



**US Army Corps
of Engineers®**

PUBLIC MEETING

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DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR ENRICO FERMI UNIT 3 COMBINED LICENSE APPLICATION

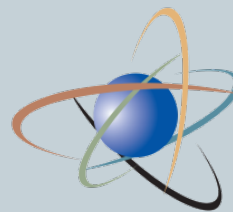
December 15, 2011

Anthony Hsia, Branch Chief, NRC
Bruce Olson, Environmental Project Manager, NRC
Colette Luff, Regulatory Project Manager, USACE

Nuclear Regulatory Commission

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- NRC's mission:
 - Protect public health and safety
 - Promote common defense and security
 - Protect the environment
- The NRC is an Independent Executive Agency
- The NRC has over 30 years of experience regulating operating reactors and other civilian uses of nuclear materials



U.S.NRC
UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Purposes of this Meeting

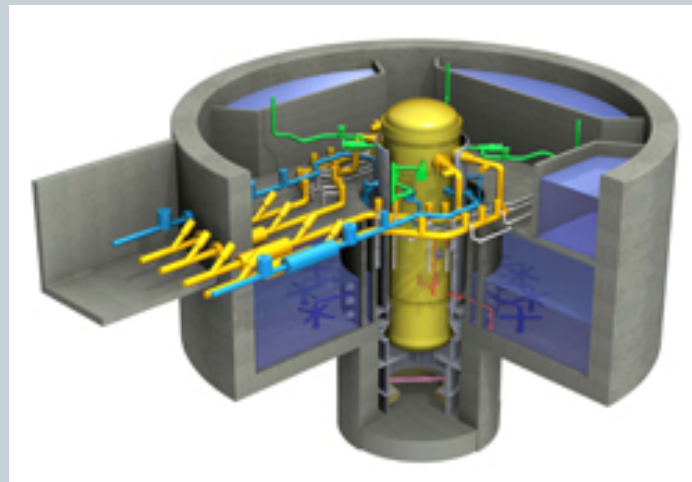
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- Describe environmental review process leading up to today
- Provide the schedule from today forward
- Share preliminary recommendations with you
- Describe how you can provide comments
- **Listen to and gather your comments today**

Combined License

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- Detroit Edison submitted an application to the NRC for a combined license (COL) for a new nuclear unit (Fermi Unit 3).
- A combined license issued by the NRC authorizes an applicant to build and operate a new nuclear unit
- Unit 3, if approved, would be built on the site adjacent to the Fermi Unit 2 nuclear power plant
- There are two NRC reviews for the Fermi 3 COL :
 - Safety
 - Environmental



ESBWR (Source: US NRC)

Environmental Review



- **NRC**

- The “lead Federal agency” on the environmental review and preparation of this environmental impact statement (EIS)
- Conducts the environmental review of the COL application to build and operate a new reactor



- **US Army Corps of Engineers**

- A “cooperating agency” on the environmental review and preparation of the EIS
- Reviews the Joint Permit Application prior to issuing a USACE permit

USACE Regulatory Role/Process

- NRC: Lead Federal Agency
- USACE: Cooperating Agency
- USACE permit application evaluation
 - ▶ Public interest Review
 - ▶ 404(b)(1) Guidelines
 - ▶ NEPA
 - ▶ Public Involvement
- USACE permit evaluation & decision
 - ▶ Documented in separate Record of Decision (ROD)
 - ▶ ROD will reference Final EIS and present any additional information necessary to support its permit decision



U.S. Army Corps of Engineers Regulatory Authorities

- Section 10 of the Rivers & Harbors Act of 1899
 - ▶ Regulates all work in, under and over navigable waters of the US

- Section 404 of the Clean Water Act
 - ▶ Regulates placement of dredged/fill material into waters of the US, including wetlands

- Related Laws



Regulated Activities Associated with Fermi 3

- Dredging: structure installation
- Structures: water intake, cooling water discharge pipe, barge slip/offloading facility, cofferdam, fish return, culverts
- Fill:
 - ▶ Lake/canals (permanent): associated with culverts, roads, and structures
 - ▶ Wetlands (permanent): cooling tower access, access road, on-site transmission towers, parking garage; security gate area, switchyard
 - ▶ Wetlands (temporary): construction stockpiling/laydown areas, on-site transmission tower construction



Proposed Aquatic Resource Impacts and Mitigation

Resource	Impact Acreage (approximate)		
	Temporary	Permanent	Conversion
Lake/canal	1	3	0
Wetlands	24	10	2.5

