

RECORD OF DECISION  
U.S. NUCLEAR REGULATORY COMMISSION  
DOCKET NO. 50-341  
LICENSE RENEWAL APPLICATION FOR FERMI 2 NUCLEAR POWER PLANT

December 15, 2016

BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC or Commission) received an application, dated April 24, 2014, from DTE Electric Company (DTE 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 Fermi 2 Nuclear Power Plant (Fermi 2). The renewed operating license would authorize the applicant to operate Fermi 2 for an additional 20-year period beyond that specified in the current operating license, NPF-43. Fermi 2 began commercial operation in July 1985. The current operating license expires on March 20, 2025.

Fermi 2 is a single-unit nuclear power plant located in Frenchtown Township, Monroe County, Michigan. The nuclear reactor is a General Electric Company single-cycle, forced circulation boiling-water reactor (BWR) originally licensed for a reactor core rated power of 3,430 megawatts thermal (MWt) and a net electrical output of 1,150 megawatts electric (MWe). On February 10, 2014, the NRC approved DTE's measurement uncertainty recapture to increase the thermal power to 3,486 MWt and net electrical capacity to 1,170 MWe.

The NRC accepted DTE's application and published a Notice of Acceptability and Opportunity for Hearing on June 18, 2014 (79 *Federal Register* (FR) 34787). Consistent with Section 102 of the National Environmental Policy Act of 1969, as amended (NEPA), and 10 CFR Part 51, the NRC staff prepares an environmental impact statement (EIS) or a supplement to an EIS to issue a renewed operating license for nuclear power plants. The NRC staff published a Notice of Intent to prepare a supplemental EIS (SEIS) and to conduct scoping in the FR (79 FR 36837; June 30, 2014).

On July 27, 2014, the NRC held two public meetings at the Monroe County Community College, Monroe, Michigan to obtain public input on the scope of the environmental review related to the Fermi 2 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 in October 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15252A015).

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 identifies 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.

Neither DTE 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 DTE’s environmental report and other documentation relevant to DTE’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.

The NRC issued a draft site-specific SEIS for public comment in support of the Fermi 2 license renewal application on October 27, 2014 (ADAMS Accession No. ML15300A064 for Volume 1 and ML15300A073 for Volume 2). A 45-day comment period began on November 13, 2015, when the U.S. Environmental Protection Agency (EPA) issued the Notice of Availability of the draft SEIS to allow members of the public and agencies to comment on the results of the environmental review. On December 2, 2015, the NRC staff held a public meeting at the Monroe County Community College, Monroe, Michigan, 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 final SEIS (FSEIS).

The NRC issued the site-specific FSEIS in support of the Fermi 2 license renewal application on September 16, 2016 (ADAMS Accession No. ML16259A103 for Volume 1 and ML16259A109 for Volume 2). In the FSEIS, the NRC concluded that the adverse environmental impacts of issuing a renewed operating license for Fermi 2 are not so great that preserving the option of license renewal for energy-planning decisionmakers would be unreasonable.

On September 30, 2016, EPA issued the Notice of Availability for the FSEIS for the Fermi 2 license renewal application (81 FR 67348). 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 Fermi 2 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 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 Fermi 2 license renewal application are documented in a safety evaluation report (SER) issued in July 2016 (ADAMS Accession No. ML16190A241). By letter dated September 16, 2016, the Advisory Committee on Reactor Safeguards (ACRS) notified the Commission of the ACRS's recommendation to approve the Fermi 2 license renewal application (ADAMS Accession No. ML16257A527). The renewed license can be found at ADAMS Accession No. ML16270A551.

This ROD and the FSEIS, which is incorporated by reference herein, document the NRC's final decision for the environmental review of the Fermi 2 license renewal application that the adverse environmental impacts of license renewal for Fermi 2 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. ML16270A551, DTE will be authorized to continue operating Fermi 2 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 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 DTE will decide whether the plant will continue to operate based on 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 Fermi 2, which will authorize the applicant to operate the plant for

an additional 20-year period beyond the expiration date of the current license. Chapter 2, “Alternatives Including the Proposed Action,” and Chapter 4, “Environmental Consequences and Mitigating Actions,” of the FSEIS present the NRC staff’s evaluation and analysis of alternatives to license renewal. The evaluation considered the environmental impacts across the following impact categories: land use and visual resources; air quality and noise; geologic environment; water resources; terrestrial resources; aquatic resources; special status species and habitats; historic and cultural resources; socioeconomics; human health; 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 Fermi 2 operating license expires. The current operating license for Fermi 2 expires on March 20, 2025, and, therefore, to be considered in this evaluation, reasonable alternatives must be available (i.e., constructed, permitted, and connected to the grid) by that time.

