Chapter 1 Introduction

Environmental Reports (ERs) are documents submitted to the Nuclear Regulatory Commission (NRC) by a license applicant to aid the NRC in complying with Section 102(2) of the National Environmental Policy Act (NEPA). This ER is submitted as Part 3 of the Application for a Combined License (COLA) for a new nuclear power plant at the Detroit Edison Enrico Fermi Atomic Power Plant (Fermi) site in Monroe County, Michigan in compliance with the requirements contained within 10 CFR 52, Subpart C, for Combined Licenses.

This report was prepared in accordance with the guidance provided in NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants" and Regulatory Guide 4.2, Revision 2, "Preparation of Environmental Reports for Nuclear Power Stations." The organization and format of this report follows the general format guidelines specified by NUREG-1555, as follows:

- Chapter 1: Introduction
- Chapter 2: Environmental Description
- Chapter 3: Plant Description
- Chapter 4: Environmental Impacts of Construction
- Chapter 5: Environmental Impacts of Station Operations
- Chapter 6: Environmental Measurement and Monitoring Programs
- Chapter 7: Environmental Impacts of Postulated Accidents Involving Radioactive Materials
- Chapter 8: Need for Power
- Chapter 9: Alternatives to the Proposed Action
- Chapter 10: Environmental Consequences of the Proposed Action

Chapter 1 provides a brief introductory description of the proposed project and the site location and identification of the applicant (Section 1.1). This Chapter also identifies and assesses environmentally related authorizations required by Federal, State, regional, local, and affected Native American tribal agencies as a prerequisite to plant licensing and construction (Section 1.2).

1.1 The Proposed Project

Detroit Edison (the Applicant) proposes to construct and operate a new nuclear power plant at the Fermi site. The proposed unit is to be designated as Fermi 3. Federal action resulting in the issuance of a Combined License (COL) by the Nuclear Regulatory Commission under 10 CFR 52, Subpart C, "Combined Licenses for Nuclear Power Plants" is anticipated.

Purpose

The purpose of the project is fourfold:

1. Generate at least 1535 ± 50 megawatts (MW) of electricity for sale that will reliably aid in satisfying the forecasted energy and capacity needs of Detroit Edison customers located in the Detroit Edison Service Territory;
2. Provide new baseload electric generation capacity as early as 2021 to compensate for the expected retirement of existing, aging baseload generating units and diminishing availability of the Midwest Independent Service Operator regions baseload generation capacity;
3. Provide price stability by minimizing reliance on imported power into the Detroit Edison service territory; and
4. Utilize an electric generation technology that is less subject to price fluctuations resulting from either fuel or regulatory drivers, provides fuel diversity, and reduces reliance on fossil fuel and their attendant environmental impacts.

The above purpose is in-line with Detroit Edison's mission to provide reliable and affordable electrical power.

Need

Construction of a new electric generating facility is needed to provide reliable, affordable power to address Michigan's expected future peak electric demand.

Chapter 8 of the Environmental Report provides detailed discussion outlining the need for power and the related benefits to be generated by the proposed facility. The need for power was assessed by balancing the current and forecasted demand against the current and forecasted supply, while demonstrating that an adequate reserve margin is maintained. Reference Chapter 8 and Chapter 9 for a complete description of:

- Section 8.1 – Description of the power system, an overview of the pertinent service area, and a discussion of regional relationships;
- Section 8.2 – Description of the analysis performed to determine current and forecasted energy needs in the State of Michigan;
- Section 8.3 – Description of the analysis performed to determine energy supply resources;
- Section 8.4 – Description of the assessment of the need for power; and
- Section 9.1 – Description of the no-action alternative.

The need for power assessment is derived from the Michigan 21st Century Electric Energy Plan (Plan). The Plan was prepared and issued by the Michigan Public Service Commission pursuant to Executive Directive No. 2006-02. The Plan reached several significant conclusions including:

- Michigan's peak electric demand is forecasted to grow at approximately 1.2 percent per year for the next 20 years;
- There is a need for additional electric generating resources in order to preserve electric reliability and provide affordable energy over the next 20 years. This modeling outcome is confirmed even in the presence of increased use of energy efficiency and renewable resources;
- The projected electric demand will not be satisfied through the expansion of transmission nor access to external markets; and
- There is need for regulated baseload capacity to prevent natural gas prices from driving up wholesale costs and market prices for an increasing number of hours each year.

