

Appendix A

Draft Generic Environmental Impact Statement Scoping Summary Report: Comments in Scope

Appendix A

Draft Generic Environmental Impact Statement Scoping Summary Report: Comments in Scope

1 On Tuesday, March 14, 2000, the U.S. Nuclear Regulatory Commission (NRC) published a
2 Notice of Intent in the Federal Register (65 FR 13797), to notify the public of the staff's intent to
3 prepare a supplement to the *Generic Environmental Impact Statement on Decommissioning*
4 *Nuclear Facilities* (1988 GEIS), NUREG-0586, to support decommissioning activities at
5 commercial power production facilities and to conduct scoping. This Supplement to the 1988
6 GEIS will be prepared in accordance with the National Environmental Policy Act (NEPA 1969),
7 Council on Environmental Quality guidelines, and 10 CFR Part 51. As outlined by NEPA, the
8 NRC initiated the scoping process with the issuance of the Federal Register Notice. The NRC
9 invited all stakeholders to participate in the scoping process by providing oral comments at the
10 scheduled public meetings and/or submitting written suggestions and comments no later than
11 July 15, 2000. The scoping process included four public scoping meetings, which were held in
12 Lisle, IL, on April 27, 2000; Boston, MA, on May 17, 2000; Atlanta, GA, on June 13, 2000; and
13 San Francisco, CA, on June 21, 2000. Approximately 60 members of the public attended the
14 meetings. All four meetings began with NRC staff members providing a brief overview of the
15 decommissioning and NEPA process. After the NRC's prepared statements, the meetings
16 were open to public comments. Twenty-three attendees provided either oral or written
17 statements that were recorded and transcribed by a certified court recorder. The corrected
18 meeting transcripts were provided in four letters dated June 30, 2000 (NRC 2000a, 2000b,
19 2000c, 2000d) and are available on the NRC website at
20 <http://www.nrc.gov/NRC/REACTOR/DECOMMISSIONING/GEIS/index.html>. In addition to the
21 comments provided during the public meetings, 11 comment letters were received by the NRC
22 in response to the Notice of Intent.

23
24 While developing this Supplement to the 1988 GEIS, the staff and its contractor considered all
25 of the relevant issues raised during the scoping process. The full scoping summary report is
26 accessible through NRC's Public Electronic Reading Room (ADAMS)
27 <http://www.nrc.gov/NRC/ADAMS/index.html>; the accession number is ML011100625. Each
28 comment that was applicable to this Supplement is summarized in this section. This
29 information was extracted from the Scoping Summary Report, dated April 17, 2001
30 (65 FR 13797) and is being provided in this report for the convenience of those interested in the

Appendix A

1 scoping comments applicable to this environmental review. The comments that were
2 determined to be general or outside the scope of Supplement are not included in this Appendix.
3

4 **Meetings**

5

Location	Date
Lisle, IL	April 27, 2000
Boston, MA	May 17, 2000
Atlanta, GA	June 13, 2000
San Francisco, CA	June 21, 2000

6
7
8
9
10

11 **Written Comment Letters**

12

Name/Organization	Date
Nuclear Information and Resource Service	July 11, 2000
Pamela Blockey-O'Brien	July 12, 2000
Nuclear Information and Resource Service (submitted a supplement to the letter they originally sent)	July 13, 2000
Lynnette Hendricks (Nuclear Energy Institute)	July 14, 2000
Massachusetts Citizens for Safe Energy	July 14, 2000
Campaign for a Prosperous Georgia	July 14, 2000
Paul Gunter (Nuclear Information and Resource Service)	July 14, 2000
George Crocker (Executive Director of the North American Water Office)	July 14, 2000
Citizens Awareness Network	July 15, 2000
Glenn Carroll (Georgians Against Nuclear Power)	July 15, 2000
George A. Zinke (Director, Nuclear Safety & Regulatory Affairs, U.S. Environmental Protection Agency)	July 17, 2000

13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

Generic Environmental Impact Statement - Public Scoping Meeting Comments and Responses in Scope

1. Why is the GEIS being updated?

Three commenters (five comments) inquired about the reason that the NRC decided to update the GEIS. The question was raised whether the update was based on new information such as worker exposure, volume of high- or low-level radioactive waste, differences in disposal methodologies or decommissioning options, such as options in addition to entombment and rubbleization. One commenter asked if the NRC had already found new information that would make the GEIS more conservative.

Response: *The basis for this Supplement is discussed in Chapter 1, Introduction. This comment is within the scope of this Supplement.*

One commenter (in two different comments) questioned the creation of the GEIS if decommissioning is not a major Federal action and also indicated that the GEIS and the decommissioning process are the "deregulation of decommissioning."

Response: *The update of the GEIS as related to the National Environmental Policy Act (NEPA) of 1969 is discussed in Chapter 1, Introduction. This comment is within the scope of this Supplement.*

Four commenters expressed concern that the revisions to the GEIS would be used in negative ways such as to serve private corporate nuclear industry interests, to allow a release of unnecessary radioactive material onsite and offsite, or to reduce liability for the nuclear industry and increase environmental damage and public health. One commenter indicated that the GEIS should regulate all forms of radioactive releases.

Response: *The appropriate uses of the Supplement are discussed in Chapter 1, Introduction. This comment is within the scope of this Supplement.*

Three commenters (four comments) agreed with the NRC's efforts to update the 1988 GEIS on decommissioning. One commenter indicated that the Supplement should be updated to incorporate and evaluate new decommissioning technologies developed over the past decade. A second commenter specified that rubbleization should be considered.

