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Chief, Rules and Directives Branch
Division of Administrative Services
Mail Stop T 6 D 59
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

U.S. EPA Comments on Draft Supplement to Generic EIS for Decommissioning of Nuclear Power Reactors

Dear Sir/Madam:

In accordance with the National Environmental Policy Act (NEPA), Section 309 of the Clean Air Act, and the Council on Environmental Quality's implementing regulations (40 CFR 1500-1508), the Environmental Protection Agency (EPA) is providing you comments on the Draft Supplement (the Supplement) to the Generic Environmental Impact Statement (GEIS) for Decommissioning of Nuclear Power Reactors, dated October 2001 (NUREG-0586, Draft Supplement 1, CEQ #010416).

The Supplement updates the 1988 GEIS to reflect technological and regulatory changes and NRC's and licensees' experience with decommissioning nuclear power reactors. The environmental impacts described in the Supplement supersede those described in the 1988 GEIS. The Supplement may be used as a stand-alone document without need to refer to the 1988 GEIS.

EPA supports the approach NRC has taken in the Supplement of establishing an *envelope* of environmental impacts resulting from decommissioning activities and identifying those activities which can be bounded by a generic evaluation and those which require a site-specific analysis. This approach concentrates the environmental analysis on those activities with the greatest likelihood of having an environmental impact. EPA also commends NRC for drafting a Supplement which facilitates public understanding in its use of plain English and explanation of technical terms.

As indicated below and in the enclosed detailed comments, EPA is requesting that NRC provide clarifications, supplementary information and explanations of certain conclusions found in the draft Supplement. EPA is therefore rating this Supplement as "EC-2", Environmental Concerns - Insufficient Information. A summary of the rating definitions is enclosed.

Template = ADM-013

E-RIDS = ADM-03
Add = M. Masnik (MTM2)

EPA's major comments on the Supplement are: (1) it is not always clear when a particular decommissioning activity or site/operating condition falls within the envelope of environmental impacts described in Section 4 and when that activity or condition would require further analysis; (2) the Supplement should distinguish better among certain of the small, moderate and large impact levels and better explain certain assumptions used in setting these levels; (3) the Supplement should address how the environmental analysis of decommissioning activities takes into account changes in the environmental parameters of the site during plant operation; and, (4) the Supplement should provide a more robust discussion of ground water impacts. Further detail on EPA's concerns is found in the enclosed "Detailed Comments."

Thank you for the opportunity to review this document. If you have any questions or would like to meet to discuss our concerns, please contact Susan Absher of my staff. She may be reached at (202) 564-7151.

Sincerely,

/s/

Anne Norton Miller
Director
Office of Federal Activities

Enclosures: 2
Summary of Rating Definitions
Detailed EPA Comments on the Draft Supplement to the GEIS

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Detailed EPA Comments on
Draft Supplement to Generic EIS for Decommissioning of Nuclear Power Reactors
(NRC NUREG-0586, Draft Supplement 1, October 2001)

General Comments

1. The Supplement should provide more specific guidance to licensees regarding the level of a particular decommissioning activity, or the site conditions in which an activity is occurring, which would trigger a site-specific NEPA analysis of the activity by the licensee. For example, with regard to levels of activity that would require a site-specific analysis, the Supplement should more specifically define what constitutes a major transportation upgrade. With regard to site conditions, it should define how much time may pass after the previous disturbance of an aquatic or terrestrial ecosystem before a site-specific analysis is necessary, or how recent the ecological assessment of that ecosystem must be to rely on the Supplement instead of a site-specific analysis. This will facilitate both licensees' evaluation of environmental impacts in required submissions such as the Post Shutdown Decommissioning Activities Report (PSDAR) and the License Termination Plan (LTP), and NRC's development of site-specific NEPA documents.