The above conclusions were based upon key factors such as the current age of baseload units and newer electric generating units' reliance on natural gas. As indicated above, the Plan concluded that the State of Michigan has a current need for new baseload capacity and the need is projected to increase. Michigan's current baseload generating units are an average of more than 48 years old. The average age of Detroit Edison's coal-fired generation units is 44 years old. The last new baseload plant in the State of Michigan began commercial operation more than 18 years ago. The assessment assumes that older, less efficient units, totaling 3755 MW of capacity, will be retired by 2025.

Further, new baseload electric production is needed due to the fact that recently constructed electric generation units in Michigan have been limited to natural gas-fired facilities. Natural gas-fired units currently represent approximately 29 percent of Michigan's generating capacity. Dependence upon natural gas-fired units has exposed Michigan to volatile electricity prices driven by fluctuating fuel market prices.

1.1.1 Ownership and Applicant

The Applicant applying for a COL for the proposed nuclear power plant at the Fermi site is the Detroit Edison Company, a wholly owned subsidiary of DTE Energy, and is the owner of the proposed project. Detroit Edison is the licensed operator of the existing Fermi 2 nuclear power plant and will be responsible for construction and operation of the proposed project. Detroit Edison is the proposed licensee.

1.1.2 Site Location

The proposed location of the new nuclear power plant is the existing Fermi site. The Fermi site, the area within the Fermi property boundary, consists of approximately 1260 acres in eastern Monroe County, Michigan. The Fermi site is situated along the western shoreline of Lake Erie. It is approximately 24 miles northeast of Toledo, Ohio, 30 miles southwest of Detroit, Michigan, and 7 miles from the United States/Canada international border. Figure 2.1-3 and Figure 2.1-4 provide illustrations of the Fermi site. Figure 2.1-3 illustrates the property boundary that encompasses the approximately 1260 acres comprising the Fermi site. Figure 2.1-4 illustrates the Fermi 3 site plan.

1.1.3 Reactor Information

The Applicant proposes to construct and operate an ESBWR designed by GE-Hitachi Nuclear Energy Americas, LLC (GEH) at the Fermi site in Monroe County, Michigan. According to the ESBWR Design Control Document (DCD), the reactor has a rated core thermal power of 4500 megawatts thermal (MWt) and a gross electrical output of approximately 1605 ± 50 megawatts electric (MWe). The reactor's standard net estimated electrical power output is approximately 1535 MWe (Reference 1.1-1). The NRC accepted the ESBWR Design Certification Application for review in a letter dated December 1, 2005 and expects review of the Application to continue through 2010 (Reference 1.1-2).

1.1.4 Cooling System Information

As discussed in Chapter 3, the GEH ESBWR reactor design proposes to dissipate waste heat from the Main Condenser and transfers this heat to the Normal Power Heat Sink (NPHS). The Fermi 3 NPHS consists of a hyperbolic natural draft cooling tower. The Auxiliary Heat Sink consists of mechanical draft cooling towers.

The Fermi Station Water System (SWS) provides the necessary makeup water for the cooling systems utilized by Fermi 3 from Lake Erie. The SWS withdraws water via an intake bay formed by two rock groins extending into Lake Erie.

Cooling tower blowdown water is discharged to Lake Erie through a new wastewater discharge outfall located in Lake Erie.

1.1.5 Transmission System Information

Onsite

A new transmission corridor has been identified on the Fermi site. This new transmission corridor will be approximately 170 feet wide and will include two sets of towers carrying both rerouted 345 kV lines serving Fermi 2 and the new 345 kV lines serving Fermi 3. The new transmission lines are needed to transmit power from the Fermi 3 generator to the Fermi 3 switchyard at the intersection of Toll Road and Fermi Drive. Onsite 120 kV support for Fermi 2 will be routed underground along the disturbed Fermi Drive corridor.