1 **Response:** One of the purposes of revising the GEIS is to incorporate and evaluate new
2 decommissioning technologies and methods such as rubbleization. This comment is within the
3 scope of this Supplement. Technologies and methods are incorporated into the discussion and
4 analysis in Chapter 4, Environmental Impacts.

5
6 **2. How will the GEIS be used?**

7
8 One commenter inquired as to how the GEIS would be used.

9
10 **Response:** The appropriate uses of this Supplement are discussed in Chapter 1, Introduction.
11 This comment is within the scope of this Supplement.

12
13 One commenter encouraged the NRC to make the Supplemental GEIS user-friendly with plain
14 English and straightforward explanations for the public.

15
16 **Response:** The NRC has specific criteria that must be met in publications that are related to
17 the usage of plain English. This comment is within the scope of this Supplement and
18 incorporated throughout the document.

19
20 **3. Will the GEIS satisfy the NEPA process?**

21
22 One commenter asked about the actions and reviews involved in determining if the
23 environmental impact concerns considered by the NRC sufficiently satisfy the NEPA
24 requirements.

25
26 **Response:** The relationship between the GEIS and the NEPA requirements are discussed in
27 Chapter 1, Introduction. This comment is within the scope of this Supplement.

28
29 One commenter asked if the NRC was planning to communicate the results of the scoping
30 meetings and the final scope of the GEIS to the public.

31
32 **Response:** The NEPA process provides for publishing and presentation of a draft report for
33 comment before the final Supplement is issued. The comments noted in this summary report
34 as being within the scope of the GEIS are addressed in this Supplement. Comments on the
35 Supplement are solicited and considered before the report is finalized. This comment is within
36 the scope of this Supplement.

37
38 One commenter asserted that the NRC made false assumptions in the GEIS and indicated that
39 these assumptions must be addressed and the true risk discovered before any further generic
40 considerations are implemented.

1 **Response:** *The assumptions in the 1988 GEIS have been reconsidered in the development of*
2 *this Supplement. This comment is within the scope of this Supplement and is discussed in*
3 *Chapter 1, Introduction, and Chapter 4, Environmental Impacts.*

4
5 One commenter indicated that decommissioning was a Federal major action and required
6 NEPA compliance and site-specific EISs.

7
8 **Response:** *Chapter 1, the introduction to this Supplement, describes the NEPA requirements*
9 *for site-specific EISs and the basis for the agency's determination that decommissioning is not*
10 *a Federal major action. This comment is within the scope of this Supplement.*

11
12 One commenter stated that the 1988 GEIS is a robust analysis that has stood the test of time.
13 They supported a Supplement at this time.

14
15 **Response:** *A discussion of the use of the previous GEIS is provided in Chapter 1, Introduction.*
16 *This comment is within the scope of this Supplement.*

17 18 **4. Reactors that will be included in the GEIS**

19
20 One commenter thought the GEIS should be explicit regarding which reactors were covered.
21 The commenter was specifically concerned about Peach Bottom and Fermi.

22
23 **Response:** *The applicability of this Supplement to specific reactor facilities is discussed in*
24 *Chapter 1, Introduction. This comment is within the scope of this Supplement.*

25
26 One commenter indicated that it was prudent at this time to incorporate issues that were
27 identified through actual experience and to include issues relevant to the limited number of
28 commercial non-light-water reactors.

29
30 **Response:** *The use of data from previous reactor decommissioning experience is discussed*
31 *throughout this Supplement. This comment is within the scope of this Supplement.*

32 33 **5. Decommissioning Activities**

34 35 **A. General Decommissioning Activities**

36
37 One commenter inquired how the GEIS would handle two different methodologies for the same
38 activity (such as removing steam generators as a whole or in pieces).

39
40 **Response:** *This Supplement considers different methods for an activity to determine an*

Appendix A

1 acceptable envelope for that activity. If an activity results in impacts that are outside the
2 envelope, then a site-specific assessment may be required. The process for developing this
3 Supplement is described in Chapter 1, Introduction, further discussed in Chapter 4,
4 Environmental Impacts, and described in more detail in Appendix E. This comment is within the
5 scope of this Supplement.
6

7 One commenter indicated that the GEIS should provide more detail about specific
8 decommissioning activities and technologies in order to accurately assess the associated
9 environmental impacts. Another commenter indicated that they did not agree with the
10 statement that decommissioning activities are not significantly different from operating the plant.
11

12 **Response:** This Supplement considers specific decommissioning activities. The process for
13 developing this Supplement is described in Chapter 1, Introduction, further discussed in
14 Chapter 4, Environmental Impacts, and described in more detail in Appendix E. This comment
15 is within the scope of this Supplement.
16

17 B. Decommissioning Options

18
19 One commenter encouraged the NRC to adequately address alternatives. A second
20 commenter inquired whether a preferred alternative would be specified in the GEIS.
21

22 **Response:** Chapter 5 of this Supplement discusses alternatives to the proposed action, as
23 required by the NEPA process. This comment is within the scope of this Supplement.
24

25 1. DECON

26
27 No comments within scope.
28

29 2. SAFSTOR

30
31 One commenter encouraged the use of the SAFSTOR option because of the advantages in
32 terms of exposure to workers and the public. Another reason for the commenter's support of
33 SAFSTOR as an option was their opposition to shallow land burial of radioactive waste.
34

