Appendix A

Discussion of Comments Received on the Environmental Review

Appendix A

Discussion of Comments Received on the Environmental Review

Part I - Comments Received During Scoping

On March 10, 2000, the NRC initiated the scoping process for Arkansas Nuclear One, Unit 1 (ANO-1) with the issuance of a Federal Register Notice of Intent (65 FR 13061) to prepare a plant-specific supplement to the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants* (NUREG-1437)(GEIS) to support the renewal application for the ANO-1 operating license. The NRC invited the applicant; Federal, State, Tribal, and local government agencies; local organizations; and individuals to participate in the scoping process by providing oral comments at the scheduled public meetings and/or submitting written suggestions and comments no later than May 9, 2000. The scoping process included two public scoping meetings that were held at the Holiday Inn in Russellville, Arkansas on April 4, 2000. Both sessions began with NRC staff members providing a brief overview of the license renewal process and the National Environmental Policy Act (NEPA) process. Following the NRC's prepared statements, the meetings were opened for public comments. Three attendees provided oral comments at both the afternoon and evening sessions that were transcribed by a certified court reporter. The corrected meeting transcripts are available as an attachment to the May 1, 2000, meeting summary. In addition to the comments provided during the public meetings, four comment letters and one e-mail were received by the NRC in response to the Notice of Intent during the scoping period.

At the conclusion of the scoping period, the NRC staff and its contractor reviewed the transcripts and all written material received, and identified individual comments. A summary report of the comments from the scoping meetings and written comments was prepared and published on August 21, 2000. All comments and suggestions received orally during the scoping meetings or in writing were considered while developing the Supplemental Environmental Impact Statement (SEIS)(NUREG-1437, Supplement 3). Each commenter was given a unique identifier (commenter number) such that it could be traced back to the transcripts or written comments. Comments with similar specific objectives were combined to capture the common essential issues that had been raised in the source comments. Once comments were grouped according to subject area, the staff and contractor determined the appropriate action for the comment. The staff made a determination on each comment that it was one of the following:

(1) a comment that was actually a request for information and introduced no new information.

(2) a comment that was either related to support or opposition of license renewal in general (or specifically, ANO-1) or that made a general statement about the license renewal process. It may have made only a general statement regarding Category 1 and/or Category 2 issues. In addition, it provides no new information and does not pertain to 10 CFR Part 54.

(3) a comment about a Category 1 issue that

  (a) provided new information that required evaluation during the review, or
  (b) provided no new information

(4) a comment about a Category 2 issue that

  (a) provided information that required evaluation during the review, or
  (b) provided no such information

(5) a comment that raised an environmental issue that was not addressed in the GEIS

(6) a comment on safety issues pertaining to 10 CFR Part 54, or

(7) a comment outside the scope of license renewal (not related to 10 CFR Parts 51 or 54).

While developing this plant-specific supplement to the GEIS, the staff and its contractor considered all of the relevant issues raised during the scoping process. Table A-1 identifies the individuals providing comments that were applicable to the environmental review. The individuals are listed in the order in which they spoke at the meetings or provided written comments. To maintain consistency with the scoping summary, we have retained the same unique identifier that was used for that person in the report. The accession number is provided for the written comments to facilitate access to the document through the Public Electronic Reading Room (ADAMS). Comments were then consolidated and categorized according to the topic within the proposed supplement to the GEIS, or according to the general topic if outside the scope of the GEIS.

Each comment that was applicable to this environmental review is summarized in this section. This information was extracted from the ANO-1 Scoping Summary Report, dated August 21, 2000, and is being provided in this report for the convenience of those interested in the scoping comments applicable to this environmental review. The comments that were determined to be general or outside the scope of the environmental review for ANO-1 are not included in this report. More detail regarding the disposition of general or non-applicable comments can be found in the ANO-1 Scoping Summary Report. Commenters whose comments are not discussed in this section will find the disposition of their concerns addressed in that report.

Table A-1. Individuals Providing Comments Applicable to the ANO-1 Environmental Review During Scoping Comment Period

Commenter Number	Commenter's Name	Commenter's Affiliation (If Stated)
Afternoon and Evening Session of Public Scoping Meeting		
1	Craig Anderson - spoke at both afternoon and evening sessions	Vice President for ANO-1
Letters and E-Mails Received During Comment Period		
4	Jim Wood (April 5, 2000, ACN[(a)]: ML003711383)	no affiliation given
7	Robert Cast (May 15, 2000, ACN: ML003725767)	Historic Preservation Officer, Caddo Tribe of Oklahoma
(a) ACN - accession number.		

For reference, after the comment, the unique identifier (commenter number listed in Table A-1) of the commenter is provided in parentheses. In those cases where no new information was provided by the commenter, no further evaluation was performed.

Comments Concerning Ecology

Comment: Entergy performed a study that included a review of water quality, water flow at the intake and discharge structures, water use, and the fish habitats on Lake Dardanelle. Evaluation of historic data indicates no changes to water resources. There are no planned changes in Entergy's operations that result from license renewal. Therefore, Entergy will continue to maintain the same water quality. (1)

Comment: Entergy has consulted with the U.S. Fish and Wildlife Service, Arkansas Natural Heritage Commission, and Arkansas Game and Fish Commission regarding threatened and endangered species inhabiting ANO-1 property and its transmission lines. Based on these consultations, no records of threatened or endangered species nor species of concern were identified along the transmission line corridor.

With regard to threatened and endangered species on the Entergy property, six species were identified as having geographic ranges that could possibly include the ANO-1 property. However, of the six species, only the bald eagle has occasionally been known to visit the site area. Entergy concluded that suitable habitat for the other five species does not exist on the site property.

Entergy stated that although there were no state listed threatened or endangered species inhabiting the site property, based on consultation with the Arkansas Natural Heritage Commission, there were seven elements of interest identified in their records. Only the Northern Crayfish Frog and the species living in a sandstone glade outcrop habitat have suitable habitat to exist at ANO-1.

Based on the rarity of the Northern Crayfish Frog (which has not been observed at the site), the Arkansas Natural Heritage Commission has changed the ranking of this species to a status that requires no protection. In addition, Entergy stated, the few areas of Sandstone Outcrop Habitat present on the site property were impacted during initial construction activities and have lost their original habitat value.

In summary, Entergy concluded that no threatened or endangered species inhabit the ANO-1 property and therefore, there is no adverse impact from the continued operation of Unit 1. (1)

Comment: For the past 25 years of operation, ANO-1 has not adversely affected the air quality. There are no planned changes in operation associated with the license renewal that would alter the air quality in any way. (1)

Response: *The comments were noted. The comments summarize the applicant's review of ecological issues, as documented in detail in its license renewal application. They address both Category 1 and Category 2 issues. The comments provided no new information and therefore were not evaluated further.*

Discussion of water quality and use and fish habitats can be found in Sections 2.1.3, 2.2.2, 2.2.5, and 4.5. Discussion on consultation with U.S. Fish and Wildlife and threatened and endangered species can be found in Sections 2.2.6 and 4.6.

Comments Concerning Socioeconomics

Comment: Over the years, ANO-1 has demonstrated high levels of safety and reliability, and serves as an economical source of electricity for Entergy customers. Even if you add the cost of construction, future cost of operation and maintenance, and the license renewal process, Unit 1 is projected to be a sound, cost-effective supply of electricity. (1)

Comment: Unit 1 is a valuable asset that has continued to improve with time. It is operated more efficiently today than it did when it was new. With this trend and continued improvement, it clearly makes economic sense to pursue renewal of the Unit 1 operating license. (1)

Comment: In addition to being a safely operated facility, ANO-1 has benefitted the communities in the form of increased tax revenues. Over the past 25 years, Entergy has

contributed almost $200 million in taxes to Pope County. The ANO-1 facility will also keep jobs in the community, which helps maintain a strong local economy. ANO-1's annual payroll of over $80 million helps support local business and industry. (1)

Response: *The comments were noted. The comments summarize the applicant's review of socioeconomic issues, as documented in detail in its license renewal application. They address both Category 1 and Category 2 issues. The comments provided no new information and therefore were not evaluated further.*

Socioeconomic issues are addressed in Sections 2.2.8 and 4.4. Safety and reliability of ANO-1 are not specifically addressed in the SEIS. These matters are addressed as part of the current reactor oversight process.

Comments Concerning Archeological and Historic Resources

Comment: Entergy has consulted with the State Historic Preservation office to identify any new information regarding sites of potential archaeological, historical, or architectural significance on the ANO-1 site. Although no historical or architectural sites were identified, a few archaeological sites of interest were reported to exist around ANO-1.

However, none of these areas is close enough to existing facilities to warrant concern. The commenter stated that a map identifying these sites was provided to Entergy, and controls are in place to ensure that their archaeological value remains protected.

Entergy also considered how the land will be used over the additional operating time. License renewal will not require additional land usage and Entergy's activities will remain within the existing site boundaries. Based on these evaluations, Entergy has determined that the renewal of the Unit 1 license will not impact historic, archaeological, or land resources in the community. (1)

Response: *The comments were noted. The comments summarize the applicant's review of archeological and historic resources, as documented in detail in its license renewal application. They pertain to a Category 2 issue. The comments provided no new information.*

Historic and archaeological resources are addressed in Sections 2.2.9 and 4.4.5. Onsite land use is addressed in Section 2.2.1.

Comment: As a result of the staff's observations during the ANO-1 site audit (see summary dated May 1, 2000), one commenter expressed concern with the subsurface disturbance to any of the potentially historic properties at the ANO-1 site. The commenter asked that, as a condition of the license renewal and any future permits, that the area be surveyed for

archeological and historic properties and that any areas of disturbance be reported to the Arkansas Historic Preservation Officer and to the Caddo Tribe of Oklahoma. The commenter further asked for additional information concerning disturbance of some potentially historic sites at the plant. (7)

Response: *In a letter dated August 10, 2000, the staff informed the Arkansas State Historic Preservation Officer (SHPO) of observations it made during the April site audit to ensure that the State official was made aware that sites of potential historical value have or may have been disturbed, and are possibly not being tracked by Entergy. The commenter's letter was also forwarded to the SHPO. These comments involve concerns that are relevant to current ANO-1 operation, and therefore, were dispositioned under the current reactor oversight process.*

Historic and archaeological resources are addressed in Sections 2.2.9 and 4.4.5.

