

## Fermi3CEm Resource

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**From:** Robert Peven [robert\_peven@monroemi.org]  
**Sent:** Wednesday, January 11, 2012 10:14 PM  
**To:** Fermi3COLEIS Resource  
**Subject:** comments on Fermi 3 EIS  
**Attachments:** Staff Report.pdf

Dear Sir/Madam,

Attached please find a staff report on the Fermi 3 EIS which was approved by the Monroe County Planning Commission at their meeting on January 11, 2012.

Please feel free to contact me if you have any questions regarding the report.

Sincerely,  
Robert Peven

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## **Staff Report**

**Subject:** Draft Environmental Impact Statement for Combined License (COL) for Enrico Fermi Unit 3

**Date:** December 10, 2011

## **Background**

This environmental impact statement (EIS) has been prepared in response to an application submitted to the U.S. Nuclear Regulatory Commission (NRC) by Detroit Edison for a construction permit and operating license (combined license, or COL) for a propose Fermi Unit 3 reactor. The proposed actions related to the Detroit Edison application are (1) NRC issuance of a COL for a new power reactor unit at the Detroit Edison Enrico Fermi Atomic Power Plant (Fermi) site in Monroe County, Michigan, and (2) U.S. Army Corps of Engineers (USACE) permit action to perform certain construction activities on the site. The USACE is participating with the NRC in preparing this EIS as a cooperating agency and participates collaboratively on the review team.

The EIS includes the NRC staff's analysis that considers and weighs the environmental impacts of constructing and operating a new nuclear unit at the Fermi site and at alternative sites, and mitigation measures available for reducing or avoiding adverse impacts. Based on its analysis, the staff determined that there are no environmentally preferable or obviously superior sites.

A 75 day public review of the EIS began on October 28, 2011 and will end on January 11, 2012. A public hearing on the EIS will be held in Monroe on December 15, 2011.

In addition to the Environmental Review, the NRC is also conducting a Safety Evaluation Review (SER) addressing the safety and risks of the proposed reactor, the adequacy of the emergency preparedness program, and the adequacy of security plans and measures.

The reactor design referenced in the application is the Economic Simplified Boiling Water Reactor (ESBWR). The ESBWR design was approved by the NRC in March 2011 after extensive review.

## **EIS Contents**

The following is a summary of the main topics covered by the EIS:

### **1 Introduction**

- 1.1 Background
- 1.2 The Proposed Federal Actions
- 1.3 The Purpose and Need for the Proposed Action
- 1.4 Alternatives to the Proposed Action
- 1.5 Compliance and Consultations
- 1.6 Report Contents

### **2 Affected Environment**

- 2.1 Site Location
- 2.2 Land Use
- 2.3 Water
- 2.4 Ecology
- 2.5 Socioeconomics
- 2.6 Environmental Justice
- 2.7 Historic Properties and Cultural Resources

- 2.8 Geology
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  - 2.12 Related Federal Projects and Consultations
- 3 Site Layout and Plant Description**
- 3.1 External Appearance and Plant Layout
  - 3.2 Plant Structures
  - 3.3 Preconstruction and Construction Activities
  - 3.4 Operational Activities
- 4 Construction Impacts at the Proposed Site**
- 4.1 Land Use Impacts
  - 4.2 Water-Related Impacts
  - 4.3 Ecological Impacts
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  - 4.11 Measures and Controls to Limit Adverse Impacts during Preconstruction and Construction
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- 5 Operational Impacts at the Proposed Site**
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  - 5.5 Environmental Justice Impacts
  - 5.6 Historic and Cultural Resource Impacts from Operation
  - 5.7 Meteorological and Air Quality Impacts
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- 7 Cumulative Impacts**
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- 7.10 Postulated Accidents
- 7.11 Fuel Cycle, Transportation, and Decommissioning
- 7.12 Conclusions
- 7.13 References

## **8 Need for Power**

- 8.1 Power Systems and Power Planning in Michigan
- 8.2 Power Demand
- 8.3 Power Supply
- 8.4 Summary of Need for Power
- 8.5 References

## **9 Environmental Impacts of Alternatives**

- 9.1 No-Action Alternative
- 9.2 Energy Alternatives
- 9.3 Alternative Sites
- 9.4 System Design Alternatives

