

Docket No. 50-305

OCT 6 1983

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Mr. C. W. Giesler, Vice President
 Nuclear Power
 Wisconsin Public Service Corporation
 Post Office Box 1200
 Green Bay, Wisconsin 54305

Dear Mr. Giesler:

The Commission has issued the enclosed Amendment No. 50 to Facility Operating License No. DPR-43 for Kewaunee Nuclear Power Plant. The amendment consists of changes to the Technical Specifications in response to your application transmitted by letter dated January 12, 1983.

The amendment adds the requirement for a secondary water chemistry program and deletes previous water chemistry requirements.

A copy of the Safety Evaluation is enclosed. The Notice of Issuance will be included in the next regular monthly Federal Register notice.

Sincerely,

Marshall Grotenhuis, Project Manager
 Operating Reactors Branch #1
 Division of Licensing

Enclosures:

1. Amendment No. 50 to DPR-43
2. Safety Evaluation

cc w/enclosures:
 See next page

*Check for comments on this amendment
be given to us in writing - if any come
back to OELD*

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OELD
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*Andt and
FA notice
only
at RWAD*

[Handwritten signature]
9/21/83

Mr. C. W. Giesler
Wisconsin Public Service Corporation

cc: Steven E. Keane, Esquire
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

WISCONSIN PUBLIC SERVICE CORPORATION
WISCONSIN POWER AND LIGHT COMPANY
MADISON GAS AND ELECTRIC COMPANY

DOCKET NO. 50-305

KEWAUNEE NUCLEAR PLANT

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 50
License No. DPR-43

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Wisconsin Public Service Corporation Wisconsin Power and Light and Madison Gas and Electric Company (the licensee) dated January 12, 1983, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment, and paragraph 2.C.(2) of Facility Operating License No. DPR-43 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendices A and B, as revised through Amendment No. 50, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Steven A. Varga, Chief
Operating Reactors Branch #1
Division of Licensing

Attachment:
Changes to the Technical
Specifications

Date of Issuance: October 6, 1983

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. DPR-43

DOCKET NO. 50-305

Revise Appendix A as follows:

Remove Pages

TS 6-28

Table TS 4.1-2

Insert Pages

TS 6-28

Table TS 4.1-2

6.14 ENVIRONMENTAL QUALIFICATION

6.14.1 By no later than June 30, 1982 all safety-related electrical equipment in the facility shall be qualified in accordance with the provisions of: Division of Operating Reactors "Guidelines for Evaluating Environmental Qualification Class IE Electrical Equipment in Operating Reactors" (DOR Guidelines); or, NUREG-0588 "Interim Staff Position on Environmental Qualification of Safety-Related Electrical Equipment," December 1979. Copies of these documents are attached to Order for Modification of License No. DPR-43 dated October 24, 1980.

6.14.2 By no later than December 1, 1980, complete and auditable records must be available and maintained at a central location which describe the environmental qualification method used for all safety-related electrical equipment in sufficient detail to document the degree of compliance with the DOR Guidelines or NUREG-0588. Thereafter, such records should be updated and maintained current as equipment is replaced, further tested, or otherwise further qualified.

6.15 Secondary Water Chemistry

The licensee shall implement a secondary water chemistry monitoring program. The intent of this program will be to control corrosion thereby inhibiting steam generator tube degradation. The secondary water chemistry program shall act as a guide for the chemistry group in their routine as well as non-routine activities.

TABLE TS 4.1-2

MINIMUM FREQUENCIES FOR SAMPLING TESTS

<u>Sampling Tests</u>	<u>Test</u>	<u>Frequency</u>	<u>Maximum Time Between Tests (Days)</u>
1. Reactor Coolant Samples	Gross Beta-Gamma activity (excluding tritium)	5/week	3
	Tritium activity	Monthly	37
	*Chemistry (Cl, F O ₂)	3/week	4
2. Reactor Coolant Boron	*Boron concentration	2/week	5
3. Refueling Water Storage Tank Water Sample	Boron concentration	Monthly *****	37
4. Boric Acid Tanks	Boron concentration	Weekly	8
5. Accumulator	Boron concentration	Monthly	37
6. Spent Fuel Pool	Boron concentration	Monthly **	37
7. Steam Generator	Gross Beta-Gamma activity	Weekly	8
	Iodine concentration	Weekly when gross Beta-Gamma activity $\geq 1.0 \mu\text{Ci/cc}$	8
8. Waste Disposal System Liquid Effluent Monitor	Gross Beta-Gamma activity	Prior to each batch release	N.A.
9. Circulating Water Monitor	Radioactivity analysis	Continuous **	N.A.
10. Auxiliary Building Vent Monitor	Gross Beta-Gamma activity	Continuous ****	N.A.
11. Containment Vessel Vent Air Particulate Monitor	I-131 and particulate activity	Continuous ***	N.A.
12. Containment Vessel Vent Radiogas Monitor	I-131	Continuous ***	N.A.