35 **Response:** In Chapter 3, Description of Reactors, this Supplement addresses the options for
36 decommissioning activities, including SAFSTOR and variations to SAFSTOR (such as the
37 duration of the storage period or the use of incremental DECON, which includes incremental
38 decontamination and dismantlement activities during the SAFSTOR period). This comment is
39 within the scope of this Supplement.
40

3. Entombment

One commenter asked what factors had changed since the 1988 GEIS that would suggest that ENTOMB was a possible option. A second commenter suggested that the lack of dumps for contaminated material made entombment a viable solution. A third commenter asked why entombment was considered not to be viable. And a fourth commenter inquired why the NRC would even be considering entombment if they already knew that the residual levels of radioactivity would be unacceptable.

Response: *This Supplement addresses varying options for decommissioning activities, including ENTOMB in Chapter 3, Description of Reactors. These comments are within the scope of this Supplement.*

One commenter encouraged the NRC to address entombment and to consider a name change to SAFSTOR II or Assured Isolation.

Response: *This Supplement addresses varying options for decommissioning activities, including ENTOMB in Chapter 3, Description of Reactors. This comment is within the scope of this Supplement.*

One commenter indicated that a Supplemental EIS must be required for the entombment option to assess the impact of what they perceive to be near-surface dumping of greater than Class C (GTCC) waste.

Response: *This Supplement addresses varying options for decommissioning activities including ENTOMB in Chapter 3, Description of Reactors. This comment is within the scope of this Supplement.*

4. Rubblization

Five commenters indicated that rubblization was an area that needed to be addressed in the revised GEIS. One commenter also added in a second comment that this included the environmental impact of residual radioactive material deeper than 6 in. below the surface, activated concrete, activated rebar, internal contamination in cracks, and sub-slab contamination. One of the commenters recommended that an additional intruder scenario be addressed.

Response: *This Supplement considers various decommissioning activities including rubblization in Chapter 4, Environmental Impacts. These comments are within the scope of this Supplement.*

Appendix A

1 Two commenters indicated that rubbleization turns the reactor site into a low-level or perhaps
2 high-level radioactive waste site and that deep monitoring wells, liners, etc., should be required
3 and evaluated on a site-specific basis. One commenter also mentioned that salt-water corro-
4 sion should be evaluated because of the potential for some leakage from the facility if the waste
5 is left onsite, such as occurs in rubbleization.

6
7 **Response:** *This Supplement considers various decommissioning activities including*
8 *rubbleization in Chapter 4, Environmental Impacts. These comments are within the scope of this*
9 *Supplement.*

10 11 **5. Partial Site Release**

12
13 Three commenters stated that partial site release should be addressed in the GEIS. One
14 commenter inquired whether partial site release would be addressed in the Supplement.
15 Another commenter stated that they opposed partial site release.

16
17 **Response:** *This Supplement considers partial site release and whether it can be included as a*
18 *generic issue. Discussion of partial site release can be found in Chapter 1, Introduction. These*
19 *comments are within the scope of this Supplement.*

20 21 **C. Specific Activities to be included in the GEIS**

22 23 **1. Decommissioning Process**

24
25 No comments within scope.

26 27 **2. Post-Shutdown Decommissioning Activities Report (PSDAR)**

28
29 One commenter was concerned that the only time a site-specific analysis would be conducted
30 for a decommissioning plant would be if the facility failed the PSDAR.

31
32 **Response:** *This Supplement discusses the circumstances that will result in a site-specific*
33 *analysis in Chapter 2, Introduction. This comment is within the scope of the GEIS.*

34 35 **3. Public Meetings**

36
37 No comments within scope.

38 39 **4. Citizen Advisory Panels**

40
41 No comments within scope.

1
2 **5. Opportunity for Public hearings**

3
4 No comments within scope.

5
6 **6. Inspections**

7
8 No comments within scope.

9
10 **7. Removal of Resident Inspectors**

11
12 No comments within scope.

13
14 **8. Intact Vessel removal**

15
16 Two commenters indicated that intact removal of the reactor vessel should be considered in the
17 Supplement. One of the commenters actively advocated this alternative because of reduced
18 worker dose, costs, and excellent isolation of the waste packages.

19
20 **Response:** *This Supplement considers specific decommissioning activities including intact*
21 *removal of the reactor vessel. Decommissioning activities are discussed in Chapter 4,*
22 *Environmental Impacts. This comment is within the scope of this Supplement.*

23
24 **9. Spent Fuel**

25
26 One commenter indicated that the delay in the schedule for removal of spent fuel should be
27 reflected in the GEIS as far as decommissioning schedule, costs, and doses.

28
29 **Response:** *This Supplement addresses the impacts resulting from the variation in the timing of*
30 *activities such as the removal of the spent fuel from the pool. This issue is addressed in*
31 *Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.*

32
33 **10. Waste Disposal**

34
35 No comments within scope.