The NRC staff initially considered 17 alternatives to the license renewal of Fermi 2; 13 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 Fermi 2 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 efficiency,
- solar power,
- wind power,
- biomass,
- hydroelectric power,
- wave and ocean energy,
- fuel cells,
- delayed retirement,
- geothermal power,
- municipal solid waste,
- petroleum-fired power,
- supercritical pulverized coal, and
- purchased power.

Each alternative eliminated from detailed study and the basis for its removal is provided in Chapter 2 of the FSEIS.

The alternatives analyzed in detail include other methods of power generation and not renewing the Fermi 2 operating license (the no-action alternative). The impacts of all of the alternatives considered in detail are summarized in Table 2–2 of the FSEIS. The feasible and commercially viable replacement power alternatives considered in-depth were:

- natural gas combined-cycle (NGCC),
- coal-integrated gasification combined cycle (IGCC)

- new nuclear, and
- combination alternative (NGCC, wind power, and solar power).

## 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 Fermi 2 and the license expires at the end of the current license term in 2025. 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 was 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 Fermi 2, 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 Fermi 2, the no-action alternative would require the appropriate energy-planning decisionmakers (not the NRC) to rely on alternatives to replace the capacity of Fermi 2, to rely on energy conservation or power purchases to offset the Fermi 2 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 Fermi 2 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.

#### New Nuclear Alternative

The NRC staff evaluated one new nuclear reactor, in addition to the proposed Fermi 3 nuclear power plant. On May 1, 2015, the NRC issued the license authorizing DTE to build and operate an Economic Simplified Boiling-Water Reactor (ESBWR) at the Fermi site with a net electrical output of 1,560 MWe (4,500 MWt). The proposed Fermi 3 plant would be built on the Fermi site. The new nuclear plant, which would replace the current output of Fermi 2, would also be an ESBWR, with a net electrical output of 1,170 MWe. The NRC staff estimated that 301 ac (122 ha) of land would be required. To accommodate the new nuclear plant, DTE may need to acquire additional land adjacent to the current Fermi property. The new nuclear alternative would need a new cooling system, even though the heat rejection demands for the new plant would be similar to Fermi 2. The existing off site transmission lines and water supply lines are expected to serve the new reactor with no modifications required. However, a new onsite transmission line may be required. Impacts to terrestrial resources could increase during construction of a new facility because of significant land requirements, and impacts 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.

## NGCC Alternative

The NRC staff considered three NGCC units, each with a net capacity of 400 MWe. The NGCC plants would be built at the Fermi site, but outside of the Fermi 2 and proposed Fermi 3 footprints. Each NGCC plant would consist of two combustion turbine generators, two heat recovery steam generators, and one steam turbine generator with mechanical draft cooling towers for heat rejection. The existing transmission lines leaving the site are expected to serve the new facility with no modifications required. Air quality impacts for the NGCC alternative would be greater than existing Fermi 2 operations 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, and impacts 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. The NRC staff estimated that 24 ac (10 ha) of land would be required. 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.

## IGCC Alternative

For the IGCC alternative, the NRC staff evaluated two 618 MWe IGCC units. The two IGCC plants would be built on, or adjacent to, the Fermi site. The NRC staff assumes the IGCC plants would burn sub-bituminous Powder River Basin coal, consistent with what is burned in other DTE coal plants. The two IGCC plants would be designed with the potential to add carbon capture and storage to reduce carbon dioxide emissions. Air quality impacts for the IGCC alternative would be greater than existing Fermi 2 operations 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 IGCC alternative. Land use impacts would increase due to construction in support of the IGCC alternative and coal mining. The NRC staff estimated that 1,000 ac (400 ha) of land would be required. 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 cultural impacts would increase due to the potential for disturbance to these resources during construction. Waste management impacts would increase due to generation of bottom ash or fly ash and sludge from the burning of coal.

