UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF: B-19J

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RULES AND DIRECTIVES BRANCH USNRC

7/28/06
71FR 42884
(1)

Chief, Rules Review and Directives Branch
U.S. Nuclear Regulatory Commission
Mail Stop T6-D59
Washington, D.C. 20555-0001

Re: Final Environmental Impact Statement for the Proposed (1) Site Approval and (2) Early Site Permitting for a New Nuclear Power Generating Facility at the Clinton Power Station, DeWitt County, Illinois, NUREG-1815, EIS No. 20060320

Dear Sir or Madam:

In accordance with Section 309 of the Clean Air Act and the National Environmental Policy Act (NEPA), the U.S. Environmental Protection Agency (EPA) has reviewed the Final Environmental Impact Statement (FEIS), issued by the U.S. Nuclear Regulatory Commission (USNRC), for the project listed above.

The FEIS states that the proposed Federal action, requested by Exelon Generation Company, LLC, is for the USNRC to (1) approve a site within the existing Clinton Power Station boundaries as suitable for the construction and operation of a new nuclear power generating facility and (2) issue an early site permit (ESP) for the proposed site.

Based on our review of this FEIS, we have determined that the project proponents have resolved our following concerns:

1. Need for USNRC to accept responsibility for possible Section 7 consultation, under the Endangered Species Act, for any impacts to the Indiana Bat,

2. Need to evaluate carbon dioxide emissions for power generators using fossil fuels and nuclear fuel,

3. Need to compare health impacts of anticipated radiation doses from nuclear power plants to regulatory limits and as low as is reasonably achievable (ALARA) principles (as opposed to radiation doses from the natural background),

4. Need to correct the stated thyroid dose design objective in Appendix I,

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E-RIDS=ADM-03
Add=T.J. Kenyon (TJK2)

Template = ADM-013

5. Need to reference International Commission on Radiation Protection (ICRP) and International Atomic Energy Agency (IAEA) values as benchmarks for biota doses, and

6. Need to specify the dose or risk criteria on which the Land Requiring Decontamination values are based.

In spite of the resolved concerns, we still have concerns that remain unresolved. In several cases, the radiological health risk information is not clearly explained or substantiated. Also, the FEIS reaches risk-related conclusions based on inappropriate data.

We remain concerned about the level of wetland information provided in the FEIS. There is no wetland delineation or functions and values information provided, nor a detailed description of the wetland impacts caused by the proposed project. Such information is necessary to show compliance with NEPA and Section 404 of the Clean Water Act.

We remain concerned about concerned about the proposed project's impacts on Clinton Lake. According to the FEIS, Clinton Lake is listed as impaired waterbodies under Section 303(d) of the Clean Water Act. Low dissolved oxygen is one of the causes of one or more of these impairments. The FEIS also states that the proposed project would increase the water temperature of Clinton Lake, which could exacerbate the low oxygen levels of the already impaired waterbodies. The FEIS does not provide an environmental analysis of the proposed project on the impaired status of Clinton Lake.

Our detailed concerns are enclosed. If you have any questions or wish to discuss any aspect of the comments, please contact Michael Murphy (for radiation issues) at (312) 353-6686 or Newton Ellens (for NEPA-related issues) at (312) 353-5562.

Sincerely,

Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Science, Ecosystems, and Communities

Enclosure

cc: Dan Johnson, Chief
Regulatory Branch
U.S. Army Corps of Engineers, Rock Island District

Richard Nelson, Field Supervisor
Rock Island Ecological Services Field Office
U.S. Fish and Wildlife Service

U.S. EPA Comments on the Final Environmental Impact Statement (FEIS) for the Proposed (1) Site Approval and (2) Early Site Permitting for a New Nuclear Power Generating Facility at the Clinton Power Station, DeWitt County, Illinois

1) We remain concerned about the level of wetland information provided in the FEIS. There is no wetland delineation or functions and values information provided, nor a detailed description of the wetland impacts caused by the proposed project. We stated that the FEIS should include temporary and permanent impacts, such as wetland filling, vegetation clearing and hydrological alterations. Also, the FEIS should have included a comprehensive mitigation strategy. Finally, we stated that the U.S. Nuclear Regulatory Commission (USNRC) should consult with the U.S. Army Corps of Engineers (ACE) to ensure compliance with Section 404 of the Clean Water Act.

   The FEIS does not include the information we requested. Instead, the FEIS states that the applicant will apply for a permit to address wetland issues under Section 404 of the Clean Water Act (Section 404). The details of wetland impacts will be written in future environmental documentation, when the applicant applies for a construction permit (CP) or a combined license (COL) for the additional nuclear reactor.

   The FEIS does not include a comprehensive analysis of wetlands in the study area, or a wetland impact comparison between the preferred alternative and other feasible alternatives initially under consideration. This is required under the National Environmental Policy Act (NEPA) and Section 404. As the FEIS is written, feasible alternatives may be eliminated from consideration based on an incomplete environmental analysis. Therefore, the FEIS does not provide information showing that the preferred alternative is the least environmentally damaging practicable alternative (LEDPA), under Section 404.