Mitigation

- ▶ On-site:
 - Remove wetland fill & restore sites/remove lake fill
 - Use turbidity containment /erosion control measures
- ▶ Off-site :
 - Re-establish & rehabilitate approx. 82 ac. wetlands
 - Preserve approx. 82 ac. wetlands



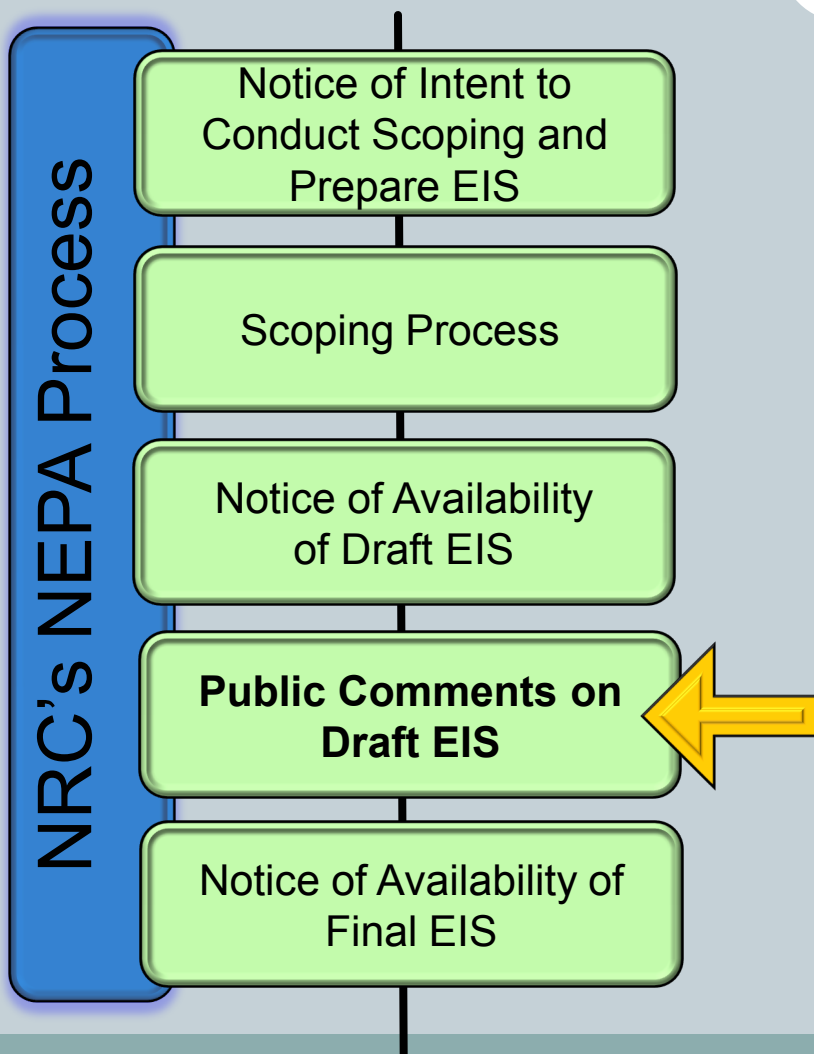
USACE Regulatory Review

- Permit Application Received Sep 2011
- USACE file no: LRE-2008-00443-1
- USACE Public Notice:
<http://www.lre.usace.army.mil/functions/rf/html/pncur.htm>
- USACE POC:
Colette Luff, Regulatory Project Manager
Email: colette.m.luff@usace.army.mil
Phone: 313-226-7485
- Further info about USACE Regulatory Program:
<http://www.lre.usace.army.mil/who/regulatoryoffice/>



Review Process & Schedule

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- Published *Federal Register* notice in December 2008
- Scoping period from Dec 2008 to Feb 2009; scoping meetings held in Jan 2009 (Monroe)
- EPA Published *Federal Register* notice on October 28, 2011
- ***Comment period on Draft EIS is from October 28, 2011 to January 11, 2012***
- Final EIS expected to be published in November 2012

