2 fuel for all values in the table. Some conclusions from the table are summarized below.
- For an ATRIUM-9B additive constant uncertainty of 0.01, the percentage of fuel rods calculated to be in BT is 0.0517% at a MCPR Safety Limit of 1.05. Therefore, a Technical Specification MCPR Safety Limit down to at least 1.05 could be supported (it is estimated that a limit of 1.04 could also be supported without exceeding 0.1% of the fuel rods in BT).
- For an ATRIUM-9B additive constant uncertainty of 0.0195, the results indicate that a Technical Specification MCPR Safety Limit of 1.06 can be supported. At a 1.06 MCPR Safety Limit, 0.0780% of the fuel rods are calculated in BT which is less than the acceptance criteria of 0.1%. At the next lower possible MCPR Safety Limit of 1.05, the number of fuel rods in BT exceeds the acceptance criteria; therefore, the lowest acceptable Technical Specification MCPR Safety Limit is 1.06 for an additive constant uncertainty of 0.0195.
- For an ATRIUM-9B additive constant uncertainty of 0.029, the results indicate that a Technical Specification MCPR Safety Limit of 1.08 can be supported. At a 1.08 MCPR Safety Limit, 0.0997% of the fuel rods are calculated in BT which is less than the acceptance criteria of 0.1%. At the next lower possible MCPR Safety Limit of 1.07, the number of fuel rods in BT exceeds the acceptance criteria; therefore, the lowest acceptable Technical Specification MCPR Safety Limit is 1.08 for an additive constant uncertainty of 0.029.

The results summarized above are consistent with previous Siemens Power Corporation sensitivity studies which indicate that a 0.01 increase in additive constant uncertainty results in about an 0.02 increase in the MCPR Safety Limit.

Any questions related to this matter should be addressed to Frank Spangenberg at (815) 942-2920 extension 3800.

Sincerely,

  
J.S. Perry  
Site Vice President

Attachment: Table: Dresden Unit 3 Cycle 15 Sensitivity to Additive Constant Uncertainty

cc: A. Bill Beach, Regional Administrator, Region III  
J.F. Stang, Project Manager, NRR (Dresden Unit 2/3)  
Senior NRC Resident Inspector, Dresden  
Office of Nuclear Facility Safety -IDNS

**ATTACHMENT**

**Dresden Unit 3 Cycle 15 Sensitivity to Additive Constant Uncertainty**

<b>Percentage of Fuel Rods in Boiling Transition</b>			
<b>Safety Limit MCPR</b>	<b>Additive Constant Uncertainty for ATRIUM-9B Fuel**</b>		
	<b>0.0100</b>	<b>0.0195</b>	<b>0.0290</b>
1.05	0.0517	0.1207	0.2399
1.06	0.0307	0.0780	0.1934
1.07	0.0157	0.0540	0.1440
<b>1.08*</b>	0.0097	0.0352	<b>0.0997</b>

\*Denotes current Technical Specification MCPR Safety Limit

\*\*Note: 9x9-2 fuel in the Dresden Unit 3 Cycle 15 core uses an additive constant uncertainty of 0.020