## **10 Conclusions and Recommendations**

- 10.1 Impacts of the Proposed Action
- 10.2 Unavoidable Adverse Environmental Impacts
- 10.3 Relationship between Short-Term Uses and Long-Term Productivity of the Human Environment
- 10.4 Irreversible and Irrecoverable Commitments of Resources
- 10.5 Alternatives to the Proposed Action
- 10.6 Benefit-Cost Balance
- 10.7 Staff Conclusions and Recommendations

## **Summary of Conclusions**

The report presents separately the anticipated environmental impacts for construction, for operation, for fueling, transport and decommissioning, and for cumulative impacts. The need for power is also addressed, and alternatives to the proposed action are assessed, including a review of alternative sites and alternative designs. Resource areas which were assessed for impact include land use, water resources, ecological resources, socio-economic impact, environmental justice, historic and cultural resources, air quality and meteorology, public health (radiological and non-radiological), non-radioactive waste, postulated accidents, radiological impacts, fuel cycle, transportation, and decommissioning.

For the most part, the draft EIS concludes that the impacts will be small, on a scale of small, moderate, or large.

Specific impacts which were considered other than small include economic impacts (moderate but beneficial in Monroe County), impacts on taxes (large but beneficial in Monroe County), traffic impacts (moderate during peak construction as well as during outages for refueling), historic resources (moderate due to the demolition of the Fermi 1 building which is eligible for listing on the state and national Register of Historic Places), and terrestrial and wetland resources (moderate due to impact on the state listed eastern fox snake [threatened species]). In addition, the construction of Fermi 3 will result in the disturbance of 34.5 acres of wetlands and 5.2 acres of open water during construction, and the permanent loss of 8.3 acres of wetlands and 5.2 acres of open water. Of the 34.5 acres of wetlands which would be disturbed during construction, 23.7 acres would be restored upon completion of construction. Detroit Edison has developed a conceptual mitigation plan to offset all aquatic resource impacts.

## SUMMARY OF FERMI 3 CONSTRUCTION IMPACTS

Resource Area	Comments	NRC-Authorized Construction Impact Level	Construction and Preconstruction Impact Level
<b>Land Use</b>			
Site and vicinity	Building activities would take place within the existing site boundaries.	SMALL	SMALL
Offsite transmission line corridors	Approximately 10.8 mi of a 29.4-mi transmission line corridor would be along an undeveloped ROW.	Not applicable	SMALL
<b>Water Resources</b>			
Water use			
Surface water	Lake Erie water would be used for concrete batch plant operation, temporary fire protection, dust control, and sanitary needs.	SMALL	SMALL
Groundwater	Dewatering systems would depress the water table in the general vicinity, but the impacts would be localized and temporary.	SMALL	SMALL
Water quality			
Surface water	Hydrological alterations associated with building on and near the Fermi site include dredging, bedding placement, and cover material for the intake and discharge structures, altering the surface topography and hydrology (e.g., site grading, laydown areas, filling of onsite water bodies), culverting the south canal, and dewatering the excavation for construction of the nuclear facilities. Offsite alterations are associated with the proposed new or expanded transmission line corridors where they cross streams and wetlands. BMPs will be used to limit construction stormwater impacts and address potential spills or leaks of petroleum and other chemicals into surface water bodies.	SMALL	SMALL
Groundwater	BMPs will prevent or mitigate the impacts of spills on groundwater.	SMALL	SMALL
<b>Ecological Resources</b>			
Terrestrial and wetlands resources	Loss or disturbance of upland and wetland habitat and associated plant and animal species onsite and along the transmission line corridor. Proposed wetland and wildlife habitat mitigation would offset some impacts. Potential impact on eastern fox snake (State-listed as threatened) and its habitat.	SMALL	SMALL

