

March 29, 2004

LICENSEE: Entergy Nuclear Operations, Inc.
FACILITY: Indian Point Nuclear Generating Unit No. 2
SUBJECT: SUMMARY OF MARCH 9, 2004, MEETING REGARDING STRETCH POWER
UPRATE LICENSE AMENDMENT APPLICATION

On March 9, 2004, a public meeting was held between the Nuclear Regulatory Commission (NRC) and representatives from Entergy Nuclear Operations, Inc., at NRC Headquarters, Two White Flint North, 11545 Rockville Pike, Rockville, Maryland. The purpose of the meeting was to discuss the licensee's application dated January 29, 2004, for an amendment to increase the licensed power level by 3.26% at Indian Point Nuclear Generating Unit No. 2 (IP2).

The licensee presented information on the January 29 application and the supporting analyses described in its licensing report. The presentation closely followed the information presented in its handout slides. The information covered the basic organization and content of the application, the licensee processes that were undertaken to identify the systems, components, and analyses that would be affected or modified because of the uprate. Those systems, components, or analyses that are unaffected remain within the current design and licensing bases for the facility. The licensee indicated that, in certain cases, an engineering evaluation was conducted to ensure that the analysis of record did not require a revision. Specifically, the licensee detailed the proposed changes in key analyses assumptions, analytical methods, and Technical Specifications requirements. Finally, the licensee discussed the plant equipment and procedural modifications needed to support the power uprate.

The staff queried the licensee about several issues. The staff's questions related to (1) the material degradation program and licensee's assessment of the effects from uprate conditions, (2) changes in the fuel design and mixed core penalties, (3) spent fuel pool analysis because of the revised fuel design, (4) more clarity and specificity about: satisfying existing licensing basis criteria and regulatory commitments and identification of any exceptions that are proposed, the safety impact of the power uprate on balance-of-plant systems, and the scope and justification of changes in the balance-of-plant area that require NRC review and approval, (5) the method used to determine allowable values for reactor protection system (RPS) and engineered safety features actuation system (ESFAS) parameters being revised for the uprate, (6) plans for vibration monitoring, and (7) plans for startup testing.

In response to the questions from the NRC staff, the licensee provided the following information. First, the licensee indicated that it will continue to monitor any industry initiatives and will identify any differences in the material degradation program results that may be different from those expected. Second, all of the applicable analyses for the power uprate were based on the upgraded fuel design characteristics that bound the existing fuel and the upgraded fuel planned for operating cycle 17. The upgraded fuel includes such aspects as a

new grid design to provide additional margin for grid-to-rod fretting. Westinghouse indicated that the hydraulic resistance of the upgraded fuel is not significantly different from the hydraulic resistance of the existing IP2 fuel. The licensee agreed to provide a description of the upgraded fuel design, explain the impact of a mixed core under uprate conditions, and clarify what NRC approval is needed to implement the new fuel. The staff found that the submittal was not clear about the transition to the upgraded fuel. The licensee recognized that a core penalty may be needed when fuel designs are mixed. The licensee also agreed to evaluate the need for a new loss-of-coolant accident (LOCA) analysis addressing >50 °F changes per 10 CFR 50.46(a)(3)(i). In this regard, the licensee would need to provide the methodology used to perform the LOCA analysis. If the fuel rod design computer code PAD-4 was used, this fact should be stated in the title. Third, the licensee acknowledged that spent fuel pool criticality should be addressed in the submittal, including how it is affected, if at all, by the upgraded fuel. The licensee should also define if the requirements of 10 CFR 70.24 or 50.68 apply. Fourth, the licensee stated that it would provide clarifying information to better identify the extent to which systems, components, and analyses are affected by the uprate conditions. This information would focus on the licensee's review of its design and licensing basis criteria, including prior commitments and responses to NRC generic communications, to identify the needed changes, any effects on safety, and the rationale for acceptance. In this regard, the licensee would also provide a means to identify references included in other sections of the report. For unaffected areas, the licensee would explain why there was no impact or the performance was bounded. Fifth, the licensee agreed to provide a description of the methodology that will be used to determine allowable values for RPS and ESFAS parameters. Sixth, the licensee would provide additional details about its plans for vibration monitoring during the implementation period for the power increase. Lastly, the licensee indicated that it would clarify those areas where its analyses indicate that design and operating margins are impacted and describe in more detail the program to test acceptability during startup.

In addition to the general discussion above, the NRC staff is supplying the following details to support its concern regarding an issue that was addressed in a limited manner during the meeting:

1. The primary and secondary systems safety valve capacities for IP2 were probably originally justified using WCAP-7769, Revision 1, "Overpressure Protection for Westinghouse PWRs [pressurized-water reactors]," dated 1972. Since the surge rates for the safety valves under pressurization transient conditions would likely be affected, it should be confirmed that this report still applies to IP2.

A member of the public was in attendance. Public Meeting Feedback forms were not received.

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Enclosure 1 is a list of meeting attendees, and Enclosure 2 is a copy of the licensee's slides presented at the meeting.

Please direct any inquiries to Patrick Milano, Sr. Project Manager, at 301-415-1457, or pdm@nrc.gov.

/RA/

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Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosures: As stated

cc w/encls: See next page

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cc w/encls: See next page

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*See previous concurrence

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Official Record Copy

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ENTERGY NUCLEAR OPERATIONS, INC.

INDIAN POINT NUCLEAR GENERATING UNIT NO. 2

MARCH 9, 2004

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