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DTE Energy
Detroit Edison

10 CFR 51.45
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October 11, 2011
NRC3-11-0041

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555-0001

References: 1) Fermi 3
Docket No. 52-033
2) Letter from Peter W. Smith (Detroit Edison) to USNRC, "Detroit Edison Company Response to NRC Requests for Additional Information Related to the Environmental Review," NRC3-09-0016 dated November 23, 2009

Subject: Detroit Edison Company Update on Wildlife Reconnaissance Surveys at the Fermi 3 Site Related to Part 3, "Environmental Report," of the Fermi 3 COLA

In Reference 2, Detroit Edison submitted the "Fermi 3 Terrestrial Wildlife Survey Final Report," which documented the results of wildlife studies conducted on the Fermi site. In response to a verbal request from the NRC staff, this letter submits a report documenting an August 2011 survey related to the Indiana Bat (Attachment 1).

If you have any questions, or need additional information, please contact me at (313) 235-3341.

I state under penalty of perjury that the foregoing is true and correct. Executed on the 11th day of October, 2011.

Sincerely,

Peter W. Smith, Director
Nuclear Development – Licensing and Engineering
Detroit Edison Company

D095
NRO

Attachment: 1) Indiana Bat Reconnaissance Surveys at the Fermi 3 Site

cc: Jerry Hale, NRC Fermi 3 Project Manager (w/o Attachment)
Adrian Muniz, NRC Fermi 3 Project Manager (w/o Attachment)
Raj Anand, NRC Fermi 3 Project Manager (w/o Attachment)
Michael Eudy, NRC Fermi 3 Project Manager (w/o Attachment)
Bruce Olson, NRC Fermi 3 Environmental Project Manager
Fermi 2 Resident Inspector (w/o Attachment)
NRC Region III Regional Administrator (w/o Attachment)
NRC Region II Regional Administrator (w/o Attachment)
Supervisor, Electric Operators, Michigan Public Service Commission (w/o Attachment)
Michigan Department of Natural Resources and Environment
Radiological Protection Section (w/o Attachment)

**Attachment 1**

**NRC3-11-0041**

**Indiana Bat Reconnaissance Surveys at the Fermi 3 Site**

(following 9 pages)

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**MEMORANDUM**

Detroit Edison Company
Fermi 3 Environmental Studies
RE: Indiana Bat Reconnaissance Surveys at the Fermi 3 Site

B&V Project 163696
B&V File BV-2011-0030
October 7, 2011

To: Randy Westmoreland, Detroit Edison

From: Ed Shadrick, Black & Veatch

As part of environmental reviews conducted in association with the Fermi 3 Combined Operating License Application (COLA), areas expected to be impacted by construction were surveyed to characterize the wildlife present at the site. The surveys occurred over a number of years, starting in 2006 to August 2, 2011. In addition, focused surveys in 2008-2009 were conducted to evaluate the presence of threatened, endangered or other special status species using the site. This included efforts to screen for Indiana Bat (*Myotis sodalis*) habitat. The Indiana Bat is a federal endangered species. This memorandum provides condensed information on the methods used and the results of the wildlife surveys with respect to Indiana Bat on the Fermi site to date, including a site visit on August 2, 2011.

**Qualitative Wildlife Surveys (2006-2007)**

Reconnaissance surveys of the Fermi site were conducted between November 2006 and May 2008. The purpose of these investigations was to qualitatively assess the existing Fermi site ecological resources, including vegetation and wildlife. Previous wildlife and plant studies also have been conducted on the property. These previous studies and the 2006-2007 survey were conducted for the purpose of characterizing the existing conditions and ecological resources. These studies resulted in species lists based on observations made during the surveys. Because the earlier surveys and the 2006-2007 survey were qualitative in nature, quantitative surveys were undertaken in 2008-2009 to better characterize wildlife use of the site.

