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 DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Application for proposed Amend 75 to License DPR-43 changing
 license expiration date from 080806 to 131221. Fee paid.

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w/check \$150⁰⁰
 # 0586-2613



WISCONSIN PUBLIC SERVICE CORPORATION

600 North Adams • P.O. Box 19002 • Green Bay, WI 54307-9002

May 23, 1986

Dr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Docket 50-305
Operating License DPR-43
Kewaunee Nuclear Power Plant
Proposed Amendment No. 75 to the KNPP Technical Specifications
Extension of Duration of the Operating License

In accordance with the provisions of 10 CFR 50 paragraphs 50.51, 50.90 and 50.92, Wisconsin Public Service Corp. applies for an amendment to Operating License DPR-43 for the Kewaunee Nuclear Power Plant, to extend the duration of the license to a full 40 years from the date of issuance.

Proposed Change

Change the expiration date for Operating License DPR-43 from August 6, 2008 to December 21, 2013.

Discussion

The current term of the KNPP Operating License is 40 years commencing with the issuance of the construction permit (August 6, 1968). Accounting for the time

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required for plant construction, this represents an effective operating license term of only 35 years. Current NRC practice is to issue an operating license with a term of 40 years from the date of issuance. This amendment proposes to extend our operating license in accordance with today's practices.

This request is clearly within the authority of 10 CFR 50.51 which states that the Commission will grant a license for a fixed term not to exceed 40 years from the date of issuance. The fixed term is that term requested by the applicant or for the estimated useful life of the facility if the Commission determines the useful life is less than the term requested.

We fully expect that the facility will remain useful beyond the current operating license expiration date, and will continue to provide electric power to enhance the economic health and well-being of the population served by Wisconsin Public Service and its partners. The plant adds to the economic security of the area by providing a stable block of power production and by contributions made to the tax base, employee payroll and expenditures for goods and services to operate the plant.

Finally, residential customers and commercial and industrial concerns served by KNPP will benefit by deferring the cost of additional production capacity.

Safety Analysis and Significant Hazards Determination

We have evaluated the effects of this proposed change and have determined that, to the best of our knowledge, the change does not involve a significant hazards consideration. This determination is based primarily on the fact that the facility is designed for 40 years of operation at a load factor of 0.85. This is not meant to imply that components will not wear out in this time frame but

rather that the reactor coolant system components and support systems are analyzed for the integrated effects of radiation damage and cyclic loadings (with added margin) which could reasonably be expected to occur in a 40 year lifetime. Surveillance and inspection programs have been implemented in accordance with ASME Standards and Technical Specification requirements to provide assurance that any unexpected degradation in plant equipment will be detected and corrected.

Our reactor vessel surveillance program established in accordance with the requirements of 10 CFR 50 Appendix H and fracture toughness requirements of 10 CFR 50 Appendix G provides continued assurance of the structural adequacy of the primary system.

We have reviewed the final Safety Evaluation Report (SER) dated July 24, 1972, Supplements 1 and 2 to that report dated December 18, 1972 and May 10, 1973 and the final Environmental Statement dated December, 1972 and have concluded that the impacts associated with a 40 year license duration are not significantly different from those associated with a 35 year duration. The SER, on page 5-6, assumes an operational lifetime of 40 years at a load factor of 0.85 and is, therefore, consistent with this action. Additionally, page 4.1-27 of the USAR specifies a 40 year design life. In general, the Environmental Statement assesses the impact of the facility with respect to:

1. Environmental Impacts Of Site Preparation and Plant Conditions
2. Environmental Impacts Of Plant Operations
3. Environmental Impacts Of Postulated Accidents
4. Adverse Effects Which Cannot Be Avoided

5. The Relationship Between Short Term Use Of The Environment
And Maintenance And Enhancement Of Long Term Productivity
6. Need For Power.
7. Alternatives To Plant Construction And Cost Benefit Analysis
Of Their Environmental Effects.

Of these seven assessments items 1, 4, 6 and 7 are specific to the construction and original licensing phases. The remaining assessments are discussed below.