2. In order to provide a complete and up-to-date environmental profile of the site, the Supplement should direct licensees to summarize the following in their site-specific NEPA analyses (and as appropriate in the PSDAR and LTP): (a) pre-plant construction environmental reports (for plants constructed before the enactment of NEPA) and environmental impact statements (EISs) regarding the impacts of plant construction and operation, (b) environmental reports and/or assessments that were prepared during the period the plant was in operation regarding the impacts of plant operation, (c) significant requirements and changes in the licensee's environmental permits, and (d) changes in the environmental parameters of a facility site during operation and the impacts of any such changes (see also Response to Comment #6-A, page A-11).

3. Response to Comment No. 6-C, page A-13, indicates that impacts from potentially contaminated sediment are addressed in the Supplement, but we did not find this information.

4. While EPA did not identify security issues during the GEIS scoping process, the events of Sept. 11 have brought them to the forefront of public concern. EPA suggests that NRC include in the final Supplement a general discussion on how the Commission is addressing security from terrorism at plants undergoing decommissioning.

5. The Supplement (page 3-16) indicates that ENTOMB is still considered a viable option for decommissioning. Section 3.2.3 notes that the Supplement includes a bounding analysis, but that any environmental issues arising from a subsequent rulemaking on ENTOMB will be addressed in that rulemaking and its supporting environmental documentation. EPA urges NRC to consider in any subsequent analysis of EMTOMB the issue of residual dose and the potential need for state approval of any de facto disposal.

Executive Summary

6. Page xv, Lines 37-38. The document identifies certain issues that are "site-specific for activities occurring outside the disturbed areas in which there is no recent environmental assessment." "Recent" should be defined by, for example, specifying a time frame or "shelf life" for environmental assessments, so that licensees have clear notice of when they must prepare or update such a document for the disturbed area(s) in question. This same problem arises in Table ES-1, which refers to "current" and "recent" ecological assessments.

Introduction

7. Page 1-5, Section 1.3. This section states that except for decommissioning planning activities, the Supplement only considers activities following removal of the fuel from the reactor. The exclusions include "impacts that result directly and immediately from the act of permanently ceasing operations" such as the environmental impacts of ceasing thermal discharges to receiving waters which the Supplement states "is essentially a restoration of existing conditions." This ignores the potentially adverse effects that the thermal discharges may have had on the ecosystem while the plant was operating; and, while the affected ecosystem may recover from the thermal discharges, such recovery may not be the equivalent of restoration to the originally existing conditions. Also, a species may have become established and dependent upon the thermal discharge.

8. Page 1-7, Section 1.3, Lines 30-33. The document needs to explain the grounds for the determination that the environmental impacts of concrete leaching into site groundwater as the result of rubblization can be evaluated generically. See also groundwater comments below.

9. Page 1-8, Lines 10-13. EPA agrees that inadvertent releases resulting from an accident should be handled on a site-specific basis. We would like to see an explanation of how the analysis of impacts from an accident would be handled.

10. Page 1-8, Section 1.4. EPA encourages NRC wherever possible to make the Levels of Significance (small, moderate and large) used in the Supplement more definitive by including risk ranges, referencing the appropriate NRC regulations or providing examples of impacts. We note that in several cases the qualitative analysis is given in units of person-rem with no regulatory limit provided.

11. Page 2-5, Section 2.2, Line 10. This section should note that state or local requirements may be more restrictive than NRC's.

Description of the NRC Licensed Reactor Facilities and the Decommissioning Process

12. Page 3-5, Section 3.1.2, Lines 31-33 and Page 3-8, Lines 13-16. The document states on page 3-5 that "the impacts of dismantling all SSCs (structures, systems and components) that were built or installed at the site to support power production are considered in this Supplement." It then states on page 3-8 that the Supplement does not evaluate switchyards which "may remain on the site". If they are dismantled, would they be evaluated?

13. Page 3-10, Section 3.1.3, Lines 32-25. The supplement states that "the amount of liquid and gaseous radioactive waste generated is usually lower for decommissioning plants". Must the plant's waste remain within the limits established during operations to be bounded by this GEIS?