The two 345 kV transmission lines exiting the Fermi 2 switchyard are owned by ITC*Transmission*; however, the two 345 kV transmission lines to leave the Fermi 3 Power Plant are to be owned by Detroit Edison up to the proposed new Fermi 3 switchyard. Detroit Edison will continue to own the land on the Fermi site housing the new transmission corridor, but expects to contract with ITC*Transmission* to maintain these transmission lines and towers.

Offsite

The International Transmission Company (ITC*Transmission*) proposes to service the Fermi 3 station through the installation of three new 345 kV transmission lines from the Fermi site to the Milan Substation. The new lines for Fermi 3 will run in a common corridor with transmission lines for Fermi 2, to a point just east of I-75. From the intersection of this Fermi site corridor and I-75, the

three Fermi-Milan lines will run west and north for approximately 12 miles in a corridor shared with other non-Fermi lines. From this point, all non-Fermi lines turn north and continue on to their respective destinations and the three Fermi-Milan lines will continue west through an estimated 300-foot corridor for approximately 10 miles to the Milan substation. The ITC*Transmission* system transfers power from power plants to local distribution systems. The ITC*Transmission* system also carries power resulting from transfers from power plants to loads across the Eastern Interconnection. The 345 kV transmission system and associated corridors including the proposed route for Fermi 3 are exclusively owned and operated by ITC*Transmission*. The Applicant has no control over the construction or operation of the transmission system. The interconnection point is between Fermi 3 and the switchyard. It is assumed that the Milan Substation may also be expanded from its current size of 350 by 500 feet to an area approximately 1,000 by 1,000 feet to accommodate the three new transmission lines from Fermi 3. (Reference 1.1-3)

1.1.6 **Proposed Action and Constraints**

The action proposed by the applicant is the construction and operation of a new nuclear power unit on the Fermi site. The 10 CFR 52 licensing process is being followed to obtain a combined license. The combined licensing process includes Design Certification for the ESBWR by the NRC. The Applicant has not identified any constraints to the review process at the time of submittal of this application. Prior to commencement of construction, numerous other permits and approvals are required from Federal, State and local agencies. The permits and approvals required for the construction and operation of a new unit are discussed in Section 1.2. During the permitting processes, opportunities are provided for public participation.

Detroit Edison undertook statistical analysis at the county and Census Block Group level and concluded that the areas near the Fermi site do not qualify as low income or minority areas according to the standard definitions adopted for environmental justice evaluations. Detroit Edison has also had discussions with Monroe County officials and citizens confirming these conclusions and indicating their belief that there are no environmental justice or subsistence living concerns. Given the lack of populations qualifying as low income or minority near the Fermi site and the input from citizens and county officials, no discussions have been held beyond those summarized here. Additional information on low income and minority populations is provided in Subsection 2.5.4, Subsection 4.4.3, and Subsection 5.8.3.

1.1.7 **Major Activity Start and Completion Dates**

The Applicant seeks a COL permitting the construction and operation of a new facility at any time during the lifetime of the license. Subject to required regulatory approvals and a decision to build, the following are estimated dates related to construction and operation of Fermi 3:

First Structural Concrete: December 2013

Pre-Operational Testing: December 2018

Fuel Load: June 2019

Commercial Operation: June 2020

1.1.8 Summary of Procedures in Conducting the Environmental Review

This ER follows the content and organization of NUREG-1555, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants." As part of its responsibilities under the National Environmental Policy Act, the NRC is required to perform a review of the impacts of construction and operation of the proposed unit on the environment. This ER supports that review, which is performed by the NRC under 10 CFR 51, "Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions." The NRC will use the NUREG-1555 guidance to prepare the Environmental Impact Statement for the COLA. NUREG-1555 is designed to meet the requirements of 10 CFR 51.