<b>Resource Area</b>	<b>Comments</b>	<b>NRC-Authorized Construction Impact Level</b>	<b>Construction and Preconstruction Impact Level</b>
Aquatic resources	Loss or disturbance of aquatic habitat and associated plant and animal species onsite and along the transmission line corridor. Increased runoff and sedimentation from the addition of impervious surfaces. BMPs will be used to limit construction stormwater impacts.	SMALL	SMALL
<b>Socioeconomics</b>			
Physical impacts	Small increases in noise and air emissions. Small impact on condition of road surfaces during construction period.	SMALL	SMALL
Demography	Minor increase in population resulting from in-migrating construction workforce.	SMALL beneficial	SMALL beneficial
Economy	Economic impact would be beneficial to local economies in the 50-mi region, especially in Monroe County.	SMALL beneficial in the region to MODERATE beneficial in Monroe County	SMALL beneficial in the region to MODERATE beneficial in Monroe County
Taxes	Entire 50-mi region would receive beneficial changes to tax revenues, especially in Monroe County, where the impacts would be greatest (from Fermi 3 property taxes).	SMALL and beneficial in the region to LARGE and beneficial in Monroe County	SMALL and beneficial in the region to LARGE and beneficial in Monroe County
Infrastructure and community services	Recreation, housing, public services, and education are generally adequate for the influx of construction workers. Local traffic would increase during construction, resulting in increased congestion during the peak building employment period, when the traffic-related impact would be short-term and MODERATE.	SMALL (all categories except traffic) to short-term MODERATE traffic impacts during peak building employment	SMALL (all categories except traffic) to short-term MODERATE traffic impacts during peak building employment
<b>Environmental Justice</b>	No environmental pathways or preconditions exist that could lead to disproportionately high and adverse impacts on minorities or low-income populations.	SMALL	SMALL

Resource Area	Comments	NRC-Authorized Construction Impact Level	Construction and Preconstruction Impact Level
<b>Historic and Cultural Resources</b>	Onsite preconstruction and construction activities would result in the demolition of recommended NRHP-eligible Fermi 1. Because new Fermi 3 facilities would be consistent with the landscape features within the existing setting of offsite historic resources, there would be no new significant visual (i.e., indirect) impacts on these resources. However, the approximately 11-mi portion of the proposed offsite transmission line route from the Sumpter-Post Road junction to the Milan Substation will require a new transmission line route and may result in direct and visual impacts on offsite historic and/or cultural resources. In the absence of more detailed information, these impacts cannot be evaluated with certainty.	MODERATE	MODERATE
<b>Air Quality</b>	Vehicle and equipment exhaust emissions and fugitive dust emissions from operation of earthmoving equipment are sources of air pollution, but impacts would be temporary.	SMALL	SMALL
<b>Nonradiological Health</b>	Temporary public health impacts from exposure to fugitive dust and vehicular emissions, noise, and increased occupational injuries and traffic fatalities during the building phase.	SMALL	SMALL
<b>Radiological Health</b>	Doses to construction workers would be maintained below NRC public dose limits (10 CFR Part 20).	SMALL	SMALL
<b>Nonradioactive Wastes</b>	Hazardous and nonhazardous solid wastes would be managed according to county and State handling and transportation regulations. Implement recycling and waste minimization program.	SMALL	SMALL



## SUMMARY OF FERMI 3 OPERATIONAL IMPACTS

Resource Area	Comments	Impact Level
<b>Land Use</b>		
Site and vicinity	Operation of one new onsite unit. Possible new housing and retail space in the vicinity.	SMALL
Offsite transmission line corridors	Approximately 40 percent of a 29.4-mi-transmission line corridor would be along an undeveloped ROW.	SMALL
<b>Water Resources</b>		
Water use		
Surface water	Average consumptive use of approximately 7.6 billion gal/yr from Lake Erie.	SMALL
Groundwater	No groundwater use or dewatering during operations.	SMALL
Water quality		
Surface water	Discharge of thermal, chemical, and radiological wastes from normal operations. Physical changes in Lake Erie resulting from stormwater runoff, blowdown discharge, and maintenance dredging.	SMALL
Groundwater	No unavoidable adverse impacts on groundwater quality are anticipated during operations.	SMALL
<b>Ecological Resources</b>		
Terrestrial and wetlands resources	Potential impact on eastern fox snake (State-listed as threatened) from vehicle-related mortality. Long-term maintenance of former terrestrial and wetland habitat as developed facilities on the Fermi site. Long-term maintenance of transmission line ROWs as early successional habitat.	MODERATE
Aquatic resources	Cooling system impacts on Lake Erie related to thermal discharges, impingement, and entrainment.	SMALL
<b>Socioeconomics</b>		
Physical impacts	Small increase in noise levels, cooling tower and associated condensate plume would be visible offsite.	SMALL
Demography	Minor increase in population resulting from in-migrating operations workforce.	SMALL beneficial
Economy and taxes	Economic impact would be beneficial but SMALL in all areas in the 50-mi region except for Monroe County, where economic and property tax impacts would be LARGE and beneficial.	SMALL beneficial in the region to LARGE beneficial in Monroe County

