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April 29, 2013

# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

# BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

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In the Matter of:

DTE ELECTRIC COMPANY

Docket No. 52-033-COL

(Fermi Nuclear Power Plant, Unit 3)

# WRITTEN REBUTTAL TESTIMONY OF DTE ELECTRIC COMPANY WITNESSES PETER SMITH, RANDALL WESTMORELAND, AND DAVID MIFSUD ON CONTENTION 8

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# INITIAL WRITTEN TESTIMONY OF DTE ELECTRIC COMPANY WITNESSES PETER W. SMITH, RANDALL WESTMORELAND, AND DAVID MIFSUD ON CONTENTION 8

### EXPERT WITNESSES

# Q1. Please state your full name.

A1. My name is Peter W. Smith ("PS").

My name is Randall Westmoreland ("RW").

My name is David Mifsud ("DM").

## Q2. Have you previously presented testimony in this proceeding?

A2. (PS, RW, DM) Yes. We provided testimony to support DTE's position on Contention 8 on March 29, 2013. Specifically, we sponsored those statements in the DTE testimony that were marked with our initials. Our professional qualifications were provided contemporaneously with that filing.

### Q3. Have you reviewed the NRC Staff's statement of position and testimony?

A3. (PS, RW, DM) Yes. We have reviewed the NRC Staff's statement of position, testimony, and exhibits that were filed on March 29, 2013.

# Q4. Have you reviewed the Intervenors' statement of position?

A4. (PS, RW, DM) Yes. We have reviewed the Intervenors' statement of position and exhibits that were filed on March 29, 2013. The Intervenors did not provide any expert testimony.

# Q5. Please describe the purpose of your Rebuttal Testimony.

A5. (PS, RW, DM) The purpose of our Rebuttal Testimony is to respond to statements made by the NRC Staff and the Intervenors in their testimony, position statements, and exhibits.

## **DISCUSSION**

#### A. <u>Summary of DTE Position</u>

# Q6. Please summarize the conclusions in your initial testimony regarding Contention 8.

A6. (PS, RW, DM) In our initial testimony, we concluded that the NRC Staff has taken the requisite "hard look" at the potential impacts of the Fermi 3 project on the Eastern Fox Snake.

(DM) Based on my professional experience, including direct experience with Eastern Fox Snakes and other reptiles, I concurred with the NRC Staff's assessment of the likely impacts to the Eastern Fox Snake from Fermi 3 construction. Specifically, I agreed that impacts to the Eastern Fox Snake are expected to be SMALL based on implementation of the *Fermi 3 Construction Habitat and Species Conservation Plan: Eastern Fox Snake (Elaphe gloydi)* 

("Mitigation Plan") (Exh. DTE000006).<sup>1</sup> I also agreed that impacts could be MODERATE if there were no mitigation. However, based on the known presence of Eastern Fox Snakes at the Fermi site, DTE's demonstrated commitment to implement the Mitigation Plan, existing Michigan laws on protected species, the involvement of the Michigan Department of Natural Resources ("MDNR") to date, and the availability of enforcement mechanisms, I am confident that DTE will implement the Mitigation Plan, thereby reducing impacts to the Eastern Fox Snake. Further, in light of the restoration and enhancement efforts included in the Fermi 3 project, overall habitat availability and quality for the Eastern Fox Snake should be greater after mitigation than at present, which presents an opportunity for the Eastern Fox Snake to expand its range and increase abundance. The Mitigation Plan will also enhance scientific knowledge (*e.g.*, conservation and wildlife management) that will improve future mitigation efforts (unrelated to Fermi 3).

(RW) Based on my professional judgment, I concurred with the NRC Staff's assessment of the likely impacts to the Eastern Fox Snake from Fermi 3 construction. Specifically, I agreed that impacts to the Eastern Fox Snake are expected to be SMALL based on implementation of the Mitigation Plan. I also agreed that impacts could be MODERATE if there were no mitigation. However, based on my interactions with MDNR and DTE's commitments, DTE will be

<sup>&</sup>lt;sup>1</sup> The Mitigation Plan focuses on reducing impacts to the Eastern Fox Snake, while the *Fermi 3 Aquatic Resource Mitigation Strategy and Final Design* (Exh. DTE00009R) addresses wetland mitigation.

required to (and, in fact, intends to) implement the Mitigation Plan during Fermi 3 construction activities, thereby reducing potential impacts to the Eastern Fox Snake.

# B. <u>Response to NRC Staff Filing</u>

- Q7. Have you reviewed the NRC Staff Testimony and the exhibits cited in that testimony?
- A7. (PS, RW, DM) Yes, we have reviewed the NRC Staff testimony and the exhibits.