Organization of EIS

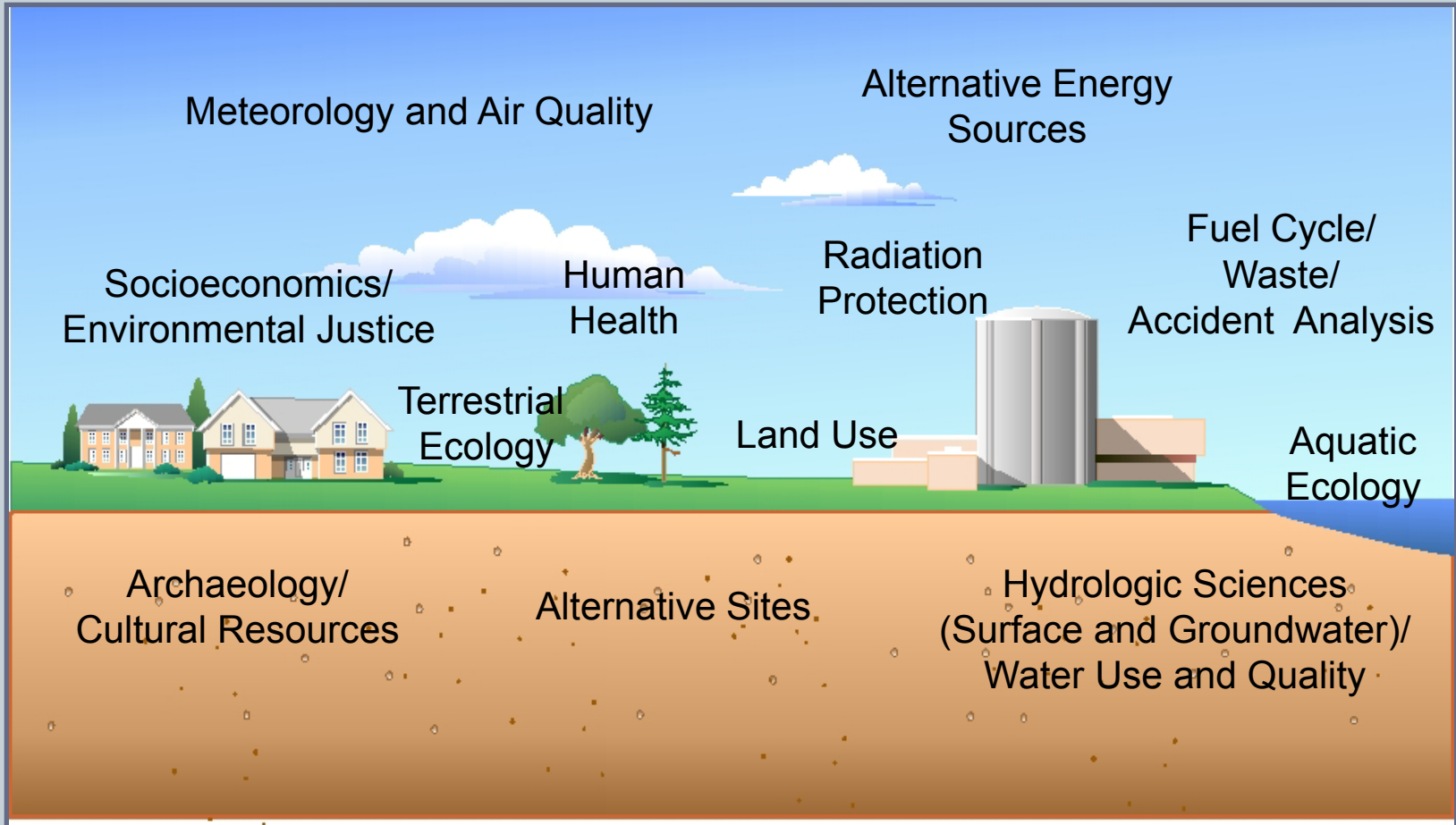
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- Chapter 1 – Introduction
- Chapter 2 – Affected Environment
- Chapter 3 – Site Layout and Plant Description
- Chapter 4 – Construction Impacts
- Chapter 5 – Operational Impacts
- Chapter 6 – Fuel Cycle, Transportation, and Decommissioning Impacts
- Chapter 7 – Cumulative Impacts
- Chapter 8 – Need for Power
- Chapter 9 – Environmental Impacts of Alternatives
- Chapter 10 – Conclusions and Recommendation

- Appendices A - L

Resource Areas

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Source U.S. NRC

How Impacts are Categorized

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NRC has established three impact category levels:

SMALL: Effect is not detectable, or so minor it will neither destabilize nor noticeably alter any important attribute of the resource

MODERATE: Effect is sufficient to alter noticeably, but not destabilize, important attributes of the resource