Comments Concerning Age-Related Safety Issues

Comment: As ANO-1 equipment ages, it loses a measure of reliability. Equipment age, rather than likely reductions in plant equipment reliability, should also be included in [the] EIS as an ANO-1 site-specific issue for analysis along with required mitigation (40 CFR 1508.20). (4)

Response: *The staff has determined that the reliability of equipment would not change substantially throughout the life of the plant, provided the applicant has aging management programs that conform with 10 CFR Part 54. Regulatory controls ensure that the physical plant condition and associated risk (i.e., the predicted probability of, and radioactive material releases from, an accident) will be maintained at acceptable levels during the renewal period. Therefore, no aging effects are considered in the probability risk assessment for a nuclear plant, and aging-related Severe Accident Mitigation Alternatives are not identified. Aging management programs are reviewed under the safety portion of the license renewal review. The adequacy of these programs will be addressed in the Safety Evaluation Report developed under 10 CFR Part 54. Severe accident mitigation alternatives are addressed in Section 5.2 of this report.*

Summary

While developing this plant-specific supplement to the GEIS, the staff and its contractor considered all of the relevant issues raised during the scoping process that are identified in this section. Concerns identified that are outside the scope of the staff's environmental review have been forwarded to the appropriate NRC program manager for disposition. More detail about the results of the staff's scoping review for ANO-1, including the disposition of general or non-applicable comments, can be found in the ANO-1 Scoping Summary Report, dated August 21, 2000.

Part II - Comments Received on the Draft Supplement

Pursuant to 10 CFR Part 51, the staff transmitted the *Generic Environmental Impact Statement for License Renewal of Nuclear Plants, Regarding Arkansas Nuclear One, Unit 1, Draft Report for Comment* (NUREG-1437, Supplement 3, referred to as the draft SEIS) to Federal, State, and local government agencies as well as interested members of the public. As part of the process to solicit public comments on the draft SEIS, the staff

- placed a copy of the draft SEIS into the NRC's electronic Public Document Room, its license renewal website, and the Pendergraft Library, located at Arkansas Tech University, 305 West Q Street, Russellville, Arkansas
- sent copies of the draft SEIS to the applicant, members of the public who requested copies, and certain Federal, State, and local agencies
- published a notice of availability of the draft SEIS in the Federal Register on October 25, 2000 (65 FR 63898)
- issued public announcements, such as advertisements in local newspapers and postings in public places, of the availability of the draft SEIS
- announced and held two public meetings in Russellville, Arkansas, on November 14, 2000, to describe the results of the environmental review and answer related questions
- issued press releases announcing the issuance of the draft SEIS, the public meetings, and instructions on how to comment on the draft SEIS
- established a website to receive comments on the draft SEIS through the Internet.

During the comment period, the staff received a total of 6 comment letters in addition to the comments received during the public meetings.

The staff has reviewed the public meeting transcripts and the 6 comment letters that are part of the docket file for the application, all of which are available in the NRC's electronic Public Document Room. Section A.1 contains a summary of the comments and the staff's responses. Section A.2 contains an excerpt from the November 14, 2000 transcript that contains comments from a member of the public. Copies of the 6 comment letters follow Section A.2 (Letters B - G). No written statements were provided by members of the public during the public meetings.

Each comment identified by the staff was assigned a specific alpha-numeric identifier (marker). That identifier is typed in the margin of the transcript or letter at the beginning of the discussion

of the comment. In addition, to assist the reader in finding the response to the comment, the section number(s) where the comment is addressed in Section A.1 of this report is also listed in the margin next to the identifier. A cross-reference of the alpha-numeric identifiers, the speaker or author of the comment, the page where the comment can be found, and the section(s) of this report in which the comment is addressed is provided in Table A-2.

The staff made a determination on each comment that it was one of the following:

(1) a comment that was actually a request for information and introduced no new information.

(2) a comment that was either related to support or opposition of license renewal in general (or specifically, ANO-1) or that made a general statement about the license renewal process.

Table A-2. ANO-1 SEIS Comment Log

No.	Speaker or Author	Source	Page of Comment	Section(s) Where Addressed
A1	Garry Young	Afternoon Meeting Transcript (11/14/00)	A-24	A.1.2
A2	Garry Young	Afternoon Meeting Transcript (11/14/00)	A-24	A.1.1
A3	Garry Young	Evening Meeting Transcript (11/14/00)	A-24	A.1.2
A4	Garry Young	Evening Meeting Transcript (11/14/00)	A-24	A.1.1
B	Jim Wood	November 28, 2000 Letter	A-25	A.1.3 A.1.4
C	G. Patterson, ADEQ	December 5, 2000 Letter	A-26	A.1.2
D	G. Sekavec, US DOI	December 15, 2000 Letter	A-27	A.1.2
E	J. Vandergrift, Entergy	January 4, 2001 Letter	A-28 to A-30	A.1.5 Table A.3
F	J. Vandergrift, Entergy	February 2, 2001 Letter	A-31	A.1.5 Table A.3
G	M. Jansky, EPA	February 7, 2001 Letter	A-32	A.1.2

It may have made only a general statement regarding Category 1 and/or Category 2 issues. In addition, it provides no new information and does not pertain to 10 CFR Part 54.

(3) a comment about a Category 1 issue that

   (a) provided new information that required evaluation during the review, or
   (b) provided no new information

(4) a comment about a Category 2 issue that

   (a) provided information that required evaluation during the review, or
   (b) provided no such information

(5) a comment that raised an environmental issue that was not addressed in the GEIS or the DSEIS

(6) a comment on safety issues pertaining to 10 CFR Part 54, or

(7) a comment outside the scope of license renewal (not related to 10 CFR Parts 51 or 54).

There was no significant new information provided on Category 1 issues [(3)(a) above] or information that required further evaluation on Category 2 issues [(4)(a)]. Therefore, the GEIS and draft SEIS remained valid and bounding, and no further evaluation was performed.

Comments without a supporting technical basis or that did not provide any new information are discussed in this appendix, and not in other sections of this report. Relevant references that address the issues within the regulatory authority of the NRC are provided where appropriate. These references can be obtained from the NRC electronic Public Document Room.

Within each section of this appendix (A.1.1 through A.1.5), similar comments are grouped together for ease of reference, and a summary description of the comments is given, followed by the staff's response. Where the comment or question resulted in a change in the text of the draft report, the corresponding response refers the reader to the appropriate section of this report where the change was made. All revisions to the text of the draft report, whether substantive (including those made in response to comments) or editorial, are designated by vertical lines beside the text.

A.1 Comments and Responses

A.1.1 General Comments in Support of License Renewal

Comment: The record of the public meetings contains one comment from each public meeting that expresses general support for license renewal (A2 and A4). The comment states that license renewal for ANO-1 is reasonable from an environmental impact viewpoint.

Response: *These comments are general in nature and do not provide new information. Therefore, no further evaluation was required, and no changes to the SEIS were made as a result of these comments.*

A.1.2 General Comments on Adequacy of the Review and Analysis

Comment: The record of the public meetings and comment letters contain five comments related to the staff's environmental review. Two comments, one from each public meeting stated that the document was both thorough and comprehensive in addressing the important environmental topics. Three letters (Letters C, D, and G) were received that stated that there were no additional issues that needed to be addressed in the draft SEIS.

Response: *These comments are general in nature, and do not provide new information. Therefore, no further evaluation was required, and no changes to the SEIS were made as a result of these comments.*

A.1.3 License Renewal Review Process

Comment: One comment letter (Letter B) addressed a comment provided during the scoping period related to emergency planning. The author stated that the issue, which was determined to not be within the scope of the environmental review for ANO-1, should qualify as part of the Human Environment for EIS analysis as provided by the NEPA process.

Response: *The adequacy of the license renewal process is not within the scope of the environmental review related to the ANO-1 license renewal. The staff considered the need for a review of emergency planning issues in the context of license renewal during its rulemaking proceedings on 10 CFR Part 54 which included public notice and comment. As discussed in the Statement of Considerations for the rulemaking (56 FR 64966), the programs for emergency preparedness at nuclear plants apply to all nuclear power plant licensees, and require the specified levels of protection from each licensee regardless of plant design, construction, or license date. The requirements of 10 CFR 50.47 and Appendix E to 10 CFR*

Part 50 are independent of the renewal of the operating license, and will continue to apply during the license renewal term. Through its standards and required exercises, the Commission ensures that existing plans are adequate throughout the life of any plant even in the face of changing demographics and other site-related factors. Therefore, the Commission has determined that there is no need for a review of emergency planning issues in the context of license renewal.

This comment did not result in modification of the SEIS text.

A.1.4 Operational Safety Issues

The record contains one comment related to operational safety issues (Letter B) that involves concerns with the passability of certain rural roads during an evacuation. These concerns are relevant to current ANO-1 operation, and in accordance with 10 CFR 54.30, these issues are outside the scope of license renewal. They have been referred to the NRC operating plant project manager for disposition. The comments were responded to in a letter dated February 27, 2001. These comments did not result in modification of the SEIS text.

A.1.5 Technical Clarifications and Corrections

The list of specific comments included with Comment Letters E and F includes 57 comments that are technical enhancements or correction of information such as plant dimensions, document dates, and plant-specific terminology. Table A.3 addresses the disposition of these comments.