The ER has been developed in accordance with 10 CFR 52.79 and specifically includes information required by 10 CFR 51.45, 10 CFR 51.50, 10 CFR 51.52, and 10 CFR 51.53. The NRC has established three significance levels for environmental impacts: SMALL, MODERATE, and LARGE. In general, one of these three significance levels was assigned to each impact evaluated and resolved in the ER. The definitions of the three significance levels are defined in NUREG-1555 as follows:

- 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.

1.1.9 Special Circumstances Applicable to Review

As indicated in Subsection 1.1.2, the proposed site is in close proximity to the United States/Canada international border. As a result, the proposed project presents the potential for transboundary environmental impacts. Therefore, the Applicant conducted a reasonable search for relevant, current information associated with identifiable potential affects to the Canadian environment. The results of that reasonable research and environmental assessment of the proposed project's potential transboundary environmental impacts are included within Chapter 4 and Chapter 5.

1.1.10 References

1.1-1 GE-Hitachi Nuclear Energy, "ESBWR Design Control Document – Tier 2," Revision 6, August 2009.

1.1-2 U.S. Nuclear Regulatory Commission, "Background on New Nuclear Plant Designs," http://www.nrc.gov/reading-rm/doc-collections/fact-sheets/new-nuc-plant-des-bg.html, accessed 7 September 2007.

1.1-3 ITC*Transmission*, "System Impact Study Report (MISO G867)," Generation Interconnection in Monroe County, MI, July 21, 2008.

1.2 Status of Review, Approvals, and Consultations

Construction and operation of a new facility at the Fermi site requires compliance with numerous environmental regulations and obtaining the necessary associated permits and consultations. A search for regulations and environmental permits or authorizations required by Federal, State, regional, local, and affected Native American tribal agencies that are applicable to the construction and operation of a new facility was conducted. A listing of the environmental permits, consultations, and approvals identified through the research is presented in Table 1.2-1. The structure of Table 1.2-1 is based primarily on NUREG-1555 guidance. Because the permits identified as being required for construction and operation will not be obtained until Detroit Edison makes a decision to proceed with the development of the site, many of the numbers and expiration dates associated with these permits do not currently exist and are not included.

Detroit Edison has not pursued necessary Federal, State, or local authorizations. Detroit Edison will obtain necessary authorizations prior to initiating regulated activities associated with the construction and operation of a new unit.

The Department of Energy's (DOE) Standard Contract for disposal of spent nuclear fuel in 10 CFR 961 is being modified by the DOE. The Nuclear Energy Institute is actively engaged with the DOE in revising the language in the Standard Contract. Detroit Edison is monitoring progress in this effort.

The following sections identify the environmental concerns and provide an evaluation of potential administrative problems that could delay or prevent agency authorization. Further, the following sections provide a summary of the necessary permitting actions to be taken under the Federal Water Pollution Control Act and the Coastal Zone Management Act of 1972.

The Applicant requested comment from the agencies identified in Table 1.2-1 regarding environmental concerns and potential administrative problems that could delay or prevent the issuance of necessary permits or authorizations. Comments were received from various Federal, State, and local agencies, including:

- National Oceanic Atmospheric Administration, National Marine Fisheries Service
- Federal Aviation Administration
- U.S. Department of Transportation
- U.S. Department of Homeland Security, U.S. Coast Guard
- Michigan Department of Environmental Quality
- Michigan Department of Transportation
- Michigan State Historic Preservation Office
- Michigan Department of Community Health
- Michigan Department of Natural Resources

- City of Monroe, Michigan
- Frenchtown Township, Michigan
- Monroe County, Michigan
- Wyandot of Anderdons

The agencies' responses did not identify any significant environmental concerns or potential administrative problems that could delay or prevent agency authorization.

In addition to the requests for agency comment, the Applicant contacted various State, local, and regional planning authorities. A list of the planning authorities contacted during the preparation of this COLA is contained in Table 1.2-2. In addition, the Applicant sent letters to the U.S. Fish and Wildlife Service (USFWS), the Michigan Department of Natural Resources (MDNR), the State Historic Preservation Officer (SHPO), and appropriate tribal representatives to obtain information on any threatened or endangered species, or cultural resource concerns with the proposed project. Furthermore, as part of this project, numerous other contacts were made with State, local and regional agencies and offices.

