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

US Army Corps of Engineers®

PUBLIC MEETING

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

- NRC's mission:
  - Protect public health and safety
  - Promote common defense and security
  - Protect the environment

- The NRC is an Independent Executive Agency

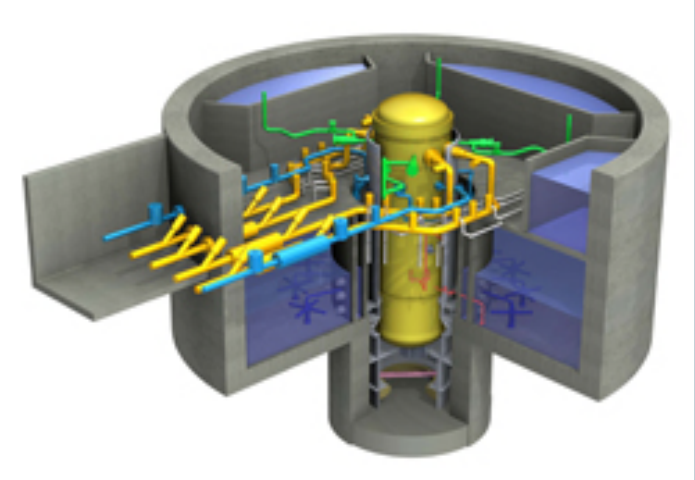
- The NRC has over 30 years of experience regulating operating reactors and other civilian uses of nuclear materials

Purposes of this Meeting

- 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

- 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

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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

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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/

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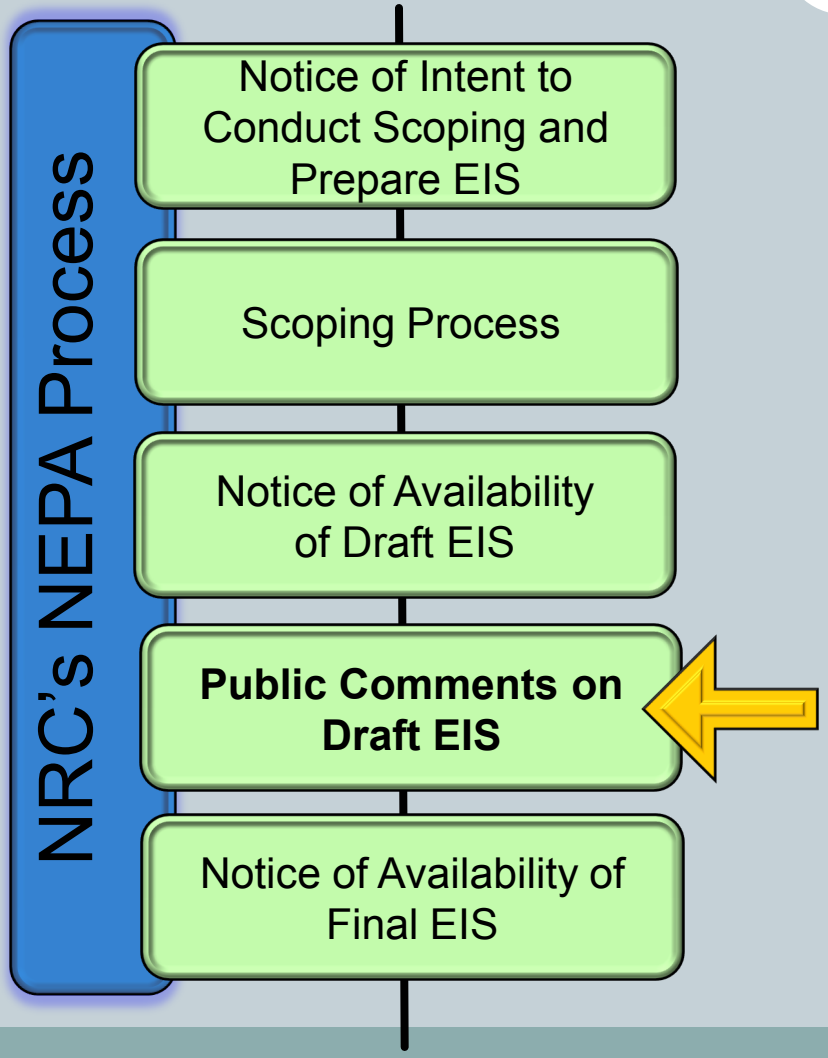
Review Process & Schedule



