

# POLICY ISSUE INFORMATION

July 27, 2001

SECY-01-0142

FOR: The Commissioners

FROM: William D. Travers  
Executive Director for Operations

SUBJECT: PROPOSED NO SIGNIFICANT HAZARDS CONSIDERATION  
DETERMINATIONS FOR AMENDMENTS TO INCREASE RATED THERMAL  
POWER FOR NUCLEAR POWER REACTORS

## PURPOSE:

To inform the Commission of the staff's intent to issue proposed no significant hazards consideration determinations for amendments to increase rated thermal power (power uprates) for nuclear power reactors.

## SUMMARY:

In 1986 the Nuclear Regulatory Commission (NRC) issued its regulations for no significant hazards consideration (NSHC) determinations for license amendment applications. The NSHC determination is used in the license amendment process to decide if an amendment may be issued before completing a requested hearing or if the staff must wait until after the hearing process is completed before issuing the amendment. In the supplementary information that accompanied the final rulemaking (51 FR 7744, published March 6, 1986), an increase in authorized maximum core power level was provided as an example of an amendment that the NRC considered likely to involve significant hazards considerations (i.e., an amendment that would not be issued before completing a hearing if one were granted).

The staff has issued many power uprate amendments in the years after issuing the procedures and standards on NSHC determinations. In an effort to improve the efficiency of the staff's approach to power uprates and address previous inconsistencies in our approach to noticing applications, the Office of Nuclear Reactor Regulation (NRR) will issue guidance to the staff on using the criteria defined in Section 50.92 of Title 10 of the *Code of Federal Regulations* (10 CFR 50.92) for evaluating the issue of NSHC for amendments requesting power uprates. The staff would, thus, handle power uprates in the same fashion as it handles other license amendment applications.

Contact: William D. Reckley, NRR  
415-1323

BACKGROUND:

Section 189a. of the Atomic Energy Act of 1954, as amended (the Act), requires, in part, that the Commission provide thirty days' notice of its intent to issue an amendment to a license for a power reactor, and an opportunity for a hearing. In 1983, Congress amended Section 189a. to provide, in part, as follows:

(2)(A) The Commission may issue and make immediately effective any amendment to an operating license . . . upon a determination by the Commission that such amendment involves no significant hazards consideration, notwithstanding the pendency before the Commission of a request for hearing from any person. Such amendment may be issued and made immediately effective in advance of the holding and completion of any required hearing.

. . . . .

(C) The Commission shall, during the ninety-day period following the effective date of this paragraph, promulgate regulations establishing (i) standards for determining whether any amendment to an operating license involves no significant hazards consideration[.]

42 U.S.C. § 2239(a)(2). To comply with these provisions, the Commission published an interim final rule (48 FR 14864, published April 6, 1983) setting forth criteria in 10 CFR 50.92 for determining whether an amendment involves NSHC. The final rule (51 FR 7744, published March 6, 1986) affirmed the criteria in the interim final rule.

Section 50.92 provides that a proposed amendment to an operating license involves NSHC if "...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 included guidance on the NSHC criteria and examples of amendments deemed likely to involve or not involve a proposed NSHC determination in the statements of consideration published with a proposed rule (45 FR 2049, published March 28, 1980). The supplementary information accompanying the final rule also included such examples, as well as a discussion on several specific types of amendments. Example "v" under the category of amendments that would likely involve a significant hazards consideration was "...for a nuclear power plant, an increase in authorized maximum core power level."

Although the supplementary information did not include an expanded discussion for each example, the notice made clear that the examples were merely guidelines and that, as problems were resolved and new information was developed, the staff might refine the examples and add new ones, in keeping with the standards of the final rule.

#### DISCUSSION:

The staff decided to develop additional guidance on NSHC determinations for power uprates to improve the effectiveness and efficiency of, and lend stability to, the licensing process. Two options were considered. The first option was to issue guidance to the NRC staff that all power uprate amendments be noticed without a proposed NSHC determination.<sup>1</sup> The second option was to delete power uprates as an example under the category of amendments that are considered likely to involve significant hazards considerations. The staff chose the second option because the technical evaluation of whether or not a power uprate amendment involves potential hazards consideration should center on the three standards defined in 10 CFR 50.92.