36
37 **11. Waste Transport**

38
39 One commenter asked what kind of transportation activities will be covered in the Supplement.
40
41

Appendix A

1 **Response:** *This Supplement considers impacts associated with the transportation of waste*
2 *from the facility and transportation of equipment into the facility. The issue of transportation is*
3 *addressed in Section 4.3.16, Transportation. This comment is within the scope of this*
4 *Supplement.*

5
6 **12. Offsite Cleanup**

7
8 No comments within scope.
9

10 **13. Site Characterization and Final Site Surveys**

11
12 No comments within scope.
13

14 **14. License Termination Plan - Timing of Submittal**

15
16 No comments within scope.
17

18 **15. License Termination Plan - Contents**

19
20 No comments within scope.
21

22 **16. License Termination Criteria**

23
24 No comments within scope.
25

26 **17. Life after License Termination**

27
28 No comments within scope.
29

30 **18. Reuse of Material**

31
32 No comments within scope.
33

34 **19. Transfer of Ownership**

35
36 No comments within scope.
37

38 **20. Financial Assurance**

39
40 No comments within scope.
41

1 **21. License Extensions**

2
3 No comments within scope.

4
5 **22. Safety of Decommissioning**

6
7 No comments within scope.

8
9 **6. Impacts that should be included or considered in the Supplement**

10
11 **A. Ecological Impacts**

12
13 Three commenters (in four different comments) indicated that decommissioning has
14 environmental impacts and that the GEIS should include an analysis of the environment and not
15 just an analysis of impacts on humans.

16
17 **Response:** *The environmental impacts of decommissioning are addressed in this Supplement.*
18 *Ecological issues are addressed in Chapter 4, Environmental Impacts. These comments are*
19 *within the scope of this Supplement.*

20
21 One commenter recommended that the GEIS assess the degree to which the environmental
22 parameters of the site may have changed during the operation of the facility.

23
24 **Response:** *This Supplement may include a consideration of the degree to which*
25 *environmental parameters of the site may have changed during operation. Ecological issues*
26 *are addressed in Chapter 4, Environmental Impacts. This comment is within the scope of this*
27 *Supplement.*

28
29 One commenter recommended that the GEIS take into account the relevant environmental
30 characteristics of the site and the impacts from the use of the decommissioning techniques.

31
32 **Response:** *Relevant characteristics of the commercial nuclear power facility sites are being*
33 *considered in the development of this Supplement. The impacts from the use of*
34 *decommissioning techniques are also considered. Site characteristics and decommissioning*
35 *techniques are addressed in Chapter 4, Environmental Impacts. This comment is within the*
36 *scope of this Supplement.*

37
38 One commenter recommended that land use, water use, air quality, and animal and human life
39 be included in the GEIS as environmental impacts.

Appendix A

1 **Response:** *Ecological impacts such as land use, water use, air quality, and the impact on*
2 *animals and humans are considered in this Supplement. Ecological issues are addressed in*
3 *Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.*
4

5 Two commenters recommended a mesh screen to prevent birds from landing and nesting on
6 the site. Another recommended sterilizing the wildlife and containing them to allow them to die
7 naturally in order to keep them from passing on genetic material.
8

9 **Response:** *The impacts of the decommissioning process on the terrestrial environment are*
10 *considered in this Supplement. Mitigative actions will be considered if necessary. Ecological*
11 *issues are addressed in Chapter 4, Environmental Impacts. This comment is within the scope*
12 *of this Supplement.*
13

14 **B. Groundwater**

15

16 Three commenters expressed concern about contamination in ground or surface water.
17 Commenters indicated that studies should be conducted related to leaking pipes or plumes of
18 contamination in the groundwater. One commenter specified that protocols should be in place
19 that would be adhered to, particularly for underwater drilling. A third commenter thought that
20 appropriate methodologies should be included to determine groundwater contamination before
21 decommissioning occurs.
22

23 **Response:** *The impact of potentially contaminated groundwater is considered in this*
24 *Supplement. Water quality issues are addressed in Chapter 4, Environmental Impacts. These*
25 *comments are within the scope of this Supplement.*
26

27 One commenter cautioned that impacts to groundwater specifically from rubbleization should not
28 be underestimated.
29

30 **Response:** *The radiological impacts of rubbleization for the period beyond the license*
31 *termination must meet the requirements in 10 CFR Part 20, Subpart E, before the license will*
32 *be terminated. Impacts to groundwater during the decommissioning period and nonradiological*
33 *impacts following the termination of the license are generically addressed in this Supplement.*
34 *Water quality issues are addressed in Chapter 4, Environmental Impacts. This comment is*
35 *within the scope of this Supplement.*
36

37 Two commenters recommended that wells be monitored within five miles of the facility and that
38 specific actions be taken if contamination is found.
39

1 **Response:** Monitoring of effluents during decommissioning are addressed in this Supplement.
2 Water quality issues are addressed in Chapter 4, Environmental Impacts. This comment is
3 within the scope of this Supplement.
4

5 One commenter indicated that all plumes must be traced, blocked, pumped, and filtered.
6 Another commenter recommended pumping groundwater through resin beds, sand filters, and
7 charcoal filters.
8

9 **Response:** An evaluation of the impact of potentially contaminated water is considered in this
10 Supplement. Mitigative measures are discussed, as appropriate. Water quality issues are
11 addressed in Chapter 4, Environmental Impacts. This comment is within the scope of the
12 GEIS.
13

14 C. Surface Water

15

16 Two commenters indicated that sediment up to a mile downstream from the discharge "valves"
17 should be removed and treated as hazardous waste.
18

19 **Response:** The staff is uncertain as to the meaning of "discharge valve" but is responding to
20 this question assuming the commenters meant the discharge structure. An evaluation of the
21 impact of potentially contaminated sediment and its removal during the decommissioning
22 process is considered within this Supplement. Mitigative measures are discussed as appro-
23 priate. Water quality issues are addressed in Chapter 4, Environmental Impacts. This
24 comment is within the scope of this Supplement.
25