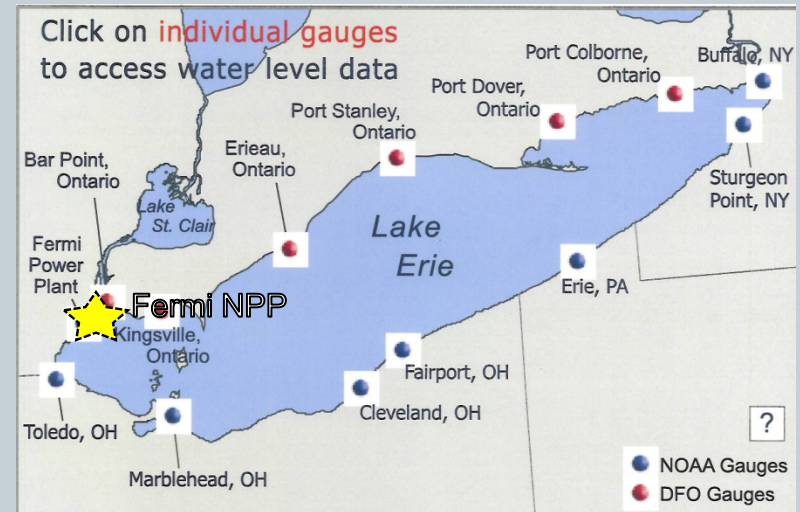
LARGE: Effect is clearly noticeable and sufficient to destabilize important attributes of the resource

Water Resources Impacts

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Analysis includes impacts of Fermi 3 construction and operation on surface water and groundwater use and quality

- Impacts on water use and quality for both surface water and groundwater would be SMALL:
- Average annual withdrawal from Lake Erie during operation would be a small percentage of lake volume, half of which would be returned to Lake Erie during operations
- Permit requirements to treat discharges to meet thermal and chemical limits
- Groundwater would not be used for operation



Source: NOAA

Ecological Impacts

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Evaluated impacts on terrestrial and aquatic ecological resources

- Protected species, as well as aquatic, wetland, and upland habitats on Fermi site and nearby areas were included
- Review Team consulted with Michigan Department of Natural Resources and U.S. Fish and Wildlife Service, Midwest Region
- Impacts on terrestrial ecology would range from SMALL to MODERATE
- Impacts on aquatic ecology would be SMALL



White Cat's Paw
(*Epioblasma obliquata perobliqua*)
Source: USFWS



Indiana Bat

Source: MDNR

Radiological Impacts

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Analysis includes impacts on construction workers, members of the public, plant workers, and wildlife

- Doses to workers and members of the public would be within regulatory limits and impacts would be SMALL
- Doses to wildlife would also be below relevant guidelines and impacts would be SMALL
- Population dose from normal operations would be a small fraction of the population dose from natural sources of radiation

Socioeconomic and Environmental Justice Impacts

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Socioeconomics examines how building and operating Fermi 3 affects people and the economy, including physical (aesthetics), economic (jobs and taxes), and infrastructure (roads, housing, police and fire, and schools) impacts.



Environmental justice examines whether or not low-income or minority populations may experience disproportionately high and adverse impacts from building or operating Fermi 3



Cumulative Impacts

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Cumulative impacts include the impacts from the proposed action (building and operating Unit 3) and other past, present, and reasonably foreseeable future actions; examples include:

- Fermi 2 (License Renewal application expected in 2014)
- Proposed Cleveland-Toledo-Detroit Passenger Rail
- Adverse cumulative impacts would range from SMALL to MODERATE.
- Beneficial cumulative impacts would range from SMALL to LARGE.

Alternatives

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- **Energy Alternatives**
 - None of the feasible baseload alternatives were determined to be environmentally preferable
- **Alternative Sites**
 - Four alternative sites were compared to the Fermi site
 - None of the alternative sites were determined to be environmentally preferable to the Fermi site
- **Alternative System Designs**
 - No alternative cooling system would be environmentally preferable to the proposed plant design



Source: TVA



Source: U.S. DOE



Source: Detroit Edison

NRC Staff Preliminary Recommendation

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- The NRC staff's preliminary recommendation to the Commission is to issue the combined licenses.
 - Most of the environmental impacts would be expected to be SMALL
 - None of the feasible alternative energy sources evaluated would be environmentally preferable
 - None of the alternative sites would be environmentally preferable to the Fermi site

Access to the Draft EIS

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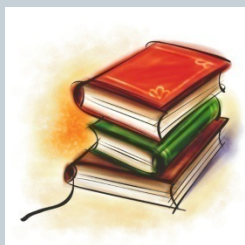
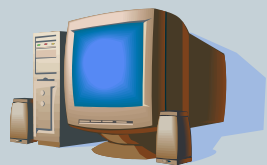
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www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2105

or

www.nrc.gov/reactors/new-reactors/col/fermi.html



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Submitting Comments on Draft EIS

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<http://www.nrc.gov/public-involve/doc-comment/form.html>



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NRC Court Reporter at this meeting

COMMENTS ARE DUE BY JANUARY 11, 2012