Notes

* See Spec 4.1.D

** Sample will be taken monthly when fuel is in the pool.

*** Continuous monitoring takes place when reactor is in operation.

**** Operable during refueling also.

***** And after adjusting tank contents.

Amendment No. 50



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 50 TO FACILITY OPERATING LICENSE NO. DPR-43

WISCONSIN PUBLIC SERVICE CORPORATION

WISCONSIN POWER AND LIGHT COMPANY

MADISON GAS AND ELECTRIC COMPANY

KEWAUNEE NUCLEAR POWER PLANT

DOCKET NO. 50-305

Introduction

By letter dated January 12, 1983, the Wisconsin Public Service Corporation (the licensee) submitted proposed amendment no. 53 to the license for the Kewaunee Nuclear Power Plant (Kewaunee). The proposed amendment would add the requirement for a secondary water chemistry program and delete the current secondary water chemistry requirements.

Background

In August 1976, we sent letters to the majority of licensees who operate Pressurized Water Reactors (PWRs) regarding the control of secondary water chemistry to inhibit corrosion of steam generator tubes. The letters requested the licensees to propose Technical Specification changes to incorporate limiting conditions for operation and surveillance requirements for secondary water chemistry parameters. Model Technical Specifications, which reflected the requirements contained in the Commission's Standard Technical Specifications (STS), were included for guidance.

Many licensees objected to the Model Technical Specifications principally on the basis that they could unnecessarily restrict plant operation. The majority of these licensees submitted alternative approaches that were directed more toward monitoring and recordkeeping rather than specific limits on chemistry parameters. At the time of our request, we recognized that a major disadvantage of the Technical Specifications was a potential decrease in operational flexibility, but our request was motivated by an overriding concern for steam generator tube integrity. Our objective was to provide added assurance that licensees would properly monitor and control secondary water chemistry to limit corrosion of steam generator tubes.

However, based on the experience and knowledge gained since 1976, we have now concluded that Technical Specification limits would not be the most effective way of accomplishing this objective. Due to the complexity of the corrosion phenomena involved, and the state-of-the-art as it exists today, we believe that a more effective approach would be to institute a requirement for implementation of a secondary water chemistry monitoring and control program containing appropriate procedures and administrative controls.

The required program and procedures would be developed by the licensees, with any needed input from their reactor vendors or other consultants, and thus could more readily account for site and plant specific factors that affect chemistry conditions in the steam generators. In our view, such a requirement would provide assurance that licensees would devote proper attention to controlling secondary water chemistry, while also providing the needed flexibility to allow them to more effectively deal with any off-normal conditions that might arise. Moreover, we have concluded that such a requirement, in conjunction with existing Technical Specifications on steam generator tube leakage and inservice inspection, would provide the most practical and comprehensive means of assuring that steam generator tube integrity is maintained.

Evaluation

The steam generator tubing in PWRs is part of the reactor coolant pressure boundary. Thus, in keeping with 10 CFR Part 50, Appendix A, General Design Criterion 31, "Fracture Prevention of Reactor Coolant Pressure Boundary," the steam generator tubing should remain free of cracks, perforations and general deterioration to minimize the likelihood of failure. For some time, the NRC staff and its consultants have been examining the factors that contribute to the degradation of steam generator tubing. Based on the results of laboratory testing to date and the operating experience that has been obtained by the industry, it is apparent that, although the mechanisms are complex and varied, the contamination of the steam generator secondary coolant is the fundamental cause of tube degradation and the impairment of tube integrity. It is also apparent that careful control of the secondary water chemistry serves to inhibit the potential accumulation of corrosive impurities in the steam generator and thereby limits tube degradation.

We have reviewed the licensees proposed amendment 53 and find that is consistent with our request to remove technical specifications for secondary water chemistry control and substitute a requirement for a secondary water chemistry monitoring program.

Environmental Consideration

We have determined that the amendment does not authorize a change in effluent types or total amounts nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that the amendment involves an action which is insignificant from the standpoint of environmental impact and, pursuant to 10 CFR 51.5(d)(4), that an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with the issuance of this amendment.

Conclusion

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Date: October 6, 1983

Principal Contributors
M. Grotenhuis