Resource Area	Comments	Impact Level
Infrastructure and community services	Minor impacts on traffic, recreation, housing, public services, and education associated with population increase offset by increase in tax revenue. Local traffic would increase during operations resulting in increased congestion especially during outages.	SMALL (during normal operations) to MODERATE (outages)
<b>Environmental Justice</b>	No environmental pathways or preconditions exist that could lead to disproportionately high and adverse impacts on minorities or low-income populations.	SMALL
<b>Historic and Cultural Resources</b>	Minor impacts on offsite historic properties associated with visible condensate plume from cooling towers. Impacts from operating the proposed transmission lines would be minor if there are no new significant alterations to the cultural environment.	SMALL
<b>Air Quality and Meteorology</b>	Slight increase in certain criteria pollutants and CO <sub>2</sub> from plant auxiliary combustion equipment (e.g., diesel generators); plumes and drift from cooling towers.	SMALL
<b>Nonradiological Health</b>	Operational activities would not have significant nonradiological health impacts on the public and workers.	SMALL
<b>Radiological Impacts of Normal Operations</b>		
Members of the public	Doses to members of the public would be below NRC and EPA standards, and there would be no observable health impacts (10 CFR Part 20, Appendix I to 10 CFR Part 50, 40 CFR Part 190).	SMALL
Plant workers	Occupational doses to plant workers would be below NRC standards, and program to maintain doses ALARA would be implemented.	SMALL
Biota other than humans	Dose to biota other than humans would be below NCRP and IAEA guidelines.	SMALL
<b>Impacts of Postulated Accidents</b>		
Design-basis accidents	Impacts of design-basis accidents would be well below regulatory criteria.	SMALL
Severe accidents	Probability-weighted consequences of severe accidents would be lower than the Commission's safety goals and probability-weighted consequences for currently operating reactors.	SMALL
<b>Nonradioactive Wastes</b>	Solid, liquid, gaseous, and mixed wastes generated during operations would be handled according to county, State, and Federal regulations.	SMALL

## SUMMARY OF FERMI 3 CUMULATIVE IMPACTS

<b>Resource Category</b>	<b>Impact Level</b>
<b>Land Use</b>	SMALL
<b>Water Resources</b>	
Surface water use	SMALL to MODERATE
Groundwater use	SMALL
Surface water quality	MODERATE
Groundwater quality	SMALL
<b>Ecological Resources</b>	
Terrestrial and wetland resources	MODERATE
Aquatic resources	MODERATE
<b>Socioeconomics</b>	
Physical impacts	SMALL
Demography	SMALL beneficial
Economic Impacts on the Community	
Economy	SMALL to LARGE beneficial
Taxes	SMALL to LARGE beneficial
Infrastructure and Community Services Impacts	
Traffic	SMALL to MODERATE
Recreation	SMALL
Housing	SMALL
Public services	SMALL
Education	SMALL
<b>Environmental Justice</b>	SMALL
<b>Historic and Cultural Resources</b>	MODERATE
<b>Air Quality</b>	SMALL to MODERATE
<b>Nonradiological Health</b>	SMALL
<b>Radiological Health</b>	SMALL
<b>Nonradioactive Waste</b>	SMALL
<b>Postulated Accidents</b>	SMALL
<b>Fuel Cycle (including radioactive waste), Transportation, and Decommissioning</b>	SMALL