## Q8. What is your general reaction to the NRC Staff Testimony?

A8. (PS, RW, DM) We agree with conclusions made by the NRC Staff witnesses based on the information that they present. The information put forward by the NRC Staff demonstrates that the NRC has taken a "hard look" at the impacts of Fermi 3 construction and preconstruction activities on the Eastern Fox Snake.

# Q9. Do you have any comments on the NRC Staff Testimony?

A9. (DM) Yes. The NRC Staff's analysis and conclusions were based on an evaluation of the regional population of Eastern Fox Snakes (rather than entire population range). This is a conservative approach to assessing the impacts on Eastern Fox Snakes. Moreover, the mitigation measures, when coupled with the habitat restoration efforts, should result in greater overall habitat and improved population stability in the region. Thus, there likely may be a net benefit to the Eastern Fox Snake from the project.

### Q10. Could there be LARGE impacts from the project?

A10. (DM) No. The FEIS defines LARGE impacts as environmental effects that are clearly noticeable and sufficient to destabilize important attributes of the resource. Based on the size and extent of available habitat and the degree of impacts that would be expected to occur, the proposed impacts are unlikely to destabilize the regional population (much less the overall population).

# C. <u>Response to Intervenor Filing</u>

- Q11. Have you reviewed the Intervenors' initial statement of position and the exhibits cited in that filing?
- A11. (PS, RW, DM) Yes, we have reviewed the Intervenors' filing and exhibits.

### Q12. What is your general reaction to the Intervenors' filing?

A12. (PS, RW, DM) We strongly disagree with the inferences and conclusions that the Intervenors draw from the information that they present. We will address specific issues raised by the Intervenors in the paragraphs that follow.

# Q13. The Intervenors highlight (at 7) a statement on the MDNR website about the cessation of the MDNR Environmental Review program and the shift of that role to the MNFI. Can you comment on the significance of the statement?

A13. (RW, DM) Yes. First, the statement on the MDNR website cited by Intervenors reiterates that Michigan laws on threatened and endangered species remain in place. MDNR also makes clear that it will still be responsible for issuing permits and taking enforcement action relative to "take" of threatened or endangered species. Thus, there is no basis for the Intervenors to conclude, as they did on

page 10 of their statement of position, that "there will be no enforcement of the mitigation efforts outlined in the FEIS."

Second, the Intervenors misapprehend the change in the MDNR program. MDNR states that it will continue to perform environmental reviews for projects that have a potential impact on an endangered or threatened species, but that there will now be a cost to the requestor for reviews of potential rare species occurrences. The change in MDNR's approach to paying for the reviews does not implicate MDNR's ability to enforce restrictions on "take" of threatened or endangered species, nor does it call into question MDNR's conclusions on the adequacy of DTE's Mitigation Plan. The change is administrative, not substantive.

MDNR is still the governing regulatory authority for endangered and threatened species protection in Michigan. And, MDNR will continue to review proposed projects for potential impacts on threatened or endangered species and will continue to be the agency responsible for issuing "take" permits.

# Q14. The Intervenors state (at 8) that DTE is not known to have requested a Natural Features Inventory Review of the Fermi 3 project. Is this accurate?

A14. (RW) No. As the FEIS indicates (at 2-49), at the outset of the Fermi project DTE contacted MDNR and consulted the Michigan Natural Features Inventory ("MNFI") database regarding the presence of known or potential occurrences of State-listed threatened and endangered animals and plants in the project area.

Eight terrestrial species were identified by MDNR as occurring or being potentially present at the Fermi 3 site, including the Eastern Fox Snake.<sup>2</sup>

# Q15. The Intervenors argue (at 9) that there is "no discussion of the environmental qualities" of the 19.5 acres at the Fermi site that will be restored following construction. Is this correct?

A15. (RW, DM) No. Appendix C of the Mitigation Plan (Exh. DTE000006) describes on-site habitat restoration and enhancement to temporarily impacted wetlands, including the 19.5 acres that will be restored at the Fermi site. The Mitigation Plan explains that restoration will emphasize creation of Eastern Fox Snake habitat and will include foraging grounds, basking sites, shelter, snags, hibernacula, and nesting sites. The Mitigation Plan explains that invasive species will be removed to enhance and improve habitat viability for snakes and other wildlife. Enhancement may also include the creation of wildlife culverts and permanent barrier fences in selected areas of high Eastern Fox Snake activity at the site. DTE also stated (see FEIS at 4-23 and 4-38) that it would restore temporarily disturbed areas with regionally indigenous species and would restore the contours, hydrology, and vegetation of temporarily impacted wetlands following construction. The FEIS further explains (at 4-5) that "[v]egetation stabilization and restoration methods would comply with applicable laws, regulations, permit requirements and conditions, good engineering and construction practices, and recognized environmental best management practices (BMPs)." And, the FEIS (at 4-6) notes that "[t]emporarily disturbed areas would

<sup>&</sup>lt;sup>2</sup> Letter from L. Sargent, MDNR, to Dr. R. Brooks, B&V, dated November 28, 2007 (Exh. DTE000100).

be restored to their existing topographic and hydrological conditions and be planted with natural vegetation once no longer needed."