14. Page 3-11, Section 3.1.3, Lines 17-18. Please revise the document to clarify that Resource Conservation and Recovery Act hazardous waste disposal permits and Clean Water Act NPDES permits are administered either by EPA or, where EPA has authorized the state RCRA program or the state has assumed the NPDES program, by the state. (See NUREG 1628, Question 4.2.2) Also, the text should briefly discuss the management of PCBs and PCB-containing materials under the Toxic Substances Control Act.

15. Page 3-16, Section 3.1.4, Line 1. This line notes that spent fuel comprises the largest amount of radioactive material at a shutdown facility. It would be informative to include here a summary of or reference to the data in Appendix G on the amount of radioactive material at various types of power plants.

16. Page 3-17, Section 3.2.1, Lines 32-33. Please revise the document to clarify that while the evaluation of ISFSIs is outside the scope of the GEIS, it should be noted that the DECON alternative does not necessarily completely eliminate the need for long-term security and surveillance of a facility; an ISFSI at a decommissioned facility will require long-term security and surveillance.

17. Page 3-29. Lines 29-39 repeat lines 11-21.

Environmental Impacts

Land Use

18. Page 4-6, Section 4.3.1.2, Lines 15-16. This section defines a previously disturbed area as an area where land disturbance occurred "during construction or operation of the site." This definition may allow licensees to undertake decommissioning activities resulting in adverse environmental impacts without first performing a site-specific analysis of those impacts. For example, it might allow a licensee to disturb an area that was disturbed several decades ago during plant construction even if that area was not used during plant operation and has essentially returned to its original condition, i.e., native species have fully returned. The Supplement should define what constitutes a "previous" disturbance, e.g., by specifying a time frame, so such adverse impacts are not permitted to occur.

19. Page 4-6, Section 4.3.1.2, Lines 25-29. The following terms are too broad or too vague to provide licensees sufficient guidance about when a site-specific analysis is necessary: with regard to SMALL impacts, "very little new development" and "minimal changes"; with regard to MODERATE impacts, "considerable new development" and "some changes"; and with regard to LARGE impacts, "large-scale new development" and "major change." Providing specific examples from decommissioning or decommissioned facilities would be very useful.

20. Page 4-6, Section 4.3.1.3, Lines 33-41. Using NUREG-1437's estimate that ~1 to ~4 ha (~2.5 to 10 ac) of land is needed for steam generator replacement activities, the document assumes that the land use impacts of major component removal during decommissioning "should be similar or less," and that the land used during major component removal "[g]enerally ... has been previously disturbed during construction of the facility." Does this mean that a licensee must perform a site-specific analysis of impacts if the land use impacts of major component removal may or will

be greater than the estimated impacts of steam generator replacement, or if the land used during major component removal has not been previously disturbed during construction of the facility?

21. Page 4-7, Section 4.3.1.3, Lines 1-2. The Supplement notes that "almost all of the sites" will use land previously disturbed during construction; should one assume that a facility using land not previously disturbed will need to conduct a site-specific analysis? Similarly, under "Conclusions" on that page, it states that impacts for "offsite land use" are considered small unless "major transportation upgrades are necessary." The examples given are establishing water, rail or road transportation links. Is one to assume that any establishment of offsite transportation would require a site-specific analysis? Would impacts only be to off-site land uses or to on-site as well? Specific examples would help here.

22. Page 4-7, Section 4.3.1.3, Lines 10-12. Please explain the basis for the assumption that where previously disturbed areas are not large enough to support decommissioning activities, "it is likely" that the impact of disturbing previously undisturbed areas would be "temporary and SMALL."

Water Use

23. Page 4-9, Section 4.3.2.2, Lines 12-14. The Supplement should briefly describe the "common engineering practices to limit water use impacts." When describing how water impacts were evaluated (sec. 4.3.2.3.), it would be helpful to include the average and maximum water usage pre- and post-operation of those plants that have ceased operation.

Water Quality

24. Pages 4-10 through 4-12, Section 4.3.3. This section focuses primarily on the water quality impacts of nonradiological discharges from point sources to surface water (and the regulation of such discharges under the NPDES program). It should more fully discuss the water quality impacts of both nonradiological discharges to groundwater (and their possible regulation under state programs) and non-point source pollution, and if necessary should indicate that one or both of these types of impacts require site-specific analysis. All of these types of discharges have potential water quality impacts that need to be evaluated.