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
1.	1-8	10	Under the Activity Covered Column, add "plant wastewaters" and change "emergency cooling water ponds" to "emergency cooling water pond" since ANO has only one emergency cooling pond.	Corrected as suggested
2.	1-8	12	Under the Activity Covered Column, change "Diesel fuel storage" to "Fuel storage" since the ANO tank certificates covers two diesel fuel tanks and one gasoline tank.	Corrected as suggested
3.	2-1	25	Revise sentence to read, "The property that is not owned by Entergy is privately owned, with the U. S. Army Corps of Engineers also owning easements around Lake Dardanelle".	Corrected as suggested
4.	2-1	34-35	Revise "the majority of the land area is forest, with pasture, cropland, and residential development, each contributing significant proportions to land use" to read as follows: "the majority of the land area is forest and residential development". Pasture and croplands are insignificant to nonexistent on the peninsula.	Corrected as suggested
5.	2-4	7-8	Delete "cropland," since they do not exist around the ANO site.	Corrected as suggested
6.	2-4	8	Revise sentence to read, "Recently, Entergy initiated an onsite reforestation project".	Modified as suggested

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
7.	2-5	28	Based on condenser replacements and new calculated flow rates, the value of "1.2 m^3/s (191,000 gpm)" should be changed to "12.3 m^3/s (195,550 gpm)". In addition, the value of "1.2 m^3/s" should have been "12.1 m^3/s".	Corrected as suggested
8.	2-5	36	Revise "converted to a solid waste form" to "retained in a solid waste form".	Corrected as suggested
9.	2-7	11	Revise "Contaminated spent resins, filters, and evaporator concentrates" to read "Contaminated spent resins and filters" since ANO-1 does not have an evaporator.	Corrected as suggested
10.	2-7	23-25	ANO has no mixed waste in storage. Request that the sentence "ANO also provides for temporary onsite storage of mixed wastes, which contain both radioactive and chemically hazardous materials" be clarified to read "ANO has the capability to provide for temporary onsite accumulation of mixed wastes, which contain both radioactive and chemically hazardous materials".	Corrected as suggested
11.	2-7	26	Insert "and/or accumulation" after the word "storage".	Corrected as suggested
12.	2-11	12-13	Replace "disposal" with "treatment". Although there is a licensed treatment facility in Oak Ridge, Tennessee, no licensed disposal exists.	Corrected as suggested
13.	2-11	20	Delete "boiler" since ANO does not produce boiler metal cleaning wastes.	Corrected as suggested

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
14.	2-11	40-41	Revise sentence to read "Approximately 700 additional workers are onsite during a typical refueling outage".	Corrected as suggested
15.	2-14	15	Revise the sentence to read "Site topography is primarily flat".	Corrected as suggested
16.	2-14	18-19	Revise sentence to read, "Forests and residential development cover the majority of the peninsula" since pasture and croplands are insignificant to nonexistent on the peninsula.	Corrected as suggested
17.	2-15	20-25	Entergy requests that sentences on lines 20-25 be deleted and replaced as follows; "The predicted modeling studies would have shown much greater impact on the thermal plume if the current 7Q10 estimate had been used. However, based on previous operational studies and current thermal monitoring within the discharge canal and lake required by the NPDES Permit, it has been demonstrated that thermal impacts continue to be consistent with preoperational predicted modeling studies described in the ANO-1 FES. Therefore, no significant impacts to Lake Dardanelle's biota as a result of the thermal discharge have been identified".	Clarified
18.	2-17	2	Delete the sentence "The lake supports a growing commercial fishing industry" since commercial fishing in Lake Dardanelle has declined.	Clarified

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
19.	2-17	12	Since these organisms are numerous in the lake, add another sentence to read "Additional benthic organisms that have been introduced into Lake Dardanelle include the *Corbicula fluminea* and *Dreissena polymorpha*".	Corrected as suggested
20.	2-17	14-15	Change "Flathead/yellow catfish (*Noturus trautmani*)" to "Flathead catfish (*Pylodictis Olivaris*)".	Corrected as suggested
21.	2-17	17	Change "green sunfish/black perch" to "green sunfish" and "bluegill/bream" to "bluegill sunfish".	Corrected as suggested
22.	2-17	19	Change "Illinois Bayou" to "area" since ANO does not withdraw water directly from the Illinois Bayou.	Clarified
23.	2-17	23	Delete the reference to "and white perch (*M. americana*)" since these species do not exist in the fish community near ANO.	Corrected as suggested
24.	2-17	25	Change "Asian" to "European"	Corrected as suggested
25.	2-17	26	Change "(*Carpiodes carpio*)" to "(*Carpiodes spp*.)".	Corrected as suggested
26.	2-17	27	Insert the word "species" after fish.	Corrected as suggested
27.	2-17	37-38	Revise the sentence "Numerous species of fish and waterfowl use the warm water effluent to survive cold water conditions" to read "Numerous species of fish and waterfowl utilize the warm water effluent during cold water conditions".	Corrected as suggested

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
28.	2-17	38	Revise "The use of the canal" to read "The use of the intake and discharge canals".	Corrected as suggested
29.	2-18	2	Insert the word "limited" in front of hunting since firearms are not allowed on-site.	No change
30.	2-18	25	Change "forested" to "lake".	Corrected as suggested
31.	2-18	27	Change "nest in trees" to "frequent the discharge canal area" since nests have not been observed in the area.	No change
32.	2-28	4-5	Based on Table 1 of Appendix 5A to the ANO Emergency Plan, the estimated resident population of "26,800" for 1980 should be changed to "33,754".	Corrected as suggested
33.	2-28	6-7	Based on the estimated resident population value of 26,800 changing to 33,754 for 1980, the increase of approximately "60 percent" should be changed to "33 percent".	Corrected as suggested
34.	2-33	38	Change "around ANO" to "outside the ANO property line".	Clarified as suggested
35.	2-35	9	Change "1100-acre site" to "1164-acre site" to be consistent with what is shown in Section 2.1 of the draft SEIS and the ANO-1 ER.	Corrected as suggested
36.	2-36	9	Delete the word "clearly" since this overstates the point.	Modified as suggested

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
37.	4-11	26	Insert the word "approximately" in front of "49" since actual design flow should be based on four circulating pumps with a design flow of 195,550 gpm each (49.3 m^3/s (1743 ft^3/s)).	Corrected as suggested
38.	4-13	11	Change "22 km (14 mi)" to "38 km (24 mi)". On Page 3-72 of the ANO-1 FES, "One pair of 500 kV lines scheduled for Unit 1 traverses 5.3 miles north and westward in Pope County and extends southward from the Arkansas River 8.4 miles in Logan County and about 10 miles in Yell County. Then from a junction point near Danville and Ola ....." Based on the values of 5.3, 8.4, and 10, total distance would be 23.7 miles.	Corrected as suggested
39.	4-17	2-4	Delete last sentence in the paragraph and replace with the following: "However, even though no known incidents of electric shock have been reported since the lines were put into service, Entergy upgraded the 161 kV-lines during 2000 to meet the threshold for the 1997 NESC clearance requirements".	Corrected as suggested
40.	4-25	22	Replace "several hundred acres" with the word "portions". These activities only included approximately 154 acres and not several hundred as currently stated.	Corrected as suggested

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
41.	4-27	17	Delete "groundwater use conflicts" since ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville that is used for drinking water, restroom and irrigation purposes, comes from a surface water source, not groundwater.	No change
42.	4-31	10-11	Delete the sentence "As discussed in Section 2.2.2, ANO-1's groundwater use is less than 0.068 m^3/s (100 gpm)", since water utilized for cooling at ANO is surface water and water supplied by the City of Russellville that is used for drinking water, restroom and irrigation purposes, comes from a surface water source, not groundwater. In addition, Section 2.2.2 of the Draft SEIS does mention ANO-1 groundwater use.	Clarified
43.	5-3	37-38	Revise sentence to read "However, further evaluation by Entergy showed that this issue was already adequately addressed in the operations training cycle."	Clarified[(b)]

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
44.	5-21	6-10	Revise paragraph to read "Although not age-related, further evaluation by Entergy showed that SAMA 129 was already adequately addressed in the operations training cycle." The task of shifting the ECCS suction to the Reactor Building sump is already included in ANO's training program. The task is covered in the Reactor Operator Program in the simulator malfunction guide for LOCAs, AA51105.005, and is intrinsic in the performance of the Emergency Operating Procedure for an ESAS actuation as part of the requalification process. There is also a Job Performance Measure (JPM) for specifically evaluating the performance of shifting the ECCS suction to the Reactor Building Sump, (ANO-1-JPM-RO-EOP11), to evaluate the trainees performance of the task. The performance of this task is not routine in that ANO does not continually create situations to force this action, due to time constraints; however, ANO does occasionally perform training on the task as part of the coverage of different portions of the EOP as necessary.	Clarified[(b)]
45.	8-6	12	Change "Little groundwater" to "No groundwater" since water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.	Corrected as suggested

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
46.	8-8	14-16	Revise sentence to read "Groundwater use would be unaffected because water used to supply drinking and restroom facilities, as well as irrigation water for site landscaping during the summer months comes from a surface water source". ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.	Corrected as suggested
47.	8-9	21	Change "Entergy would have to" to "Entergy could potentially have to" since allowances may already be in place when and if this alternative occurred.	Corrected as suggested
48.	8-17	17	Revise "Reduced groundwater withdrawals due to reduced workforce" to read "No impacts" since water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.	Clarified
49.	8-19	35-38	Revise sentence to read "Groundwater use would be unaffected because water used to supply drinking and restroom facilities, as well as irrigation water for site landscaping during the summer months comes from a surface water source". ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.	Clarified

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
50.	8-30	12	Revise "Gas-Fired: Reduced groundwater withdrawals due to reduced workforce" to read "Gas-Fired: No impact on groundwater" since ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.	Corrected as suggested
51.	9-5	7-9	Revise sentence to read "Although one cost-beneficial SAMA, unrelated to managing age-related effects during the period of extended operation was identified, further evaluation by Entergy showed that this issue was already adequately addressed in the operations training cycle."	Clarified
52.	9-8	Table 9-1	For Combination of Alternatives, Water Quality - Groundwater impact under the ANO Site Column should be changed from "SMALL to MODERATE" to "SMALL" since ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.	No change

Table A-3. Entergy's Comments and Staff Response

No.	Page[a]	Line Nos.	Comment	Disposition
53.	F-2	2-3	Under the Comment Column, revise "ANO-1 uses <0.068 m^3/s (100 gpm) of groundwater" to "ANO-1 utilizes surface water sources only". Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville that is used for drinking water, restroom and irrigation purposes, comes from a surface water source, not groundwater.	Corrected as suggested
54.	2-35	3	Change "Missouri-Pacific" to "Union Pacific" to reflect proper name of railroad line.	Corrected as suggested
55.	4-25	5	Replace the word "jeopardized" with "impacted".	Corrected as suggested
56.	4-25	15	Replace "15 to 20" with "some of the" unless the sites impacted were actually counted during the site visit.	Clarified
57.	4-26	19	Insert the word "potential" in front of "historic properties" since a determination has not been made yet on their significance.	Modified as suggested

[a] Page numbers refer to pages in the draft SEIS.
[b] This comment resulted in additional changes to the document in The Executive Summary, Sections 5.2.1, 5.2.3.1, 5.2.6.2, 5.2.7, and 9.1.