The staff has concluded that sufficient evidence and information exist for the staff to uniformly apply the criteria defined in 10 CFR 50.92 to amendments for power uprates. The staff has reviewed and approved numerous power uprate license amendments since the development of 10 CFR 50.92 in the 1980s. Some proposed power uprate amendments were noticed without making a proposed NSHC determination (i.e., providing neither a proposed NSHC determination nor a finding that the subject amendment involved a significant hazards consideration). Other power uprate amendments have been noticed with a proposed NSHC determination based on the licensee's analysis, the final standards in 10 CFR 50.92, and the lessons learned from previously approved power uprate amendments. The staff has now determined that it is appropriate to make proposed NSHC determinations for some types of power uprates, as described below.

Applications for power uprates have proposed increases in rated thermal power from approximately 1 percent up to approximately 20 percent of an existing licensed power level. Numerous power uprates of approximately 1.4 percent power are expected as a result of a recent change to Appendix K to 10 CFR Part 50, "ECCS [emergency core cooling system] Evaluation Models," (65 FR 34921, published June 1, 2000). The change allows for analyses of

---

1 When the staff issues a Notice of Consideration of Issuance of Amendment to Facility Operating License And Opportunity For a Hearing without a proposed NSHC determination, the notice includes the following statement:

If a request for a hearing is received, the Commission's staff may issue the amendment after it completes its technical review and prior to the completion of any required hearing if it publishes a further notice for public comment of its proposed finding of no significant hazards consideration in accordance with 10 CFR 50.91 and 50.92.

The notice issued by the staff provides neither a proposed NSHC determination nor a definitive finding that the subject amendment involves a significant hazards consideration. In such cases, the staff will make a finding regarding NSHC only if a request for a hearing is received.

ECCS performance assuming a power level less than the traditional 1.02 times the licensed power level, provided the proposed alternative value has been demonstrated to account for uncertainties in power level instrumentation. Improvements in power level measurements since the development of the ECCS rules in the 1970s have allowed licensees to justify measurement uncertainties on the order of 0.6 percent and to request power uprates of approximately 1.4 percent without revising many of the analyses within the subject facility's existing licensing bases. Based on the well-developed technology involved in these relatively small uprates and the staff's experience with them, the staff believes that it is straightforward to determine that power uprates of approximately 1.4 percent do not involve a significant hazards consideration using the standards of 10 CFR 50.92.

The staff has also reviewed numerous power uprates of several percent power (approximately 7 percent power or less). These uprates, sometimes referred to as "stretch uprates" have been justified by original design analyses that assumed power levels above the power level incorporated into the license or were justified by new analyses of plant systems, structures, and components under the revised operating conditions associated with an increase in rated thermal power. The staff intends to determine whether to issue proposed NSHC determinations on a case-by-case basis for future power uprates of approximately 7 percent power or less. Based on its safety and environmental findings from past uprates, the staff believes it will likely find that specific applications for uprates of this magnitude can be noticed with proposed NSHC determinations using the standards of 10 CFR 50.92.

The staff will need to carefully consider the noticing of power uprates of more than approximately 7 percent power, sometimes referred to as "extended uprates." The extended power uprates could challenge the standards of 10 CFR 50.92 associated with increased consequences of accidents or reduced margins of safety. The staff will use the safety and environmental findings from its reviews of extended power uprates to determine if the standards defined in 10 CFR 50.92 can be met for large increases in rated thermal power. After the staff has had experience with a few requests for extended power uprates, the staff may determine, on a case-by-case basis, whether an individual application for an extended uprate could be noticed with a proposed NSHC determination. Until the staff has gained insights from its review of at least a few extended uprates, the staff plans to continue to notice applications for extended power uprates without proposed NSHC determinations.

The staff, therefore, will issue guidance, in NRR Office Instruction LIC-101, "License Amendment Review Procedures," on using the criteria of 10 CFR 50.92 for evaluating the issue of NSHC for amendments requesting power uprates. Thus the staff will handle power uprates in the same fashion as it handles other license amendment applications. The staff will, however, be cautious about noticing proposed extended power uprates with proposed NSHC determinations until experience with such reviews demonstrates that such applications can meet the standards of 10 CFR 50.92. The staff will continue to notify the Commission whenever it plans to issue an amendment subject to a request for a hearing.

#### SCHEDULING:

The staff expects to issue the revised guidance in LIC-101 within 30 days of the date of this paper.

#### RESOURCES:

No significant resource implications are associated with this effort. The guidance will be developed as part of an ongoing activity for maintaining NRR procedures. There are no significant differences between the resources needed to implement this guidance and the resources needed to implement any alternative.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objection to its content.

***/RA by William F. Kane Acting For/***

William D. Travers  
Executive Director  
for Operations