25. Pages 4-10 to 4-11, Section 4.3.3.1. This subsection on water quality regulations should distinguish between "intentional" and "unintentional" nonradiological discharges to both surface water and groundwater. As currently drafted, the section blurs these distinct types of discharges, and the regulatory schemes relevant to each.

26. Page 4-10, Section 4.3.3.1, Line 42. The Supplement refers to a "permitting authority" before it identifies what type of permit is at issue. As a result, the reader does not know who the permitting authority is. It would be helpful to note that "intentional releases of non-radiological discharges" to surface waters are regulated under EPA or state wastewater discharge permitting programs, and such discharges to groundwater may be regulated under state programs.

27. Page 4-10, Section 4.3.3.1, Lines 41-44 and Page 4-11, Lines 1-2. This paragraph is confusing in light of the statement on Page 4-12 "that the issue of surface or groundwater quality for all decommissioning activities is generic and that the environmental impacts for these activities will

be SMALL." As currently written, it suggests that NRC will obtain a permitting authority's "environmental assessment of aquatic impacts" and "consider the assessment in its determination of the magnitude of the environmental impacts" of decommissioning activities at individual sites. It also suggests that NRC will "establish its own impact determination[s]" on a site-specific basis in the absence of such environmental assessments. Please clarify.

28. Page 4-11, Section 4.3.3.1, Lines 4-5. Please revise the Supplement to indicate that the NPDES program only regulates point source discharges to surface waters, not discharges to groundwater or non-point source pollution. (See also section 4.3.3.4.) As noted above, the document should note that point source discharges to surface waters also may be regulated under state wastewater discharge permitting programs, and discharges to groundwater may be regulated under state programs.

29. Page 4-11, Section 4.3.3.1, Lines 7-9 and Section 4.3.3.2, Line 16. The document assumes that facilities' NPDES permit limits during decommissioning "are generally the same limits that are enforced for an operating plant," that facilities' permits "may require a monitoring program," and that "these monitoring programs are usually continued through the decommissioning period." Should the reader assume that a licensee must perform a site-specific analysis of water quality impacts if any one of these conditions is not met? If not, why not? (See also section 4.3.3.4: is a site-specific analysis required where discharges to surface water may or will exceed the NPDES-permitted levels? Again, if not, why not?)

30. Page 4-11, Section 4.3.3.2, Lines 17-18, 21-23. This language could be interpreted erroneously to indicate that discharges to groundwater are monitored under NPDES permits. The Supplement should address the water quality impacts of decommissioning activities on groundwater separately from the impacts on surface water. In lines 34-35, the Supplement should describe the conditions in which nonradiological impacts to groundwater and from non-point source pollution may be considered SMALL, MODERATE or LARGE.

31. Pages 4-11 to 4-12, Section 4.3.3.3.
The discussion in this section could support a requirement for licensees to perform site-specific analyses of the potential water quality impacts of their decommissioning activities under certain circumstances; notably, language such as performing these activities in different orders can have a "significantly different impact on water quality," that the SAFSTOR option "may exacerbate water quality issues," and that certain activities "may result in changes in local water chemistry" implies the potential need for site-specific analysis.

In particular, the statement that rubblization may affect groundwater pH and thereby "affect the transport properties of radioactive and nonradioactive chemicals in the subsurface" appears to require a site-specific analysis. The document notes in other places (e.g., Page 1-7, Lines 26-33) that the nonradiological impacts of rubblization, including concrete leaching into groundwater, can be evaluated generically. Section 4.3.3.3 does not support this conclusion.

32. Page 4-12, Section 4.3.3.3, Lines16-17. The Supplement states that unintentional releases of hazardous substances historically have been infrequent at decommissioning facilities, and that except for a few substances, hazardous substances spills are "localized, quickly detected, and relatively easy to remediate." Does this mean that a licensee must perform a site-specific analysis of potential water quality impacts if a hazardous substance is spilled or otherwise

released to the environment during decommissioning. How is "hazardous substance" defined? Examples or a better definition of "localized", "quickly detected" and "ease of remediation" should also be provided.

