

## Fermi3CEm Resource

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**Sent:** Friday, February 06, 2009 11:49 AM  
**To:** Fermi3COLEIS Resource  
**Cc:** James Francis; Sharon Hanshue; Armina Koch; Kyle Kruger; Kurt Newman; Joseph Robison; Kelley Smith; Gary Towns  
**Subject:** Scoping Comments FERMI 3 Nuclear Power Plant  
**Attachments:** 3108\_001.pdf

Mr. Smith:

Please find attached scoping comments prepared by the Michigan Department of Natural Resources concerning the FERMI 3 Nuclear Power Plant. We appreciate the opportunity to comment. Should you have any questions please do not hesitate to contact us. Thanks You.

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STATE OF MICHIGAN

DEPARTMENT OF NATURAL RESOURCES

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February 5, 2009

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**RE: SCOPING COMMENTS – FERMI 3 NUCLEAR POWER PLANT COMBINED LICENSE APPLICATION**

The Michigan Department of Natural Resources (Department or MDNR) has reviewed the pertinent sections of the license application for the proposed FERMI 3 nuclear power facility, Monroe County, Michigan. Since this proposed project appears to be a replacement for the currently decommissioned FERMI 1 unit and to be operated in conjunction with the current FERMI 2 Unit, a number of issues identified below may have already been addressed in earlier Environmental Issue Statement (EIS) reviews for either or both of those projects. To be comprehensive in scoping such a significant project however, those issues should be clarified as a part of this license application and related proceedings as well.

Of primary concern are issues related to fish entrainment and impingement, water quality, and wetlands. The application includes lengthy discussions of species of concern which do require special attention, but the EIS must include monitoring for all species within the area of impact. Many wildlife species that utilize the refuge and fish species in the vicinity of the project are important game and non-game animals and fish. This includes species that perform a vital role in the ecosystem as forage.

In general, the EIS must address the following issues:

Are the temporal, special, thermal and volumetric characteristics of the buoyant plume adequately predicted? The Combined License Application (COL) indicates water will be discharged offshore and the plume is expected to be dissipated approximately 1,291 feet from shore. The model predicts a mixing zone of 130 feet long by 226 feet wide, for a total plume area of 0.67 acres. The Department has observed significant direct and indirect negative effects to aquatic resources from power plants discharging to the Michigan waters of the Lake Erie basin. Based on that experience we request clarification of the following questions:

1. Is there a predicted sinking plume? If so, are the temporal, special, thermal and volumetric characteristics of the buoyant plume adequately predicted?

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2. Is the volume, velocity, time of passage and time-temperature information in the intake facilities, through the plant, in the discharge facilities, and in the centerline of the thermal plume adequately predicted?

The environmental report utilized phytoplankton and ichthyoplankton results from studies conducted for the FERMI 2 project. While the vicinity is most likely acceptable for use, the most recent of this data is from the early 1990s. This data is probably not current enough to evaluate the potential effect of the FERMI 3 project when it goes on line. The report describes the significant improvements in water quality in Lake Erie, and it continues to improve. This may have changed the composition and abundance of these organisms. Therefore:

1. Are the seasonal phytoplankton populations by number and species known sufficiently well to detect possible changes in the receiving waterbody?
2. Are the seasonal phytoplankton populations by number and species known sufficiently well to detect possible changes in the discharge area and adjacent waters?
3. Relative to phytoplankton of the discharge area adjacent waters and the receiving waterbody, is it known or predicted what proportions of the populations are exposed to stresses caused by plant operation?
4. Are the effects of such exposures on phytoplankton populations (e.g., impairment or stimulation of productivity, time-temperature tolerances, population shifts both local and waterbody-wide, etc.) known or predicted?
5. Are the seasonal populations of benthic and attached algae in the discharge area and adjacent waters known sufficiently well to detect possible changes?
6. Are the effects of the plan operation on populations of benthic and attached algae considered, known or predicted?

The COL has a fairly comprehensive review of the aquatic invertebrate populations in the vicinity of the proposed project. However, given the current changes in water quality and the effects of invasive macro invertebrates such as dreissenid mussels (zebra and quagga), this composition can change significantly between the current review and the start up of the proposed project. Therefore:

1. Are the macroinvertebrate populations in the discharge area and adjacent waters known sufficiently well to detect possible changes?
2. Are effects of plant operation on the macroinvertebrate populations considered, known or predicted?

3. Are the aquatic macrophyte populations in the discharge area and adjacent waters known sufficiently well to detect possible changes?
4. Are effects of plant operations on aquatic macrophyte populations considered, known or predicted?

The report includes data from joint MDNR and U.S. Fish and Wildlife Service (USFWS) fish surveys from 2004. This information is the most current public information on these fish populations. The COL reviewed substantial improvements to fish populations in the Lake Erie basin and the significance of those populations to the economy of the vicinity. Both commercial and recreational fisheries in the western basin of Lake Erie are sources of revenue for the local economies. This data will be 15-years old however by the time the proposed project goes on line. Therefore:

1. Is the seasonal abundance of fish eggs and larvae by species known sufficiently well to detect possible changes in the discharge area and adjacent waters?
2. Is it known or predicted what portion of the populations of fish eggs and larvae are exposed to stresses caused by plant operation?
3. Are the effects of such exposures on fish eggs and larvae considered known or predicted?
4. Is it known or predicted what impact such effects will have on fish populations in the discharge area, adjacent waters and the receiving waterbody?
5. Are the seasonal abundance and habits of adult fish by species known sufficiently well to detect possible changes in the discharge area and adjacent waters?
6. Is it considered, known or predicted what effect operation of the facility will have on these fish and their activities?