1.2.1 Permitting Actions under the Federal Water Pollution Control Act Sections 401 and 402

Water Quality Certification (WQC) under Section 401 of the Federal Water Pollution Control Act (FWPCA) is required to authorize activities that impact state waters resulting from Federal actions. Activities undertaken by Detroit Edison that likely require Federal action, and therefore require a Section 401 WQC, include the discharges to navigable waters from the project due to construction and operation activities including the installation or modification of a water intake structure, wastewater outfall, and the construction of a barge slip. Efforts to obtain any necessary Section 401 WQC from the Michigan Department of Environmental Quality (MDEQ) will occur once activities resulting in a potential discharge to navigable waters are definitively identified. Further, the necessary Section 401 WQC will be obtained in a timely manner.

Construction and operational activities associated with a new nuclear unit at the Fermi site will require multiple permits for compliance with Section 402 of the FWPCA. FWPCA Section 402 permits will be received from the MDEQ, as authorized by the Environmental Protection Agency as of October 17, 1973 (Reference 1.2-1). It is expected that the State of Michigan will authorize construction activities at the Fermi site triggering Section 402 of the FWPCA under General Permits. However, the discharge of excavation dewatering water may require that an Individual Permit be obtained under Section 402 of the FWPCA.

Operational activities associated with a new nuclear unit would require either the modification of National Pollutant Discharge Elimination System (NPDES) permit MI0037028, under which the existing Fermi 2 facility operates, or obtaining a new NPDES permit. Efforts to obtain authorizations for compliance with FWPCA Section 402 have not begun. Submittal of an NPDES permit application is appropriate when sufficient preliminary design information for the proposed project is available to support the application. The necessary FWPCA Section 402 permits will be obtained in a timely manner.

1.2.2 **Compliance with the Federal Coastal Zone Management Act of 1972**

The Federal Coastal Zone Management Act (CZMA) of 1972 imposes requirements on applicants for a federal license who propose activities with the potential to affect a state's coastal zone. The CZMA requires an applicant to certify to the licensing agency that the proposed activity will be consistent with the state's federally-approved coastal zone management program. The State of Michigan's Coastal Zone Management Program was approved by the U.S. Department of Commerce and is administered by the MDEQ, Environmental Science and Services Division. Detroit Edison will certify to the NRC that the proposed project is consistent with Michigan's federally-approved Coastal Zone Management Plan. Detroit Edison anticipates that the MDEQ will concur with the certification.