## Combination Alternative

The NRC staff evaluated one 400-MWe NGCC unit located on the Fermi 2 plant site and operated in conjunction with land-based wind farms and solar energy facilities. The NGCC plants should be able to use the existing electrical switchyards, substations, and transmission lines. Depending on existing site conditions, it is possible that the existing intake and discharge structures could be used but would need to be connected to a new closed-cycle cooling system. The NRC staff estimated that the land required for the NGCC portion of the combination alternative would remain approximately the same as the NGCC alternative at 24 acres (ac) (10 hectares (ha)).

For the wind power portions of this alternative, the NRC staff assumed a capacity factor of 30 percent, resulting in an estimated total net capacity of 600 MWe. Wind turbines may require as much as 1 to 3 ac (0.4 to 1.2 ha) of land for each turbine to avoid interferences. For the wind

portion of this combination alternative, 1,117 turbines and 1,117 to 3,351 ac (452 to 1,356 ha) of land would be required. Water use would be minimal.

For the solar portion of this combination alternative, the NRC staff assumed solar photovoltaic (PV) facilities with a capacity factor of 19 percent, which would require approximately 3,577 ac (1,448 ha) of land to support an installed net capacity of 200 MWe. Some of the output could be realized by solar PV installations on the roofs of residential, commercial, or industrial buildings. Solar PV systems do not require water for cooling purposes but a small amount is needed to clean the panels and for potable water for the workforce.

*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 Fermi 2 operating license (the no-action alternative). The FSEIS concluded that the continued operation of Fermi 2 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 Fermi 2 would be smaller than those of the feasible and commercially viable replacement power alternatives considered. Therefore, the NRC staff concluded that continued operation of Fermi 2 is the environmentally preferred alternative.

CONSIDERATION OF COMMENTS ON THE FSEIS AND EMERGING INFORMATION

*i. Comments on the FSEIS*

The NRC published a Draft SEIS (DSEIS) for public comment in October 2015 (ADAMS Accession No. ML15300A064 for Volume 1 and ML15300A073 for Volume 2). See 80 FR 70,206 (Nov. 13, 2015). Comments on the DSEIS were submitted by numerous members of the public, the applicant, and various local, state and federal government agencies, including comments submitted by the U.S. Environmental Protection Agency (EPA), Region 5. The NRC staff addressed those comments in Appendix A of the FSEIS, published in September 2016. Section A.2.3 of the FSEIS (FSEIS Vol. 2, at A-317 – A-318) contains the NRC staff's responses to the EPA's comments on the draft SEIS. EPA's comments related to the temperature of heated cooling water discharged into Lake Erie, algal blooms in Lake Erie, and the absence of any thermal discharge limits in the facility's National Pollutant Discharge Elimination System (NPDES) permit. In the FSEIS, the NRC staff responded to EPA's comments, noting that NRC licensees must comply with the Clean Water Act (CWA), including all associated requirements imposed by the EPA or the state as part of the NPDES) permitting program under Section 402 of the CWA and state water quality certification requirements under Section 401 of the CWA. Nuclear power plants cannot operate without a valid NPDES permit and current Section 401 Water Quality Certification. As stated in Section 3.1.3.2 of the FSEIS, the NPDES permit for Fermi 2 does not impose any thermal effluent limits on the plant's discharges. The NPDES permit is issued by the State of Michigan, Department of Environmental Quality, and is outside the scope of the NRC's regulatory authority.

Following publication of the FSEIS, EPA, Region 5, submitted a letter to the NRC, dated October 27, 2016 (ADAMS Accession No. ML16313A516), in which it stated that it had reviewed the FSEIS, including NRC's responses to EPA's comments (ADAMS Accession No. ML16007A008) on the draft SEIS, and that EPA had no further comments for consideration by the NRC. However, EPA restated its recommendation that DTE undertake mitigation measures to further protect water quality in the western basin of Lake Erie to include continued monitoring of lake temperatures and algal blooms in the vicinity of the Fermi 2 outfalls and to appropriately reduce discharge temperatures. EPA's recommendation pertains to matters

within the purview of State permitting authorities, and is outside the scope of NRC license renewal. Accordingly, no further response to EPA's comment is required.

The NRC received no comments on the FSEIS following its publication from any other 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 FSEIS.

