

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:)	
)	
DTE ELECTRIC COMPANY)	Docket No. 52-033-COL
)	
(Fermi Nuclear Power Plant, Unit 3))	

APPLICANT’S PRE-FILED WRITTEN TESTIMONY IN SUPPORT
OF THE HEARING ON UNCONTESTED ISSUES FOR FERMI UNIT 3

WITNESS FOR UNCONTESTED HEARING

Q1. Please state your full name.

A1. Peter W. Smith.

Q2. By whom are you employed and what is your position?

A2. I am employed by DTE Electric Company (“DTE”)¹ as the Director, Nuclear Development – Licensing and Engineering. I have served in that position since 2007. I have overall responsibility for the Fermi Unit 3 (“Fermi 3”) project, including the combined license (“COL”) application and other State and Federal permits and approvals. I report to the Executive Vice President for Major Enterprise Projects and the Chief Nuclear Officer.

Q3. Please summarize your professional qualifications.

A3. A copy of my qualifications statement is provided with this testimony as Attachment 1.

Q4. What is the purpose of your testimony?

¹ DTE Electric formerly operated under the name Detroit Edison Company. The name change was effective on January 1, 2013. For simplicity, the name “DTE” will be used throughout this testimony.

A4. The purpose of my testimony is to support the findings that the Commission must make as part of the hearing on uncontested issues for the Fermi 3 COL proceeding.

BACKGROUND

Q5. Please briefly describe DTE's COL Application for Fermi 3.

A5. The Fermi 3 COL Application was submitted on September 18, 2008, and seeks a license under 10 C.F.R. Part 52 to construct and operate an ESBWR at the existing Fermi site in Monroe, Michigan. The COL Application also includes a request for the associated material licenses under 10 C.F.R. Parts 30, 40, and 70. The COL Application incorporates by reference the Design Certification Rule for the ESBWR Design, 10 C.F.R. Part 52, Appendix E, and Revision 10 of the ESBWR DCD. GE-Hitachi Energy was the applicant for the design certification of the ESBWR design. The ESBWR FSER was published as NUREG-1966, "Final Safety Evaluation Report Related to the Certification of the Economic Simplified Boiling-Water Reactor Standard Design," in April 2014 (ADAMS Accession No. ML14100A304) and supplemented in September 2014. On October 15, 2014, the NRC published the ESBWR design certification final rule (79 Fed. Reg. 61944).

Q6. Please describe the owner and operator of Fermi 3.

A6. DTE is both the owner and operator of Fermi 3. DTE is also the sole owner of the existing Fermi 1 and 2 nuclear units and the licensed operator of the existing facilities, with control of the Fermi site and existing facilities.

Q7. Can you briefly describe how the COLA is organized?

A7. The Fermi 3 COL Application (“COLA”) is composed of several parts. Each of these is identified below, along with the current revision:

- Part 1: General and Financial Information (Revision 2)
- Part 2: Final Safety Analysis Report (Revision 8)
- Part 3: Environmental Report (Revision 2)
- Part 4: Technical Specifications (Revision 5)
- Part 5: Emergency Plan (Revision 6)
- Part 7: Departures and Exemptions (Revision 4)
- Part 8: Safeguards/Security Plans (Revision 3)
- Part 9: Withheld
- Part 10: License Conditions and Inspection, Tests, Analyses and Acceptance Criteria (“ITAAC”) (Revision 6)

Q8. Is Fermi 3 the R-COLA for the ESBWR DCD?

A8. Yes. DTE participates in the ESBWR Design Centered Working Group (“DCWG”). DTE has volunteered for the Fermi 3 COLA to be the “reference” or “R-COLA” for the ESBWR. Originally, Dominion’s North Anna COLA was the R-COLA for the ESBWR, but DTE assumed that role when Dominion changed technology for its planned reactor at North Anna. Since then, the Fermi 3 COLA has been the vehicle for resolving standard content issues with the NRC Staff. As a result of Dominion’s decision, the NRC Staff conducted reviews to ensure that the standard information that had been evaluated for the North Anna Unit 3 application was directly applicable to the Fermi 3 application. DTE responded to all of the open items in the NRC Staff’s North Anna Unit 3 Safety Evaluation

Report (“SER”) that related to standard content on behalf of the ESBWR design center, consistent with its new position as the R-COLA.

Q9. Please describe what you mean by “R-COLA” standard content.

A9. Each ESBWR COL application incorporates by reference Appendix E of 10 C.F.R. Part 52, the ESBWR design certification rule. All COL applicants referencing the ESBWR design may rely on the R-COLA in individual COLAs. The Fermi 3 SER documents the NRC Staff’s review of both standard and site-specific information and is the first complete SER for a COL application in the ESBWR design center.

Q10. What effect does incorporating the ESBWR DCD have on the Fermi 3 COL Application?

A10. Incorporating these previously reviewed and approved documents by reference essentially narrows the scope of issues that the Commission needs to consider before issuing the COL. An applicant, such as DTE, that requests a license to construct and operate a nuclear power reactor using the ESBWR design need not demonstrate in its application the safety of the certified design. Instead, those issues were conclusively resolved in the ESBWR design certification review and rulemaking. Accordingly, safety issues within the scope of the ESBWR are not addressed as part of DTE testimony.