2) Environmental Consequences of Proposed Action, Section 4.1.1.1, Habitat, page 4-10, paragraph 3. Clarification needs to be provided on the rationale regarding the methodology that will be used on minimizing the impacts of potential wetlands degradation in the transmission line corridors

3) We remain concerned about concerned about the proposed project's impacts on Clinton Lake. According to the DEIS, Clinton Lake (and several connected reaches) are on the Illinois Environmental Protection Agency's (Illinois EPA's) Draft 2004 list of impaired waterbodies under Section 303(d) of the Clean Water Act. Low dissolved oxygen is one of the attributes of one or more of these impairments. The DEIS also states that the proposed project would increase the water temperature of Clinton Lake, which could exacerbate the low oxygen levels of the already impaired waterbodies. We stated that the USNRC should provide future environmental

documentation that evaluates the impact of the proposed project on the impaired status of Clinton Lake and its connected reaches. Such environmental documentation should include commitments to mitigate these impacts. The FEIS response states that Illinois EPA will be responsible for issuing a water quality permit for the new nuclear reactor. Therefore, water quality parameters, including temperature, will be regulated. However, NEPA does not merely require the project proponents to acknowledge that they will comply with regulatory limits; rather the project proponents must disclose the project's environmental impacts (such as a hotter effluent to an impaired waterbody). The FEIS does not include an adequate analysis of this impact.

4) Affected Environment, Section 2.3.1.1, Wind, pages 2-11, 2-12. Providing a windrose of the last years wind data would assist in evaluating the relative direction of plumes for the site.

5) Affected Environment, Section 2.3.1.4, Atmospheric Moisture, pages 2-12-2-13. The moisture date cited was from the 1972-1977 period. More recent data needs to be evaluated and included in assessments. The last five year period should be used for this purpose.

6) Affected Environment, Section 2.4, Geology, pages 2-16, 2-17. The location of the New Madrid fault relative to the proposed Exelon ESP site, should be included as a point of information and evaluation relative to the potential of earthquake and structure requirements to meet this potential need.

7) Affected Environment, Section 2.5, Radiological Environment, Page 2-17. The Inclusion of 40 CFR 61, Subpart I dose requirements, would be appropriate for facilities to meet the Constraint Rule Requirements under the United States Nuclear Regulatory Commission (USNRC) guidances as well as all Agreement States incorporation of this rule to meet these requirements.

8) Affected Environment, Section 2.6.3.3 Thermal Monitoring, pages 2-22, 2-23. The requirements of the current permit should be stated and not just cited.

9) Site Layout. Section 3.3 Power Transmission System, page 3-13, paragraph 2. With a need to expand the width of the transmission line right-of-way, the potential of takings litigation may increase for individuals that may not with additional properties to be ceded to this purpose.

10) Environmental Consequences of Proposed Action, Section 4.1.2, Transmission Line Rights-of–Way and Offsite Areas, page 4-3. See Comment 8 above. Potential takings issues could lead to litigations that would make this a moderate impact instead of small.

11) Environmental Consequences of Proposed Action, Section 4.4.1.3, State-Listed Species, pages 4-12, 4-13. Demonstrations of small impact are not provided to address this issue. Assertions are made, but facts or demonstrations are not provided to support the assertions.

12) Environmental Consequences of Proposed Action, Section 4.9.2, Radiation Exposures from Gaseous Effluents, page 4-40. The methodology for this evaluation is not clearly specified, along with the assumptions that were necessary.

13) Environmental Consequences of Proposed Action, Section 4.9.4, Total Dose to Site-Preparation Workers, page 4-40. The clarification needs to be made that the annual radiation worker occupational dose limit is 0.05 Sv (5rem), otherwise the workers would fall under the public exposure standards of 1mSv (100 mrem) for the dose.

14) Environmental Consequences of Proposed Action, Section 4.9.5, Summary of Radiological Health Impacts, page 4-41. The conclusion that the impact due to radiological exposures is small is not supported by the documentation provided.

15) Station Operation Impacts, Section 5.9.1, Exposure Pathways, page 5-48, paragraph 2. It is unclear whether incidental ingestion of water during swimming or boating was evaluated as an exposure route.

16) Station Operation Impacts, Section 5.9.2, Radiation Doses to Member of the Public, Page 5-50. Documentation for the calculated dose to the Maximally Exposed Individual need to be provided.

17) Station Operation Impacts, Section 5.9.2.2, Gaseous Effluent Pathway, page 5-51. The models cited for calculating doses to the public were dated 1986 and 1987. More up to date modeling programs should now be available and used for a better evaluation of dose projection to the maximally exposed individual. Provide rationale for using outdated models for dose projections.