**Quantitative Wildlife Surveys (2008-2009)**

The objective of the 2008-2009 Fermi 3 terrestrial wildlife survey was to characterize wildlife use of the site, including any protected species, through a systematic and quantitative approach. The survey confirmed the findings of the previous studies by development of a wildlife species list, but also included information on abundance for the observed species. As a result, the quantitative approach provided a more comprehensive picture of wildlife presence and use than the qualitative studies. The basic approach of the 2008-2009 wildlife survey was to survey locations on the Fermi site with a higher probability of encountering wildlife, thereby developing the list of species present. Surveys coincided with periods when wildlife activity was expected to be higher (i.e., during breeding, semiannual migration or daily movements to and from foraging areas or roosting areas). The sampling methodology was based on widely used Visual Encounter Survey methods and is further described below.

<u>2008-2009 Wildlife Survey Methods</u>

Five transects, each approximately 1,200 feet long (total approximately 6,000 feet), were used to sample habitats expected to be frequently used by a variety of wildlife (approximately 7 percent of the Fermi site or 85 acres). The transect locations were chosen to reflect a proportional distribution of wildlife habitat across the site (e.g., woodland, prairie, lakeshore, etc.) and were placed in areas likely to increase the opportunities to observe wildlife (refer to Figure 3 in the *Fermi 3 Terrestrial Wildlife Survey Final Report* for transect locations). Emergent wetlands were not surveyed since Ducks Unlimited collected wildlife data during the wetland delineation.

Survey sessions were conducted quarterly (once in each three-month interval) starting in July 2008, to collect data on both resident and migrant or transient species using the site. Transects were sampled at different start times on alternating days to evaluate the range of activity periods used by different wildlife species (e.g., birds are usually active early or late, while some reptiles are most active around mid-day). Each survey session occurred over five days; however, transects were abandoned for a given survey session if the rate of total species encountered fell after three days of sampling.

Five sample points were located along each transect, at approximately 300-foot intervals (25 points). The time spent at each sampling point along the transects was limited to 10 minutes, although small adjustments were made in some cases to ensure that all species present and detectable were recorded (i.e., time was allowed to elapse until no new species were recorded for at least five minutes after the first five minutes at a point). Thus, a transect required approximately one hour to complete. The exception was the January 2009 survey session (see also the following paragraph), when weather conditions limited wildlife activity.

During the January 2009 survey session the level of activity and the number of individuals observed for most wildlife classes was very low. Therefore, transect sampling was conducted on a continuous basis (i.e., no point sampling within transects). Investigators walked each transect until wildlife or wildlife sign was observed, stopping long enough to record the species and obtain counts of individuals. After an observation, investigators remained at that location long enough to ensure no further observations before proceeding (approximately 5 minutes after the last observation). Where footprints were the only available sign of wildlife presence (i.e., mammals), fresh tracks after the first day were able to be distinguished because each transect was traversed daily. Often tracks for the same species were observed, meaning no new species were observed after a few days. In addition, since the only open water during this time was near the Fermi 2 cooling towers and the Lake Erie cooling water discharge, almost all activity by waterbirds (gulls, ducks, geese, etc.) was in this area. Only one species [Greater Scaup (*Aythya marila*)] not observed on transects was encountered on Lake Erie during the January 2009 survey session.

Stationary Observations

In addition to transect sampling, non-transect point sampling was conducted at six stationary locations where wildlife activity was believed to be frequent (e.g., Quarry Lakes, the edges of emergent wetland areas or the Lake Erie shoreline) (refer to Figure 3 in the *Fermi 3 Terrestrial Wildlife Survey Final Report* for stationary locations). Supplementary sampling also occurred in specific microhabitats along transects or near stationary sample points where these habitats were encountered (e.g., marshy shorelines for rails, bitterns or amphibians; dead or dying trees with exfoliating bark for Indiana Bat).

Data Recorded

Data recorded during each survey session included identification to the lowest taxon possible (usually species level) and the number of individuals observed or heard at each sampling point, whether on a transect or at a stationary point. A set distance for recording observations was not used. So if an individual could be identified to the species, genus or family level within the visible or auditory range of the observers at a sample location it was recorded, taking into account individuals previously recorded as much as possible. Thus, if an American Robin was heard at one point and again at the next point from the same general direction, it was counted once. Wildlife species observed between sampling points and not previously recorded during a given survey session were documented. Previously recorded species observed between transect points were not recorded. Wildlife species recorded included birds, mammals or mammal sign, reptiles and amphibians. Other species were recorded when encountered, although in most cases no measure of abundance was attempted (e.g., mosquitoes). Weather conditions did not prevent data collection during any survey sessions, although wildlife activity was reduced during the 2009 January and April survey sessions, in part because of lower air temperatures, resulting in some transects being abandoned for those survey sessions.