Emerging information considered by the NRC staff as part of the environmental review is discussed below.

*ii. 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 Fermi 2 license renewal application. In conducting its environmental review of the Fermi 2 license renewal application, the NRC staff considered the impacts of greenhouse gas (GHG) emissions from the continued operation of Fermi 2 and the impacts caused by potential climate change in accordance with the NRC's 2013 final rule (78 FR 37282) revising 10 CFR Part 51. Chapter 4 of the FSEIS for the Fermi 2 license renewal application includes a site-specific analysis of GHG emissions from the continued operation of Fermi 2 and alternatives to this proposed action, as well as the impacts on affected resources during the license renewal term, which is generally consistent with CEQ's final guidance. Therefore, the NRC has determined that the FSEIS for the Fermi 2 license renewal application provides sufficient information on GHG emissions and climate change to inform its decision and that no further NEPA analysis is necessary.

*iii. Consideration of Sensitivity Analysis for Severe Accident Mitigation Management*

On May 4, 2016, the Commission issued 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 the Severe Accident Mitigation Alternatives (SAMA) analysis for Indian Point was lacking documentation for two inputs (TIMDEC and CDNFRM) used in the MELCOR Accident Consequence Code System (MACCS2) computer code. The MACCS2 code is used as part of a SAMA analysis to calculate estimated offsite consequences (population doses and economic losses). The TIMDEC input relates to the time required for completing decontamination to a specified degree or level, and the CDNFRM input refers to the cost per person of decontaminating non-farmland to a specified level. The decision stated that uncertainties in these input values could potentially affect the SAMA analysis cost-benefit conclusions and the Commission 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 Fermi 2 SAMA analysis that was provided at Appendix F of the Fermi 2 license renewal FSEIS.

In response to an NRC staff request for additional information (ADAMS Accession No. ML16188A192) relating to the Commission decision discussed above, DTE performed a SAMA sensitivity analysis for Fermi 2 (ADAMS Accession No. ML16201A293) using the values specified by the Commission in CLI-16-07. Based on this analysis, DTE determined that the



potential SAMAs, provided in Table E.2-2 of the Fermi 2 Environmental Report (ADAMS Accession No. ML14121A540), did not change.

DTE calculated a revised Offsite Economic Cost Risk (OECR) and Population Dose Risk (PDR) using the MACCS code. The increases to the OECR base case was approximately 71% and the increase to the PDR base case was approximately 1%. After determining the revised PDR and OECR, a revised modified maximum averted cost risk (MMACR) was calculated. The revised MMACR was found to be \$4,929,241, compared to the base case MMACR of \$3,369,832, which was an approximately 46% increase. The sensitivity resulted in a multiplier to the base case of approximately 1.46 for the MMACR or 1.72 for the combined OECR and PDR. The revised MMACR calculated during this sensitivity was much less than the 95th percentile MMACR (\$8,424,580) which had previously been determined to account for uncertainty. The 95th percentile MMACR was obtained by multiplying the base case MMACR by a multiplier of 2.5. Since the 1.72 multiplier for the combined TIMDEC/CDNFRM sensitivity analyses is well within the bounds of the 2.5 multiplier in the 95th percentile case, the evaluation of potential SAMAs previously provided in Table D.2-2 of the ER bounds the results of the TIMDEC CDNFRM sensitivity analyses.

The staff performed confirmatory calculations and also found that the 95th percentile uncertainty previously provided in the ER bounds the results of the TIMDEC/CDNFRM sensitivity analyses. As a result, no new SAMA candidates were identified as potentially cost-beneficial based on the new TIMDEC CDNFRM sensitivity case. Therefore, no changes must be made to the conclusions of the NRC staff's Fermi 2 SAMA analysis provided at Appendix F of the Fermi 2 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 NRC has determined that the continued operation of Fermi 2 would have SMALL environmental impacts in all resources areas. The NRC is not imposing any license conditions in connection with mitigation measures, and is not requiring any new environmental monitoring programs beyond what is required for the National Pollutant Discharge Elimination System (NPDES) permit. While the NRC is not requiring any mitigation measures for the continued operation of Fermi 2, the NPDES permit does impose measures to ensure that the impacts to water quality are minimized during the continued operation of Fermi 2.

## 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 by BBeasley for/***

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

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.

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