



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

RULES AND DIRECTIVES
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REPLY TO THE ATTENTION OF
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Chief, Rulemaking, Directives, and Editing Branch
U.S. Nuclear Regulatory Commission
Mail Stop T6-D59
Washington, DC 20555-0001

RE: Comments on the Draft Plant-Specific Supplement 40 to the Generic Environmental Impact Statement (GEIS) for License Renewal of Nuclear Plants Regarding Kewaunee Power Station (KPS), Kewaunee County, Wisconsin, NUREG-1437, CEQ # 2010031

Dear Sir/Madam:

The U.S. Environmental Protection Agency has received the document listed above. Under the National Environmental Policy Act (NEPA), the Council on Environmental Quality regulations, and Section 309 of the Clean Air Act, EPA reviews and comments on major federal actions.

The Nuclear Regulatory Commission (NRC) developed the GEIS to streamline the license renewal process on the premise that environmental impacts of most nuclear power plant license renewals are similar. NRC develops facility-specific supplemental environmental impact statement documents as the facilities apply for license renewal. EPA provided comments on the GEIS during its development process in 1992 and 1996. We have reviewed the above-referenced facility-specific project, which we will refer to as the Draft Supplemental Environmental Impact Statement (SEIS).

EPA has rated the Draft SEIS as EC-1 (Environmental Concerns-Adequate Information). The rating definitions are provided in the enclosure, "Draft Environmental Impact Statement Rating Definitions". Basically, no further analysis or data collection is necessary, but we are suggesting the addition of clarifying language and information. We have provided our comments in the enclosure entitled, "EPA's Detailed Comments on the Kewaunee Power Station Draft SEIS." Our main concerns include: adequacy and clarity of the radiological impacts and risk estimates, the affected environment, groundwater, cumulative impacts, Severe Accident Mitigation Alternatives (SAMAs), and some general items.

We thank the NRC for addressing some of our concerns put forth in our prior comment letters regarding other nuclear power plant relicensing projects. In particular, we appreciate the addition of reference values when discussing human health issues (page 4-24 of the Draft SEIS) and streamlining of the Draft SEIS. We also commend Dominion Energy Kewaunee, Inc. (DEK) for recycling 289.4 tons of non-metal materials and 71.5 tons of metal from 2002 through 2008 (page 2-10).

SUNSI Review Complete
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E-RIDS = ADM-03
Call = J. Doyle (dtd)

The Draft SEIS presents 7 Action Alternatives and one No-Action Alternative. Although there are 7 Action Alternatives presented in the Draft SEIS, the purpose of the document is for the NRC to provide a preliminary recommendation on preserving the option of license renewal for energy planning decision makers. The Proposed Action (Alternative) does preliminarily recommend license renewal of KPS for an additional 20 years. (The license of KPS expires on December 21, 2013). In the No-Action Alternative, the license would not be renewed and the facility would have to be shut down on or before the current operating license expiration date. The other 6 Action Alternatives are as follows: Gas-Fired Generation at the KPS site, Gas-Fired Generation at an alternate site, Coal-Fired Generation at the KPS site, Coal-Fired Generation at an alternative site, Combination Alternative Option 1 (includes gas-fired generation on the KPS site, conservation, and wind power), and Combination Alternative Option 2 (includes gas-fired generation, conservation, and a wood-fired plant).

Background information

KPS is located on the western shore of Lake Michigan, near the City of Kewaunee, Wisconsin. KPS is approximately 30 miles east-southeast of Green Bay and 8 miles south of the City of Kewaunee. The KPS site is approximately 908 acres of land, owned by DEK. The developed portion is 60 acres; 450 acres are used for agriculture. The remaining acreage is a mixture of woods, fields in various stages of succession, small wetlands and watercourses, and open areas. The site includes approximately 2 miles of continuous frontage on the western shore of Lake Michigan.

KPS is a single-unit, two-loop closed cycle pressurized water reactor plant that utilizes a once-through cooling system. The plant is licensed to operate at 1772 megawatts-thermal per unit or 590 megawatts-electrical of gross electrical output per unit.

An Independent Spent Fuel Storage Installation (ISFSI) is located on the site. The ISFSI has 2 dry-storage containers of spent fuel.

Thank you for the opportunity to review your project. If you have any questions regarding EPA's comments, please contact Julie Guenther at (312) 886-3172 or email her at guenther.julia@epa.gov.

Sincerely,



Kenneth A. Westlake
Chief, NEPA Implementation Section
Office of Enforcement and Compliance Assurance

cc: Daniel Doyle, U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation,
Mail Stop O-11F1, Washington, D.C., 20555-0001