## Focused Surveys

The following additional procedures were used for focused investigation of specific wildlife classes. These procedures normally were conducted concurrently with transect and sample point data collection during survey sessions. In some cases, focused surveys were performed in suitable habitats not on any transect during seasons when the target species was most active (e.g., spring pools in wooded habitats for salamanders).

### *Birds*

All bird species observed or heard were recorded to the lowest taxon (usually species level). Individuals otherwise not identifiable to species were identified to the lowest possible taxonomic level (e.g., genus, family). Under normal circumstances, some secretive or cryptic species, such as Least Bittern, rails or owls, may not be easily detected during transect surveys. To assess the presence of these species, suitable habitats were walked within one hour of either dawn or dusk on up to two occasions during each survey session in an attempt to flush any individuals present. In addition, calls or other vocalizations for selected species were broadcast using recordings from Thayer Birding Software's

"Guide to Birds of North America" versions 2.5 (July and October 2008 and January 2009) and 3.9 (April 2009). Calls were broadcast using a Dell Latitude 410 laptop computer connected to a FoxPro Digital Wildlife Caller to elicit a response from the target species. Calls were broadcast for up to two minutes after a period of silence and up to four minutes allowed for a response. Broadcast calls were repeated at least twice.

### *Mammals*

Any mammals observed or mammal sign (scat, tracks, rubs, discarded hair, etc.) assignable to a species were recorded during transect sampling. Counts were made only when direct observation was possible. Mammal sign for a species was recorded as a single occurrence, although more than one individual could leave sign in a given location (e.g., multiple deer rubs in the same general location).

### ***Indiana Bat*** *(Mammal)*

Environmental overviews conducted by the U.S. Fish and Wildlife Service (FWS), the Michigan Department of Natural Resources (MDNR) and the Michigan Natural Features Inventory (MNFI) indicated that Indiana Bat may not be present in the project area, although the FWS indicated that the site lies within the species' range. Because suitable habitat may exist on the Fermi site, habitat traversed along transects was evaluated for potential use by this species. Specifically, trees 9 inches or larger diameter at breast height (DBH or 4.5 feet above the ground) that were dead or dying with peeling bark or live trees with exfoliating bark, in stands rather than isolated, with a clear flight pathway and exposed to at least morning sun were investigated for possible maternity colony use. Trees with this set of characteristics typically may be used as maternal colonies by Indiana Bat during the summer months. When potentially suitable roost habitat was encountered, visual surveys were conducted at dusk near potential roost trees to determine if bats of any species were present by viewing the roost trees against the sky to observe bats exiting or swarming around the roost tree. Only one Michigan hibernaculum is known, in Manistee County more than 200 miles northwest of the Fermi site.

### ***Reptiles and Amphibians*** *(Herptiles)*

Any reptiles or amphibians (frogs or salamanders) encountered during transect sampling were recorded. Surface objects along transects, such as logs, large stones and litter or brush piles were turned or lifted to reveal any reptiles or amphibians underneath. All displaced materials were replaced after recording any herptiles. Areas that may contain suitable habitat also were searched in those seasons where activity levels make herptiles more conspicuous (e.g., spring mating). Additional pedestrian searches were conducted along the readily accessible shoreline of marshy areas to determine if these areas were being used by amphibians or water-loving reptiles. Searches for amphibian egg masses were conducted during the April 2009 survey session in accessible marsh edge habitats and vernal pools in wooded areas. Amphibian searches included listening for frog choruses near selected wetland or pond areas during the April 2009 survey session.

**Indiana Bat Survey Results (2008-2009)**

Indiana Bat fall migration to hibernacula typically occurs from August into September. Increased foraging activity may occur during July in preparation for migration. Spring emergence from hibernacula usually occurs starting in April into May, with most individuals having migrated to summer habitat by June[1]. Thus, while periods of the greatest movement (i.e., spring migration from or fall migration to hibernacula) were not expressly covered by scheduled survey periods, the presence and potential use of suitable summer roost habitat within the site was the primary focus of investigations for the bat species.