33. Page 4.12, Section 4.3.3.4. As noted above, the NPDES program only regulates nonradiological discharges to surface waters from point sources, not discharges to groundwater. This subsection should also draw conclusions about the potential water quality impacts of nonradiological discharges to groundwater and non-point source pollution during decommissioning.

34. Page 4-14, Section 4.3.4.2, Lines 6-8. The Supplement states that emissions from workers' vehicles "should be lower" during decommissioning than during plant construction or outages and are "usually lower" than during plant operation. Is there any data from decommissioned plants to support these statements? Also, does one assume that a site-specific analysis of potential air quality impacts is required if such emissions may or will be higher than during plant construction, outages or operation?

35. Page 4-14, Section 4.3.4.2, Lines 10-24. The Supplement states that most decommissioning activities are conducted in facility buildings with systems that are "typically maintained and periodically operated" during decommissioning to minimize airborne contamination. As a result, "materials released when systems are dismantled and equipment is removed are not likely to be released to the environment in significant quantities." Again, does the reader assume that a licensee must perform a site-specific analysis of potential air quality impacts if a certain level (definition?) of decommissioning activity may or will not be conducted in facility buildings, or if the systems used to minimize airborne contamination may or will not be maintained and/or operated according to a certain level of effort? How is "significant quantity" defined?

36. Page 4-14, Section 4.3.4.2, Lines 26-33. The Supplement states that fugitive dust emissions during movement of equipment outside of facility buildings are "likely ... to be confined to the immediate vicinity of the equipment," "in general ... limited to a small number of events" and "of relatively short duration." Again, is the reader to assume that a licensee must perform a site-specific analysis of potential air quality impacts where one of these conditions is not met? Also, how are "immediate", "small number of events" and "relatively short duration" defined? Further, must the facility employ mitigation measures to minimize dust; if so, where are these specified?

37. Page 4-14, Section 4.3.4.2, Lines 40-43 and Page 4-15, Section 4.3.4.2, Lines 1-2. The Supplement states that there is an average of less than one shipment per day of low-level waste (LLW) from a decommissioning plant; that, "in most cases, the number of shipments of other materials to and from a decommissioning facility will be less than that for LLW;" and that therefore emissions associated with the transportation of materials from such a plant "are not expected to have a significant impact on air quality." Again, is the reader to assume that a licensee must perform a site-specific analysis of potential air quality impacts if the number of shipments of materials to or from its decommissioning facility will exceed the level of less than one shipment per day?

38. Page 4-15, Section 4.3.4.2, Lines 4-7. The definition of what constitutes SMALL, MODERATE and LARGE air quality impacts would be helped by providing specific examples from decommissioning or decommissioned facilities.

39. Page 4-15, Section 4.3.4.3, Lines 21-23. This section states that "[n]o anticipated new methods of conducting decommissioning and no peculiarities of operating plant sites are anticipated to affect this pattern" of managing fugitive dust. Is the reader to assume that a licensee who proposes using a new decommissioning method must perform a site-specific analysis of potential impacts?

Aquatic Ecology

40. Page 4-16, Section 4.3.5, Lines 25-29. This section's discussion of impacts to aquatic resources following plant shutdown seems to contradict the example given on page 1-5, lines 6-7, of plant discharges post-shutdown being outside the scope of this document. Similarly, the discussion at Page 4-19, Section 4.3.6, Lines 26-29 seems to contradict page 1-5. Note also the comment above on the page 1-5 language.

41. Page 4-17, Section 4.3.5.2, Line 38 and page 4-18, Section 4.3.5.2, Lines 4 and 14. The term "previously disturbed" needs definition.

42. Page 4-18, Section 4.3.5.2, Lines 14-17. The Supplement should provide specific guidance on how to weigh the primary factors to be considered in evaluating the adverse impacts of decommissioning activities in "previously disturbed" areas. How much habitat can be disturbed before a site-specific analysis is required? How much time can have passed since the initial disturbance? How is a licensee to evaluate the successional patterns of the aquatic communities?