## **SUMMARY OF IMPACTS OF ALTERNATIVE POWER PLANTS**

<b>Impact Category</b>	<b>Nuclear (Fermi 3) (proposed action)</b>	<b>Coal</b>	<b>Natural Gas</b>	<b>Combination of Alternatives</b>
Land Use	SMALL	MODERATE	SMALL	MODERATE
Air Quality	SMALL	MODERATE	SMALL to MODERATE	SMALL to MODERATE
Water Use and Quality	SMALL	SMALL	SMALL	SMALL
Ecology	SMALL (aquatic) to MODERATE (terrestrial)	SMALL (aquatic) to MODERATE (terrestrial)	SMALL (aquatic) to MODERATE (terrestrial)	SMALL (aquatic) to MODERATE (terrestrial)
Waste Management	SMALL	MODERATE	SMALL	SMALL
Socioeconomics (economy and taxes)	SMALL to LARGE (beneficial)	SMALL to LARGE (beneficial)	SMALL to MODERATE (beneficial)	SMALL to MODERATE (beneficial)
Socioeconomics (all other categories)	SMALL to MODERATE	SMALL to MODERATE	SMALL	SMALL to MODERATE
Human Health	SMALL	SMALL	SMALL	SMALL
Historic and Cultural Resources	MODERATE	MODERATE	MODERATE	MODERATE
Environmental Justice	SMALL	SMALL	SMALL	SMALL

**COMPARISON OF CUMULATIVE IMPACTS AT ALTERNATIVE SITES**

Resource Category	Belle River-St. Clair				
	Fermi	Clair	Greenwood	Petersburg	South Britton
<b>Land Use</b>	SMALL	SMALL	SMALL	SMALL	SMALL
<b>Water Resources</b>					
Surface Water Use	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE	SMALL to MODERATE
Groundwater Use	SMALL	SMALL	SMALL	SMALL	SMALL
Surface Water Quality	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE
Groundwater Quality	SMALL	SMALL	SMALL	SMALL	SMALL
<b>Ecology</b>					
Terrestrial and Wetland Resources	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE
Aquatic Resources	MODERATE	MODERATE	MODERATE	MODERATE	MODERATE
<b>Socioeconomics</b>					
Physical Impacts	SMALL	SMALL	SMALL	SMALL	SMALL
Demography	SMALL (beneficial)	SMALL	SMALL	SMALL	SMALL
Taxes and Economy	SMALL (region) to LARGE (Monroe County) (beneficial)	SMALL (region) to LARGE (St. Clair County) (beneficial)	SMALL (region) to LARGE (St. Clair County) (beneficial)	SMALL (region) to LARGE (Monroe County) (beneficial)	SMALL (region) to LARGE (Lenawee County) (beneficial)
Traffic	SMALL (region); MODERATE (Monroe County)	SMALL (region) to MODERATE (St. Clair County)	SMALL (region) to MODERATE (St. Clair County)	SMALL (region) to LARGE (Monroe County)	SMALL (region) to LARGE (Lenawee County)
Recreation	SMALL	SMALL	SMALL	SMALL (region) to MODERATE (Monroe County)	SMALL (region) to MODERATE (Monroe and Lenawee Counties)
Housing	SMALL	SMALL	SMALL	SMALL	SMALL
Public Services	SMALL	SMALL	SMALL	SMALL	SMALL

## UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS - CONSTRUCTION

Resource Area	Adverse Impacts	Actions to Mitigate Impacts <sup>(a)</sup>	Unavoidable Adverse Impacts
<b>Land Use</b>	SMALL	<p>Comply with requirements of applicable Federal, State, and local permits.</p> <p>Implement erosion control measures described in the Fermi 3 Soil Erosion and Sedimentation Control (SESC) Plan.</p>	<p>Onsite: 301 ac</p> <p>Offsite (transmission lines): 1069 ac. Also needs approximately 21 ac to expand Milan Substation.</p>
<b>Water Use</b>	SMALL	None.	<p>Lake Erie water would be used for concrete batch plant operation, temporary fire protection, dust control, and sanitary needs, but needs would be small enough to not require a review under the Great Lakes Compact. Dewatering systems would depress the water table in the general vicinity, but the impacts would be localized and temporary.</p>
<b>Water Quality</b>	SMALL	<p>Observe best management practices (BMPs), including those that address spills or leaks of petroleum and other chemicals. Obtain appropriate Federal, State, and local permits and certifications prior to preconstruction and construction activities, and follow required plans and comply with permit conditions.</p>	<p>Hydrological alterations associated with building on and near the Fermi site would include dredging for the intake and discharge structures, altering the surface topography and hydrology (e.g., site grading, laydown areas, filling of onsite water bodies), and dewatering the excavation in order to construct the nuclear facilities. Offsite alterations would be associated with the proposed new or expanded transmission line corridors where they cross streams and wetlands.</p>