In the wooded portions of the Fermi site numerous trees are dying or fallen, a majority of which are ash trees (*Fraxinus* spp.) that have been infested with the Emerald Ash Borer. Many of the standing snags have lost their bark and were considered unsuitable Indiana Bat roost habitat, unless crevices or cavities in which the bats could roost were present. During the July 2008 and April 2009 surveys, several potential roost trees were located and revisited, in particular one large (circa 22 inches DBH) Shagbark Hickory (*Carya ovata*) located in the woods east of Quarry Lakes Road. The general locations of the candidate roost trees were in the woods east of the Quarry Lakes, the woods along Bullit Road in the northwestern portion of the site, and portions of the wooded edge adjacent to the restored prairie along Fermi Drive.

The selected candidate trees were re-visited during the July 2008 and April 2009 survey sessions, but no bats of any species were observed in association with any trees or elsewhere on the site. Indiana Bat summer roosting habitat is dependent on a selection of suitable trees since primary and alternative roost trees change frequently, although females tend to return to the same areas each year. Based on the observed conditions during the 2008 and 2009 survey sessions, it appears that Indiana Bat is not likely to roost on the site, although the site could be used intermittently for summer foraging if a colony exists nearby. Given that wooded areas with riparian features or standing water are relatively rare near the site and suitable roost trees near these areas are not abundant, this seems doubtful.

**Indiana Bat Roost Tree Investigation (2011)**

In preparation for further consultation with the FWS and MDNR, Ed Shadrick (Black & Veatch), with Randall Westmoreland and Jamie Steis (Detroit Edison) acting as additional observers, visited the Fermi site on August 2, 2011, to evaluate areas to be impacted by the proposed Fermi 3 construction that were not investigated during the 2008-2009 survey because of site layout changes that occurred after the survey was completed. The August 2, 2011 onsite survey was conducted on foot in selected locations to evaluate the presence of potential roost trees suitable for use by Indiana Bat. The areas investigated included the following locations:

- A relocated transmission corridor adjacent to an emergent wetland complex north of the restored prairie (Wetland C in the *DTE Fermi II Site, Monroe County Wetland Investigation Report* prepared by Ducks Unlimited, dated July 2008);
- The relocated access road and transmission corridor along Toll Road;

[1] U.S. Fish and Wildlife Service (USFWS). 2007. Indiana Bat (*Myotis sodalis*) Draft Recovery Plan: First Revision. U.S. Fish and Wildlife Service, Fort Snelling, MN. 258 pp.

- Canal areas and a pond to be filled along Doxy Road;
- Temporary construction staging areas (laydowns) around the Quarry Lakes (south of Gator Road); and,
- Temporary laydown around Fox Road in the south-central portion of the site, east of Quarry Lakes Road.

Each location was walked while comparing standing trees with the characteristics considered suitable for Indiana Bat summer roost trees. During the August 2 investigation, six trees potentially suitable for summer roosts by Indiana Bat were located using a handheld GPS unit (Delorme Earthmate PN-40). The attached figure illustrates these potential roost tree locations. In addition, the location of a single large Shagbark Hickory in the woods east of Quarry Lakes Road encountered during the 2008-2009 wildlife surveys is included in the figure.

During all studies since 2008, potentially suitable roost trees were determined using a suite of habitat characteristics, drawn from the FWS' *Indiana Bat (Myotis sodalis) Draft Recovery Plan: First Revision* (2007; see also Footnote 1).

- Trees located in riparian, bottomland, and upland forests, with a slight preference for wooded areas with wet or moist soils;
- Roost trees usually are located in groupings, but wooded pastures, hog lots, fencerows, and residential yards also may be used; roost trees tend to be the largest in a grouping;
- Tree used are dead, dying or live trees with peeling or exfoliating bark in locations exposed to at least morning sun;
- Maternity roost trees tend to be larger relative to adjacent trees, typically more than 9 inches diameter at breast height (DBH); solitary males may use smaller trees down to 3 inches DBH;
- Access to a potential roost tree is not blocked by branches, vines or other obstructions that could cause increased exposure to predation;
- Also will use narrow cracks, split tree trunks or larger split branches sheltered from the weather.