A.2 Public Meeting Transcript Excerpts and Comment Letters

LETTER A (Transcript)
Transcript of the Afternoon Public Meeting on November 14, 2000, in Russellville, Arkansas (Note: the same presentation was given at both Afternoon and Evening Public Meetings and is only presented once below).

[Introduction by Mr. Cameron]
[Presentation by NRC Staff and contractor]

Mr. Young (same presentation for both afternoon and evening public meetings):
No. A1, and A3 A.1.2 *This document is both thorough and comprehensive for addressing the environmental topics important for consideration at Arkansas Nuclear One, and the range of topics and the level of detail clearly indicate the NRC's diligence in preparing this document and also it provides and excellent source of information for the public about the environment around Arkansas Nuclear*
No. A2, and A4 A.1.1 *One.....we share an interest with our neighbors in protecting the environment. As indicated in the summary of the document, the option of licensing renewal for ANO-1 is reasonable from an environmental impact viewpoint. This conclusion is consistent with the findings made by Entergy prior to making the decision to seek license renewal.*

There were no other comments by members of the public on the Draft SEIS presented at either session of the November 14, 2000, public meetings.

LETTER B

Jim Wood
Route 3 Box 1278
Dardanelle, AR 72834
November 28, 2000

RECEIVED
2001 JAN -3 AM 9:51
Rules and Directives Branch USNRC

William D. Reckley, Project Manager, Section 1
Office of Nuclear Reactor Regulation
US Nuclear Regulatory Commission
Washington, DC 20555-0001

Dear Mr. Reckley,

Thank you for your October 26, 2000 letter regarding my April 5 response to NRC's public solicitation of comments and scoping of issues for developing an Environmental Impact Statement as part of your proposed operating license extension for Ark. Nuclear 1, Unit 1. In a June 6 NRC response, Mr. M. Christopher Nolan states, "emergency planning is not included within the review scope for license renewal" because it is a periodically evaluated existing program. Likewise, this rational would seem to qualify for EIS exclusion ANO plant equipment systems, which undergo an existing program of periodic testing, monitoring and evaluation by NRC and the utility. Excluding off-site public health and safety issues created through plant licensing is not in the public interest and seems inconsistent with your "continuing obligation" at 10 CFR 51.10(b).

I must reaffirm my previous conclusion that off site emergency planning to protect public health, safety, property values and the environment (NUREG-0654 Planning Basis) from "the worst possible accident, regardless of its extremely low likelihood" is created and influenced by NRC's licensing of ANO and thus qualifies as a connected part of the Human Environment for EIS analysis as provided by the NEPA Process/CEQ Procedural Provisions at 40 CFR 1500-1508. I find no regulatory authority for you to exclude NUREG 0654, Categorically or otherwise, from ANO's renewal licensing EIS, and request that you reconsider your decision to exempt this Issue from inclusion in your EIS documentation. A.1.3 and A.1.4

NUREG 0654 was developed and applied to the ANO Planning Zone without benefit of either an Environmental Assessment or Environmental Impact Statement, notwithstanding it qualified as a "Significant" action from the outset based on it's high level of public interest and controversy, 1508.27, within the Delaware Township/Logan County portion of ANO's EPZ.

My April 5 Issue Scoping comments clarified reasonable rational as to why setting evacuation route standards of maintenance qualifies as an Issue under the NEPA Process. NRC is the Lead Agency for development of an EIS for ANO license renewal, thus I expected the matter to be part of an NRC Action and not diverted to FEMA, Ark. State Health Dept. and local government for response. However, please allow me to clarify some evacuation route review comments in enclosed letters you received on July 27, 2000 from David Snelling and Ms Vanessa Quinn dated August 21.

Template = ADM-013

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

In Ms Quinn's August 8 letter she describes a finding of evacuation route adequacy and "passability of County Roads" for the two rural Delaware Township routes depicted in the two attached photos, based on a July 24, 2000 driving tour conducted during one of the areas worst summer droughts. Since the East Logan County Citizens Committee entered this EPZ evacuation route project in mid 1980's and found disinterest in correcting the deficiencies from responsible NRC, State and local officials, we too have conducted "passability reviews" from time to time---not just during favorable dry weather summer conditions. The following photo reviews were taken on January 27, 1994.

Photo #1 depicts the condition of Logan County Road #130 (Delaware Bay Road). Twenty six homes are located on this evacuation route which has deteriorated during winter to the point that the rural mail carrier was unable to travel it in a 4 wheel drive vehicle.

Photo #2 depicts the condition of Logan County Road #98 (River Mountain Road). There are approximately 40 homes on this evacuation route.

I would very much appreciate a description of the evaluating methodology used by Ms Quinn and Mr. Snelling to conclude that non gravel, dirt evacuation routes in conditions depicted in these photos meet the test of complying with NUREG 0654, "worst case accident" at ANO where immediate automobile evacuation of Delaware Township is necessary to protect public health and safety.

Thank you for your October 26 comments and response to my April 5 submission of proposed Issues for your Agency's development of an EIS on ANO, Unit 1 license renewal. I reaffirm my position that NUREG 0654, and the Delaware Township evacuation route maintenance matter, is a connected part of ANO licensing and thus under CEQ Procedural Provisions at 40 CFR 1500-1508 should be included in your EIS analysis.

If you have further questions, please call me at (501)229-4449.

Best Regards,
Jim Wood

cc & enclosure
Ms Vanessa E. Quinn
David D. Snelling

ATTACHMENT TO B

LETTER C

ADEQ
ARKANSAS
Department of Environmental Quality

65 FR 63898
10/27/00
(2)

December 5, 2000

RECEIVED
2001 DEC 12 AM 9:02
Rules and Directives Branch
USNRC

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

RE: Request for Comment on the Draft Plant-Specific Supplement to the Generic Environmental Impact Statement Regarding Arkansas Nuclear One, Unit 1

To Whom It May Concern:

I am responding to the invitation to comment on the Generic Environmental Impact Statement for License Renewal for Arkansas Nuclear One, Unit 1 on the behalf of the Arkansas Department of Environmental Quality. We thank you for providing us with timely updates regarding the ongoing process surrounding the renewal of the reactor operating license for the ANO-1 plant. A.1.2

I have reviewed the draft report of the Environmental Assessment outlining potential environmental factors associated with the operation of the nuclear plant and did not identify any new issues that had not already been outlined in the report of April 2000. The transcript for the meeting held in Russellville, Arkansas on November 14, 2000 has not yet been made available for review, therefore, based on the information contained in the current report, the agency does not have any comments at this time.

Again, we thank you for your consideration of our comments during the scoping process and for keeping us well informed on the status of this project. If you feel it necessary to contact us for further input, please do not hesitate to do so.

Respectfully,

Gregg Patterson, Chief
Environmental Preservation Division

GP/mb

cc: Richard A. Weiss, Interim Director
Mary Leath, Chief Deputy Director
EP Corr File

Template = ADM-013
E-RIDS = ADM-03
Add - T. Kenyon (TSK2)

ENVIRONMENTAL PRESERVATION DIVISION
8001 NATIONAL DRIVE / POST OFFICE BOX 8913 / LITTLE ROCK, ARKANSAS 72219-8913 / TELEPHONE 501-682-0019 / FAX 501-682-0010
www.adeq.state.ar.us

LETTER D

United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
Post Office Box 649
Albuquerque, New Mexico 87103

IN REPLY REFER TO:

RECEIVED
2001 DEC 28 PM 5:18
Rules and Directives Branch USNRC

65 FR 63898
10/25/00
(3)

December 15, 2000

ER 00/775

Chief
Rules Review and Directives Branch
Division of Administrative Services
Mailstop T 6 D59
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Sir or Madam:

The U.S. Department of the Interior has reviewed NUREG-1437 "Generic Environmental Impact Statement for License Renewal of Nuclear Plants," Supplement 3, Arkansas Nuclear One, Unit 1, Draft Report. In this regard we have no comments. Thank you for the opportunity to review this document. A.1.2

Sincerely,

for Glenn B. Sekavec
Regional Environmental Officer

Template = ADM-013

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

LETTER E

Entergy

Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72802
Tel 501 858 5000

65 FR 63898
Ref. 10/25/00
(4)

January 4, 2001

1CAN010101

Chief, Rules and Directives Branch
Mail Stop T-6D59
U. S. Nuclear Regulatory Commission
Washington, DC 20555-0001

Subject: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Draft SEIS Comments (TAC No. MA8055)

RECEIVED
2001 JAN -9 PM 5:
Rules and Directives Branch USNRC

Gentlemen:

By letter dated October 5, 2000 (1CNA100004), the NRC issued the draft plant-specific Supplement 3 to the Generic Environmental Impact Statement (SEIS) regarding Arkansas Nuclear One, Unit 1 (ANO-1) for comments. Please find attached Entergy Operations' comments. Also, Entergy Operations is in the process of performing an archaeological survey of the ANO site. Based on this new information Entergy Operations will be providing additional comments on Sections 2.2.9 and 4.4.5 of the draft SEIS in the near future. Should you have any questions concerning these comments, please contact me.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on January 4, 2001.