Q11. Does the COL Application involve any exemptions from NRC regulations?

A11. Yes. Under 10 C.F.R. § 70.22(b), applicants requesting a license to possess special nuclear material (“SNM”), such as DTE, must submit a full description of their Material Control and Accounting (“MC&A”) program and demonstrate

compliance with 10 C.F.R. §§ 74.31; 74.33, 74.41, or 74.51, as applicable. Additionally, under 10 C.F.R. § 70.32(c), applicants requesting a license to possess SNM are subject to a condition to maintain and follow an MC&A program for source material and SNM in which any decreases in program effectiveness must be submitted as a license amendment request. However, the requirements, in 10 C.F.R. §§ 70.22(b) and 70.32(c) exclude Part 50 licensees, including operating nuclear plants. Because the Fermi 3 COLA was filed under Part 52, rather than Part 50, the exclusions would not apply even though the facilities are of the same type. Accordingly, DTE requested an exemption from the requirements in 10 C.F.R. §§ 70.22(b), 70.32(c), 74.31, 74.41, and 74.51. The NRC Staff determined that the exemption is authorized by law, will not present an undue risk to public health or safety, and is consistent with the common defense and security, and that special circumstances are present as described in 10 C.F.R. § 50.12(a)(2)(ii) because these same requirements were deemed unnecessary for similar Part 50 applicants.

Q12. Does the Fermi 3 COL Application involve any departures from the ESBWR DCD?

A12. Yes. The Fermi 3 COLA identified one departure from the ESBWR design. Part 7 of the COLA describes the departure and evaluates the departure against the criteria in Section VIII.B.5 of Part 52, Appendix E, “Design Certification Rule for the ESBWR Design.” The ESBWR DCD states that onsite storage space for a 6-month volume of packaged waste is provided in the Radwaste Building. The Fermi 3 Radwaste Building is configured to accommodate a minimum of 10 years

of packaged Class B and C waste generated during plant operation to alleviate any lack of access to offsite disposal facilities that accept Class B and C waste shipments. The configuration also includes space for at least 3 months of packaged Class A waste. The departure involves a redesign of the Radwaste Building that affects the arrangement of systems and components within the building volume. The departure does not affect offsite dose rates or the integrity of waste containers in storage, and therefore it does not increase the risk of radiation exposure to members of the public.

Q13. Please describe DTE's request in the COLA for a Part 30, 40, and 70 license.

A13. The Fermi 3 COLA includes a request for a license to receive, store, or use byproduct, source, or special nuclear material (10 C.F.R. Parts 30, 40, and 70, respectively). These licenses will allow DTE to possess and use nuclear fuel, radiological waste materials, and various radiological sources used for operational purposes.

Q14. Was there a review of the Fermi 3 COL by the Advisory Committee on Reactor Safeguards ("ACRS")?

A14. Yes. The ACRS provides an independent review and report to the Commission regarding the Fermi 3 COL application. The NRC Staff presented the results of its safety review to the ESBWR subcommittee at six meetings. The NRC Staff presented the results of its Fermi 3 COL review to the ACRS Full Committee on September 4, 2014. The ACRS issued its final recommendation on September 22, 2014 (ADAMS Accession No. ML14252A294). The ACRS concluded that: (1) there is reasonable assurance that Fermi 3 can be built and operated without

undue risk to public health and safety and that the Commission should approve the Fermi 3 COL application; and (2) there is reasonable assurance that the ESBWR design and the Fermi 3 application satisfy the requirements resulting from the Fukushima Near-Term Task Force Recommendations.

Q15. Did the NRC Staff document its safety and environmental reviews?

A15. Yes. The NRC Staff documented its safety review in the Fermi 3 COL Final Safety Evaluation Report (“FSER”), dated November 18, 2014. The NRC Staff issued the final environmental impact statement (“FEIS”) for the Fermi 3 COL on January 18, 2013 (NUREG-2105, Volumes 1, 2, 3, and 4). The NRC Staff also considered the potential for new and significant environmental information between the issuance of the FEIS and the start of the mandatory hearing phase.

Q16. What safety findings must the Commission make under Part 52 in order to issue a COL to DTE?

A16. Under 10 C.F.R. § 52.97, the Commission may issue a COL if it finds that:

- The applicable standards and requirements of the Act and the Commission’s regulations have been met;
- Any required notifications to other agencies or bodies have been duly made;
- There is reasonable assurance that the facility will be constructed and will operate in conformity with the license, the provisions of the Act, and the Commission’s regulations;
- The applicant is technically and financially qualified to engage in the activities authorized;
- Issuance of the license will not be inimical to the common defense and security or to the health and safety of the public; and
- The findings required by subpart A of part 51 of this chapter have been made.

Q17. What are the environmental findings required by Part 51?