Tree considered unsuitable as potential roosts were:

- smaller than 9 inches DBH;
- had lost more than 90 percent of the bark;
- had at least 90 percent of the bark, but it was tight to the trunk;
- were in shaded locations or isolated from other trees; or
- had a congested flight space at points of access/egress to potential roost locations on the tree.

Potential roost trees in each location were evaluated as low, moderate or high potential using the habitat characteristics as noted above. The results for each investigated area are summarized below by location.

The relocated transmission corridor near Wetland C. Trees with the highest potential for use during the August 2 site investigation were observed near the wetland just south of Toll Road; this area is considered high potential. Trees in the wetland were isolated and considered unsuitable; many dead trees had either no bark or very little bark remaining, others were considered too isolated and exposed to weather for use as a roost site. Trees in woods adjacent to Wetland C outside of the proposed transmission line right-of-way (ROW) may be suitable, but these would not be removed during transmission line construction. This location was considered high potential, but this determination was based on a single tree that may deteriorate and become unsuitable by the time construction of the transmission line would occur. Most trees in the area were too small or otherwise unsuitable for Indiana Bat summer roosts, a situation unlikely to improve with time.

The relocated access road and transmission corridor along Toll Road. There were very few suitable trees in the area to be cleared for transmission ROW, mostly smaller shrubs and a few saplings, some larger living trees with intact bark. The exception is the area near Wetland C, as noted above. Some larger trees may be suitable east of the transmission ROW, but these will not be removed or affected by construction. This location was considered low potential within the transmission ROW.

Canal areas and a pond to be filled along Doxy Road. Treed areas along the road were considered unsuitable since dead trees are regularly removed as a hazard. There were few trees of suitable size or meeting other roost tree characteristics in this area. This location was considered low potential.

Temporary construction laydowns around the Quarry Lakes. Some potential roost trees are present, but these were considered marginal and other locations were more likely to be preferred. There was significant canopy by shrubs, especially hawthorn (*Crataegus* sp.). Most potentially suitable trees lacked sufficient bark, or were partially blocked by branches. One Shagbark Hickory (*Carya ovata*) is present, but it was considered too small. This location was considered moderate to low potential.

Temporary laydown around Fox Road. The laydown area has a few trees of suitable size, but seldom in groupings and most are living trees are without peeling or exfoliating bark. Wooded areas north of the proposed laydown area could be used, although many of the trees near the laydown area are smaller than the preferred size. This latter area will not be affected by use of the laydown area and trees will not be removed. The laydown area location was considered low potential.

**August 8, 2011 Site Meeting**

On August 8, 2011, Detroit Edison conducted a site meeting and tour with representatives from the FWS, the U.S. Army Corps of Engineers (USACE), the U.S. Environmental Protection Agency (EPA), Conservation Connects, and Black & Veatch. The primary purpose of the meeting was to familiarize regulators with the site to aid in pending permit application reviews by the respective agencies. As such, the meeting included a presentation of the measures taken by Detroit Edison to reduce wetland impacts related to the construction of Fermi 3. In addition, a condensed summary of investigations to evaluate use of the site by Indiana Bat was provided. During the site tour, several locations with candidate Indiana Bat roost trees identified during the August 2, 2011, site visit were re-visited to illustrate the results of the August 2 site investigation.

During the site tour, Ed Shadrick (Black & Veatch) and Burr Fisher (FWS) informally discussed the Indiana Bat habitat. Mr. Fisher indicated a general agreement with the results described in this memo.

**Conclusions**

Even with several studies conducted since 2006, Black & Veatch has not observed bats of any species. Site employees have reported anecdotal observations of bats at the Fermi site; however, no determination was made as to what species were observed. Although some trees suitable for Indiana Bat summer roosting habitat are present, the combination of habitat features usually preferred by Indiana Bat are generally lacking from the Fermi site. Therefore, it appears unlikely that the species would be adversely affected by the proposed transmission line construction, clearing in the laydown areas or construction of buildings in the canal and pond along Doxy Road. Furthermore, because of the continuing decline of roost trees on the Fermi site, it is likely that conditions for summer roosts will not improve before construction of the new Fermi unit is started.