1.2.3 **References**

1.2-1 U.S. Environmental Protection Agency, "Approval of Modifications to Michigan's Approved Program to Administer the National Pollutant Discharge Elimination System Permitting Program Resulting From the Reorganization of the Michigan Environmental Agencies," 62 Federal Register 61169 – 61173, 1997.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 1 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
FEDERAL AUTHORIZATIONS					
U.S. Army Corps of Engineers (USACE)	Section 10 of the Rivers and Harbors Act of 1899	Section 10 Permit			Structures and/or work that may affect navigability of any navigable waters of the US. Structural alterations may include barge slip construction and the installation or modification to existing intake and outfall structures.
USACE	33 U.S.C. 1344, Federal Water Pollution Control Act, Section 404	Section 404 Permit			Discharge of dredge or fill material within waters of the US, including wetlands.
Department of Transportation	49 CFR 107, Subpart G	Hazardous Materials Certificate of Registration	Reg. No: 061206 551 076OQ[1]	06/30/2009	Shipment of radioactive and hazardous materials.
Federal Aviation Administration (FAA)	14 CFR 77.13, Federal Aviation Act	Notice of Proposed Construction or Alteration			Notice required before erecting structures with a height greater than 200' or impacting navigable airspace. (construction cranes, cooling towers, transmission lines).
National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service	Threatened and Endangered Species Act, 16 U.S.C. 1536	Endangered Species Act Biological Consultation (marine species)			Consultation regarding the potential impact to threatened or endangered marine species.
Nuclear Regulatory Commission (NRC)	10 CFR 52, Subpart C	Combined License			Construction activities associated with a nuclear power facility.
NRC	10 CFR 30	Byproduct license			Approval to possess special nuclear material.
NRC	10 CFR 70	Special Nuclear Materials License			Approval to possess fuel and source material.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 2 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
NRC	10 CFR 40	Domestic Licensing of Source Material			Approval to possess source material.
NRC	Coastal Zone Management Act, 16 U.S.C. 1451 et. seq.	Certification of Consistency			Obtaining a Federal license or permit.
NRC/Environmental Protection Agency	Resource Conservation and Recovery Act, Atomic Energy Act, 40 CFR 266	Low Level Mixed Waste Conditional Exemption			Allows the storage and treatment of low-level mixed waste.
U.S. Coast Guard	14 U.S.C. 81, 83, 85, 633 33 CFR 66	Authorization to Impact Navigation/Private Aids to Navigation			The interference of existing navigation aids or the placement and use of private aids to navigation in navigable waters of the U.S.
U.S. Fish and Wildlife Service (USFWS)	Threatened and Endangered Species Act, 16 U.S.C. 1539	Endangered Species Act Biological Consultation (non-marine species)			Consultation regarding the potential impacts to federally threatened and endangered species.
USFWS	Migratory Bird Treaty Act, 16 U.S.C. 703	Migratory Bird Treaty Act Consultation			Consultation regarding the potential impacts to protected migratory birds.
USFWS	Bald and Golden Eagle Protection Act, 16 U.S.C. 668	Bald and Golden Eagle Protection Act Consultation			Consultation regarding the potential impacts to bald and golden eagles.
STATE AUTHORIZATIONS					
Michigan Department of Community Health	MCL 333.13522	X-ray Equipment Registration			Possession of a radiation machine.
Michigan Department of Environmental Quality (MDEQ) - Waste and Hazardous Materials Division	MCL R299.9303 et. seq.	Hazardous Waste Management, Site Identification Number	MID 087 056 685[1]		A generator shall not treat or store, dispose of, or transport or offer for transport, hazardous waste without having received a site identification number from the regional administrator.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 3 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
MDEQ - Waste and Hazardous Materials Division	MCL 29.5c	Review, Approval, and Certification of Aboveground Storage Tank Systems			Regulation of installation of new Aboveground Storage Tank (AST) systems with individual tanks having a storage capacity of more than 1,100 gallons of flammable liquid or combustible liquid.
MDEQ - Waste and Hazardous Materials Division	MCL R299.9822	Low-Level Mixed Waste Conditional Exemption			Low level mixed waste storage and treatment conditional exemption eligibility and standards.
MDEQ - Waste and Hazardous Materials Division	MCL 333.13505	Radioactive Material Registration			Possession of radioactive materials.
MDEQ - Air Quality Division	The Natural Resources and Environmental Protection Act, Public Act 451 of 1994, as amended, Part 55 (Air Pollution Control) MCL R336.1201	Permit to Install			Construction of any air emission source.
MDEQ - Air Quality Division	Public Act 451 of 1994, as amended, Part 55 (Air Pollution Control) MCL R336.1210 - R336.1218 40 CFR 70	Air Permit			Operation of a source of air pollutants.
MDEQ - Environmental Science and Services Division	Coastal Zone Management Act, 16 U.S.C. 1451 et. seq.	Preliminary Coastal Zone Management Act Concurrence Consultation			Obtaining a Federal license or permit.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 4 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
MDEQ - Land and Water Management Division	MCL 324.30306 et. seq. 33 U.S.C. 1344, Federal Water Pollution Control Act, Section 404	Wetland Protection Permit			Any projects on or in wetlands regulated by the State of Michigan.
MDEQ - Land and Water Management Division	MCL 324.32501 et. seq.	Great Lakes Bottomlands Permit			Dredging, filling, modifying, constructing, enlarging, or extending of structures in Great Lakes waters or below the OHWM of the Great Lakes; or connecting any natural or artificial waterway, canal, or ditch with any Great Lake including Lake St. Clair.
MDEQ - Water Bureau	MCL 324.32723	Water Withdrawal Permit			Withdrawals from the Great Lakes and connecting waterways of over 5,000,000 gallons per day.
MDEQ - Water Bureau	MCL 324.32705	Water Withdrawal Registration			Development of the withdrawal capacity on the property of an additional 100,000 gallons of water per day from the waters of the state.
MDEQ - Water Bureau	MCL 324.4101 et. seq.	Wastewater Facilities Construction Permit/Part 41 Construction Permit			Construction or modification of sewers, pumping stations, force mains, and treatment plants.