A17. Under 10 C.F.R. § 51.107, the Commission must do the following:

- Determine whether the requirements of Sections 102(2) (A), (C), and (E) of NEPA and the regulations in this subpart have been met;
- Independently consider the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken;
- Determine, after weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, whether the combined license should be issued, denied, or appropriately conditioned to protect environmental values; and
- Determine, in an uncontested proceeding, whether the NEPA review conducted by the NRC staff has been adequate.

Q18. Does the Fermi 3 COLA, and the NRC Staff’s review of the COLA, meet the standards identified above?

A18. Yes. The basis for the Commission to make each of the relevant safety and environmental findings required under 10 C.F.R. §§ 52.97 and 51.107 is described below.

DISCUSSION

A. 10 C.F.R. § 52.97(a)(1)(i)

Q19. Have the applicable standards and requirements of the Act and the Commission’s regulations have been met?

A19. Yes. The Fermi 3 COLA was based on NRC regulations and applicable portions of relevant Standard Review Plans (“SRP”),² Interim Staff Guidance (“ISG”),

² The primary SRPs for the Fermi 3 COL review were NUREG-0800, “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants (LWR [Light Water Reactor] Edition)” (safety review) and NUREG-1555, “Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Environmental Standard Review Plan” (environmental reviews).

Regulatory Guides (“Reg. Guides”),³ bulletins, generic letters, and other NUREGs. The NRC Staff reviewed the COLA and evaluated it against the applicable regulations in 10 C.F.R. Parts 20, 26, 30, 31, 32, 40, 50, 51, 52, 55, 70, 73, 74, 100, and 140. The NRC Staff considered applicable portions of the SRP, ISGs, Reg. Guides, bulletins, generic letters, and other NUREGs. Based on the COLA and the NRC Staff’s review, documented in the FSER and the FEIS, DTE concludes that, for the purpose of issuing the Fermi 3 COL, the applicable standards and requirements of the Atomic Energy Act (“AEA”) and the Commission’s regulations have been met.

B. 10 C.F.R. § 52.97(a)(1)(ii)

Q20. Have the required notifications to other agencies or bodies been duly made?

A20. Yes. As required by AEA Section 182c. and 10 C.F.R. § 50.43(a), the NRC notified the Michigan Public Service Commission and the Federal Energy Regulatory Commission of the Fermi 3 COL application. In addition to publishing a notice of the Fermi 3 COLA in the *Federal Register*,⁴ the NRC also published notices of the application in local newspapers in Detroit and Monroe, Michigan; Toledo, Ohio; and Windsor, Ontario. Required notifications to other agencies or bodies therefore have been made.

³ The Fermi 3 FSAR, Chapter 1, Table 1.9-202, “Conformance with Regulatory Guides,” identifies the Reg. Guides associated with the Fermi 3 COL application and indicates whether DTE conformed to or departed from each Reg. Guide.

⁴ 73 Fed. Reg. 73350 (Dec. 2, 2008). The NRC Staff also published a notice of opportunity to request a hearing on the COLA. 74 Fed. Reg. 836 (Jan. 8, 2009).

C. **10 C.F.R. § 52.97(a)(1)(iii)**

Q21. Is there reasonable assurance that the facility will be constructed and will operate in conformity with the license, the provisions of the Act, and the Commission's regulations?

A21. Yes. The Fermi 3 COLA, which incorporates the ESBWR DCD, provides information on critical aspects of construction and operation of Fermi 3. This information includes the ESBWR DCD, which is incorporated by reference, the general and financial information section of the application, technical specifications, the emergency plan, the quality assurance ("QA") plan, and the physical security plan. These materials demonstrate that there is reasonable assurance that Fermi 3 can be built and operated in compliance with the COL, the AEA, and the NRC's regulations.

Q22. What actions did the NRC Staff take to satisfy itself that the plant could be constructed and operated safely?

A22. In addition to reviewing the COLA material provided by DTE, the NRC Staff issued Requests for Additional Information ("RAIs"). The RAIs sought additional information or clarifications in order to develop sufficient information for the NRC Staff to make a reasonable assurance finding. The NRC Staff also conducted audits and inspections of DTE's records and documentation, and performed confirmatory calculations, in order to confirm information or conclusions made by DTE.

Q23. How does the NRC Staff ensure that the bases for its reasonable assurance finding will be maintained in the future?

A23. The NRC Staff developed draft license conditions and inspection, test, analysis, and acceptance criteria (“ITAAC”) for Fermi 3. The draft COL identifies proposed license conditions, including conditions related to the Fukushima Near-Term Task Force Recommendations, and ITAAC. The basis for each license condition or ITAAC appears in the technical evaluations in the Fermi 3 COL FSER and the ESBWR DCD FSER, which is incorporated into the Fermi 3 COLA.

Q24. Did the NRC Staff reach a “reasonable assurance” conclusion with respect to the Fermi 3 COL?

A24. Yes. The NRC Staff concluded based on its safety and environmental reviews, documented in the FSER and FEIS, respectively, that there is reasonable assurance that the facility will be constructed and will operate in conformance with the license, the provisions of the Atomic Energy Act and the Commission’s regulations.

Q25. Do you agree with the NRC Staff’s conclusion?

A25. Yes.

D. 10 C.F.R. § 52.97(a)(1)(iv)

Q26. Is DTE technically qualified to engage in the activities authorized by the COL?