- Q16. The Intervenors argue (at 9) that there is "no analysis or discussion of whether the removal of some Eastern Fox Snakes formerly inhabiting the Fermi 3 construction footprint and moving them onto undeveloped nearby land, might cause an overcrowding effect." Is this a valid concern?
- A16. (DM) No. Based on my professional opinion, which includes experience working with Eastern Fox Snakes, overcrowding is not a concern for the Fermi 3 project. The Eastern Fox Snake can support relatively high densities where habitat is suitable (*e.g.*, sufficient food, shelter, and other habitat features). This includes locations on the Fermi site. Eastern Fox Snakes are also somewhat communal and can often be found in the same burrows and hibernacula. Moreover, prior to relocating any snakes, habitat at the release point will be evaluated to determine suitability, including the potential for overcrowding. Regardless, all snakes will not be relocated to the same location. While this measure is aimed primarily at reducing the risk of a natural or artificial event that could cause widespread mortality in one area, it also has the advantage of reducing the risk of overcrowding.
- Q17. The Intervenors state that the offsite wetland mitigation area is located near the Monroe Power Plant and argue that there is no discussion of possible contamination of the site (*e.g.*, toxic chemicals, radioactive materials, or mercury from coal combustion or agricultural activities). Can you comment?
- A17. (RW, PS) Yes. We are aware of no contamination at the offsite wetland mitigation area, which in fact has been used for farming for many years. The

Intervenors presented no expert testimony or other evidence of unauthorized releases or contamination at the site that would warrant a detailed site investigation. Nor have they provided any testimony or evidence to suggest a possible adverse impact on Eastern Fox Snakes at the wetland mitigation area. In any event, the MDEQ Permit (Exh. DTE000010) at Paragraph 35 requires the wetland to be free of "oil, grease, debris, and all other contaminants" and covered by at least six inches of high-quality topsoil.

- Q18. The Intervenors also complain about the lack of a topographical description of the offsite wetland mitigation area (*e.g.*, how much of the surface of the field is covered with vegetation or deemed to be wetland, or wetland types). Was there a description of the offsite wetland mitigation area in the FEIS?
- A18. (RW, DM) Yes. Contrary to the Intervenors' statements, the *Fermi 3 Aquatic Resource Mitigation Strategy and Final Design* (Exh. DTE00009R) contains a detailed description of the wetland mitigation area based on field data and a review of other existing data, including aerial photography, soil survey maps, U.S. Geological Survey topographic maps, state and federal wetland maps, Monroe County Drain Commissioner records, and as-built drawings for Interstate 75.<sup>3</sup> Figures 2-9 (pages 153-166 of the PDF) provide a plan view of existing conditions including site boundary, surveyed topography, existing easements, and Michigan Department of Environmental Quality ("MDEQ") and U.S. Army Corps of Engineers Ordinary High Water Marks ("OHWM"). The *Fermi 3 Aquatic Resource Mitigation Strategy and Final Design* also contains a detailed

<sup>3</sup> As noted above, the *Fermi 3 Aquatic Resource Mitigation Strategy and Final Design* describes the wetland mitigation effort, including construction of the offsite wetland mitigation area. The Mitigation Plan addresses potential impacts to Eastern Fox Snakes.

description of soil types, vegetative and wildlife communities, hydrology, and existing wetlands at the offsite wetland mitigation area. For example, Figure 16 (page 69 of the PDF) shows the vegetative cover types found at the mitigation site, including a mix of wetlands such as emergent marsh, floodplain forest, southern shrub-carr, and wet meadow, and uplands such as old field, successional shrub and forest. And, Figures 19 and 20 show the locations of wetlands at the mitigation area. This same information is provided in Appendix K of the FEIS.