Resource Area	Adverse Impacts	Actions to Mitigate Impacts <sup>(a)</sup>	Unavoidable Adverse Impacts
<b>Terrestrial and Wetland Resources</b>	SMALL	<p>Observe BMPs and obtain appropriate Federal and State permits and certifications prior to preconstruction and construction activities and comply with permit conditions.</p> <p>Restore approximately 21 ac of temporarily affected onsite wetlands and restore and enhance 82 ac of offsite wetlands.</p> <p>Submit Habitat and Species Conservation Plan for the eastern fox snake to MDNR and implement the plan to satisfaction of MDEQ and MDNR.</p> <p>Confer with MDEQ and MDNR on possible measures to mitigate impacts to American lotus.</p>	<p>Onsite: approximately 189 ac of habitat would be disturbed, including approximately 34.5 ac of wetlands. About 8.3 ac of impacted wetlands would be permanently filled. For the temporarily filled wetlands, a temporary loss of function would occur from the time wetland is filled until the time the wetland is returned to pre-construction functional condition.</p> <p>Offsite (transmission lines): 1069 ac of habitat would be disturbed. Approximately 21 ac of additional habitat would be used to expand Milan Substation.</p> <p>Potential impact on eastern fox snake (State-listed as threatened) and its habitat.</p>
<b>Aquatic Ecology</b>	SMALL	<p>Observe BMPs and obtain appropriate Federal and State permits and certifications prior to preconstruction and construction activities and comply with permit conditions.</p>	<p>Minor impacts on aquatic resources on and near the Fermi site from dredging for the intake and discharge structures, loss of lake bottom habitat due to discharge and intake structures, alterations in the surface topography and hydrology, and filling of some onsite water bodies. Minor impacts to offsite aquatic resources from building activities where proposed new or expanded transmission line corridors cross streams and wetlands.</p>
<b>Socioeconomics</b>			
Physical	SMALL	<p>Observe BMPs for noise control and dust and vehicle emissions; resurface roadways where needed.</p>	None.
Demography	No adverse impact. Impact is beneficial.	None.	None.
Community economics	No adverse impacts. All impacts are beneficial.	None.	None.
Infrastructure and services	SMALL (most impacts) to MODERATE (traffic)	<p>Implement traffic control and management measures to reduce traffic congestion impacts.</p>	<p>Increase in local traffic during construction, resulting in increased congestion during the peak construction period.</p>

## **UNAVOIDABLE ADVERSE ENVIRONMENTAL IMPACTS – OPERATION**

<b>Resource Area</b>	<b>Adverse Impacts</b>	<b>Actions to Mitigate Impacts<sup>(a)</sup></b>	<b>Unavoidable Adverse Impacts</b>
<b>Land Use</b>	SMALL	Adhere to all applicable land use and zoning regulations of Monroe County and Frenchtown Charter Township as well as regional and State land use plans.	<p>Permanent commitment of approximately 155 ac onsite, and 1069 ac within the offsite transmission corridor for the operational life of Fermi 3. Approximately 21 ac offsite would be converted for the expanded Milan Substation.</p> <p>Some offsite land use changes are expected to indirectly result from operational activities, including the conversion of some land in surrounding areas to housing and retail developments to serve plant workers.</p>
<b>Water Use</b>	SMALL	Comply with MDEQ Large Quantity Water Withdrawal Permit requirements.	Average consumptive use of approximately 7.6 billion gal per year from Lake Erie. No groundwater use or dewatering during operations.
<b>Water Quality</b>	SMALL	Comply with NPDES permit limitations for blowdown and stormwater discharges. Comply with permits for maintenance dredging activities, including Clean Water Act Section 404, Section 10 of the Rivers and Harbors Act, and MDEQ Act 451, Section 325.	Surface water impacts would include thermal, chemical, and radiological wastes and physical changes in Lake Erie resulting from stormwater runoff and effluents discharged by the proposed plant. No unavoidable adverse impacts on groundwater quality are anticipated during operations.
<b>Terrestrial and Wetland Resources</b>	MODERATE	Use industry-standard BMPs for transmission ROW maintenance. MDEQ and MDNR may require the development and implementation of a plan to mitigate operational impacts on the eastern fox snake.	<p>Onsite: long-term maintenance of approximately 155 ac of developed land.</p> <p>Offsite: maintenance of 1069 ac in the transmission line corridor. Approximately 21 ac would be converted for the expanded Milan Substation.</p> <p>Potential impact on eastern fox snake (State-listed as threatened) from vehicle-related mortality. Detroit Edison's Species and Habitat Conservation Plan addresses potential eastern fox snake impacts during preconstruction and construction but not operations.</p>