A26. Yes. DTE has the historical and present-day engineering and management experience (including operations, engineering, and other functions) to be technically-qualified to engage in the construction and operation of Fermi 3. DTE previously acted as the Architect Engineer (“AE”) for the construction of Fermi 2.

DTE has been the sole operator of Fermi 2 since it began operations. The Fermi 3 project is part of DTE Electric's Major Enterprise Projects ("MEP") organization. MEP currently manages major capital projects (~\$1 billion annually) to support the expansion of the company's generation portfolio, meet the EPA's emission regulations, and improve electrical distribution within the city of Detroit and all of Southeast Michigan. The MEP Project Management Organization contains a stand-alone Quality Assurance ("QA") organization capable of overseeing a Nuclear Development organization. Additionally, MEP has achieved and maintained a Project Management Maturity Model ("PMMM") Level 4, which demonstrates that MEP is a high-functioning and mature organization.

Q27. Did the NRC Staff conclude that DTE was technically qualified to engage in the activities authorized by the COL?

A27. Yes. As documented in the NRC Staff's FSER, the NRC Staff evaluated DTE's experience, organizational structure, and QA program. The NRC noted that DTE currently operates Fermi 2 at the Fermi site and has demonstrated its ability to build and operate a nuclear power reactor. The NRC Staff concluded that DTE has demonstrated the ability to choose and manage the oversight of nuclear steam supply system vendors, architect-engineers, and constructors of nuclear-related work. The NRC Staff also reviewed DTE's organizational structure and concluded that its management, technical support, and operating organizations meet NRC expectations under the Standard Review Plan, including clear lines of authority and communication. The NRC Staff reviewed the QA program and found it acceptable. This QA program includes requirements that will be

implemented by the applicant's engineering, procurement, and construction contractor. The adequacy of the applicant's QA program was a topic addressed in the contested hearing and resolved in DTE's favor. Based on the NRC Staff's evaluation of DTE's experience with constructing and operating a nuclear power plant, its operating organization, and its QA program, the NRC Staff found that DTE is technically qualified to hold a COL.

Q28. Is DTE financially qualified to engage in the activities authorized by the COL?

A28. Yes. DTE provided information in the COLA to demonstrate its financial qualifications, including information regarding cost of construction and operation of Fermi 3, decommissioning funding assurance, foreign ownership, and nuclear insurance and indemnity. DTE expects to be able to recover in rates those costs associated with the construction of Fermi 3, including interest costs. Legislation enacted by the State of Michigan in 2008 includes provisions for interest cost recovery during construction and establishes a certificate of need process that will establish, prior to beginning plant construction, how construction costs would be recovered as well as the projected amount. The decommissioning funding amount will be covered by DTE through an external sinking fund. DTE will collect decommissioning funding contributions through regulated, cost-of-service based rates.

Q29. Did the NRC Staff conclude that DTE was financially qualified to engage in the activities authorized by the COL?

A29. Yes. The NRC Staff reviewed the information provided by DTE. The NRC Staff evaluated information pertaining to the total cost of Fermi 3, consisting of engineering, procurement, construction costs, owners' costs, financing costs, inflation and information pertaining to funding sources. The NRC Staff also considered regulations and guidance related to financial protection requirements and indemnity agreements, sources of funds for construction, financial qualifications, and decommissioning funding assurance. The NRC Staff's evaluation is in FSER, Chapter 1. Based on its review, the NRC Staff found that DTE has demonstrated that it possesses or has access to the financial resources necessary to meet estimated operation and construction costs and related fuel cycle costs and therefore is financially qualified to construct and operate Fermi 3 and engage in the authorized activities.

E. **10 C.F.R. § 52.97(a)(1)(v)**

Q30. Will issuance of the license be inimical to the common defense and security or to the health and safety of the public?

A30. No. DTE provided information, analysis, and conclusions regarding site-specific conditions, including geography and demography of the site; nearby industrial, transportation, and military facilities; site meteorology; site hydrology; and site geology, seismology, and geotechnical engineering to ensure that issuance of the licenses will not be inimical to public health and safety. In addition to a review of that information, the NRC Staff also evaluated the design of structures, components, equipment, and systems to ensure safe operation, performance, and shutdown when subjected to extreme weather, floods, seismic events, missiles

(including aircraft impacts), chemical and radiological releases, and loss of offsite power to the extent not already resolved by the incorporation of the ESBWR design.

Q31. What did the NRC Staff conclude based on that review?

A31. The review confirmed that radiological releases and human doses during both normal operation and design basis accident scenarios will remain within regulatory limits, which supports the NRC Staff's conclusion that issuance of the licenses will not be inimical to public health and safety. The review also determined that the physical security to be implemented at the site is adequate to protect the facility, which supports the NRC Staff's conclusion that issuance of the licenses will not be inimical to the common defense and security.

Q32. What about operational programs?