2. Environmental Impacts of Plant Operation. This assessment is comprised of the following elements.

1. Land Use
2. Water and Air Use
3. Biological Impact
4. Radiological Impacts on Man
5. Transportation of Nuclear Fuel and Solid Radioactive Waste

Of these elements, numbers 4 and 5 are no longer strictly accurate.

Because of the excellent operating history of Kewaunee the radioactive material released to the environment has been significantly below that assumed in the environmental statement, and is expected to remain so in the future. Therefore, the Radiological impact on man is overestimated in the Environmental Statement and an additional five years of operation will have no impact on the conclusion of the statement.

Also, the section on Transportation of Nuclear Fuel and Solid Radioactive Waste is no longer accurate as it assumes spent fuel reprocessing. This no longer

appears feasible. However, this affects all fuel not just the fuel required for an additional 5 years of operation.

Neither of these elements affects the conclusions of the environmental statement.

3. Environmental Impacts of Postulated Accidents. This section of the Environmental Statement has been reviewed to assess the impact of the additional 5 years of operation requested by this proposed amendment. The classes of accidents assumed for analysis are consistent with those assumed today. What is germane to this action is the population base affected by any of the accident scenarios.

The environmental statement projected the population base out to the year 2010 for analysis, which is two years after the expiration of our current license. The additional 3 years to be considered will have no impact on the total population dose. The following data supports our conclusion.

County	1970 Population	1980 Population	Estimated Growth	Actual Growth	2010 Est. Population (1970 Base)	2013 Est. Population (1980 Base) ¹	2013 Est. Population (1980 Base) ²
Brown	158,244	175,280	26.5%	11.8%	405,101	380,652	256,144
Calumet	27,604	30,867	24 %	11.8%	65,233	62,752	44,669
Kewaunee	18,961	19,539	3.7%	3.0%	21,898	22,004	21,572
Manitowoc	82,294	82,918	9.4%	0.76%	117,954	111,592	85,136
Winnebago	129,946	131,732	20.4%	1.4%	273,450	243,367	137,961

As can be seen from this table there is only one case for which the estimated 2013 population base exceeds the original 2010 projection. That case is for Kewaunee County which shows the 2013 population exceeding the original estimate

¹Using the estimated growth rate from p.II-7 of the final Environmental Statement, December, 1977 (Column 4)

²Using the actual growth rate over the last decade (Column 5)

by 106 people when using the originally assumed growth rate. When using the actual growth rate over the last decade, the population base originally projected to the year 2010 exceeds that which is now assumed.

With the uncertainties involved in population projections due to economic and social influences, we conclude that the population base under consideration is essentially the same for Kewaunee County and substantially less than that assumed for the original assessment.

5. The Relationship Between Short Term Use Of The Environment and Maintenance and Enhancement Of Long Term Productivity.

This section assumes a 40 year operating lifetime (Page VIII-1) and hence is consistent with this action.

We conclude that because of established programs for surveillance and maintenance of the Kewaunee Plant, no additional risk or significant hazards exist due to operation of this facility. Furthermore, due to the reduced population base from that which was originally assumed, the integrated risk to the population under consideration due to postulated accidents is less than that originally assumed.

Administrative

In accordance with the requirements of 10 CFR 50.30 you will find three (3) signed and notarized originals of this letter and forty (40) copies of the affected page. A complete copy of this submittal has been transmitted to the State of Wisconsin as required by 10 CFR 50.91(b)(1). In accordance with the provisions of 10 CFR 170, a check for \$150 is enclosed.

Dr. H. R. Denton
May 23, 1986
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Sincerely,



Carl W. Giesler
Vice President - Power Production

DWS/jms

Enc.

cc - Mr. G. E. Lear, US NRC
Mr. Robert Nelson, US NRC
Mr. R. S. Cullen, PSCW

Subscribed and Sworn to
Before Me This 23rd Day
of May 1986


Notary Public, State of Wisconsin

My Commission Expires:
June 28, 1987