26 One commenter recommended routing site runoff to covered detention ponds equipped with
27 filters, etc.
28

29 **Response:** An evaluation of the impacts to surface water is considered in this Supplement.
30 Mitigative measures are discussed as appropriate. Water quality issues are addressed in
31 Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.
32

33 D. Radiological Concerns

34

35 One commenter requested that NRC include a definition of background radiation in the GEIS.
36 It should be clear whether the background was measured before or after 1945.
37

38 **Response:** This Supplement uses the NRC's definition of background radiation as given in
39 10 CFR 20.1003 as the basis for any discussion of radiological impacts. The background for a
40 particular site would correspond to the background radiation levels determined at the time that
41 the Final Environmental Impact Statement for the facility was issued. Radiological issues are

1 addressed in Chapter 4, Environmental Impacts. This comment is within the scope of the
2 GEIS.

3
4 **E. Occupational Dose Impacts**
5

6 One commenter indicated that the dose estimates for decommissioning activities should be
7 revised and that an envelope should be used to account for attempts to use certain techniques
8 that may not be the best way to solve the problem.

9
10 **Response:** This Supplement addresses the occupational dose estimates for decommissioning.
11 Radiological issues are addressed in Chapter 4, Environmental Impacts. This comment is within
12 the scope of this Supplement.

13
14 One commenter recommended that a good look be taken at the radiation exposure projections
15 and that the projected exposure should be a good challenge for the industry.

16
17 **Response:** This Supplement addresses the occupational dose estimates for decommissioning.
18 Radiological issues are addressed in Chapter 4, Environmental Impacts. This comment is within
19 the scope of the GEIS.

20
21 One commenter recommended that a comparison be made of the dose estimates if the facility
22 is decommissioned initially or if decommissioning does not start for 2 years.

23
24 **Response:** The timing of activities and its impact on the anticipated radiological dose for a
25 decommissioning facility are considered in this Supplement. Radiological issues are addressed
26 in Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.

27
28 One commenter encouraged caution in comparing risks among processes. The commenter
29 recommended that all the aspects of different processes be considered and that the
30 comparisons be compatible.

31
32 **Response:** The comment is noted. The impacts of decommissioning activities are addressed
33 in Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.

34
35 One commenter thought the scientific studies that have been performed since 1988 that show
36 that radiation is more harmful to human health should also be included.

37
38 **Response:** This Supplement will include a determination of the impacts on human health from
39 the potential radiological dose. The discussion will be based on current scientific guidelines.
40 Radiological issues are addressed in Chapter 4, Environmental Impacts. This comment is
41 within the scope of this Supplement.

1 One commenter indicated that the total dose should be a very high priority.
2

3 **Response:** *This Supplement includes an analysis of the dose impacts of decommissioning.*
4 *Radiological issues are addressed in Chapter 4, Environmental Impacts. This comment is*
5 *within the scope of this Supplement.*
6

7 One commenter suggested that exposure levels for workers are monitored every day and tallied
8 every week or so and tracked against the limits given in the GEIS. A second commenter
9 indicated that worker doses during decommissioning have been repeatedly underestimated
10 because decommissioning is an experiment and there is a lack of experience and enforcement
11 by the NRC. A third commenter specifically identified Connecticut Yankee as underestimating
12 worker dose assessments and predictions.
13

14 **Response:** *This Supplement includes an analysis of impacts of radiation dose to workers due*
15 *to decommissioning. Radiological issues are addressed in Chapter 4, Environmental Impacts.*
16 *This comment is within the scope of this Supplement.*
17

18 One commenter recommended that the GEIS include estimates for worker inhalation of
19 materials of high specific activity that have been vaporized and particulated by a particular
20 decommissioning operation.
21

22 **Response:** *This Supplement includes an analysis of the impact of radiation dose to workers*
23 *during decommissioning. Radiological issues are addressed in Chapter 4, Environmental*
24 *Impacts. This comment is within the scope of this Supplement.*
25

26 F. Public Dose Impacts 27

28 One commenter thought the NRC did not deal with incidental contamination that affected a
29 community, but focused instead on contamination from processes. The implication was that an
30 analysis of incident contamination and its effect on the community should be included in the
31 GEIS. Three other commenters specified the inadvertent release of hot particles and the
32 routine decommissioning releases as jeopardizing health and safety of the public. One other
33 commenter (in two comments) thought the health and safety problems needed to be taken
34 more seriously.
35

36 **Response:** *The incidental contamination and inadvertent release of hot particles are*
37 *unplanned releases and are handled on a site-specific basis and are not within the scope of this*
38 *Supplement. An analysis of the routine decommissioning releases on the health and safety of*
39 *the public are within the scope of this Supplement and are considered. Radiological issues are*
40 *addressed in Chapter 4, Environmental Impacts.*
41

Appendix A

1 One commenter thought the dose to the public from shipment of material to other locations
2 should be included in the consideration of dose from decommissioning a facility.

3
4 **Response:** *The dose to the public during transportation of radioactive material to disposal*
5 *facilities are considered in this Supplement. Radiological issues are addressed in Chapter 4,*
6 *Environmental Impacts. This comment is within the scope of this Supplement.*

7
8 One commenter indicated that the priority of the whole process was not the decommissioning of
9 the sites, but rather the protection of public health and the environment.