A32. The NRC Staff evaluation included the operational programs identified in the Staff Requirements Memorandum for SECY-05-0197, dated February 22, 2006, as well as additional operational programs, including a cybersecurity program, a program for SNM, and a SNM physical security program. These programs are listed in the Fermi 3 FSAR at Table 13.4-201, "Operational Programs Required by NRC Regulations." The NRC Staff's review determined that operational programs identified by DTE are sufficiently described to assure compliance with regulations. Where the NRC Staff needed to confirm operational program implementation to reach a reasonable assurance finding, but the details of program implementation were not governed by specific regulatory requirements, the draft license contains conditions to ensure that operational programs will be

properly implemented. This also supports the NRC Staff's conclusion that issuance of the COL will not be inimical to the common defense and security or to public health and safety.

Q33. Did the NRC Staff review DTE's emergency plan?

A33. Yes. The NRC Staff concluded that DTE's emergency preparedness and response plan is acceptable and supports the NRC Staff's conclusion that issuance of the COL will not be inimical to public health and safety. DTE has based that plan on the existing plan for Fermi 2.

Q34. Did the NRC Staff make an overall inimicality finding?

A34. Yes. Based on its review of the COL, the NRC Staff concluded that issuance of the Fermi 3 COL will not be inimical to the common defense and security or to public health and safety.

F. 10 C.F.R. § 52.97(a)(1)(vi)

Q35. Has the NRC Staff's review been adequate to support the findings set forth in 10 C.F.R. § 51.107(a)?

A35. Yes, as discussed in the sections below, the NRC Staff's environmental review has been adequate to support the findings set forth in 10 C.F.R. § 51.107(a) for the purpose of issuing a COL for construction and operation of Fermi 3.

G. 10 C.F.R. § 51.107(a)(1)

Q36. Have the requirements of Sections 102(2) (A), (C), and (E) of NEPA and the regulations in this subpart been met?

A36. Yes. The NRC Staff evaluated the Fermi 3 COLA, including the Environmental Report, against applicable NRC regulations in 10 C.F.R. Parts 50, 51, 52, and 100

using applicable portions of the environmental SRP, issued in 2000 and updated in 2007, as well as ISGs, Reg. Guides, and generic letters.

Q37. How did the NRC Staff prepare the Fermi 3 FEIS?

A37. The NRC Staff prepared the Fermi 3 FEIS based on its independent assessment of the information provided by DTE and information developed independently by the NRC Staff, including through consultation with other State and Federal agencies. The NRC Staff's findings in the FEIS reflect the "hard look" required by NEPA and have support in logic and fact.

Q38. What was the scope of the FEIS?

A38. As required by NEPA, the Fermi 3 FEIS addresses (1) the environmental impact of the proposed action, (2) unavoidable adverse environmental effects, (3) alternatives to the proposed action, (4) the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, and (5) irreversible and irretrievable commitments of resources that would be involved in the proposed action should it be implemented.

Q39. You mentioned consultation with other agencies. Can you briefly describe those efforts?

A39. The U.S. Army Corps of Engineers ("USACE") participated as a cooperating agency in preparing the Fermi 3 FEIS and collaborated with the NRC Staff review team under a Memorandum of Agreement with the USACE. The NRC Staff also consulted with and received comments from other State and Federal agencies with jurisdiction by law or special expertise, such as the U.S. Fish and Wildlife Service

and the U.S. Environmental Protection Agency. This correspondence is described in Appendix F of the FEIS.

Q40. What types of alternatives did the NRC Staff consider in the FEIS?

A40. The alternatives considered in the FEIS included the no-action alternative, energy alternatives, alternative sites, and system design alternatives. The FEIS demonstrates that the NRC Staff adequately considered alternatives to the proposed action, consistent with the requirements of NEPA.

H. 10 C.F.R. § 51.107(a)(2)

Q41. Has the NRC Staff independently considered the final balance among conflicting factors contained in the record of the proceeding with a view to determining the appropriate action to be taken?

A41. Yes. FEIS Section 10.6 contains the NRC Staff's summary of the cost-benefit balancing for the Fermi 3 COL. The NRC Staff concluded that construction and operation of the proposed Fermi 3 site, with mitigation measures identified by the NRC Staff, would have accrued benefits that most likely would outweigh the economic, environmental, and social costs associated with constructing and operating a new unit at the Fermi site. The primary benefit from building and operating Fermi 3 is that it would generate baseload power and provide thousands of residential, commercial, and industrial consumers with electricity. The social and economic benefits of maintaining an adequate supply of electricity may be large, given that reliable electricity supplies are key to economic stability and growth. Other benefits include tax revenue, regional productivity, and community development. The benefits of building and operating Fermi 3 are

presented in Table 10-3. Internal costs to DTE, as well as external costs to the surrounding region and environment, would be incurred during the preconstruction, construction, and operation of Fermi 3. Internal costs include the costs to build the power plant (capital costs), as well as operating and maintenance costs, and the costs of fuel, waste disposal, and decommissioning. External costs include all costs imposed on the environment and region surrounding the plant and may include the loss of regional productivity, environmental impacts, and loss of habitat. Internal and external costs of building and operating Fermi 3 are presented in Table 10-4.

I. 10 C.F.R. § 51.107(a)(3)

Q42. After weighing the environmental, economic, technical, and other benefits against environmental and other costs, and considering reasonable alternatives, should the COL be issued?