- End Memo -

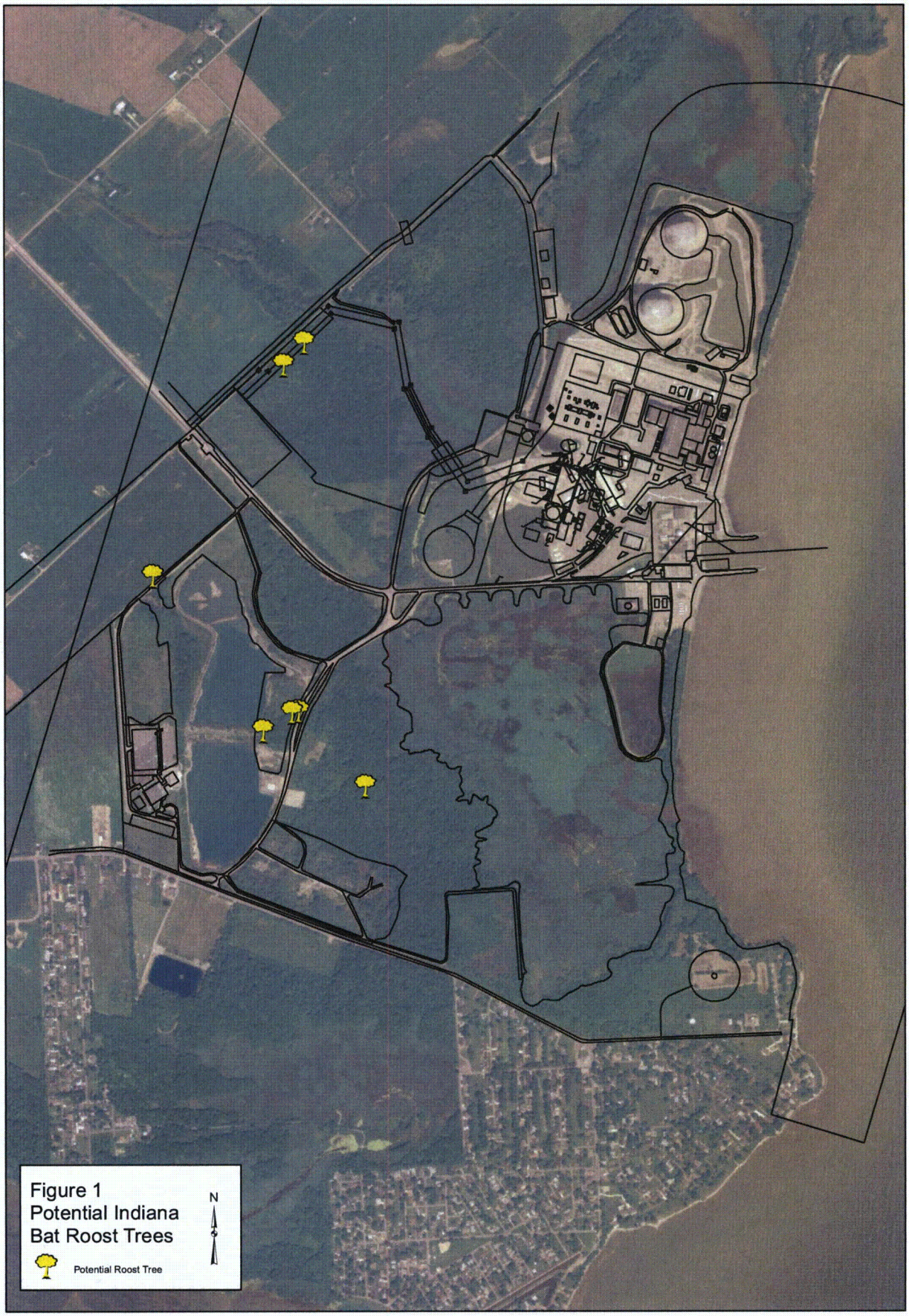
Figure 1
Potential Indiana
Bat Roost Trees
Potential Roost Tree
N