<b>Resource Area</b>	<b>Adverse Impacts</b>	<b>Actions to Mitigate Impacts<sup>(a)</sup></b>	<b>Unavoidable Adverse Impacts</b>
<b>Aquatic Ecology</b>	SMALL	Comply with NPDES permit limitations.  If a shutdown of the proposed Fermi 3 is planned for the winter months, gradually reduce the discharge of cooling water to prevent cold shock.	Minor impacts to aquatic resources in Lake Erie from operation of the cooling system due to thermal discharges, impingement, and entrainment.
<b>Socioeconomics</b>			
Physical	SMALL	Implement traffic control and management measures to reduce the potential for traffic-related accident and health impacts.	Small increase in noise levels and traffic. Cooling tower and associated condensate plume would be visible offsite.
Demography	No adverse impact. Impact is beneficial.	None.	None.
Community economics	No adverse impacts. All impacts are beneficial.	None.	None.
Infrastructure and services	SMALL (most impacts) to MODERATE (traffic during outages)	Implement roadway improvements either during the construction period or as recommended by Monroe County Road Commission (MCRC) or Michigan Department of Transportation (MDOT) following review of the site development plan.	Minor impacts on transportation, recreation, housing, public services, and education associated with population increase offset by increase in tax revenue. Increase in local traffic during operations, resulting in increased congestion, especially during outages.
<b>Environmental Justice</b>	SMALL	None.	None.
<b>Historic and Cultural Resources</b>	SMALL	None.	Minor impacts on offsite historical properties associated with visible condensate plume from cooling towers.
<b>Air Quality</b>	SMALL	Comply with Federal, State, and local air permits. Use cooling-tower drift eliminators. Water, reseed, or pave areas used for construction.  Treat cooling water prior to discharge to reduce salt released into the atmosphere.	Slight increase in certain criteria pollutants and carbon dioxide from plant auxiliary combustion equipment (e.g., diesel generators). Plumes and drift from cooling towers.  Minimal impacts on vegetation, soils, electrical equipment, and transmission lines.
<b>Nonradiological Health</b>	SMALL	Comply with Federal, State, and local regulations governing noise, electromagnetic fields (EMFs), occupational safety, and health impacts.	Minor increase in noise levels at nearest sensitive receptor. Occupational safety and health concerns. EMFs. Traffic fatalities.
<b>Radiological Health</b>	SMALL	Maintain doses to members of the public below NRC and EPA standards; maintain worker doses below NRC limits and as low as reasonably achievable (ALARA); keep doses to biota other than humans well below National Council on Radiation Protection and Measurements (NCRP) and International Atomic Energy Agency (IAEA) guidelines.	Small radiation doses (below NRC and EPA standards) to members of the public; ALARA doses to workers; and biota doses well below NCRP and IAEA guidelines.

Resource Area	Adverse Impacts	Actions to Mitigate Impacts <sup>(a)</sup>	Unavoidable Adverse Impacts
<b>Fuel Cycle (including radioactive waste), Transportation, and Decommissioning</b>	SMALL	Industry-wide changes in technology are reducing fuel cycle impacts.	Small impacts from fuel cycle as presented in Table S-3, 10 CFR Part 51.
		Implement waste-minimization program.  Comply with NRC and U.S. Department of Transportation (DOT) regulations.	Small impacts from carbon dioxide, radon, and technetium-99.  Small radiological doses that are within NRC and DOT regulations from transportation of fuel and radwaste.
<b>Nonradioactive Waste</b>	SMALL	Manage hazardous and nonhazardous solid wastes according to county and State handling and transportation regulations. Treat sanitary wastewater and discharge it to Frenchtown Charter Township Sewage Treatment Facility for treatment under an existing permit. Implement stormwater management plan. Implement recycling and waste minimization program.	Small impacts from decommissioning as presented in NUREG-0586 (NRC 2002).  Minor decrease in the capacity of waste treatment and disposal facilities. Minor increases in stormwater runoff, liquid discharges, and air emissions maintained within permit limits.