A42. Yes. In the Fermi 3 FEIS, the NRC Staff considered the cost-benefit balancing and reasonable alternatives. Based on that assessment, the NRC Staff recommends that the COL be issued. The overall conclusion was based on (1) the Fermi 3 ER; (2) consultation with Federal, State, Tribal, and local agencies; (3) the NRC Staff review team's own independent evaluation; (4) the NRC Staff's consideration of public scoping comments on the environmental review; and (5) the assessments summarized in the FEIS, including potential mitigation measures. The NRC Staff also found that none of the alternative sites assessed in the FEIS is obviously superior to the Fermi site. I concur with the NRC Staff's conclusions.

Q43. How does the NRC Staff's conclusion relate to the findings that the USACE must make for activities within its jurisdiction?

A43. The NRC's conclusion is independent of the USACE's determination of a Least Environmentally Damaging Practicable Alternative under Section 404(b) of the Clean Water Act and the USACE's public interest review. The USACE's independent regulatory permit decision documentation also will address other information and evaluations that are outside the NRC's scope of analysis (and therefore not addressed in the Fermi 3 FEIS), but that are required by the USACE to support its permit decision.

J. 10 C.F.R. § 51.107(a)(4)

Q44. Has the NRC Staff's review been adequate?

A44. Yes. The NRC Staff conducted an independent evaluation of the application that consumed more than four years and more than 260 environmental RAIs. The NRC Staff developed independent, reliable information and conducted a systematic, interdisciplinary review of the potential impacts of the proposed action on the environment and reasonable alternatives to the proposed action. The NRC Staff considered the purpose of and need for the proposed action, the environment that could be affected by the action, and the consequences of the proposed action, including mitigation that could reduce impacts. The FEIS considered the potential impact of conservation measures in determining the demand for power and consequential need for additional generating capacity. The FEIS compared the alternatives to the proposed action. The NRC Staff considered the adverse environmental effects that could not be avoided should the

proposed action be implemented, the relationship between short-term uses of the human environment and the maintenance and enhancement of long-term productivity, and the irreversible or irretrievable commitments of resources that would be involved in the proposed project.

Q45. How did NRC Staff consider the impacts of the potential new offsite transmission corridor, which is a preconstruction activity under NRC regulations?

A45. The NRC Staff discusses the impacts of offsite transmission lines throughout the Fermi 3 FEIS. The FEIS observes (at 2-45) that new offsite transmission lines built to support Fermi 3 would be owned and operated by *ITCTransmission*, and that DTE has no control over the siting, design, or operation of offsite transmission lines. The FEIS explains (at 2-10) that *ITCTransmission* has not formally announced a route for a new offsite transmission line serving Fermi 3. The NRC Staff therefore relied on publicly-available information and reasonable expectations regarding configurations that *ITCTransmission* would use for the offsite transmission corridor based on standard industry practice. The FEIS notes that a new transmission line is expected to be built within an existing corridor for approximately 18.6 miles extending outward from the Fermi site. The remaining 10.8 miles, extending to the Milan Substation, would be built within an undeveloped right-of-way (“ROW”) owned by *ITCTransmission*. The FEIS notes (at 2-46) that some transmission tower footings were installed in the undeveloped ROW as part of earlier plans but were not used, and the corridor has been only minimally maintained. The undeveloped ROW crosses mostly agricultural and

forest land with scattered wetlands, and no part of the route crosses designated or protected natural or recreational areas.⁵

Q46. Did the NRC Staff approach follow NRC regulations and guidance, as well as the approach used for prior COLs?

A46. Yes. The NRC Staff’s approach in the FEIS is consistent with the definition of construction and also follows NRC Staff guidance on evaluation of preconstruction impacts in COL/ESP-ISG-026, “Environmental Issues Associated with New Reactors.”⁶ ISG Attachment 4 clarifies the cumulative effects analysis, which includes offsite transmission and other preconstruction activities. Attachment 6 specifically notes that “transmission lines are clearly not construction” and, as a result, the NRC Staff will no longer consider alternative transmission systems. The NRC Staff’s approach is also consistent with that taken for other COLs. For example, in reviewing uncontested issues for *Summer*, the Commission found the NRC Staff’s treatment of offsite transmission impacts—that is, assessing “preconstruction” activities as cumulative impacts—to be acceptable.⁷ The NRC approach in the Fermi 3 FEIS is the same.

Q47. Does the NRC Staff’s approach satisfy NEPA?

A47. Yes. Ultimately, the FEIS complies with NEPA by taking a hard look at the combined impact of Fermi 3 and the offsite transmission corridor. The purposes of NEPA are to consider and disclose environmental impacts — whether the

⁵ FEIS at 2-10.

⁶ This guidance was issued for public comment. 78 Fed. Reg. 56750 (Sept. 13, 2013).