Very truly yours,

Jimmy D. Vandergriff
Director, Nuclear Safety Assurance

JDV/nbm
Attachment

Template = ADM-013

E-RIDS = ADM-0.
add: M. Kenyon (JK2)

ATTACHMENT TO E

Attachment to
1CAN010101
Page 1 of 5

ANO-1 Draft SEIS Comments

Page	Line Numbers	Comment
1-8	10	Under the Activity Covered Column, add "plant wastewaters" and change "emergency cooling water ponds" to "emergency cooling water pond" since ANO has only one emergency cooling pond.
1-8	12	Under the Activity Covered Column, change "Diesel fuel storage" to 'Fuel storage" since the ANO tank certificates covers two diesel fuel tanks and one gasoline tank.
2-1	25	Revise sentence to read, "The property that is not owned by Entergy is privately owned, with the U. S. Army Corps of Engineers also owning easements around Lake Dardanelle".
2-1	34 – 35	Revise ""the majority of the land area is forest, with pasture, cropland, and residential development, each contributing significant proportions to land use" to read as follows: "the majority of the land area is forest and residential development". Pasture and croplands are insignificant to nonexistent on the peninsula.
2-4	7 – 8	Delete "cropland," since they do not exist around the ANO site.
2-4	8	Revise sentence to read, "Recently, Entergy initiated an onsite reforestation project".
2-5	28	Based on condenser replacements and new calculated flow rates, the value of "1.2 m^3/s (191,000 gpm)" should be changed to "12.3 m^3/s (195,550 gpm)". In addition, the value of "1.2 m^3/s" should have been "12.1 m^3/s".
2-5	36	Revise "converted to a solid waste form" to "retained in a solid waste form".
2-7	11	Revise "Contaminated spent resins, filters, and evaporator concentrates" to read "Contaminated spent resins and filters" since ANO-1 does not have an evaporator.
2-7	23 - 25	ANO has no mixed waste in storage. Request that the sentence "ANO also provides for temporary onsite storage of mixed wastes, which contain both radioactive and chemically hazardous materials" be clarified to read "ANO has the capability to provide for temporary onsite accumulation of mixed wastes, which contain both radioactive and chemically hazardous materials".
2-7	26	Insert "and/or accumulation" after the word "storage".
2-11	12 – 13	Replace "disposal" with "treatment". Although there is a licensed treatment facility in Oak Ridge, Tennessee, no licensed disposal exists.
2-11	20	Delete "boiler" since ANO does not produce boiler metal cleaning wastes.
2-11	40 - 41	Revise sentence to read "Approximately 700 additional workers are onsite during a typical refueling outage".
2-14	15	Revise the sentence to read "Site topography is primarily flat".

A.1.5

ATTACHMENT TO E (continued)

Attachment to
1CAN010101
Page 2 of 5

Page	Line Numbers	Comment
2-14	18 – 19	Revise sentence to read, "Forests and residential development cover the majority of the peninsula" since pasture and croplands are insignificant to nonexistent on the peninsula.
2-15	20 – 25	Entergy requests that sentences on "lines 20 –25" be deleted and replaced as follows; "The predicted modeling studies would have shown much greater impact on the thermal plume if the current 7Q10 estimate had been used. However, based on previous operational studies and current thermal monitoring within the discharge canal and lake required by the NPDES Permit, it has been demonstrated that thermal impacts continue to be consistent with preoperational predicted modeling studies described in the ANO-1 FES. Therefore, no significant impacts to Lake Dardanelle's biota as a result of the thermal discharge have been identified".
2-17	2	"Delete the sentence "The lake supports a growing commercial fishing industry" since commercial fishing in Lake Dardanelle has declined.
2-17	12	Since these organisms are numerous in the lake, add another sentence to read "Additional benthic organisms that have been introduced into Lake Dardanelle include the *Corbicula fluminea* and *Dreissena polymorpha*".
2-17	14 – 15	Change "Flathead/yellow catfish (*Noturus trautmani*)" to "Flathead catfish (*Pylodictis Olivaris*)".
2-17	17	Change "green sunfish/black perch" to "green sunfish" and "bluegill/bream" to "bluegill sunfish".
2-17	19	Change "Illinois Bayou" to "area" since ANO does not withdraw water directly from the Illinois Bayou.
2-17	23	Delete the reference to "and white perch (*M. americana*)" since these species do not exist in the fish community near ANO.
2-17	25	Change "Asian" to "European".
2-17	26	Change "(*Carpiodes carpio*)" to (*Carpiodes spp.*)".
2-17	27	Insert the word "species" after "fish".
2-17	37 – 38	Revise the sentence "Numerous species of fish and waterfowl use the warm water effluent to survive cold water conditions" to read "Numerous species of fish and waterfowl utilize the warm water effluent during cold water conditions".
2-17	38	Revise "The use of the canal" to read "The use of the intake and discharge canals".
2-18	2	Insert the word "limited" in front of hunting since firearms are not allowed on-site.
2-18	25	Change "forested" to "lake".
2-18	27	Change "nest in tress" to "frequent the discharge canal area" since nests have not been observed in the area.
2-28	4 – 5	Based on Table 1 of Appendix 5A to the ANO Emergency Plan, the estimated resident population of "26,800" for 1980 should be changed to "33,754".

ATTACHMENT TO E (continued)

Attachment to
1CAN010101
Page 3 of 5

Page	Line Numbers	Comment
2-28	6 – 7	Based on the estimated resident population value of 26,800 changing to 33,754 for 1980, the increase of approximately "60 percent" should be changed to "33 percent".
2-33	38	Change "around ANO" to "outside the ANO property line".
2-35	9	Change "1100-acre site" to "1164-acre site" to be consistent with what is shown in Section 2.1 of the draft SEIS and the ANO-1 ER.
2-36	9	Delete the word "clearly" since this overstates the point.
4-11	26	Insert the word "approximately' in front of '49' since actual design flow should be based on four circulating pumps with a design flow of 195,550 gpm each (49.3 m^3/s (1743 ft^3/s)).
4-13	11	Change "22 km (14 mi)" to "38 km (24 mi)". On Page 3-72 of the ANO-1 FES, "One pair of 500 kV lines scheduled for Unit 1 traverses 5.3 miles north and westward in Pope County and extends southward from the Arkansas River 8.4 miles in Logan County and about 10 miles in Yell County. Then from a junction point near Danville and Ola ....." Based on the values of 5.3, 8.4, and 10, total distance would be 23.7 miles.
4-17	2 – 4	Delete last sentence in the paragraph and replace with the following: "However, even though no known incidents of electric shock have been reported since the lines were put into service, Entergy upgraded the 161 kV-lines during 2000 to meet the threshold for the 1997 NESC clearance requirements".
4-25	22	Replace "several hundred acres" with the word "portions". These activities only included approximately 154 acres and not several hundred as currently stated.
4-27	17	Delete "groundwater use conflicts" since ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville that is used for drinking water, restroom and irrigation purposes, comes from a surface water source, not groundwater.
4-31	10 – 11	Delete the sentence "As discussed in Section 2.2.2, ANO-1's groundwater use is less than 0.068 m^3/s (100 gpm)", since water utilized for cooling at ANO is surface water and water supplied by the City of Russellville that is used for drinking water, restroom and irrigation purposes, comes from a surface water source, not groundwater. In addition, Section 2.2.2 of the Draft SEIS does mention ANO-1 groundwater use.
5-3	37 - 38	Revise sentence to read "However, further evaluation by Entergy showed that this issue was already adequately addressed in the operations training cycle."

ATTACHMENT TO E (continued)

Attachment to
1CAN010101
Page 4 of 5

Page	Line Numbers	Comment
5-21	6 - 10	Revise paragraph to read "Although not age-related, further evaluation by Entergy showed that SAMA 129 was already adequately addressed in the operations training cycle." The task of shifting the ECCS suction to the Reactor Building sump is already included in ANO's training program. The task is covered in the Reactor Operator Program in the simulator malfunction guide for LOCAs, AA51105.005, and is intrinsic in the performance of the Emergency Operating Procedure for an ESAS actuation as part of the requalification process. There is also a Job Performance Measure (JPM) for specifically evaluating the performance of shifting the ECCS suction to the Reactor Building Sump, (ANO-1-JPM-RO-EOP11), to evaluate the trainees performance of the task. The performance of this task is not routine in that ANO does not continually create situations to force this action, due to time constraints; however, ANO does occasionally perform training on the task as part of the coverage of different portions of the EOP as necessary.
8-6	12	Change "Little groundwater" to "No groundwater" since water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.
8-8	14 - 16	Revise sentence to read "Groundwater use would be unaffected since water used to supply drinking and restroom facilities, as well as irrigation water for site landscaping during the summer months comes from a surface water source". ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.
8-9	21	Change "Entergy would have to" to "Entergy could potentially have to" since allowances may already be in place when and if this alternative occurred.
8-17	17	Revise "Reduced groundwater withdrawals due to reduced workforce" to read "No impacts" since water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.
8-19	35 - 38	Revise sentence to read "Groundwater use would be unaffected since water used to supply drinking and restroom facilities, as well as irrigation water for site landscaping during the summer months comes from a surface water source". ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.
8-30	12	Revise "Gas-Fired: Reduced groundwater withdrawals due to reduced workforce" to read "Gas-Fired: No impact on groundwater" since ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.

ATTACHMENT TO E (continued)

Attachment to
1CAN010101
Page 5 of 5

Page	Line Numbers	Comment
9-5	7 - 9	Revise sentence to read "Although one cost-beneficial SAMA, unrelated to managing age-related effects during the period of extended operation was identified, further evaluation by Entergy showed that this issue was already adequately addressed in the operations training cycle."
9-8	Table 9-1	For Combination of Alternatives, Water Quality – Groundwater impact under the ANO Site Column should be changed from "SMALL to MODERATE" to "SMALL" since ANO does not use groundwater. Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville comes from a surface water source, not groundwater.
F-2	2 - 3	Under the Comment Column, revise "ANO-1 uses <0.068 m^3/s (100 gpm) of groundwater to "ANO-1 utilizes surface water sources only". Water utilized for cooling at ANO is surface water and water supplied by the City of Russellville that is used for drinking water, restroom and irrigation purposes, comes from a surface water source, not groundwater.

LETTER F

Entergy

Entergy Operations, Inc.
1448 S.R. 333
Russellville, AR 72802
Tel 501 858 5000

February 2, 2001

1CAN010203

U. S. Nuclear Regulatory Commission
Document Control Desk
Mail Station OP1-17
Washington, DC 20555

Subject: Arkansas Nuclear One - Unit 1
Docket No. 50-313
License No. DPR-51
Additional SEIS Comments (TAC No. MA8055)

Gentlemen:

By letter dated January 4, 2001 (1CAN010101), Entergy Operations provided comments on the draft plant-specific Supplement 3 to the Generic Environmental Impact Statement (SEIS) regarding Arkansas Nuclear One, Unit 1 (ANO-1). In the January 4, 2001, correspondence Entergy Operations committed to providing additional comments on Sections 2.2.9 and 4.4.5. Please find attached the additional comments on the draft SEIS. A.1.5

Also, by letter dated September 21, 2000 (1CAN090005), Entergy Operations committed to implement a new procedure to address control over future land disturbances at the ANO site. This procedure has been implemented. Should you have any further questions, please contact me.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on February 2, 2001.

Very truly yours,

Jimmy D. Vandergriff
Director, Nuclear Safety Assurance

JDV/nbm
Attachment

ATTACHMENT TO F

Attachment to
1CAN010203
Page 1 of 1

ANO-1 Draft SEIS Additional Comments

Page	Line Numbers	Comment
2-35	3	Change "Missouri-Pacific" to "Union Pacific" to reflect proper name of railroad line.
4-25	5	Replace the word "jeopardized" with "impacted".
4-25	15	Replace "15 to 20" with "some of the" unless the sites impacted were actually counted during the site visit.
4-26	19	Insert the word "potential" in front of "historic properties" since a determination has not been made yet on their significance.

LETTER G

65 FR 63898
10/25/00

(5)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

RECEIVED
2001 FEB 14 AM 9: 23
Rules and Directives Branch USNRC

February 7, 2001

Mr. Thomas J. Kenyon
Chief
Rules Review and Directives Branch
Division of Administrative Services
Mailstop T 6 D59
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr. Kenyon:

In accordance with our responsibilities under Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality Regulations (CEQ) for Implementing NEPA, the U.S. Environmental Protection Agency (EPA) Region 6 office in Dallas, Texas, has completed an abbreviated review of the Draft Supplement Generic Environmental Impact Statement (DEIS) for the license renewal of Arkansas Nuclear One (ANO-1). Entergy Operations, Inc., operates Arkansas Nuclear One, Units 1 and 2, in west-central Arkansas under operating Licenses DPR-51 and NPF-6 as now issued by the U.S. Nuclear Regulatory Commission.

The NRC staff's preliminary recommendation is that," the Commission determine that the environmental impacts of license renewal ANO-1 are not great and that preserving the option of license renewal for the energy-planning decision-makers would be reasonable".

EPA classified your DEIS and proposed action as "LO," i.e., EPA has "Lack of Objections". Our classification will be published in the Federal Register according to our responsibility under Section 309 of the Clean Air Act, to inform the public of our views on proposed Federal actions. A.1.2

We appreciate the opportunity to review the supplemental information. EPA requests that you send our office one (1) copy of the Final Supplemental EIS at the same time that it is sent to the Office of Federal Activities (2251A), EPA, 1200 Pennsylvania Avenue, N.W., Washington, D.C. 20044.

Sincerely yours,

Michael P. Jansky, P.E.
309 Review Coordinator

Template = ADM-013

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

Appendix B

Contributors to the Supplement

Appendix B

Contributors to the Supplement

The overall responsibility for the preparation of this supplement was assigned to the Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission (NRC). The statement was prepared by members of the Office of Nuclear Reactor Regulation with assistance from other NRC organizations, the Pacific Northwest National Laboratory, Idaho National Engineering and Environmental Laboratory, and Lawrence Livermore National Laboratory.

Name	Affiliation	Function or Expertise
	NUCLEAR REGULATORY COMMISSION	
Thomas J. Kenyon	Nuclear Reactor Regulation	Project Manager
Barry Zalcman	Nuclear Reactor Regulation	Section Chief
Robert S. Jolly	Nuclear Reactor Regulation	Environmental Specialist
Kimberly D. Leigh	Nuclear Reactor Regulation	Environmental Specialist
Robert L. Palla	Nuclear Reactor Regulation	Severe Accident Mitigation Alternatives
James H. Wilson	Nuclear Reactor Regulation	Ecology
Andrew J. Kugler	Nuclear Reactor Regulation	Severe Accident Mitigation Alternatives
	PACIFIC NORTHWEST NATIONAL LABORATORY[(a)]	
Eva Eckert Hickey		Task Leader
Charles A. Brandt		Terrestrial Ecology
Katherine Allen Cort		Socioeconomics
Paul L. Hendrickson		Land Use
Duane Neitzel		Aquatic Ecology
Paul R. Nickens		Cultural Resources
James V. Ramsdell, Jr.		Air Quality
Kathleen Rhoads		Radiation Protection
Michael J. Scott		Socioeconomics
Lance W. Vail		Water Use, Hydrology
Wayne Cosby, James Weber		Technical Editors
	LAWRENCE LIVERMORE NATIONAL LABORATORY[(b)]	
Gary Johnson		Geology Systems
Ken Zahn		Environmental Specialist
	IDAHO NATIONAL ENGINEERING AND ENVIRONMENTAL LABORATORY[(c)]	
Ken Moor		Bio-ecology
Joy Rempe		Severe Accident Mitigation Alternatives
Martin Sattison		Severe Accident Mitigation Alternatives

(a) Pacific Northwest National Laboratory is operated for the U.S. Department of Energy by Battelle Memorial Institute.
(b) Lawrence Livermore National Laboratory is operated for the U.S. Department of Energy by the University of California.
(c) Idaho National Engineering and Environmental Laboratory is operated for the U.S. Department of Energy by Bechtel B&W Idaho, LLC.

Appendix C

Chronology of NRC Staff Environmental Review Correspondence Related to the Entergy Application for License Renewal of Arkansas Nuclear One, Unit 1

Appendix C

Chronology of NRC Staff Environmental Review Correspondence Related to the Entergy Application for License Renewal of Arkansas Nuclear One, Unit 1

January 31, 2000	Letter from Entergy Operations, Inc. (Entergy) submitting its application for renewal of the operating license for ANO-1.
February 4, 2000	Letter to Entergy acknowledging receipt of the application for renewal of the operating license for ANO-1.
February 11, 2000	Federal Register Notice (65 FR 7074), "Entergy Operations, Inc., Arkansas Nuclear One, Unit 1 — Notice of Receipt of Application for Renewal of Facility Operating License No. DPR–51 for an Additional Twenty Year Period."
February 28, 2000	Letter to Entergy stating that the application for renewal is acceptable and sufficient for docketing.
March 3, 2000	Federal Register Notice (65 FR 11609), "Entergy Operations, Inc., Arkansas Nuclear One, Unit 1; Notice of Acceptance for Docketing of the Application and Notice of Opportunity for a Hearing Regarding Renewal of License No. DPR-51 for an Additional Twenty-Year Period."
March 6, 2000	Letter to Entergy forwarding March 10, 2000 notice of intent to prepare an environmental impact statement and conduct scoping process for ANO-1.
March 7, 2000	Letter to Entergy forwarding the proposed schedule for the conduct of the ANO-1 license renewal review.
March 10, 2000	Federal Register Notice (65 FR 13061), "Entergy Operations, Inc., Arkansas Nuclear One, Unit 1; Notice of Intent to Prepare an Environmental Impact Statement and Conduct Scoping Process."

March 16, 2000	Memorandum to Cynthia Carpenter noticing the public environmental scoping meeting for ANO-1 on April 4, 2000.
March 17, 2000	Letter to J. Haney, Seminole Nation of Oklahoma, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.
March 17, 2000	Letter to J. Henson, United Keetoowah Band of Cherokee Indians, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.
March 17, 2000	Letter to R. Perry Beaver, Muscogee (Creek) Nation of Oklahoma, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.
March 17, 2000	Letter to C. Smith, Cherokee Nation of Oklahoma, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.
March 17, 2000	Letter to C. Tillman, Jr., Osage Tribal Council, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.
March 17, 2000	Letter to G. Pyle, Choctaw Nation of Oklahoma, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.
March 17, 2000	Letter to E. Rogers, Quapaw Tribal Business Council, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.
March 17, 2000	Letter to LaRue Parker, Caddo Indian Tribe of Oklahoma, inviting members of the tribe to participate in the scoping process relating to the NRC's environmental review of the license renewal application for ANO-1.

April 1, 2000	Letter from Entergy providing corrections to the license renewal application and environmental report, and information concerning severe accident mitigation alternatives.
April 5, 2000	Letter from J. Wood providing comments on the scope of the environmental review related to the relicensing of ANO-1.
April 7, 2000	Letter from J. Wood providing comments on the scope of the environmental review related to the relicensing of ANO-1.
April 12, 2000	Letter to Entergy forwarding requests for additional information regarding severe accident mitigation alternatives for ANO-1.
April 17, 2000	Letter from Arkansas Department of Environmental Quality regarding status of ANO-1 NPDES Permit No. AR0001392.
April 26, 2000	Telecon summary regarding Category 1 environmental issues for ANO-1.
April 30, 2000	E-mail from J. Wood providing comments on the scope of the environmental review related to the relicensing of ANO-1.
May 1, 2000	Memorandum to C. Carpenter summarizing the April 4, 2000 environmental public scoping meetings held in support for the review of the license renewal application.
May 1, 2000	Memorandum to C. Carpenter summarizing the ANO-1 site audit conducted on April 3 – 6, 2000 to support the environmental review for the license renewal application.
May 15, 2000	Letter from R. Cast regarding the disturbance of potential archeological and historic sites at ANO.
June 5, 2000	Letter to Entergy requesting additional information on the ANO-1 Environmental Report.
June 6, 2000	Letter to J. Wood regarding his comment on emergency planning for the ANO-1 nuclear facility.
June 16, 2000	Letter to J. Wood acknowledging receipt of his comments on the ANO-1

	license renewal application.
June 26, 2000	Letter from Entergy submitting responses to requests for additional information.
July 31, 2000	Letter from Entergy submitting responses to requests for additional information.
August 10, 2000	Letter to C. Slater regarding observations made during the April 2000 site audit.
August 10, 2000	Letter to R. Cast regarding observations made during the April 2000 site audit.
August 21, 2000	Letter to Entergy forwarding the Environmental Impact Statement Scoping Report for ANO-1.
September 21, 2000	Letter from Entergy addressing actions taken to control activities that could adversely affect archeological and historic sites at the ANO site.
November 28, 2000	Letter from J. Wood providing comments regarding the scope of the ANO-1 environmental review.
December 5, 2000	Letter from G. Patterson, ADEQ, stating he has no comments on the draft SEIS.
December 15, 2000	Letter from G. Sekavec, U.S. Department of the Interior, stating he has no comments on the draft SEIS.
January 4, 2001	Letter from Entergy providing comments on the draft SEIS.
February 2, 2001	Letter from Entergy providing additional comments on the draft SEIS.
February 7, 2001	Letter from EPA providing a summary comment on the draft SEIS.

Appendix D

Organizations Contacted

Appendix D

Organizations Contacted

During the course of the staff's independent review of environmental impacts from operations during the renewal term, the following Federal, State, regional, and local agencies were contacted:

Arkansas Archaeological Survey, Arkansas Tech University, Russellville, Arkansas

Arkansas Department of Environmental Quality, Little Rock, Arkansas

Arkansas River Valley Regional Library, Russellville, Arkansas

Goodin Cliff Associates Realtors, Russellville, Arkansas

Pope County Collector, Russellville, Arkansas

Pope County Chief Deputy, Russellville, Arkansas

Pope County Treasurer, Russellville, Arkansas

Russellville Housing Authority, Russellville, Arkansas

Russellville Realty, Russellville, Arkansas

State of Arkansas Department of Human Services, Russellville, Arkansas

Salvation Army, Russellville, Arkansas

U.S. Army Corps of Engineers, Lake Dardanelle Dam, Russellville, Arkansas

U.S. Army Corps of Engineers, Little Rock Arkansas

U.S. Department of the Interior, National Park Service, Long Distance Trails Office, Santa Fe, New Mexico

U.S. Fish and Wildlife Service, Conway, Arkansas

Appendix E

Selected Correspondence

Appendix E

Selected Correspondence

The following selected correspondence was prepared and sent or obtained during the evaluation of the application for renewal of the operating license for Arkansas Nuclear One, Unit 1 (ANO-1):

Page	Subject
E-2	Arkansas Department of Environmental Quality (ADEQ) cover letter, dated April 17, 2000, discussing status of NPDES permit for ANO.
E-3	U.S. Fish and Wildlife Service (FWS) letter, dated June 30, 2000, stating that no federally-listed, or proposed, threatened, or endangered species are currently known in the area of the ANO site.
E-4 through E-22	U.S. Nuclear Regulatory Commission to Arkansas State Historic Preservation Officer, dated August 10, 2000, discussing findings from the ANO site audit regarding the renewal of the ANO-1 license. This letter includes 3 attachments: a detailed report of the observations of the archeologists who was present during the site audit (Enclosure 1); a letter from the Historic Preservation Officer for the Caddo Tribe of Oklahoma, dated May 15, 2000 (Enclosure 2); and a letter from the NRC dated August 10, 2000, responding to the May 15, 2000 letter (Enclosure 3).
E-23 & E-24	Entergy Operations, Inc. letter addressing actions taken to control activities that could affect archeological and historic sites at the ANO site.

ADEQ
ARKANSAS
Department of Environmental Quality

April 17, 2000

Cynthia Carpenter, Chief
Generic Issue, Environmental, Financial and Rulmaking Branch
U.S. Nuclear Regulatory Commission
MS 0-11-F-1
Washington, DC 20555

RE: NPDES Permit AR0001392
Entergy Operations, Inc.
Arkansas Nuclear One
1448 S.R. 333
Russellville, Arkansas 72801

Dear Ms. Carpenter:

On April 3, 2000, Ms. Kim Leigh, Mr. Duane Nertzel and Mr. Michael Prock met with Joe Williford and myself to discuss the operations of Arkansas Nuclear One.

In this meeting a letter was ask to be sent to you regarding the status of the permit and its compliance. A review of our records indicated that NPDES permit No. AR0001392 is currently in good standing and revealed the facility is in compliance with these regulations.

Should you have any questions, feel free to call me at (501) 682-0638.

Sincerely,

LORI ANN HUDMAN
Administrative Assistant
NPDES Enforcement Section

WATER DIVISION
8001 NATIONAL DRIVE / POST OFFICE BOX 8913 / LITTLE ROCK, ARKANSAS 72219-8913 / TELEPHONE 501-682-2199 / FAX 501-682-0910
www.adeq.state.ar.us

United States Department of the Interior

FISH AND WILDLIFE SERVICE
1500 Museum Road, Suite 105
Conway, Arkansas 72032
Tel.: 501/513-4470 Fax: 501/513-4480

IN REPLY REFER TO:

June 30, 2000

Pacific Northwest National Laboratory
Attn: Dr. Charles Brandt
P.O. Box 999
Richland, Washington 99352

Dear Dr. Brandt:

The Fish and Wildlife Service has reviewed the information supplied in your letter dated June 13, 2000 concerning the license renewal for Arkansas Nuclear One, Unit 1 nuclear plant in Pope County, and its associated transmission lines in Conway, Logan, Pope, and Yell Counties, Arkansas. Our comments are submitted in accordance with the Endangered Species Act (87 Stat. 884, as amended 16 U.S.C. 1531 et seq.).

No federally listed or proposed threatened or endangered species are currently known to occur in the project area. Therefore, no further consultation in accordance with the Endangered Species Act is required.

We appreciate your interest in the preservation of endangered species. If you have any questions, please contact Elizabeth Stafford at (501) 513-4483.

Sincerely,

Allan J. Mueller
Field Supervisor

00-635

Appendix E

Selected Correspondence
Pages E-4 to E-8

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 10, 2000

Cathy Buford Slater
Arkansas State Historic Preservation Officer
State Historic Preservation Office
1500 Tower Building, 323 Center
Little Rock, AR 72201

Dear Ms. Slater:

The Nuclear Regulatory Commission (NRC) is in the process of developing a supplemental Environmental Impact Statement (EIS) in support of Entergy Operations, Inc.'s (Entergy) application for license renewal of Arkansas Nuclear One Unit 1 (ANO-1) dated January 31, 2000. From April 3 through April 6, 2000, the NRC and its contractor, Pacific Northwest National Laboratories (PNNL), conducted a site audit as part of this review. The primary goal of the site audit was to review documentation and gather information to ensure that the environmental requirements necessary to support license renewal are met.

Entergy indicated that the archeological sites identified in the ANO-1 Environmental Report were limited to those that were identified by the Arkansas State Historic Preservation Office (ASHPO). During the audit, the review team's investigation of potential archeological sites at the ANO-1 site revealed that there were other sites of potential historic value on the ANO-1 property that were not identified in the license renewal application. These sites do not appear to be tracked by the applicant. In addition, the staff identified information that conflicted with information provided to the NRC relating to the location of certain sites that were identified in the Environmental Report submitted with the license renewal application. The staff has been told that there is a possibility that one of the identified sites may have been disturbed about 10 years ago during the construction of the General Services Building.

Also, Entergy recently implemented a reforestation program at the ANO site that, based on the staff's observation, disturbed some of the potential archeological sites not identified in the application. In addition, the staff notes that some of the newly-planted trees may require eventual removal to conform the site to NRC requirements. Removal of these trees has the potential to further disturb some of these sites. Enclosure 1 is a detailed report of the observations of the archeologist who was present during the site visit.

The staff has determined that the activities by Entergy described here are relevant to current ANO-1 operation, and therefore, will be dispositioned under the current reactor oversight process. We are forwarding this information to make you aware that these sites of potential historic value have or may have been disturbed, and are possibly not being tracked by Entergy. In addition, as part of the scoping process that was implemented to support development of the supplemental EIS, the staff received a letter from Mr. Robert Cast, Historic Preservation Officer for the Caddo Tribe of Oklahoma (Enclosure 2), who requests additional information on this matter. Attachment 3 is the NRC's response to his May 15, 2000, letter.

Ms. Cathy Buford Slater -2-

If you have any questions related to the staff's environmental review in support of license renewal, please contact the ANO-1 Environmental Project Manager, Thomas Kenyon, at (301) 415-1120. If you have any questions concerning ANO-1 current operational activities, please contact the ANO-1 Operating Plant Project Manager, William D. Reckley, at (301) 415-1323.

Sincerely,

Cynthia A. Carpenter, Chief
Generic Issues, Environmental, Financial
and Rulemaking Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation.

Enclosures: As stated

cc:

Mr. George McCluskey
Senior Archeologist
State Historic Preservation Office
1500 Tower Building, 323 Center
Little Rock, AR 72201

Dr. Ann Early
State Archeologist
Arkansas Archaeological Survey
2475 North Hatch
Fayetteville, AR 72704

PNNL Letter Report

Prepared for Task No. 7 Under

PILOT PLANT AND OWNERS GROUP LICENSE REVIEW ACTIVITIES
AND ENVIRONMENTAL REVIEW OF APPLICATIONS
NRC Project JCN J-2442
PNNL Project 27487

Purpose

The purpose of this technical letter is to report observations resulting from a site visit to the Arkansas Nuclear One plant site, located in Pope County, Arkansas, just west of the city of Russellville. During this site visit, associated baseline information was compiled as well as a brief field reconnaissance of the facility site in which recent ground disturbing activities were noted which resulted in significant damage to prehistoric and historic cultural resource properties.

Background

The Russellville Station of the Arkansas Archaeological Survey conducted an archaeological reconnaissance survey of the ca. 1100-acre plant site in the summer of 1969 (Cole 1969). Construction of the plant had begun in 1968; therefore the areas of ground disturbance for the facilities themselves could not be surveyed. Reconnaissance inspection of the remainder of the plant site resulted in the identification and recording of five prehistoric archaeological properties – designated 3PP62-66. None of the numerous historic period properties that occur within the site boundaries (see discussion below) was recorded by the 1969 field effort, including the fenced May Cemetery that has more than 100 interments. Of note, although not recorded as historic properties in 1969, the May Cemetery and about 20 historic homesteads are shown on the individual sketch maps appended to the Site Survey Forms completed for the five prehistoric properties.

The results of the 1969 survey of areas outside the construction zones were incorporated into the Final Environmental Impact Statement for Arkansas Nuclear One, Unit 1 (AEC 1973). Because the major construction activities were already underway or had been completed, the conclusion was that there would be no adverse effect on the recorded cultural resource properties.

The issue of cultural resource properties at the ANO Site apparently was not raised again until the past two years as part of the relicensing effort for the nuclear facility. A 3/30/98 letter from the Arkansas State Historic Preservation Officer (SHPO) to FTN Associates reports that "five archaeological sites (3PP62, 3PP63, 3PP65, 3PP66, and the May Cemetery) are located within the ANO property boundary" (Slater 1998). Of note is the fact that 3PP64, recorded during the 1969 survey, has been dropped from the list, and the cemetery, not recorded in 1969, has been added. The omission of 3PP64 appears to be an administrative oversight as the property is still carried on the Arkansas Archaeological Survey site file at the Research Station at Arkansas Tech University.

Enclosure 1

The 3/10/98 SHPO letter further states: "All five of these sites *are* potentially eligible for inclusion for inclusion on the National Register of Historic Places. Other unknown archaeological sites may also be present." [emphasis added]

Recent Impacts to Cultural Resource Properties at ANO

In conjunction with the development of an Environmental Impact Statement for the ANO relicensing application, a site visit was conducted by the Nuclear Regulatory Commission (NRC) and a team of environmental specialists from the Pacific Northwest National Laboratory (PNNL) in early April 2000. Part of the site visit involves the opportunity for the scientists addressing individual resource areas to gather baseline information that is required to evaluate whether or not the proposed action will have an adverse effect on that particular resource area.

Review of the existing information for both known and potential cultural resources at the ANO site confirmed the presence of the five archaeological properties recorded in 1969, and further yielded information that as many as 35 or more additional historic period properties may exist within the site boundaries. The potential property locations were taken from soil and topographic maps dating 1913, 1940, and 1963. These potential properties include about 35 homesteads, in addition to the cemetery and historic trails/roads. Historic records indicate that some of these homesteads may date as early as the 1830s.

The site visit also revealed recent (within the past few weeks) and widespread disturbance to several hundred acres of land within the ANO property boundary that involved extensive remodification of the ground surface. These activities included removal and piling of existing woody vegetation, plowing or furrowing of the soil, and replanting of pine trees. In terms of potential for disturbance to cultural resource properties, the impacts involved were significant in that heavy equipment was involved, along with extensive disturbance of the surface and to a depth of probably 30 cm. or more (Photo 1).

During brief inspection of the impacted areas during the April site visit, considerable impacts to archaeological and historic properties were observed. Although extremely limited, the observations indicated at least five unrecorded historic period homesteads that had been plowed, including foundations, material culture dumps, and outbuildings (Photos 2, 3, and 4). In addition, two of the "potentially-eligible" archaeological properties recorded in 1969, 3PP63 and 3PP65 are located in the impact zone (Photos 2 and 4). Based on a comparison of the map locations of the historic homesteads and the areas disturbed during the reforestation activities, there are several other unrecorded historic properties located within the impact zone.

An additional impact to one of the previously recorded archaeological properties was brought to the attention of the visiting environmental review team when it was disclosed that the ANO office building may have been built on top of 3PP66 about 10 years ago. As noted above, this archaeological property is still being carried in the SHPO site files as one "potentially eligible for inclusion in the National Register of Historic Places." However, review of the 1969 field survey results casts some doubt on this situation since 3PP66 was originally recorded as being south of and outside of the ANO property line, meaning it may lie between the building and the edge of Lake Dardanelle. Consequently, whether or not this archaeological property still exists in an undisturbed condition remains to be determined.

Conclusions

Numerous prehistoric and historic period cultural resource properties exist within the 1100-acre ANO plant site. The number easily exceeds 40 individual properties. The 1969 archaeological survey was limited in scope and coverage, restricting recording efforts to only prehistoric properties even though the surveyors noted the locations of numerous historic ones. None of the cultural resource properties at ANO, recorded or known but unrecorded, has been completely recorded nor evaluated for National Register of Historic Places eligibility.

Significant and damaging impacts occurred at many of these properties as a result of the surface disturbance associated with the reforestation program. Although the actual amount of damage to archaeological contexts has not been quantified, it is substantial.

References Cited

Cole, Kenneth W. 1969. "Archaeological Survey of the Arkansas Power and Light company Nuclear Power Plant construction Area, Pope County, Arkansas, 1969. Arkansas Archaeological Survey, University of Arkansas Museum, Fayetteville, AR.

U.S. Atomic Energy Commission. 1973. "Final Environmental Impact Statement related to the Arkansas Nuclear One Unit 1, Arkansas Power and Light Company, Docket No. 50-313.

Slater, Cathy Buford. 1998. Letter to Dr. Gary E. Tucker, FTN Associates, Ltd. Arkansas Historic Preservation Program, Little Rock, AR.

Photo Captions

Photo 1: This photo indicates the widespread nature of the surface disturbance that resulted from the vegetation clearing and surface plowing. It was taken, looking west, along the northern side of Highway 333, in the northern sector of the plant site.

Photo 2: This photo depicts disturbance to an unrecorded historic homestead, located along the north side of Highway 333. Damage to the foundation is apparent, along with considerable disturbance of historic period artifacts. Previously recorded archaeological property 3PP65 is located on the ridge just north of this homestead in a similarly plowed area.

Photo 3: This photo shows an undisturbed fruit or storm cellar at a homestead about ¼-mile west of the one shown in Photo 2. Not evident in the foreground, but out of the view are the plowed remains of the habitation and artifact dump associated with the cellar.

Photo 4: This photo was taken along the eastern side of the plant access road, just south of the intersection with Highway 333 and north of the plant's meteorological tower. A former historic homestead is located in the vicinity of the tall trees, and archaeological property 3PP63 is located just over the rise, looking between the two trees.

Appendix E

Selected Correspondence
Pages E-9 to E-10

Photo 1

Photo 2

Photo 3

Photo 4

Appendix E

Selected Correspondence
Pages E-11 to E-13

CADDO TRIBE OF OKLAHOMA

Cultural Preservation Department

Post Office Box 487
Binger, Oklahoma 73009
405-656-2901 405-656-2344
Fax # 405-656-2892

May 15, 2000

Mr. Thomas J. Kenyon
Senior Project Manager
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Re: *Entergy Operations Inc., Arkansas Nuclear One Unit 1, Summary of Site Audit to Support Review of License Renewal Application of Arkansas Nuclear One Unit 1.*

Dear Mr. Kenyon:

Of the five issues addressed by the environmental review team during the ANO-1 site visit, the Caddo Tribe of Oklahoma is most concerned with point number five relating to the archeological sites at the ANO-1 site. Arkansas, and specifically this area, has the potential to produce many important historic properties. We are also concerned with the subsurface disturbance to any of these properties. The Caddo Tribe of Oklahoma has had a long history in the state of Arkansas. We ask that as a condition of this and any future permits that the area be surveyed for archeological and historic properties and that any areas of disturbance be reported to the Arkansas Historic Preservation Officer and to the Caddo Tribe of Oklahoma.

Under 36 CFR 800.6(a) it is the duty of the Agency official to "consult with the SHPO/THPO and other consulting parties, including Indian tribes and Native Hawaiian organizations, to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize or mitigate adverse effects on historic properties." It is very disturbing to hear from your letter of May 1, 2000, that the reforestation program at the site, "disturbed some of the sites". How so, and what kind of action will the NRC take to make sure this will not happen again? Has a site damage assessment of the area been done? Is there a Historic Properties Management Plan for the area? What does 'some' mean? We look forward to a timely response to these questions. Thank you for your time and consideration.

Sincerely,

Robert Cast
Historic Preservation Officer
Caddo Tribe of Oklahoma

Enclosure 2

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

August 10, 2000

Mr. Robert Cast
Historic Preservation Officer
Cultural Preservation Department
Caddo Tribe of Oklahoma
PO Box 487
Binger, Oklahoma 73009

Dear Mr. Cast:

SUBJECT: LETTER REGARDING ARKANSAS NUCLEAR ONE UNIT 1 SITE AUDIT SUMMARY

Thank you for your May 15, 2000, letter expressing concern with the NRC staff's observations of the reforestation program implemented at the Arkansas Nuclear One Unit 1 (ANO-1) site that disturbed archeological sites and sites of potential historic value. Although the letter was dated beyond the closing date of the comment period for scoping, the comments in your letter will be included in the Environmental Scoping Summary Report for ANO-1, and will be considered during the development of the plant's Supplemental Environmental Impact Statement. We are adding you to the service list for the environmental license renewal review to ensure that you are apprised of the results of the staff's environmental review being performed to support the license renewal of ANO-1.

The staff has determined that the activities by Entergy described here are relevant to current ANO-1 operation, and therefore, will be dispositioned under the current reactor oversight process. We will notify the Arkansas SHPO of Entergy's activities, describe the disturbed sites that the staff observed, and discuss the other related concerns identified during the April site audit. In addition, the staff will forward your letter to the Arkansas SHPO along with a detailed report by the archeologist who made the observations. The information provided to the Arkansas SHPO will address some of the questions raised in your May 15, 2000, letter. You will receive a copy of this letter under separate cover.

As you were not present at the scoping meeting held last April, I am providing some background information explaining the license renewal process (see enclosed). If you have

Enclosure 3

Mr. Robert Cast -2-

any questions concerning this matter, please contact the ANO-1 Environmental Project Manager, Thomas J. Kenyon, at (301) 415-1120. If you have any questions concerning ANO-1 current operational activities, please contact the ANO-1 Operating Plant Project Manager, William D. Reckley, at (301) 415-1323.

Sincerely,

Cynthia A. Carpenter

Cynthia A. Carpenter, Chief
Generic Issues, Environmental, Financial
and Rulemaking Branch
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation.

Enclosure: As stated

cc w/o encl: See next page