The COL discusses its scoring system for projecting impacts on the local and overall ecology of Lake Erie and the project vicinity. The Department believes that the COL should look at both the overall impacts and the cumulative impacts on the local level as well as basin wide. As an example, the COL indicates that the 34,000 gpm of cooling water is a tiny proportion of the whole of Lake Erie, so the impact would be small. It then states that the local potential for withdrawals is not likely to change significantly so the cumulative impacts would be small. The Department maintains that determining the significance or lack thereof, of the local impact of the proposed cooling water use by comparing it to the volume of water in the entirety of Lake Erie is inappropriate. Impacts at the local level are operating at very different scales from those happening lakewide, though certainly both can be impacted by the proposed development and operation of this plant. Furthermore, rationalizing the significance of those impacts, local or cumulative, on the basis that withdrawals are not "likely" to change does not adequately take into

account the impact this development will have either on a local or lakewide (cumulative) scale. Therefore:

1. Have the waterbody wide effects of preparation of this plant been adequately explored? In conjunction with existing facilities using cooling water from Lake Erie in other states and Canada?

The Department would like a better explanation regarding the fate of the chemicals used to treat the cooling water and their potential impacts to water quality in the discharge area. The COL indicates that the levels will be monitored as part of the NPDES permit, but we suggest that a detailed description of how those would be treated or managed within the mixing zone be included.

The COL includes more recent data on the terrestrial/wetland resources near the project which highlights the very high diversity of plants and organisms in the coastal wetlands of Lake Erie. The COL describes the significant loss of these wetland complexes in the Michigan waters of Lake Erie. Given the diversity of habitats, and the high level of loss of these habitats, the Department opposes any net loss of wetlands for this project. The COL indicates the 126-acres of fill is small based on the U.S. Nuclear Regulatory Commission (NRC) criteria and should not require mitigation. The Department strongly disagrees. All wetland fill must be mitigated, especially in areas of high value habitat that is already incredibly rare in this basin. This is required pursuant to State law and cannot be waived. A complete description of the wetland mitigation project to offset impacts at the site must be included. The following information should be of use to you in developing appropriate wetland mitigation sites and design.

- The diverse coastal wetlands in association with the secluded uplands on the property proposed for development provide good habitat for a variety of wildlife species. Lake Erie is a traditional migration route for waterfowl, marsh birds, wading birds, neotropicals and raptors. Birds such as Great Blue Herons and Great Egrets rest in the trees. They feed in the shallow waters near the shorelines and in the wetlands of the wildlife refuge. Ospreys and Bald Eagles have been observed feeding within the shallow waters of the Fermi 2 Nuclear Power Plant (Department staff personal observations).
- Historically the coastal marshes of the western Lake Erie area are important spring, fall and winter, staging, feeding and resting areas for waterfowl. The insects, invertebrates, crustaceans and mollusks that are supported within these wetland communities are also an important source of food for various fish and wildlife species. The emergent and shoreline habitats also provide opportunities for nesting and brood cover for both game birds and non-game birds. No net loss of undisturbed coastal wetland in the Western Lake Erie area is very crucial to this area.

The environmental section indicates a diverse population of amphibians and reptiles utilizing the variety of habitats located at the FERMI 3 site. Many of these species are dependent on the land/water interface for various life stages, foraging, reproduction, and hibernation. These

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special needs require minimal disturbance of the wetland areas and also emphasize the need for mitigation for any proposed wetland losses in the vicinity of the project. The environmental analysis must address specific impacts to these organisms as a result of proposed actions.

The Department opposes any expansion of the safety zones for the project. The overall footprint of the proposed project does not differ significantly from that of the current project operation. The Department believes any expansion of the safety zone could lead to a loss of opportunity for activities such as fishing, duck hunting, and bird watching. The COL describes the importance of these socioeconomic values and they should be maintained or enhanced, not reduced.

The western Lake Erie basin has historically been an important area for duck hunting. Duck hunting parties have continued using marshes and shorelines of this area. Because the area falls within important bird migration corridors it is critical to minimize any habitat loss or impart any activity that would unnecessarily disturb wildlife.

For current project operation, buoyed areas limit fishing and boating access in the vicinity of the plant. The Department acknowledges the importance of protecting the facilities and believes that current standards seem appropriate. Please address any proposed changes in current practices.

The Department appreciates the opportunity to provide these comments. If you have any questions or need clarification, please feel free to contact me or you may contact Sharon Hanshue, Fisheries Division, 517-335-4058.

Sincerely,



Arminda S. Koch  
Resource Management Deputy  
517-373-0046

cc. Ms. Elizabeth Browne, DEQ  
Dr. Russ Mason, DNR  
Dr. Kelley Smith, DNR  
Mr. Michael Bailey, DNR  
Dr. Steven Hewett, DNR