

ABSTRACT

This final safety evaluation report¹ (FSER) documents the U.S. Nuclear Regulatory Commission (NRC) staff's technical review of the combined license (COL) application submitted by Detroit Edison Company² (DTE, or the applicant), for the Enrico Fermi Unit 3.

In a letter dated September 18, 2008, the Detroit Edison Company (DTE) submitted an application to the U.S. Nuclear Regulatory Commission (NRC or the Commission) for a COL to construct and operate an Economic Simplified Boiling-Water Reactor (ESBWR) pursuant to the requirements of Section 103 and 185(b) of the *Atomic Energy Act of 1954 as Amended (AEA)*, Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, "Licenses, Certifications and Approval for Nuclear Power Plants," and the associated material licenses under 10 CFR Part 30, "Rules of General Applicability to Domestic Licensing of Byproduct Material"; 10 CFR Part 40, "Domestic Licensing of Source Material"; and 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material." This reactor will be identified as Fermi 3 and will be located on the existing Fermi site in Monroe County, Michigan. The initial application incorporated by reference the General Electric-Hitachi's (GEH's) 10 application for the ESBWR design certification, as described in Revision 4 of the design control document (DCD) (submitted September 8, 2007). In a letter dated February 14, 2014, (COL application submittal Revision 6), the applicant incorporated by reference ESBWR DCD, Revision 10. The results of the NRC staff's evaluation of the ESBWR DCD are in NUREG-1966, "Final Safety Evaluation Report Related to the Certification of the Economic Simplified Boiling-Water Reactor Standard Design," and its supplement.

This FSER presents the results of the staff's review of information submitted in conjunction with the COL application, except those matters resolved as part of the referenced design certification rule. In Appendix A to this FSER, the staff has identified certain license conditions and inspections, tests, analyses and acceptance criteria (ITAAC) that the staff recommends the Commission impose, should the COL be issued to the applicant. In addition to the ITAAC in Appendix A, the ITAAC found in the ESBWR DCD Revision 10 Tier 1 material will also be incorporated into the COL should the COL be issued to the applicant.

On the basis of the staff's review³ of the application, as documented in this FSER, the staff recommends that the Commission find the following with respect to the safety aspects of the COL application: 1) the applicable standards and requirements of the Atomic Energy Act and Commission regulations have been met, 2) required notifications to other agencies or bodies have been duly made, 3) there is reasonable assurance that

¹ This FSER documents the NRC staff's position on all safety issues associated with the combined license application. The Advisory Committee on Reactor Safeguards (ACRS) independently reviewed those aspects of the application that concern safety, as well as the advanced safety evaluation report without open items (an earlier version of this document), and provided the results of its review to the Commission in a report dated DATE. This report is included as Appendix F to this SER.

² By letter dated December 21, 2012, the Detroit Edison Company informed the NRC that effective January 1, 2013, the name of the company would be changed to "DTE Electric Company." The legal entity will remain the same.

³ An environmental review was also performed of the COL application and its evaluation and conclusions are documented in NUREG-2105, "Final Supplemental Environmental Impact Statement for Combined License (COL) for Enrico Fermi Unit 3."

the facility will be constructed and will operate in conformity with the license, the provisions of the Atomic Energy Act, and the Commission's regulations, 4) the applicant is technically and financially qualified to engage in the activities authorized, and 5) issuance of the license will not be inimical to the common defense and security or to the health and safety of the public.