43. Page 4-18, Section 4.3.5.2, Lines 17-23. The Supplement states that the potential impact of disturbing areas beyond the original construction area is SMALL and can be characterized generically if "the aquatic environment has been characterized," and that a site-specific analysis is needed if "decommissioning activities occur in aquatic environments have not been characterized." What must this characterization consist of, and when and how recently must it have been performed, to allow a licensee to conclude that it is sufficient and can properly support the conclusion that potential impacts are SMALL?

44. Page 4-19, Section 4.3.5.4, Lines 4-6. This subsection appears to define a "previously disturbed area" as "within the security fences or surrounding paved, graveled, or otherwise developed areas without removal of near-shore or in-water structures." Does this definition also apply to land use activities on page 4-6, Section 4.3.1.2, Lines 15-16? Does the definition mean that a licensee who plans to remove near-shore or in-water structures in "previously disturbed areas" must perform a site-specific analysis of the potential aquatic ecology impacts?

45. Page 4-19, Section 4.3.5.2, Lines 8-11. How is "previous" defined? What is the relationship between these "previous ecological surveys that indicate a low probability of adversely affecting ecological resources" and the aquatic environment characterizations referred to on Page 4-18, Lines 17-23? This subsection suggests that the aquatic ecology impacts of decommissioning activities conducted in areas that were not "previously disturbed" will be SMALL if a previous survey has demonstrated a low probability of adverse effects on the ecosystem, while Section 4.3.4.2 suggests that the aquatic ecology impacts of decommissioning activities in such areas will be SMALL if a characterization has demonstrated the possibility of some adverse effects to "sensitive resources," but the facility will manage those resources for their protection during

decommissioning activities.

46. Page 4-19, Section 4.3.5.2, Lines 11-16. The Supplement should define more precisely the circumstances under which a site-specific analysis of potential aquatic ecology impacts in previously undisturbed areas is required. How is the licensee to determine whether an activity has the potential to impact the environment? How should the magnitude of potential impacts be determined? Also, can a licensee avoid doing a site-specific analysis by implementing a protection plan to protect the aquatic environment?

Terrestrial Ecology

47. Page 4-21, Section 4.3.6.2, Lines 1, 15 and 24. The term "previously disturbed" should be defined or examples provided.

48. Page 4-21, Section 4.3.6.2, Lines 15-17. The Supplement should provide specific guidance on how to weigh the primary factors to be considered in evaluating the adverse impacts of decommissioning activities in "previously disturbed" areas. How much habitat can be disturbed before a site-specific analysis is required? How much time can have passed since the initial disturbance? How is a licensee to evaluate the successional patterns of the native communities?

49. Page 4-21, Section 4.3.6.2, Lines 23-25. What is a "significant" terrestrial resource? What does "potentially" affected mean? These terms need to be defined or examples provided so that licensees understand when they are required to perform a site-specific analysis.

50. Page 4-21, Section 4.3.6.2, Lines 25-29. The document states that the potential impact of disturbing areas beyond the original construction area is SMALL and can be characterized generically if "the terrestrial environment has been characterized." Moreover, a site-specific analysis is needed if "decommissioning activities occur in terrestrial environments that have not been characterized." What must this characterization consist of, and when/how recently must it have been performed, to allow a licensee to conclude that it is sufficient and can properly support the conclusion that potential impacts are SMALL?

51. Pages 4-21 to 4-22, Section 4.3.6.3. The document assumes that "[i]n most cases, the amount of land required to support the decommissioning process is relatively small and is normally a very small portion of the overall plant site." It also states that "licensees typically anticipate utilizing an area of between 0.4 ha (1 ac) to approximately 10.5 ha (26 ac) to support the decommissioning process." EPA assumes this means that a licensee must perform a site-specific analysis of impacts if the terrestrial ecology impacts of decommissioning activities may or will be greater than 10.5 ha (26 ac). If this assumption is incorrect, when is a site-specific analysis is required and why?