10
11 **Response:** *The NRC's mission includes the protection of public health and safety, the*
12 *common defense and security, and the protection of the environment. The NRC's mission*
13 *influences the entire decommissioning process. Public safety and protection of the*
14 *environment are addressed in Chapter 4, Environmental Impacts. This comment is within the*
15 *scope of this Supplement.*

16
17 One commenter expressed concern over the issue of hot particles and their impact on the
18 community.

19
20 **Response:** *The inadvertent or accidental release of hot particles is handled on a site-specific*
21 *basis. Analysis of contamination that is removed from the site into the public realm is*
22 *considered to be an accident and would be treated as such in this Supplement. Radiological*
23 *issues are addressed in Chapter 4, Environmental Impacts. This comment is within the scope*
24 *of this Supplement.*

25
26 One commenter stated that NRC should not recalibrate and redefine background radiation
27 levels so that they include regular plant operations, accidents, and weapons testing.

28
29 **Response:** *This Supplement uses the NRC's definition of background radiation as given in*
30 *10 CFR 20.1003 as a basis for any discussion of radiological impacts. Radiological issues are*
31 *addressed in Chapter 4, Environmental Impacts. This comment is within the scope of the*
32 *GEIS.*

33 34 **G. Transportation Dose Impacts**

35
36 One commenter indicated that transportation doses should be considered and any site-specific
37 issues. One commenter indicated that the changes in the transportation dose since 1988 (in
38 the programs and methodologies that are used) warrant a revision in this area in the GEIS.

1 **Response:** *The transportation dose to the public and workers from the transport of wastes are*
2 *within the scope of this Supplement. Transportation issues are addressed in Chapter 4,*
3 *Environmental Impacts.*

4 5 **H. Nonradiological Impacts**

6
7 One commenter encouraged the incorporation of nonradiological contaminants into the GEIS.
8 Four commenters expressed concern over nonradiological impacts of decommissioning. Two
9 of the commenters specifically mentioned nonradiological impacts such as polychlorobiphenyls,
10 heavy metals, and concrete. Another commenter inquired where the information would be
11 obtained that related to nonradiological issues. Another commenter asked if nonradiological
12 issues would be addressed in the license termination plan. (It was uncertain if this commenter
13 thought this would also apply to the GEIS).

14
15 **Response:** *Nonradiological chemical hazards are regulated by the provisions of the Resource*
16 *Conservation and Recovery Act (RCRA 1976). Most states have received authority from the*
17 *U.S. Environmental Protection Agency (EPA) to regulate and enforce RCRA. The EPA controls*
18 *hazardous waste storage, treatment, and disposal in those states that do not have this*
19 *authority. Mixed waste (hazardous waste that contains radioactive material) is subject to*
20 *regulation by the NRC under the Atomic Energy Act, as amended (AEA 1954), and by EPA*
21 *under RCRA, as amended. Nonradiological chemical hazards are addressed in this*
22 *Supplement as they relate to the radiological decommissioning of the facility. Nonradiological*
23 *issues are addressed in Chapter 4, Environmental Impacts. Mixed waste (radiological*
24 *contamination that is mixed with chemical contamination) are within the scope of this*
25 *Supplement.*

26 27 **I. Public Health impacts (Nonradiological)**

28
29 Two commenters discussed the spread of contamination into the community. One of the
30 commenters recommended that the GEIS address health problems in the community as a
31 result of contamination in the community.

32
33 **Response:** *This Supplement considers health impacts to the community as a result of*
34 *radiation dose, noise, and transportation accidents. Public health issues are addressed in*
35 *Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.*

36 37 **J. Socioeconomic Impacts**

38
39 Two commenters indicated that community impacts are not adequately addressed in the GEIS
40 and need to be looked at more carefully.

41

1 **Response:** *This Supplement considers socioeconomic impacts. Socioeconomic issues are*
2 *addressed in Chapter 4, Environmental Impacts. This comment is within the scope of this*
3 *Supplement.*

4 5 **K. Cultural Resource Impacts**

6
7 One commenter inquired if the facilities are required to adhere to the National Park Service's
8 requirement for Historic American Engineering Records and the Historic Architectural Building
9 requirements.

10
11 **Response:** *Cultural resources are considered in this Supplement and are addressed in*
12 *Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.*

13 14 **L. Cost Impacts**

15
16 Two commenters recommended that the NRC take a look at the decommissioning projects or
17 sites in detail to see if cost estimates do or do not match the final results. One of the
18 commenters specifically addressed the variation in cost with time.

19
20 **Response:** *The cost of decommissioning is included in this Supplement. The variation in the*
21 *cost estimates based on different start and end times of decommissioning are also considered.*
22 *Cost issues are addressed in Chapter 4, Environmental Impacts. This comment is within the*
23 *scope of the Supplement.*

24
25 Two commenters thought that the storage of spent fuel should be considered as part of the
26 decommissioning costs. One commenter also recommended that the removal of
27 nonradioactive structures should be considered as part of the decommissioning costs.