⁷ *See, e.g., South Carolina Electric & Gas Co. and Santee Cooper* (Virgil C. Summer Nuclear Station, Units 2 and 3), CLI-12-09, __ NRC __ (2012) (slip op. at 9-10, 53-54).

action is termed a connected or cumulative action. By any measure, the Fermi 3 FEIS meets that standard. The FEIS describes the environmental attributes of the anticipated transmission corridor in Chapter 2 and discusses the impacts of transmission corridor construction and operation in Chapters 4 and 5, respectively. Chapter 4 also contains a “bounding analysis” of potential wetland impacts from transmission line construction. All of these impacts are summarized in Appendix M, *Environmental Impacts from Building and Operating Transmission Lines Proposed to Serve Fermi 3*. Appendix M provides a roadmap to the sections in the FEIS that specifically discuss the environmental impacts from transmission lines.

Moreover, the discussion of unavoidable adverse impacts and costs used in the NEPA balancing portion of the FEIS (Chapter 10) specifically addresses offsite transmission impacts, including adverse impacts, mitigation measures, and costs. The NRC Staff therefore specifically considered transmission corridor impacts in making the overall cost-benefit balance in the FEIS.⁸ Ultimately, the NRC Staff’s assessment is consistent with NEPA’s “rule of reason.” While there “will always be more data that could be gathered,” agencies “have some discretion to draw the line and move forward with decisionmaking.”⁹ NEPA “should be construed in the light of reason if it is not to demand” virtually infinite study and resources.¹⁰

Here the FEIS includes a detailed assessment of impacts based on the best

⁸ The NRC Staff also considered offsite transmission corridor impacts in its alternative energy sources and alternative site reviews. *See, e.g.*, FEIS at 9-87, 9-143, 9-193.

⁹ *Town of Winthrop v. FAA*, 535 F.3d 1, 11 (1st Cir. 2008).

¹⁰ *Natural Resources Defense Council v. Hodel*, 865 F.2d 288, 294 (D.C. Cir. 1988).

information available, considering DTE's lack of authority over siting, design, and construction the offsite transmission lines and the current state of ITCTransmission's planning efforts. The FEIS satisfies NEPA.

Q48. Was the public permitted to participate in the environmental review process?

A48. Yes. At the start of the environmental review, the NRC Staff issued a notice of intent to prepare an FEIS and invited the public to provide any information relevant to the environmental review (the NEPA scoping process). The NRC Staff also provided opportunities for governmental and general public participation during the public meeting on the DEIS and sought, received, and responded to comments on the DEIS from the public. Those responses are documented in the FEIS. The NRC also considered environmental contentions in the public hearing process conducted under the Atomic Energy Act.

Q49. What are your overall conclusions regarding the NRC Staff's environmental review?

A49. I agree with the NRC Staff that, for the purpose of issuing the Fermi 3 COL, the NRC Staff conducted a thorough and complete environmental review that was sufficient to meet the requirements of NEPA and adequate to inform the Commission's action on the COL request.

CONCLUSION

Q50. What are your overall safety conclusions regarding issuance of the COL?

A50. With respect to safety issues, the application and the record of the licensing review contain sufficient information, and the review of the application by the NRC Staff has been adequate, to support the findings to be made by the

Commission, with respect to the standards set forth in the Hearing Notice and the applicable standards in NRC regulations. Based on the record, DTE is technically and financially qualified to construct and operate the Fermi 3. Issuance of a permit for the construction and operation of Fermi 3 will not be inimical to the common defense and security or to the health and safety of the public.

Q51. What are your overall environmental conclusions regarding issuance of the COL?

A51. Based upon the entire record of this proceeding, the environmental review conducted by the NRC Staff pursuant to 10 C.F.R. Part 51 has been adequate; the requirements of Sections 102(2)(A), (C), and (E) of NEPA have been satisfied; an independent weighing and balancing of the environmental, technical, and other costs and benefits of Fermi 3 supports issuance of the license; and the requested license should be issued.

I hereby certify under penalty of perjury that the forgoing is true and complete to the best of my knowledge, information, and belief.

Executed in accord with 10 C.F.R. § 2.304(d),

signed electronically by Peter W. Smith

Peter W. Smith
DTE Electric Company
One Energy Plaza
Detroit, MI 48226
smithpw@dteenergy.com

Dated at Detroit, Michigan
this 14th day of January 2015

DTE Energy Company
One Energy Plaza, Detroit, MI 48226



Peter W. Smith

Director, Nuclear Development – Licensing and Engineering
DTE Electric Company

Peter Smith is the Director, Nuclear Development-Licensing and Engineering for DTE Electric Company. In this capacity he has overall responsibility for obtaining Nuclear Regulatory Commission approval of Detroit Edison’s combined license application for a potential new nuclear power plant at the Company’s Fermi site near Monroe, Michigan.

Mr. Smith has over 30 years of experience in the commercial nuclear power industry in primarily licensing and engineering roles. Mr. Smith holds a Bachelor of Engineering in chemical engineering from the Royal Military College of Canada, and a Masters of Science in Engineering Science from the University of Toledo. Mr. Smith is a Licensed Professional Engineer in the Province of Ontario. He resides in Monroe, Michigan, and is active in the local chapter of the American Nuclear Society.