52. Page 4-22, Section 4.3.6.3, Lines 27-29. The document assumes that the "activity of rubblization of construction material should not have significant nonradiological impacts beyond other decommissioning activities except for potential short-term noise and dust effects." However, on Page 4-12, the document states that rubblization may affect groundwater pH and thereby "affect the transport properties of radioactive and nonradioactive chemicals in the subsurface." Any radioactive or nonradioactive chemicals in the subsurface that are mobilized as a result of concrete leaching from rubblized material could have an adverse effect on the terrestrial ecology

of a facility. For this reason, EPA recommends that the Supplement require a site-specific analysis of all of the potential environmental impacts of rubblization, both nonradiological and radiological.

53. Page 4-22, Section 4.3.6.4, Lines 37-39. This subsection appears to define a "previously disturbed area" as "within the security fences or surrounding paved, graveled, or otherwise developed areas." How does this definition relate to the definition provided on Page 4-6, Section 4.3.1.2, lines 15-16?

54. Page 4-22, Section 4.3.6.4, Lines 40-43. This subsection suggests that the terrestrial ecology impacts of decommissioning activities conducted in areas that were not previously disturbed will be SMALL if a "previous" survey has demonstrated a low probability of adverse effects on the ecosystem. How recent must the "previous" survey have been?

55. Page 4-22, Section 4.3.6.2, Line 43 and Page 4-23, Section 4.3.6.2, Lines 1-5. The Supplement should better define or provide examples of circumstances under which a site-specific analysis of potential terrestrial ecology impacts in previously undisturbed areas is required. What constitutes a "potential of adverse impact to important terrestrial resources"? What is an "important" terrestrial resource? The document should provide criteria by which a licensee can determine whether an activity has this "potential," as opposed to merely a "low probability of adversely affecting ecological resources." The Supplement should also clarify whether a licensee can avoid doing a site-specific analysis by implementing a protection plan to protect the terrestrial environment.

Threatened and Endangered Species

56. Page 4-23, Section 4.3.7, Lines 10-12. The supplement should elaborate on the basis for the statement that "the potential impacts of nuclear power facility decommissioning efforts on threatened or endangered species will normally be no greater and likely less than the effects of plant operations."

57. Page 4-25, Section 4.3.7.2, Lines 3-7. The Supplement should provide guidance on determining the amount of habitat that can be disturbed beyond previously disturbed areas.

Radiological

58. Page 4-27, section 4.3.8, lines 17-21. The Supplement should clarify the statement about the "relatively lower sensitivity of non-human species to radiation." Is this statement based on scientific studies or is the impact to non-humans not known? Why were decommissioning's radiological impacts on ecological receptors defined as outside the scope of the Supplement?

59. Page 4-28, Section 4.3.8.3. This discussion in this section indicates that public and occupational dose comparisons were made with the facility's EIS for normal operations and with the 1988 GEIS. This statement appears to contradict earlier statements about the assessment of impacts being based on NRC regulatory limits for worker protection. Please clarify how the comparisons were made.

60. Page 4-29, Section 4.3.8.3. Line 14 indicates that the data used in the evaluation are those

presented in Appendix G. Appendix G uses units of collective dose equivalent; however, as also outlined in the appendix, the radiation protection standards are in units of annual individual dose. The Supplement should use consistent units and provide data on population densities for nuclear power plants.

Appendix G.2 (page G-19) provides the average public dose within a 50 miles radius of a facility. The Supplement should clarify if facilities which fall outside this analysis (e.g., have denser populations yielding more person-rem than indicated in the appendix) must complete a site-specific analysis.

61. Page 4-31, Section 4.3.8.4. While the overall worker health impact is SMALL, Appendix G shows data from some decommissioning facilities where worker exposure is higher during decommissioning than during operations. The Supplement should clarify how these higher exposure levels compare with the radiation protection standards. Also, this section should clarify whether an analysis was done of the normal wastewater streams produced during decommissioning that are contaminated with radiation.