## **REPORT'S CONCLUSION AND RECOMMENDATION**

The NRC staff's preliminary recommendation to the Commission related to the environmental aspects of the proposed action is that the COL should be issued. The staff's evaluation of the safety and emergency preparedness aspects of the proposed action will be addressed in the staff's safety evaluation report that is anticipated to be published in the future.

The staff's preliminary recommendation is based on (1) the ER submitted by Detroit Edison (Detroit Edison 2011a); (2) consultation with Federal, State, Tribal, and local agencies; (3) the review team's own independent review; (4) the staff's consideration of public scoping comments; and (5) the assessments summarized in this EIS, including the potential mitigation measures identified in the ER and in the EIS. In addition, in making its preliminary recommendation, the staff determined that none of the alternative sites assessed is obviously superior to the Fermi site. The NRC's determination is independent of the USACE's determination of a Least Environmentally Damaging Practicable Alternative pursuant to Clean Water Act Section 404(b)(1) guidelines. The USACE will conclude its analysis of both offsite and onsite alternatives in its permit decision document.

## **Staff Review**

Staff finds that Draft EIS seems to be complete, thorough, and in compliance with the requirements for an environmental impact statement under the National Environmental Policy Act of 1969.

Staff found several errors of fact in the report, which should be corrected in the final draft. None of these errors had any bearing on the report's conclusions.

Page 2-6 line 3 The International Wildlife Refuge extends further south than described (also Fig. 2-3 is incorrect).

Page 2-7 line 6 The Monroe County Planning Commission does not have zoning authority. Similar errors appear on lines 16 and 21, on page 4-7 line 11 and on page 5-2 line 30. Perhaps should state that the Fermi site is "designated" Industrial rather than "zoned" industrial by the County Planning Commission.

Page 2-234 line 23 States that there is very little federal land within 50 miles of the site. Perhaps should reference the FWS refuge and the NPS battlefield park.

Page 3-16 line 31 (also page 2-12 line 22, page 3-17 line 6, and 3-35 line 19) References Frenchtown Township Sewage Treatment Facility. Should be Monroe Metropolitan Wastewater Treatment Facility.

Staff is satisfied with the actions which Detroit Edison proposes to take in order to mitigate the adverse impacts of the construction and operation of the Fermi 3 project, and is in agreement with the assessment that the impacts to traffic, historic resources, and terrestrial and wetland resources are classified as moderate. It is hoped that the proposed wetland mitigation will provide public benefits, and that an adequate mitigation plan will be developed to reduce the impact on the threatened eastern fox snake, and possibly improve the remaining suitable habitat for this species. Perhaps there exists the potential for a cooperative agreement with the Monroe County Historical Museum to develop resources related to the Fermi 1 plant which will help mitigate the loss of this historic resource.

The Planning Commission, in the past, has raised concerns with the potential health effects of electromagnetic fields (EMFs) generated by transmission lines, especially when sited in densely populated areas. However, as stated in the EIS, the state of the science on the human health impacts of EMFs is inadequate and chronic effects are uncertain. The proposed transmission lines would use the existing corridor in Monroe County, although a new corridor is proposed which would be north of the county line, terminating at a proposed substation near Milan.

The section of the report which assessed the impact on public services did not address the need for emergency preparedness by local government due to the location of a reactor within the county. Significant public resources are allocated to plan and prepare for potential emergencies related to the presence of a nuclear reactor within the county, although it is assumed that the related costs will not be significantly increased due to the addition of a second facility adjacent to the existing reactor. The COL application will undergo a separate Safety Evaluation Report (SER) which will assess the suitability of the proposed emergency preparedness program.

## **Recommendation**

It is recommended that the Monroe County Planning Commission inform the Nuclear Regulatory Commission that they have reviewed the Draft Environmental Impact Statement for Combined License (COL) for Enrico Fermi Unit 3 and that they are in concurrence with its findings.