Education

University of Toledo (1990-1996)
MSC/Engineering Science-Chemical Engineering

Royal Military College of Canada (1973-1977)
BEng/Chemical Engineering

Professional Affiliations

Professional Engineer (Chemical Engineering), Province of Ontario
American Nuclear Society

Technical Training

Operating System Specialist

Additional Training

Crucial Conversations
Institute of Nuclear Power Operation (INPO) Senior Nuclear Plant Managers Course (2005)
INPO Organizational Effectiveness Peer evaluator
SRO Site Certification, Davis-Besse (1995) Attach

Experience History

Director Nuclear Development-Licensing and Engineering

April 2007 to present

Responsibilities: All aspects of preparation, submittal, maintenance and obtaining NRC approval of the Fermi 3 Combined License Application. Licensing and technical support for other NDP nuclear capital projects.

Director Nuclear Projects

April 2006 to April 2007

Responsibilities: Led key projects in Fermi 2 engineering department to improve performance. Led corrective action program improvements in engineering; resolved complex licensing/engineering issues; Utilities Services Alliance dry fuel storage services contract

Director Nuclear Assessment

January 2004 to April 2006

Responsibilities: Overall responsible for Licensing, Quality Assurance; Nuclear Training; and Performance Improvement departments at Fermi 2.

Manager, Nuclear Fuels/Probabalistic Risk Assessment

May 2002 to January 2004

Responsibilities: Managed groups with responsibility for reactor engineering support of plant operations, oversight of nuclear fuel suppliers, and probabalistic risk assessment in support of plant operations. Chaired the Engineering Support Training Program Review Committee during successful technical training program re-accreditation.

Supervisor, Independent Safety Engineering Group

May 2000 to May 2002

Responsibilities: Supervised staff with responsibility for independent review of line organization activities, the operating experience program, the transient assessment program, and review of outage defense-in-depth plans.

Supervisor, Compliance, Detroit Edison

September 1999 to May 2000

Responsibilities: Supervised staff with primary responsibility for the company interface with the NRC regional office and resident inspectors. Responsible for coordinating NRC inspections, resolving NRC issues, interpreting regulations, evaluating reportability and operability issues. Advised management on appropriate resolution of regulatory issues.

Principal Compliance Engineer, Detroit Edison

December 1998 to September 1999

Responsibilities: Responsible for coordinating NRC inspections, resolving NRC issues, interpreting regulations, evaluating reportability and operability issues. Advised management on appropriate resolution of regulatory issues.

Senior Engineering Consultant, Advent Engineering Services, Inc.

September 1997 to December 1998

Responsibilities Performed technical assessments and senior level task oriented services related to system assessments, thermo-hydraulic analysis, design basis research, regulatory issue resolution, and management consulting.

Director, Nuclear Licensing, Detroit Edison

August 1996 to June 1997

Responsibilities: Managed a staff of 30 with primary responsibility for the company interface with the NRC, Emergency Planning, and Independent Safety Engineering oversight. Evaluated and developed staffing plans for Nuclear Licensing organization. Advised senior management, developed and implemented strategies to resolve regulatory issues.

Supervisor Compliance, Toledo Edison

November 1993 to August 1996

Responsibilities: Supervised staff with primary responsibility for the company interface with the NRC regional office and resident inspectors. Responsible for coordinating NRC inspections, resolving NRC issues, interpreting regulations, evaluating reportability and operability issues, and licensing of dry fuel storage. Participated in an International Atomic Energy Agency task to develop guidance for safety reviews and evaluations for modifications to spent fuel storage facilities.

Senior Engineer / Engineer Licensing, Toledo Edison

May 1989 to November 1993

Responsibilities: Obtained NRC approval of various license amendments and other regulatory approvals related to spent fuel storage expansion, ASME Code issues, engineering and operations issues. Provided Public Affairs support relating to implementation of dry fuel storage.

Senior Nuclear Licensing Engineer / Nuclear Licensing Engineer, Southern California Edison Company

April 1982 to May 1989

Responsibilities: Obtained NRC approval of over 70 technical specifications changes. Was responsible for periodic updating of the safety analysis report, and responding to NRC requests for information and notices of violation. Implemented a full text search and retrieval system for licensing documents. Chaired the Combustion Engineering Owners Group Technical Specification and Licensing Subcommittee from 1985 to 1987 during the initial development of the improved standard technical specifications.

Reliability Engineer. Holmes and Narver, Inc., Orange CA

July 1981 to April 1982

Responsibilities: Performed reliability studies of an automatic trip system for a petrochemical plant using fault tree analysis techniques. Developed test procedures to address deficiencies.

Instrumentation and Control Engineer, Spectrum Engineering, Peterborough, Ontario, Canada

November 1979 to June 1981

Responsibilities: Performed reliability studies of nuclear plant emergency core cooling, reactor scram, and on-site power distribution systems using fault tree analysis techniques. Recommended design changes to instrumentation and control systems.

Land Ordinance Engineering Officer, Canadian Armed Forces

May 1997 to August 1979

Responsibilities: Lieutenant in charge of a 70-man maintenance organization responsible for first line maintenance of land-based military equipment, investigating equipment failures, managing resources, and personnel administration.