28
29 **Response:** *The dismantlement of nonradioactive structures is not considered as part of the*
30 *radiological decommissioning of the site unless it is necessary to remove a structure in order to*
31 *complete the radiological decommissioning of the facility. However, the removal of structures*
32 *that were necessary for the production of power are included in this Supplement for the sake of*
33 *completeness even if the structures are not part of the radiological decommissioning of the site.*
34 *Structure dismantlement issues are within the scope of this Supplement and are addressed in*
35 *Chapter 4, Environmental Impacts. The management and funding for the storage of spent fuel*
36 *is required by 10 CFR 50.54 and is regulated separately from the decommissioning costs. This*
37 *comment is not within the scope of this Supplement.*

38
39 One commenter recommended placing the facility in SAFSTOR as a means to allow more time
40 to gather money for decommissioning and to look at the availability of low-level waste sites.

41

1 **Response:** *The regulations for the accrual of funds for decommissioning are given in*
2 *10 CFR 50.75 and are not within the scope of this Supplement. However, the cost benefits of*
3 *various decommissioning options are considered, and are addressed in Chapter 4,*
4 *Environmental Impacts. This comment is within the scope of this Supplement.*

5 6 **M. Environmental Justice**

7
8 Three commenters suggested that an analysis of the impacts decommissioning on
9 environmental justice be considered in the Supplement.

10
11 **Response:** *An analysis of environmental justice is included in this Supplement in Chapter 4,*
12 *Environmental Impacts. This comment is within the scope of this Supplement.*

13 14 **N. Impacts of Fuel Storage**

15
16 No comments within scope.

17 18 **O. Cumulative Impacts**

19
20 One commenter recommended that the whole picture be looked at with regards to the overall
21 purpose and the environmental effects of the combined decommissioning options.

22
23 **Response:** *Cumulative impacts are within the scope of this Supplement and are considered in*
24 *Chapter 4, Environmental Impacts.*

25
26 One commenter recommended that the GEIS include a description and analysis of cumulative
27 impacts for each waste stream in the community, including transportation routes, NRC and
28 DOE facilities, and proposed sites for waste management, storage, and disposition.

29
30 **Response:** *Cumulative impacts related to the decommissioning of the site are considered in*
31 *this Supplement. Impacts related to transportation of the waste and to irretrievable commitment*
32 *of land for waste storage are also considered in this Supplement. Cumulative impact,*
33 *transportation, and retrieval resource impacts are addressed in Chapter 4, Environmental*
34 *Impacts. Cumulative impacts from waste management, storage, and disposition facilities are*
35 *not within the scope of this Supplement.*

36 37 **7. Site-Specific Information versus Generic Information**

38
39 Two commenters asked how impacts or site conditions will be addressed - if they would be
40 handled generically in the GEIS or on a site-specific basis.

Appendix A

1 **Response:** *Ecological and environmental issues have been considered to determine if they*
2 *are generic issues that should be included in this Supplement. Those issues determined not to*
3 *be generic and that require a site-specific assessment are identified in this Supplement, in*
4 *Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.*

5
6 Two commenters asked how site-specific conditions such as groundwater pathways would be
7 considered in the Supplement. If they would be considered generically or on a site-specific
8 basis.

9
10 **Response:** *Ecological and environmental issues have been considered to determine if they*
11 *are a generic issue that should be included in this Supplement. Those issues determined not to*
12 *be generic and that require a site-specific assessment are identified in this Supplement, in*
13 *Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.*

14
15 Eight commenters (in 16 different comments) asked about the situations and rules for triggering
16 a site-specific environmental impact assessment. Specific examples of items that might trigger
17 a site-specific analysis include contamination in pools and under reactor sites, coastal and flood
18 plain issues, seismology, background radiation, pollution, reactor types, geology, operating
19 experiences, land use, economy, synergistic effects of other toxins or industries in the area,
20 decommissioning techniques, uniqueness of the site soil contamination, and river sediments.

21
22 **Response:** *This Supplement discusses the issue of site-specific versus generic environmental*
23 *impacts in Chapter 4, Environmental Impacts. These comments are within the scope of this*
24 *Supplement.*

25
26 Six commenters (nine comments) indicated that, in general, a site-specific impact statement or
27 a set of guidelines that the utilities need to consider during decommissioning might be more
28 appropriate than a GEIS because of the site-specific nature of decommissioning. One of the
29 commenters thought that the question of what does and does not legitimately constitute
30 site-specific factors in need of an EIS are economically driven instead of safety driven.

31
32 **Response:** *This Supplement will discuss the issue of site-specific versus generic*
33 *environmental impacts in Chapter 4, Environmental Impacts. These comments are within the*
34 *scope of this Supplement.*

35 36 **8. Incorporation of information from Previously Developed EISs**

37
38 One commenter recommended that the Supplement address whether and how to incorporate
39 findings from the EISs for plant construction and operation, analyses that have accrued during
40 plant operations, and reports on referenced facilities.

1 **Response:** Chapter 1, Introduction, in this Supplement discusses the interface between this
2 Supplement for decommissioning and the EISs for plant construction, operation, and license
3 renewal. This comment is within the scope of this Supplement.
4

5 **9. Methodology**

7 **A. Methodology - Process**

8
9 One commenter recommended that decommissioning be treated as an activity separate from
10 operations.
11

12 **Response:** Environmental impacts from decommissioning activities are specifically addressed
13 (and separately from impacts of operation) in this Supplement. Environmental impacts are
14 considered in Chapter 4, Environmental Impacts. This comment is within the scope of this
15 Supplement.
16

17 **B. Determination of Boundary Conditions**

18
19 One commenter asked how the boundary conditions for the GEIS would be determined. The
20 commenter then proceeded to recommend several methods for determining boundary
21 conditions for waste volumes.
22