- Q19. The Intervenors argue (at 10) that there is no description of the process by which the restoration of the farm field to wetland habitat will be achieved, what types of revegetation would be sought, or what types of wetlands will be restored. Is this an accurate statement?
- A19. (RW, DM) No. There is a detailed and comprehensive analysis and discussion of the restoration process, including wetland types and revegetation plans in the *Fermi 3 Aquatic Resource Mitigation Strategy and Final Design* (Exh. DTE00009R) and Appendix K of the FEIS. The *Fermi 3 Aquatic Resource Mitigation Strategy and Final Design* explains (at 2-3) that restoration and enhancement activities will emphasize heterogeneity in microtopography, vegetation, and hydrology to maximize diversity and ecological resilience of wetland habitat. Wetland mitigation has been designed to specifically replace the functions and values provided by the wetlands impacted by construction and preconstruction activities at the Fermi site.<sup>4</sup> To quantify the expected functional replacement of wetlands, the Evaluation of Planned Wetlands ("EPW") method

<sup>&</sup>lt;sup>4</sup> The functions and values include varying degrees of flood flow attenuation and storage; sediment, nutrient, and toxicant retention; and fish and wildlife habitat.

was used to describe and compare projected functions of the planned mitigation wetland to the functions of the impacted wetlands as assessed in the field at the Fermi site. The EPW method utilized previous assessment data and resulted in functional capacity calculations and comparisons that provide a clear, numerical description of how the mitigation action compensates for unavoidable impacts to wetlands at the Fermi site. For each functional capacity index of the impacted wetlands prior to site preparation and construction. Weighted by area, the planned mitigation wetland is projected to significantly increase functional capacity relative to the impacted wetlands. The planned mitigation wetland also will exceed the MDEQ's primary mitigation goal, which is to replace lost wetlands at an average acreage replacement ratio of 3:1. Table 2, *Wetland Impacts, Ratios, and Proposed Mitigation* (at 39), identifies the specific types of wetlands and the acreage of each wetland type being restored.

- Q20. The Intervenors argue (at 10) that there is no timetable for the offsite mitigation or a commitment to having the mitigation farmland available contemporaneously to the removal of the Eastern Fox Snakes from the construction site. Can you explain the timing of the offsite mitigation activities relative to onsite construction?
- A20. (RW, DM) The MDEQ Wetland permit issued to DTE (Exh. DTE000010) contains conditions related to the timing of authorized activities. Paragraph 34 states that "[t]he mitigation grading, planting, and introduction of hydrology shall be constructed prior to or concurrent with initiating any other permitted activities." A summary of construction activities for each construction year and

an approximate timeline is also provided in *Fermi 3 Aquatic Resource Mitigation Strategy and Final Design* (at 18-20) and Appendix K of the FEIS.

Whether and when Eastern Fox Snakes can be relocated to the offsite mitigation area depends, of course, on the state of the habitat at the time of relocation. As noted above, prior to relocating any snakes, habitat at the release point will be evaluated to determine its suitability. Regardless of the availability of suitable habitat at the offsite mitigation area at the time of relocation, there is ample suitable habitat available at the Fermi site for releasing Eastern Fox Snakes collected prior to and during preconstruction and construction activities.

### **CONCLUSIONS**

### Q21. What are your conclusions regarding the adequacy of the Mitigation Plan?

A21. (RW, DM) The Mitigation Plan, which identifies concrete measures to be implemented by DTE, reflects a significant investment and commitment to the protection and enhancement of the Eastern Fox Snake population in Michigan. The Mitigation Plan is comprehensive and will effectively minimize impacts to the Eastern Fox Snake. And, in the longer term, the Mitigation Plan, in conjunction with the wetlands mitigation activities, will actually expand available Eastern Fox Snake habitat in the region. The Mitigation Plan also includes specific elements (*e.g.*, tracking and monitoring) that will be of significant scientific value to future mitigation efforts in Michigan. These benefits are not limited to the Eastern Fox Snake, but would also extend to other reptiles.

### Q22. Do you agree with the NRC Staff's overall conclusions in the FEIS?

A22. (PS, RW) Yes. However, with respect to the alternative conclusions in the FEIS, DTE will implement its plan to mitigate potential impacts to Eastern Fox Snakes during site clearing, preconstruction, and construction. In addition to the wetland mitigation required by MDEQ, mitigation also will be required as a condition of any take permit issued by MDNR. The Mitigation Plan includes specific elements to minimize impacts to snakes and relocate animals out of construction zones. As a result, the impacts on the Eastern Fox Snake from Fermi 3 construction are expected to be SMALL.

(DM) I also agree. Mitigation will be required as a condition of any take permit issued by the MDNR. The Mitigation Plan includes elements to minimize impacts to snakes and relocate animals out of construction zones. As a result, the impacts on the Eastern Fox Snake from Fermi 3 construction are expected to be SMALL. The impacts would be potentially MODERATE only if mitigation did not take place.

### Q23. Does this conclude your testimony?

A23. (PS, RW, DM) Yes.