18) Station Operation Impacts, Section 5.9.3.1 Maximally Exposed Individual, page 5-53. The USNRC constraint rule is not included nor is 40 CFR 61, Subpart I, which it was derived from to minimize public exposures to radionuclide emissions from NRC facilities. While the 40 CFR 61 rule may not be strictly applicable, it is definitely relevant and appropriate to be included. The Iodine doses specified in 40 CFR 61, Part 190, are for planned emissions and do not apply to unplanned emissions.

19) Station Operation Impacts, Section 5.9.3.2 Population Dose, page 5-55, paragraph 3. The information is this paragraph is misleading at best. The National Academy of Science has reviewed all studies through 1998 on low level exposures to radiation, with the results published in the Biological Effects of Ionizing Radiation report VI (BEIR VI), on Health Effects of Exposure to Radon. The conclusion drawn for the

studies was that the Linear No Threshold Theory was supported by the data from studies conducted world-wide to that point in time. These results were also concurred with by the National Council on Radiation Protection and Measurement (NCRP), as well as the International Commission on Radiological Protection (ICRP). Assertions that there is no unequivocal data is misleading since this can be stated for any point of view that is being sought to be minimized or discounted, despite much information to the contrary. USNRC rules and regulations meet this viewpoint and are not in there merely for conservatism as implied by this statement.

20) Station Operation Impacts, Section 5.9.4 Occupational Doses to Workers, pages 5-56, 5-57. The Occupational Doses to Workers are regulated on an individual basis and the person-Sv values provided do not provide an appropriate or comparable value to a maximally exposed individual. The maximum dose exposures for individuals should be referenced and used for a better and more realistic exposure determination.

21) Station Operation Impacts, Section 5.9.6, Radiological Monitoring, pages 5-59, 5-60. Conducting a radiological environmental monitoring program (REMP) is an excellent idea and should be pursued in as much detail as possible. Incorporation of previously collected data over the time of the current plant should be considered and used as a base to expand from. This information would then be able to be cited and used for support of decisions made concerning these parameters.

22) Station Operation Impacts, Section 5.10, Environmental Impacts of Postulated Accidents, page 5-61, paragraph 5. The statements here are misleading. There are some studies that have been peer reviewed that provide data that contradict this assumption, i.e. the BEIR VI report and similar studies that it was based on world-wide. This information needs to be provided to provide an overview that is not skewed to minimize potential issues of radiation exposures.

23) Station Operation Impacts, Section 5.13, References, page5-83. Inclusion of 40 CFR 61, Subpart I, should be done to provide the appropriate reference to the USNRC constraint rule that requires facilities licensed by the USNRC to substantially meet the dose standards found at 40 CFR 61, Subpart I.

24) Fuel Cycle, Transportation, and Decommissioning, Section 6.1.1.5 Radioactive Effluents, page 6-10, last paragraph. For a compliance demonstration, using a postulated maximally exposed individual (MEI) with a modeled maximum anticipated exposure, would provide a better comparison than using a population dose model that is effectively averaged out over the entire populace of a given area.

25) Fuel Cycle, Transportation, and Decommissioning, Section 6.1.1.5 Radioactive Effluents, page 6-11, paragraph 2. For a compliance demonstration, using a postulated maximally exposed individual (MEI) with a modeled maximum anticipated exposure, would provide a better comparison than using a population dose

model that is effectively averaged out over the entire populace of a given area.

26) Fuel Cycle, Transportation, and Decommissioning, Section 6.2, Transportation of Radioactive Materials, page 6-21, paragraph 2. The references with regard to transportation are from 1972 and 1975. Newer information and transportation requirements have been put in place by various Federal Agencies that would not be taken into consideration under this guidance. Re-evaluation of this aspect should be conducted to assure that these issues are appropriately addressed.

27) Fuel Cycle, Transportation, and Decommissioning, Section 6.2.1.1, Normal Conditions, pages 6-25. MEI scenarios need to be provided for a better understanding of potential exposures.

28) Fuel Cycle, Transportation, and Decommissioning, Section 6.2.2.1, Normal Conditions, pages 6-29, bulleted points. The population dose is provided, but no MEI data is provided to a determination of the maximum exposures expected for each type of scenario evaluated.

29) Section 6: This section still does not address the current practice of onsite dry cask storage of spent nuclear fuel. Although technical and political solutions may yet be found to provide an off-site disposal option for spent fuel, the FEIS should have identified the current impacts of the current practice of onsite storage, and evaluate the impacts of the proposed action. Onsite storage of spent fuel has significant public interest associated and should have been specifically addressed in this FEIS.

30) Fuel Cycle, Transportation, and Decommissioning, Section 6.1.1.6, Radioactive Wastes, page 6-13. Due to uncertainties regarding the availability of the Yucca Mountain facility, changes in estimations of the waste to be transported for disposal may need to be re-evaluated to assure that the previous estimations still are applicable.