23 **Response:** This Supplement has been developed by collecting a reasonable range of
24 information from the sites that are undergoing decommissioning and using that information to
25 set boundaries for environmental impacts. Environmental Impacts are addressed in Chapter 4,
26 Environmental Impacts. This comment is within the scope of this Supplement.
27

28 **C. Changing the Parameters from the Initial Study**

29
30 One commenter recommended that the existing GEIS be used as a baseline and that it should
31 be supplemented in those areas where additional information is available. This would allow
32 those licensees currently undergoing decommissioning to remain enveloped and those that are
33 using the GEIS to evaluate a future decommissioning would have more up-to-date information.
34

35 **Response:** The 1988 GEIS is being supplemented based on additional information and
36 decommissioning experience and history. The analysis in Chapter 4, Environmental Impacts,
37 and the corresponding appendices contain the data used for evaluating the environmental
38 impacts. This comment is within the scope of this Supplement.
39

1 **10. Mitigation**

2
3 One commenter recommended that the NRC adequately address mitigation in the GEIS or a
4 site-specific analysis.

5
6 **Response:** *Mitigation is within the scope of this Supplement and is addressed in Chapter 1,*
7 *Introduction, and Chapter 4, Environmental Impacts.*

8
9 **11. Grandfathering**

10
11 Three commenters asked about the impact of the new Supplement on facilities that have shut
12 down and are in compliance with the 1988 GEIS.

13
14 **Response:** *The use of this Supplement by facilities that have previously shut down is*
15 *addressed in this Supplement in Chapter 1, Introduction, and Chapter 4, Environmental*
16 *Impacts.*

17
18 **12. Regulations**

19
20 **A. Relationship to Other Regulations**

21
22 One commenter thought the GEIS should address the relationship with other NRC regulations,
23 such as site-release criteria.

24
25 **Response:** *The relationship between this Supplement and other NRC regulations or EISs is*
26 *discussed in Chapter 1, Introduction. This comment is within the scope of this Supplement.*

27
28 One commenter recommended that NRC treat all problems and areas of concern as "site-
29 specific problems" rather than as generic industry problems.

30
31 **Response:** *This Supplement identifies issues that require a site-specific analysis. Site-specific*
32 *issues are addressed in Chapter 4, Environmental Impacts. This comment was within the*
33 *scope of this Supplement.*

34
35 **13. Scoping Meetings - Schedule, Substance, etc.**

36
37 No comments within scope.

14. Comments Related to Specific Nuclear Power Plants

Three commenters addressed the use of rubbleization as an activity for decommissioning at Maine Yankee. One commenter agreed that the NRC needed to fulfill their responsibilities related to NEPA. A second commenter believed that a full environmental assessment should be made to determine if a site-specific EIS is necessary. A third commenter strongly opposed any delay in a specific plant initiative based on the Supplement to the GEIS.

Response: *Rubbleization is addressed by this Supplement. Specific areas or activities requiring site-specific analyses are also addressed. Rubbleization and site-specific issues are considered in Chapter 4, Environmental Impacts. This comment is within the scope of this Supplement.*

A.1 References

10 CFR 20. Code of Federal Regulations, Title 10, *Energy*, Part 20, “Standards for protection against radiation.”

10 CFR 50. Code of Federal Regulations, Title 10, *Energy*, Part 50, “Domestic licensing of production and utilization facilities.”

10 CFR 51. Code of Federal Regulations, Title 10, *Energy*, Part 51, “Environmental protection regulations for domestic licensing and related regulatory functions.”

65 FR 13797. “Notice of Intent to Prepare a Supplement to the Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities and to Hold Public Meetings for the Purpose of Scoping and to Solicit Public Input into the Process.” Nuclear Regulatory Commission. *Federal Register*. March 14, 2000.

Atomic Energy Act of 1954, as amended, 42 USC 2011 et seq.

National Environmental Policy Act (NEPA) of 1969, as amended, 42 USC 4321 et seq.

Resource Conservation and Recovery Act (RCRA) of 1976, as amended by the Hazardous and Solid Waste Amendments Act of 1984, 42 USC 6901 et seq.

U.S. Nuclear Regulatory Commission (NRC). 1988. *Final Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities*. NUREG-0586, NRC, Washington, D.C.

Appendix A

- 1 U.S. Nuclear Regulatory Commission (NRC). 2000a. Letter from NRC to “People who
2 Requested a Copy of Meeting Transcript for GEIS Public Scoping Meeting on April 27, 2000 in
3 Lisle, Illinois.” Dated June 30, 2000.
4
- 5 U.S. Nuclear Regulatory Commission (NRC). 2000b. Letter from NRC to “People who
6 Requested a Copy of Meeting Transcript for GEIS Public Scoping Meeting on May 17, 2000 in
7 Boston, Massachusetts.” Dated June 30, 2000.
8
- 9 U.S. Nuclear Regulatory Commission (NRC). 2000c. Letter from NRC to “People who
10 Requested a Copy of Meeting Transcript for GEIS Public Scoping Meeting on June 13, 2000 in
11 Atlanta, Georgia.” Dated June 30, 2000.
12
- 13 U.S. Nuclear Regulatory Commission (NRC). 2000d. Letter from NRC to “People who
14 Requested a Copy of Meeting Transcript for GEIS Public Scoping Meeting on June 21, 2000 in
15 San Francisco, California.” Dated June 30, 2000.