62. Pages 4-30. 4-12 and xii. The Supplement should clarify the circumstances under which rubblization is permitted. It is EPA's understanding that, to date, rubblization has only been permitted after site decontamination. Does the term "rubblization" on page 4-30 refer to the treatment of concrete or structures that have not been decontaminated? Note that page xii indicates that the continued dismantlement of structures that have been radiologically decontaminated falls outside the scope of the Supplement.

Environmental Justice

63. Page 4-57, Section 4.3.13.4, Lines 36-38. The environmental sections of some PSDARs submitted to date have not provided detailed information. The Supplement should elaborate on the "appropriate information" that licensees should provide relating to environmental justice in the environmental section of their PSDARs to enable NRC to obtain sufficient information on potential environmental justice issues at decommissioning facilities.

Cultural, Historical and Archeological Resources

64. Page 4-58, Section 4.3.14. EPA appreciates that, on the whole, decommissioning is not likely to affect previously undisturbed archeological resources potentially located near the facilities, but is concerned about the potential loss of these facilities as a body of engineering work. The Supplement mentions that a few facilities may be eligible for listing on the National Register of Historic Places individually and that those facilities would then be the subject of mitigation based upon consultation with the SHPO. Eventually, however, a substantial number of facilities may be decommissioned. While the facilities themselves may not be fifty years old nor require physical in situ preservation, the processes and engineering they employed may merit inclusion in the Historic American Engineering Record (HAER). The HAER is designed to provide uniform documentation standards so future scholars can look back at our achievements and study them for a multitude of purposes. Rather than make this determination on a case-by-case basis, the NRC may want to consider working with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers to achieve a programmatic agreement or other programmatic treatment for these facilities.

Transportation

65. Page 4-68, Section 4.3.17.1. This section should address regulations governing the transportation of hazardous and mixed wastes as well as of low level waste.

66. Page 4-69, Section 4.3.17.2, Line 5. What is meant by "not large enough to destabilize the important attributes of the system?"

67. Pages 4-72 to 4-73, Section 4.3.18. The discussion of irretrievable resources more properly belongs in a section that summarizes environmental consequences. The Supplement could benefit from having such a section as was done with the recently issued draft NMSS guidance document on NRC preparation of NEPA documents.

68. Page 4-72, Section 4.3.18, Line 9. It seems inappropriate to include concrete as an irretrievable resource.

69. Page 4-72, Section 4.3.18.1, Line 14. The Supplement states that there "are no regulations that deal specifically with the concept of irretrievable resources." It is unclear what is meant by this statement. The following statutory and regulatory provisions pertain to irreversible and irretrievable resources in the NEPA context:
-- NEPA § 102(2)(C)(v), 42 U.S.C. § 4332(2)(C)(v);
-- 40 C.F.R. § 1502.16 (CEQ regulations); and,
-- 10 C.F.R. Part 51, Subpart A, Appendix A (NRC regulations).

From: Michael Masnik
To: Becky Harty; DaM2; Eva Hickey
Date: 1/7/02 9:05AM
Subject: Fwd: Re: GEIS Comments

Electronic version of EPA Comments

From: <Absher.Susan@epamail.epa.gov>
To: Michael Masnik <MTM2@nrc.gov>
Date: 1/7/02 8:52AM
Subject: Re: GEIS Comments

Hi, Mike. Here's an electronic copy of the transmittal letter and detailed comments. The signed orginal was mailed before Christmas, so hope you it soon.

(See attached file: Comm letter NRC GEIS.wpd)(See attached file: detailed GEIS comments (1).doc)

Michael Masnik <MTM2@nrc.gov> 01/07/2002 07:49 AM

To: Susan Absher/DC/USEPA/US@EPA
cc: John Tappert <JRT@nrc.gov>
Subject: GEIS Comments

Susan, hope you had a good holiday! Dino retired the end of December and I now have the GEIS to finish up. I received a faxed copy of your comments. I trust they have been submitted formally. If possible could you send me via E-mail and electronic copy so I can send to the lab. We are sooting for this coming summer to finish and publish.