MDEQ - Water Bureau	33 U.S.C. 1251 et. seq. MCL 324.3101 et. seq. MCL 324.3301 et. seq.	National Pollutant Discharge Elimination System (NPDES) Permit			Discharge of waste, waste effluent and certain categories of storm water runoff into the surface waters of Michigan during operation of the facility.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 5 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
MDEQ - Water Bureau	MCL R323.2190	NPDES Permits, Stormwater Construction Permit			A Permit by Rule may be obtained to authorize storm water discharges from a construction site greater than or equal to 5 acres.
MDEQ - Water Bureau	33 U.S.C. 1251 et. seq. MCL 324.3101 et. seq.	NPDES General Dredging Dewatering Water Permit	General Permit Number MIG690000		Discharges of dredging dewatering water resulting from the removal of uncontaminated sediment from a waterway.
MDEQ - Water Bureau	33 U.S.C. 1251 et. seq. MCL 324.3101 et. seq.	NPDES General Hydrostatic Pressure Test Water	Permit Number MIG6790000	4/1/2013	Discharges from the hydrostatic pressure testing of new and existing piping, tanks, vessels, and other associated equipment which have been physically cleaned and/or provided with effluent treatment.
MDEQ - Water Bureau	33 U.S.C. 1341	Section 401 Water Quality Certification			The construction or operation of a facility which may result in any discharge into the navigable waters that will require a Federal license or permit.
Michigan Department of Transportation (MDOT)	MCL 257.716 et. seq.	Transport Permit			Movement over state highways of vehicles or loads that exceed the size or weight limitations specified by law.
MDOT - Multi-Modal Transportation Services Bureau	MCL 259.481 et. seq.	Tall Structures Act Permit			Construction of an object which has the potential to affect navigable airspace (height in excess of 200' or within 20,000' of an airport).
MDOT	MCL 247.171 et. seq.	Construction Permits (Right of Way Permit)			Activities by businesses or private parties and utility companies wishing to use the highway right-of-way for operations other than normal vehicular or pedestrian travel are required to obtain a permit from MDOT.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 6 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
Michigan State Historic Preservation Office (SHPO)	National Historic Preservation Act, Section 106 Review, 36 CFR 800	Consultation			Consultation concerning the potential impacts to cultural resources.
Michigan Department of Natural Resources (MDNR)	MCL 324.36501 et. seq.	Consultation			Consultation regarding the potential impacts to threatened and endangered species.
MDNR	MCL 324.36501 et. seq.	Endangered Species Permit			Taking or harming of state listed endangered species.
TRIBAL AUTHORIZATIONS					
N/A[2]					
LOCAL AUTHORIZATIONS					
City of Monroe, Michigan	33 U.S.C. 1251 et. seq. Michigan Water Resource Act Codified Ordinances of Monroe, Michigan, Streets, Utilities and Public Services Code, Chapter 1042, Division 2 Section 1042.15	Monroe Metropolitan Water Pollution Control Facility Industrial Pretreatment Permit	Permit No. 1020[1]		Treatment of wastewater to comply with categorical pretreatment standards and local limits.
City of Monroe, Michigan/ Frenchtown Township	Codified Ordinances of Monroe, Michigan, Streets, Utilities and Public Services Code, Chapter 1042, Division 15 Section 1042.71	Sanitary Sewer Service Connection Permit			Required before a person uncovers, makes any connection with or opening into, uses, alters, or disturbs any public sewer or appurtenance to.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 7 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 6, Section 6.04 and Article 27.00, Section 27.06	Site Plan and Development Approval			Review of planned construction activities. Requires submittal of application for Site Plan Approval which requires review of items such as engineering. The approval process may also result in the issuance of permits such as a grading permit issued under the authority of the Building Official.
Frenchtown Township		Engineering Review			Review of detailed engineering construction plans addressing water, sanitary, storm water drainage, grading and paving for the site.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200	Occupancy Permit			Occupancy of the building.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 4, Section 4.40 and Article 24, Section 24.05	Building Permit			Permit authorizing the construction, removal, moving, alteration, or use of a building or construction of any driveway or parking lot constructed of hard surface materials.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 20	Special Approval of Activities within either the Floodway or Floodway Fringe.			Approval of activities within the Floodway Area or Floodway Fringe Area of the Floodway or Floodplain District.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 4, Section 4.10	Temporary Building Used During Construction			Use of a portable structure as a temporary building during construction.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 8 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 26, Section 26.04	Landscape Development Plan			Submittal of a Landscape Development that illustrates areas of existing trees or wood lots, which shall be removed, and those that will be retained.
Frenchtown Township	Frenchtown Charter Township Zoning Ordinance No. 200 Article 4, Section 4.21.2	Excavation Permit			Activities that propose to fill an area of 20,000 square feet or greater or any excavation and removal regardless of area involved except for mineral mining operations, farm ponds, and landscape ponds.
Monroe County, Michigan, Office of On-site Water Supply/ Frenchtown Township	Codified Ordinances of Monroe, Michigan, Monroe County Environmental Health/Sanitary Code, Chapter III - Water Supplies	Well Permit			Construction of water supply wells, irrigation wells, heat exchange wells, industrial wells for water supply, test wells to obtain information regarding groundwater quantity or quality, recharge well, dewatering well, fresh water well at oil or gas well drilling site.
Monroe County, Michigan, Drain Commissioner	Local Ordinance	Engineering Review			Review of surface water flow during Operation.
Monroe County, Michigan, Drain Commissioner	NREPA Part 91, of Act 451 of the Michigan Public Acts of 1994 MCL 324.9101 et. seq.	Soil Erosion and Sedimentation Control (SESC) Permit			Any earth change that disturbs one or more acres, or is within 500 feet of a lake or stream.
Monroe County, Michigan, Drain Commissioner	Act No. 40 of 1956	Drain Culvert Permit			Permit to construct in a drain.