Enclosures

Adequacy and Clarity of the Radiological Impacts and Risk Estimates

1. Section 4.8.1.2; Radioactive Effluent and Dose Information; Page 4-23, lines 35-39: In this section, an explanation of the use of the "As Low As Reasonable Achievable" ("ALARA") process is given. However, the use of the ALARA process is not clearly documented throughout the Draft SEIS. The process identifies exposures that can be mitigated to the lowest possible exposure -- even beyond regulation -- at little or no additional cost. We suggest providing examples of where and how this process was used at KPS.
2. Section 4.8.1.2; Radioactive Effluent and Dose Information; Page 4-24, lines 7-22: The dose projections provided in these bulleted items are very helpful in comparing the relative risks for these different exposures. However, due to different dose criteria in some of the bulleted items, comparability for the public may not be easily demonstrated. Using the same units (mrem) throughout the bulleted items would be helpful. In addition, the dose reference for iodine should be reflected on thyroid exposure rather than liver exposure, because the thyroid is the organ most exposed for the general public to gaseous iodine releases.
3. Section 4.11.3; Cumulative Impacts on Human Health; Page 4-45, lines 28-40: This section discusses a data collection and cumulative impacts assessment using actual data from this site. Results of this specific assessment would be helpful in better demonstrating the protectiveness and documenting the determination of relative health risk as SMALL.
4. Section 8.6.5; Human Health; Page 8-43, lines 31-38, page 8-44, lines 1-14: We recommend providing a better description of the risk for the initial 40-year licensing period and then the increased risk for the additional 20 years of relicensing. By more fully discussing the accumulated data over the current life of the existing license, a better understanding of additional residual risk posed by this facility will be provided. The additional information would more fully demonstrate the NRC's risk determination of SMALL.
5. Sections 2.1.2.1 and 2.1.2.2, Radioactive Liquid Waste and Radioactive Gaseous Waste, respectively: We recommend that both of these sections include actual quantitative data to give the public a better understanding of radioactive waste effluents associated with KPS. Please include the high, the low and the average data points from the KPS annual radioactive effluent release reports (2002 through 2008) for liquid and gaseous effluents.
6. In the Waste Confidence Rule (10 CFR 51.23), the NRC generically determined that the spent fuel generated by any reactor can be safely stored on-site for at least 30 years beyond the licensed operating life of the reactor. Ultimately, long-term radioactive waste disposition will require transportation of waste to a permitted repository site. We are aware of ongoing efforts to license a geological repository for long-term disposition within the first quarter of the 21st century. Since appropriate on-site storage of spent fuel assemblies and other radioactive wastes is necessary to prevent environmental impacts,

we suggest the Final SEIS include a thorough consideration of impacts resulting from such storage. Given the uncertainty regarding ultimate disposal, on-site storage may continue for a longer term than currently expected.

Affected Environment

Please include a description of the ISFSI in Section 2.1; Facility Description. Include information such as how many dry storage casks there are and how much capacity there is for additional dry storage casks. We also recommend listing the buildings located on the site.

Groundwater

Page 2-15 explains that on-site groundwater wells are used for cooling water make-up and plant equipment. There are also 14 groundwater monitoring wells on-site. Appendix B of the Draft SEIS lists potential site-specific issues that should be analyzed in the document. According to Appendix B, there are potential groundwater use conflicts if Ranney wells are used. Since groundwater wells are used at KPS, the document should clarify whether these wells are Ranney wells.

Cumulative Impacts

In Section 4.11; Cumulative Impacts, we suggest including the addition of dry storage casks for spent fuel as "reasonably foreseeable" future projects. The addition of dry storage casks should be considered when analyzing the impacts on the resources discussed in this Section.

Please discuss any health studies pertaining to populations living near nuclear power plants which have been conducted since the GEIS. Explain how these studies relate to the human health impacts for populations near KPS.

Page 4-47, lines 38 and 39 suggest that water levels may be reduced due to climate change. How will KPS adapt to this potential change?

We also suggest the use of native species and the management of invasive species in the transmission line right-of-ways and at KPS.

Severe Accident Mitigation Alternatives (SAMAs)

We recommend using one or two SAMAs as examples to demonstrate what is meant by the following statement on page xvii, lines 27-31: "Based on the review of the SAMAs for KPS,

and the plant improvements already made, we conclude that none of the potentially cost-beneficial SAMAs relate to adequately managing the effects of aging during the period of extended operation; therefore, they need not be implemented as part of license renewal pursuant to 10 CFR Part 54."

Discuss how increased frequency and severity of weather events due to climate change may affect the safety of KPS and impact the environment.

General

Overall, the Draft SEIS is more streamlined and follows the requirements of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*) and the Paperwork Elimination Act of 1998 as compared to nuclear power plant relicensing EIS's that Region 5 has reviewed in the past five years.

The Draft SEIS needs to adhere to the government-wide requirement for documents to be written in plain language. The Draft SEIS includes bureaucratic boilerplate language instead of plain language. For example, page 4-24, lines 1 and 2 state, "Dose estimates for members of the public are calculated based on liquid and gaseous effluent release data in atmospheric and aquatic transport models."

When regulatory dose limits are referenced, the actual dose limit language should also be provided as part of the plain language and transparency requirements for all Federal Agencies. An example of where this was accomplished was on page 4-24, lines 7 through 22. Please strive to accomplish this throughout the Final SEIS.

The Draft SEIS does not adequately incorporate government-wide directives and laws regarding data quality and use. Specifically, the Draft SEIS does not adequately meet the requirement in OMB Circulars A-119 and A-130, PDD39 and PDD63, and the Clinger-Cohen Act of 1996, Information Quality Act of 2001, and the National Technology Transfer and Advancement Act of 1995. All of these direct Federal Agencies to use the best available quality data in all of the determinations for actions taken by or sanctioned by the Federal Government. Referring to the GEIS within the Draft SEIS does not always fulfill "best available quality data."

When regulatory dose limits are referenced, the actual dose limit quantity should be provided as part of the plain language and transparency requirements for all Federal Agencies. In addition, when referencing applicable regulations, rules, and/or laws, it is important to reference the federal rule, regulation or law in addition to any that have been delegated to the State regulatory program.

The Final SEIS should include how and where to find the following documentation for KPS: the GEIS, the radiological environmental monitoring program (REMP), and the independent comprehensive environmental radioactive survey program done by the Wisconsin Department of Health Services. Since these documents are critical to understanding the

information found in the Draft SEIS, the Final SEIS should inform the reader how to view these documents with or without Internet access.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION

Environmental Impact of the Action

LO-Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate

The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information

The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public-review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment