

RECORD OF DECISION  
U.S. NUCLEAR REGULATORY COMMISSION  
DOCKET NO. 50-416  
LICENSE RENEWAL APPLICATION FOR GRAND GULF NUCLEAR STATION, UNIT 1

December 8, 2016

BACKGROUND:

The U.S. Nuclear Regulatory Commission (NRC or Commission) received an application, dated October 28, 2011, from Entergy Operations, Inc. (Entergy or applicant), filed pursuant to Section 103 of the Atomic Energy Act of 1954, as amended (AEA), and Title 10 of the *Code of Federal Regulations* (10 CFR) Parts 51 and 54, to issue a renewed operating license for Grand Gulf Nuclear Station (GGNS), Unit 1. The renewed operating license would authorize the applicant to operate GGNS for an additional 20-year period beyond that specified in the current operating license, NPF-29.

GGNS is a single-unit nuclear power plant located in Claiborne County, Mississippi, that began commercial operation in July 1985. The nuclear reactor is a General Electric Mark III boiling-water reactor (BWR) producing a reactor core rated power of 4,408 megawatts thermal (MW(t)) and a net electrical output of 1,475 megawatts electric (MWe). The current operating license for GGNS, Unit 1 expires on November 1, 2024.

The NRC accepted Entergy's application and began the environmental review of it on December 27, 2011 (76 *Federal Register* (FR) 80980). Section 102 of the National Environmental Policy Act of 1969, as amended (NEPA), directs that a detailed statement be prepared for major Federal actions significantly affecting the quality of the human environment. By Commission regulation, the NRC prepares an environmental impact statement (EIS) or a supplement to an EIS for all issuances of renewed operating licenses, regardless of the action's environmental impact significance (10 CFR 51.20(b)(2)). In this instance, the NRC's major Federal action is to decide whether to issue a renewed operating license for GGNS for an additional 20-year period beyond that specified in the current operating license.

Consistent with NEPA and 10 CFR Part 51, the NRC staff published in the FR a Notice of Intent to prepare a supplemental EIS (SEIS) and to conduct scoping (76 FR 81996; December 29, 2011). On January 31, 2012, the NRC held two public meetings in Port Gibson, Mississippi, to obtain public input on the scope of the environmental review related to the GGNS license renewal application. The NRC staff reviewed the oral and written comments received during the scoping process and contacted Federal, State, Tribal, regional, and local agencies to solicit comments. A Scoping Summary Report was issued on April 16, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12201A623).

The NRC's environmental review involved the preparation of a site-specific SEIS, which is a supplement to the Commission's NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (GEIS), in accordance with 10 CFR 51.95(c). The GEIS documents the results of the NRC staff's systematic approach to evaluate the environmental consequences of renewing the operating licenses of nuclear power plants for an additional 20 years beyond the current license term.

In the GEIS, the NRC staff analyzed in detail and resolved those environmental issues that could be resolved generically. The GEIS serves to facilitate the NRC's environmental review process by identifying and evaluating environmental impacts that are considered generic and common to all nuclear power plants (Category 1 issues). For Category 1 issues, no additional site-specific analysis is required in the SEIS unless new and significant information is identified

that would change the conclusions in the GEIS. The GEIS also identified site-specific issues (Category 2 issues). For Category 2 issues, an additional site-specific review is required, and the results are documented in the SEIS.

A standard of significance was established for each NEPA issue evaluated in the GEIS based on the Council on Environmental Quality (CEQ) terminology for “significantly” (see 40 CFR 1508.27). Since the significance and severity of an impact can vary with the setting of the proposed action, both “context” and “intensity,” as defined in CEQ regulations 40 CFR 1508.27, were considered. Context is the geographic, biophysical, and social context in which the effects will occur. In the case of license renewal, the context is the environment surrounding the nuclear power plant. Intensity refers to the severity of the impact in whatever context it occurs. Based on this, the NRC established a three-level standard of significance for potential impacts, SMALL, MODERATE, and LARGE, as defined below.

SMALL: Environmental effects are not detectable or are so minor that they will neither destabilize nor noticeably alter any important attribute of the resource.

MODERATE: Environmental effects are sufficient to alter noticeably, but not to destabilize, important attributes of the resource.

LARGE: Environmental effects are clearly noticeable and are sufficient to destabilize important attributes of the resource.

Entergy submitted its license renewal application and environmental report under the NRC’s 1996 rule governing license renewal environmental reviews,<sup>1</sup> as codified in the NRC’s environmental protection regulation, 10 CFR Part 51. The 1996 GEIS<sup>2</sup> and Addendum 1 to the GEIS<sup>3</sup> provided the technical bases for the list of NEPA issues and associated environmental impact findings for license renewal contained in Table B–1 in Appendix B to Subpart A of 10 CFR Part 51. Therefore, for GGNS, the NRC staff initiated its environmental review in accordance with the 1996 rule and GEIS. Neither Entergy nor the NRC staff identified information that is both new and significant related to Category 1 issues that would call into question the conclusions in the GEIS. This conclusion is supported by the NRC staff’s review of Entergy’s environmental report and other documentation relevant to Entergy’s activities; consideration of public comments received during the scoping process and the draft SEIS comment period; consultation with Federal, State, and local agencies as well as Tribal representatives; and the findings from the environmental site audit conducted by the NRC staff.

On June 20, 2013, the NRC published a final rule revising 10 CFR Part 51, including the list of NEPA issues and findings in Table B–1.<sup>4</sup> A revised GEIS,<sup>5</sup> which updated the 1996 GEIS,

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<sup>1</sup> 61 FR 28467. U.S. Nuclear Regulatory Commission. “Environmental Review for Renewal of Nuclear Power Plant Operating Licenses.” *Federal Register* 61 (109): 28467-28497. June 5, 1996.

<sup>2</sup> U.S. Nuclear Regulatory Commission. 1996. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*. Washington, DC. NUREG–1437. May 1996. Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML040690705 and ML040690738.

<sup>3</sup> U.S. Nuclear Regulatory Commission. 1999. Section 6.3–Transportation, Table 9.1, Summary of findings on NEPA issues for license renewal of nuclear power plants. In: *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*. Washington, DC. NRC. NUREG–1437, Volume 1, Addendum 1. August 1999. ADAMS Accession No. ML040690720.

<sup>4</sup> 78 FR 37282. U.S. Nuclear Regulatory Commission. “Revisions to Environmental Review for Renewal of Nuclear Power Plant Operating Licenses.” *Federal Register* 78 (119): 37282-37324. June 20, 2013.

provided the technical bases for the final rule. The revised GEIS specifically supported the revised list of NEPA issues and associated environmental impact findings for license renewal contained in Table B–1 in Appendix B to Subpart A of the revised 10 CFR Part 51. The revised GEIS and final rule reflect lessons learned and knowledge gained during previous license renewal environmental reviews. Under NEPA, the NRC must consider and analyze in the SEIS the potential significant impacts described by the final rule’s new Category 2 issues. If any new and significant information is identified for the final rule’s new Category 1 issues, then their potential significant impacts must also be described.

Therefore, the NRC staff also reviewed information relating to the new issues identified in the 2013 final rule and GEIS, specifically, geology and soils; radionuclides released to groundwater; effects on terrestrial resources (non-cooling system impacts); exposure of terrestrial organisms to radionuclides; exposure of aquatic organisms to radionuclides; human health impacts from chemicals; physical occupational hazards; environmental justice; and cumulative impacts. These issues are documented in the final SEIS (FSEIS) for the GGNS license renewal.

The NRC issued a draft site-specific SEIS for public comment in support of the GGNS license renewal application on November 30, 2013 (ADAMS Accession No. ML13328A002). A 45-day comment period began on the date of publication of the U.S. Environmental Protection Agency (EPA) Notice of Availability of the filing of the draft SEIS to allow members of the public and agencies to comment on the results of the environmental review. On January 29, 2014, the NRC staff held two public meetings in Port Gibson, Mississippi, to describe the results of the environmental review, respond to questions, and accept public comments. All comments received during the comment period are included in Appendix A to the FSEIS.

The NRC issued the final site-specific SEIS in support of the GGNS license renewal application on November 28, 2014 (ADAMS Accession No. ML14328A171). In the FSEIS, the NRC concludes that the adverse environmental impacts of issuing a renewed operating license for GGNS are not so great that preserving the option of license renewal for energy-planning decisionmakers would be unreasonable.

On December 12, 2014, EPA issued the Notice of Availability for the FSEIS for the GGNS license renewal application (79 FR 73890). During the 30 days following publication of the notice, the NRC received no comments on the FSEIS.

Pursuant to 10 CFR 51.102 and 51.103(a)(1)-(5), the NRC staff has prepared this concise public Record of Decision (ROD) to document its action on the GGNS license renewal application. In accordance with 10 CFR 51.103(c), this ROD incorporates by reference the materials contained in the FSEIS.

#### DECISION:

Pursuant to 10 CFR 54.29, a renewed license may be issued by the Commission if the Commission finds that actions have been identified and have been or will be taken with respect to (1) managing the effects of aging during the period of extended operation on the functionality of structures and components that have been identified to require review and (2) time-limited aging analyses that have been identified to require review, such that there is reasonable assurance that the activities authorized by the renewed license will continue to be conducted in accordance with the current licensing basis, and that any changes made to the plant's current

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<sup>5</sup> U.S. Nuclear Regulatory Commission. 2013. *Generic Environmental Impact Statement for License Renewal of Nuclear Plants*. Washington, DC. NUREG-1437, Revision 1, Volumes 1, 2, and 3. June 2013. ADAMS Accession Nos. ML13106A241, ML13106A242, and ML13106A244.

licensing basis in order to comply with this requirement are in accord with the AEA and the Commission's regulations, and that any applicable requirements of Subpart A of 10 CFR Part 51 have been satisfied. The results of the NRC's safety review of the GGNS license renewal application are documented in a safety evaluation report (SER) dated September 2016 (ADAMS Accession No. ML16250A838). By letter dated October 14, 2016, the Advisory Committee on Reactor Safeguards (ACRS) notified the Commission of the ACRS's recommendation to approve the GGNS license renewal application (ADAMS Accession No. ML16286A622). The new license can be found at ML16292A462.

This ROD and the FSEIS, which is incorporated by reference herein, document the NRC's final decision for the environmental review of the GGNS license renewal application that the adverse environmental impacts of license renewal for GGNS are not so great that preserving the option of license renewal for energy-planning decisionmakers would be unreasonable. See 10 CFR 51.103(a)(5). Under its renewed operating license (ADAMS Accession No. ML16292A462), Entergy will be authorized to continue operating GGNS for an additional 20 years beyond the expiration of the current operating license, as requested in the license renewal application.

#### PURPOSE AND NEED:

As identified in Section 1.2, "Purpose and Need for the Proposed Federal Action," of the FSEIS, the purpose and need for the proposed action (issuance of a renewed license) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by energy-planning decisionmakers, such as State, utility, and, where authorized, Federal agencies (other than the NRC). This definition of purpose and need reflects the NRC's recognition that, unless there are findings in the safety review required by the AEA or findings in the NEPA environmental analysis that would lead the NRC to reject a license renewal application, the NRC does not have a role in the energy-planning decisions as to whether a particular nuclear power plant should continue to operate.

Ultimately, the appropriate energy-planning decisionmakers and Entergy will decide whether the plant will continue to operate based on factors such as the need for power or other factors within the state's jurisdiction or the purview of the owners.

#### NRC EVALUATION OF ALTERNATIVES:

In license renewal environmental reviews, the NRC considers the environmental consequences of the proposed action (i.e., renewing the operating license), the environmental consequences of the no-action alternative (i.e., not renewing the operating license), and the environmental consequences of various alternatives for replacing the nuclear power plant's generating capacity. Section 102(2)(C)(iii) of NEPA and the NRC's regulations require the consideration of alternatives to the proposed action in the EIS. In this case, the proposed action is issuance of a renewed operating license for GGNS, which will authorize the applicant to operate the plant for an additional 20-year period beyond the expiration date of the current license. Chapter 8, "Environmental Impacts of Alternatives," of the FSEIS presents the NRC staff's evaluation and analysis of alternatives to license renewal. The evaluation considered the environmental impacts across the following impact categories: air quality; groundwater resources; surface water resources; aquatic ecology; terrestrial ecology; human health; land use; socioeconomics; transportation; aesthetics; historic and archaeological resources; environmental justice; and waste management.

In evaluating alternatives to license renewal, the NRC considered energy technologies or options currently in commercial operation, as well as technologies not currently in commercial

operation but likely to be commercially available by the time the current GGNS operating license expires. The current operating license for GGNS expires on November 1, 2024, and, therefore, to be considered in this evaluation, reasonable alternatives must be available (i.e., constructed, permitted, and connected to the grid) by this time.

The NRC staff initially considered 16 alternatives to the license renewal of GGNS; 12 of these were eliminated from detailed study because of technical, resource availability, or commercial limitations that currently exist and that the NRC staff believes are likely to continue to exist when the current GGNS license expires rendering these alternatives not feasible or commercially viable. The no-action alternative and the effects it would have were also considered by the NRC staff. Alternatives considered, but eliminated from detailed study, were:

- energy conservation and energy efficiency,
- wind power,
- solar power,
- hydroelectric power,
- wave and ocean energy,
- geothermal power,
- municipal solid waste,
- biomass,
- oil-fired power,
- fuel cells,
- purchased power, and
- delayed retirement.

Each alternative eliminated from detailed study and the basis for its removal is provided in Section 8.5 of the FSEIS.

The alternatives analyzed in detail include other methods of power generation and not renewing the GGNS operating license (the no-action alternative). The impacts of all of the alternatives considered in detail are summarized in Table 8–7 of the FSEIS. The feasible and commercially viable replacement power alternatives considered in-depth were:

- new nuclear,
- natural gas combined-cycle (NGCC),
- supercritical pulverized coal (SCPC), and
- combination alternative (NGCC, demand-side management, purchased power, and biomass).

#### ALTERNATIVE EVALUATION:

##### *i. No-Action Alternative*

The no-action alternative refers to a scenario in which the NRC decides not to renew the operating license for GGNS and the license expires at the end of the current license term in

2024. The environmental consequences of this alternative are the impacts from the termination of nuclear power plant operations and the impacts of a range of energy sources that might be used if a nuclear power plant operating license were not renewed. In the no-action alternative, the plant will shut down at or before the end of the current license. After shut down, the plant operators will initiate decommissioning in accordance with 10 CFR 50.82. The separate environmental impacts from decommissioning and related activities are addressed in several other NRC documents, which either directly address or bound the environmental impacts of decommissioning whenever the applicant ceases to operate GGNS, whether at the end of the current license term or at the end of the renewed license term.

Assuming that a need currently exists for the power generated by GGNS, the no-action alternative would require the appropriate energy-planning decisionmakers (not the NRC) to rely on alternatives to replace the capacity of GGNS, to rely on energy conservation or power purchases to offset the GGNS capacity, or to rely on some combination of measures to offset and replace the generation provided by the facility. Therefore, the no-action alternative does not satisfy the purpose and need for the FSEIS, as it neither provides power-generation capacity nor meets the needs currently met by GGNS or that the alternatives evaluated in detail would satisfy.

#### *ii. Alternative Energy Sources*

This section describes the four alternatives considered in detail in the FSEIS and provides a summary of the FSEIS's comparison of the environmental impacts of each alternative to the environmental impacts of license renewal.

For the new nuclear alternative, the NRC staff evaluated an Economic Simplified Boiling-Water Reactor (ESBWR) at the GGNS site with a net electrical output of 1,475 MWe (the same output as the existing reactor). The new nuclear alternative would use the existing cooling system (including natural draft cooling towers and intake and discharge structures), so no structural modifications would be needed. The existing transmission lines leaving the site, as well as construction, drinking water and Ranney wells are expected to serve the new reactor with no modifications required. Impacts to terrestrial resources could increase during construction of a new facility because of significant land requirements for the site and would vary depending on the amount of previously undisturbed land that would be cleared for the new nuclear alternative. Socioeconomic impacts would increase due to the increase in workforce during construction and operation of the facility. Transportation impacts would increase due to traffic associated with construction.

For the NGCC alternative, the NRC staff evaluated three 530-MWe NGCC units for a total output of 1,590 MWe. The NGCC alternative would use the existing cooling system (including natural draft cooling towers and intake and discharge structures), so no structural modifications would be needed. The existing transmission lines leaving the site, as well as construction, drinking water and Ranney wells are expected to serve the new facility with no modifications required. Air quality impacts for the NGCC alternative would be greater than the existing GGNS and the new nuclear alternative due to increased emissions of air pollutants, including sulfur oxides (SO<sub>x</sub>), nitrogen oxides (NO<sub>x</sub>), carbon monoxide (CO), and particulate matter. Impacts to terrestrial resources could increase during construction of a new facility because of significant land requirements for the site and would vary depending on the amount of previously undisturbed land that would be cleared for the NGCC alternative. Land use impacts would increase due to construction. Socioeconomic impacts would increase due to the increase in workforce during construction and the decrease in workforce during operation of the facility. Transportation impacts would increase due to traffic associated with construction.

For the SCPC alternative, the NRC staff evaluated three 538-MWe SCPC units for a total output of 1,614 MWe. The SCPC alternative would be built at an existing power plant site (other than GGNS) and some infrastructure upgrades may be required. Air quality impacts for the SCPC alternative would be greater than the existing GGNS and the new nuclear alternative due to increased emissions of air pollutants, including SO<sub>x</sub>, NO<sub>x</sub>, CO, and particulate matter. Impacts to terrestrial resources would increase because of the potentially large area of undisturbed habitat that could be affected from construction of the SCPC alternative. Land use impacts would increase due to construction in support of the SCPC alternative and coal mining. Socioeconomic impacts would increase due to the increase in workforce during construction and the decrease in workforce during operation of the facility. Transportation impacts would increase due to traffic associated with construction and coal and limestone deliveries during operation. Historic and archaeological impacts would increase due to the potential for disturbance to these resources during construction of the SCPC alternative. Waste management impacts would increase due to generation of bottom ash or fly ash and sludge from the burning of coal.

For the combination alternative, the NRC staff evaluated one 530-MWe NGCC unit, nine biomass units providing 360 MWe total, 280 MWe from demand-side management (DSM), and 305 MWe from purchased power for a total output of 1,475 MWe. The NGCC unit would be located at GGNS. The biomass units would be located throughout Mississippi. The DSM and purchased power portions of this alternative would come from locations in Mississippi. Air quality impacts would be greater than the existing GGNS and the new nuclear alternative due primarily to emissions from the NGCC and biomass portions of this alternative. Impacts to terrestrial resources would increase due primarily to construction and operation of the nine biomass units. Land use impacts would increase due primarily to construction and operation of the nine biomass units. Socioeconomic impacts would increase due to the purchased power portion of this alternative. Transportation impacts would increase due to traffic associated with construction of the NGCC and biomass portion of this alternative and the construction and operation of new electric power generating facilities if they were needed to support the demand for purchased power. Aesthetic impacts would increase due to the construction of new electric power generating facilities if they were needed to support the demand for purchased power. Historic and archaeological impacts would increase due to construction of the NGCC and biomass portion of this alternative and the construction and operation of new electric power generating facilities if they were needed to support the demand for purchased power.

### *iii. Summary*

In the FSEIS, the NRC staff considered the environmental impacts associated with license renewal and with alternatives to license renewal, including other methods of power generation and not renewing the GGNS operating license (the no-action alternative). The FSEIS concluded that the continued operation of GGNS during the license renewal term would have SMALL environmental impacts in all areas. The FSEIS concluded that the environmental impacts of renewal of the operating license for GGNS would be smaller than those of the feasible and commercially viable replacement power alternatives considered.

## CONSIDERATION OF PUBLIC COMMENTS ON THE FINAL SEIS AND EMERGING INFORMATION

The NRC received no comments on the final SEIS from any source, including State or local agencies, other Federal agencies, Tribal governments, or other stakeholders such as members of the public who requested direct distribution of the final SEIS.

## CEQ FINAL GUIDANCE ON GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

On August 1, 2016, CEQ released “Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews.” The NRC is in the process of reviewing this final guidance. Implementation of CEQ’s final guidance, as applicable, will be conducted in accordance with the AEA, the NRC’s environmental protection regulations (10 CFR Part 51), and the NRC’s NEPA processes and guidance to NRC staff.

CEQ’s final guidance states that “[a]gencies should exercise judgment when considering whether to apply this guidance to the extent practicable to an on-going NEPA process,” as is the case for the GGNS license renewal application. In conducting its environmental review of the GGNS license renewal application, the NRC staff considered the impacts of greenhouse gas (GHG) emissions from the continued operation of GGNS and the impacts caused by potential climate change. Chapter 2 of the final SEIS for the GGNS license renewal application includes a site-specific analysis of GHG emissions from the continued operation of GGNS. Chapter 4 of the final SEIS for the GGNS license renewal application considers climate change impacts on affected resources during the license renewal term. Chapter 8 of the final SEIS of the GGNS license renewal application considers and quantifies GHG emissions for the alternatives to the proposed action. Therefore, the NRC has determined that the final SEIS for the GGNS license renewal application provides sufficient information on GHG emissions and climate change to inform its decision and that no further NEPA analysis is necessary.

## CONSIDERATION OF SENSITIVITY ANALYSES FOR SEVERE ACCIDENT MITIGATION MANAGEMENT

On May 4, 2016, the Commission issued a decision, CLI-16-07 (ADAMS Accession No. ML16125A150), in the Indian Point Nuclear Generating Units 2 and 3 (Indian Point) license renewal proceeding stating that documentation was lacking for two inputs (the time required for completing decontamination to a specified degree or level and the cost per person of decontaminating non-farmland to a specified level) that are part of the severe accident mitigation alternative (SAMA) analysis. The decision stated that uncertainties in these input values could potentially affect the SAMA analysis cost-benefit conclusions and directed the NRC staff to perform additional sensitivity analyses using values specified by the Commission. Based on this Commission decision, the NRC staff determined that additional sensitivity analyses using the values specified by the Commission should also be performed in support of the GGNS SAMA analysis that is provided at Appendix F of the GGNS license renewal FSEIS.

In response to an NRC staff request for additional information (ADAMS Accession No. ML16181A112) relating to the Commission decision discussed in the previous paragraph, Entergy performed a SAMA sensitivity analysis for GGNS using the values specified by the Commission (ADAMS Accession No. ML16251A567) and determined that the potential SAMAs, provided in Table E.2-2 of the GGNS Environmental Report (ADAMS Accession No. ML11308A493) did not change. The NRC staff evaluated Entergy’s GGNS SAMA sensitivity analysis and concluded that no new SAMA candidates were identified as potentially cost-beneficial based on this additional analysis. Therefore, there are no changes to the conclusions of the NRC staff’s GGNS SAMA analysis provided at Appendix F of the GGNS license renewal FSEIS.

## MITIGATION MEASURES:

The NRC has taken all practicable measures within its jurisdiction to avoid or minimize environmental harm from the proposed action. The continued operation of GGNS would have



SMALL environmental impacts in all resources areas. While the NRC is not requiring any mitigation measures for the continued operation of GGNS, the National Pollutant Discharge Elimination System (NPDES) permit does impose measures to ensure that the impacts to water quality are minimized during the continued operation of GGNS. The NRC is not imposing any license conditions in connection with mitigation measures. Additionally, the NRC is not requiring any new environmental monitoring programs outside what is required for the NPDES permit.

**DETERMINATION:**

Based on the NRC staff's independent review, analysis, and evaluation contained in the license renewal FSEIS; careful consideration of all of the identified social, economic, and environmental factors, and input received from other agencies, organizations, and the public; and the factors and mitigation measures outlined above, the NRC has determined that the standards for issuance of a renewed operating license, as described in 10 CFR 54.29, have been met and that the requirements of Section 102 of NEPA have been satisfied. The adverse environmental impacts of license renewal are not so great that preserving the option of license renewal for energy-planning decisionmakers would be unreasonable.

APPROVED BY:

***/RA/***

Jane E. Marshall, Director  
Division of License Renewal  
Office of Nuclear Reactor Regulation

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**DETERMINATION:**

Based on the NRC staff's independent review, analysis and evaluation contained in the license renewal FSEIS; careful consideration of all of the identified social, economic, and environmental factors, and input received from other agencies, organizations, and the public; and the factors and mitigation measures outlined above, the NRC has determined that the standards for issuance of a renewed operating license, as described in 10 CFR 54.29, have been met and that the requirements of Section 102 of NEPA have been satisfied. The adverse environmental impacts of license renewal are not so great that preserving the option of license renewal for energy-planning decisionmakers would be unreasonable.

APPROVED BY:

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ADAMS Accession No. ML16243A024

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