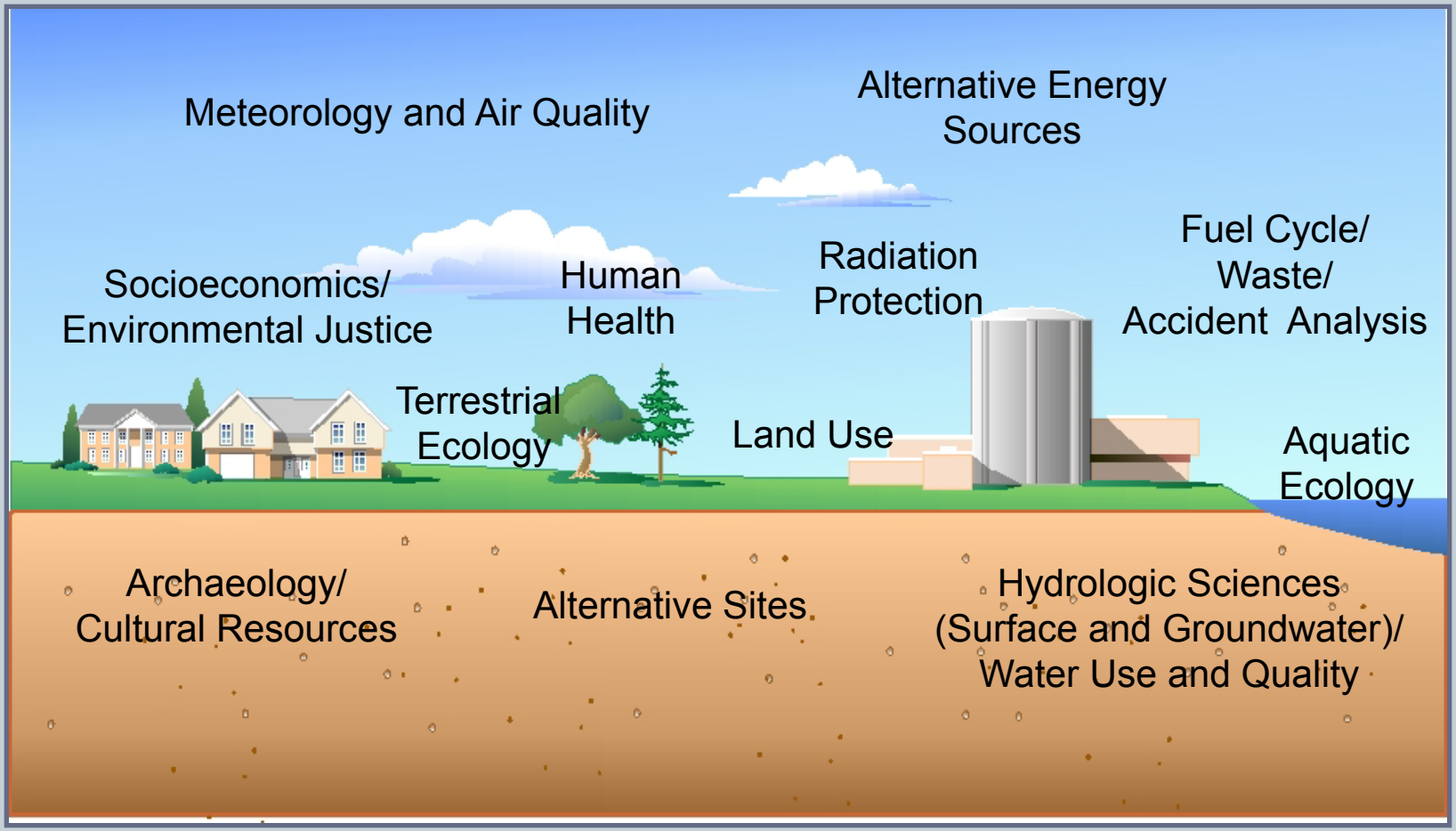
- Published *Federal Register* notice in December 2008
- Scoping period from Dec 2008 to Feb 2009; scoping meetings held in Jan 2009 (Monroe)
- EPA Published *Federal Register* notice on October 28, 2011
- ***Comment period on Draft EIS is from October 28, 2011 to January 11, 2012***
- Final EIS expected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

Organization of EIS

- 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



Source U.S. NRC

How Impacts are Categorized

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

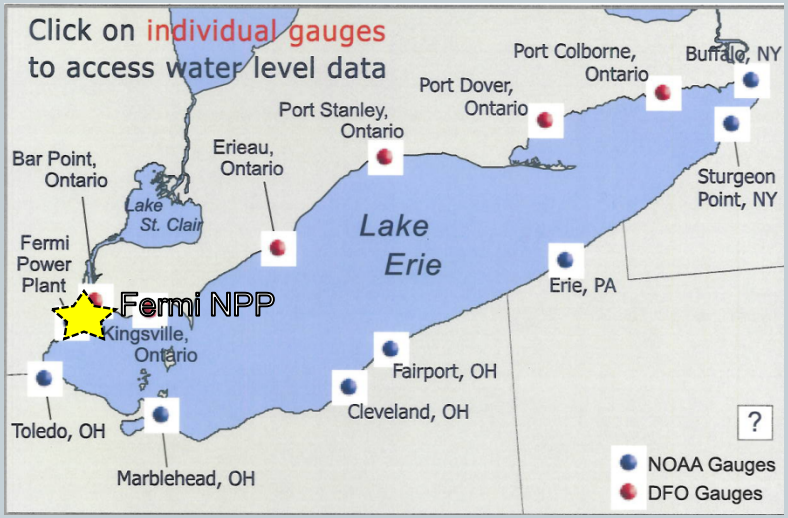
MODERATE: Effect is sufficient to alter noticeably, but not destabilize, important attributes of the resource

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

Water Resources Impacts

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

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

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

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

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

- 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

- 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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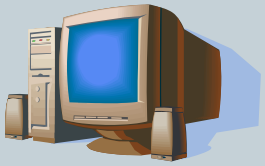

www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr2105

or

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

Ellis Library & Reference Center,

Monroe County Libraries, 700 South Custer Road, Monroe, Michigan 48161-9716

Submitting Comments on Draft EIS

Fermi3.COLEIS@nrc.gov

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

Chief, Rules, Announcements, and Directives Branch
Division of Administrative Services, USNRC
Mailstop TWB-05-B01M
Washington DC, 20555-0001

Fax to RDB at (301) 492-3446

NRC Court Reporter at this meeting

COMMENTS ARE DUE BY **JANUARY 11, 2012**