Table 1.2-1 Federal, State and Local Environmental Authorizations (Sheet 9 of 9)

Agency	Authority	Requirement	License/ Permit Number	Expiration Date	Activity Covered
Monroe County, Michigan, Health Department/ Frenchtown Township	Monroe County Environmental Health/Sanitary Code, Chapter III, Section 302. Part 127 of Michigan Public Health Code, 1978 PA 368, as amended	Water Supply Permit			Any new construction or extensive change affecting the basic unit or the suction line on any water supply system within Monroe County, Michigan.

Note:

All necessary permits will be applied for in a timely manner. New permits may not be obtained in certain instances due to potential authorization of construction and operational activities through the modification of existing permits possessed by the Fermi Station.

1. Permits authorizing current activities associated with operations on the Fermi site. When practical, existing permits will be modified to authorize activities associated with the construction or operation of a new nuclear facility on site.
2. There are no Native American tribes with jurisdictional authority over activities at the Fermi site.

Table 1.2-2 State, Local and Regional Planning Authorities

ENTITY CONTACTED
STATE AUTHORITIES
N/A
REGIONAL AUTHORITIES
Planning Analyst, Southeast Michigan Council of Governments (SEMCOG)
Vice President of Environmental Planning, Toledo Metropolitan Area Council of Governments (TMACOG)
LOCAL AUTHORITIES
Director, Monroe County Planning
Business Consultant, Monroe County Industrial Development Corporation
Building Official, Frenchtown Township