



U.S. DEPARTMENT OF
ENERGY

Office of Science

***Long Baseline
Neutrino Experiment
Environmental
Assessment
(LBNE EA)***

**Fermilab Community
Advisory Board Meeting
September 23, 2010**





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The National Environmental Policy Act Process

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The National Environmental Policy Act

- ❖ ***Signed it into law on January 1, 1970 -- Often called the “Magna Carta” of environmental laws***
- ❖ ***Applies to Major Federal Actions***
 - Subject to Federal government control or responsibility
 - Potential for significant effect
- ❖ ***NEPA requires agencies to undertake an assessment of the environmental effects of their proposed actions***
 - Informed decisions
 - Analyses to quantify impacts
 - Alternatives to enables comparisons
 - Stakeholder involvement



Goals of NEPA*

- ❖ **Fulfill** the responsibilities of each generation as **trustee of the environment** for succeeding generations;
- ❖ **Assure** for all Americans **safe, healthful, productive, and aesthetically and culturally pleasing surroundings**;
- ❖ **Attain** the widest range of **beneficial uses of the environment** without degradation, risk to health or safety, or other undesirable and unintended consequences;
- ❖ **Preserve** important **historic, cultural, and natural aspects** of our national heritage, and **maintain**, wherever possible, an environment which **supports diversity, and variety of individual choice**;
- ❖ **Achieve** a **balance between population and resource use** which will permit high standards of living and a wide sharing of life's amenities; and
- ❖ **Enhance** the quality of **renewable resources** and **approach** the maximum attainable **recycling** of depletable resources

* Sec. 101 [42 USC § 4331].



NEPA Requirements

❖ *Federal Regulations*

- Council on Environmental Quality “Regulations for Implementing NEPA,” 40 CFR Parts 1500-1508
- Department of Energy “NEPA Implementing Procedures”, 10 CFR Part 1021

❖ *Other*

- DOE Order 451.1B, National Environmental Policy Act Compliance Program
- Office of Science Management System: Implementing the National Environmental Policy Act (NEPA)



Possible NEPA Compliance Approaches

- ❖ **Categorical Exclusion** – Confidence there will be no ***significant*** environmental impact
- ❖ **Environmental Assessment** – Unlikely that there will be a ***significant*** environmental impact
- ❖ **Environmental Impact Statement** – ***Significant*** environmental impact expected



Significance*

- ❖ ***Context: Impact can vary with setting of proposed action and thereby influence compliance pathway***
- ❖ ***Intensity: Severity of impact can influence compliance pathway***
 - Public Health or Safety
 - Sensitive Resources
 - Controversy (scientific)
 - Uncertainty
 - Precedent for Future Actions with Significant Effect
 - Cumulatively Significant Effects
 - Endangered Species
 - Violation of Law

* 40 CFR 1508.27



DOE Experience and Pathways

- ❖ ***10 CFR 1021 Subpart D, Classes of Action that Normally Require CX's, EA's, and EIS's***
- ❖ ***Actions not explicitly listed require preparation of an EA***



Bottom Line on LBNE

- ❖ ***Will be working closely with the National Science Foundation on the South Dakota end***
- ❖ ***We don't think there will be a significant environmental impact on the Fermilab end, so our plan is to prepare an EA***
- ❖ ***DOE's experience with accelerators and neutrino experiments informs that belief***
- ❖ ***The EA process is intended to either:***
 - Confirm DOE's belief that there will be no significant impact and prepare a decision document called a Finding of No Significant Impact (FONSI)
 - Communicate the need to prepare an EIS

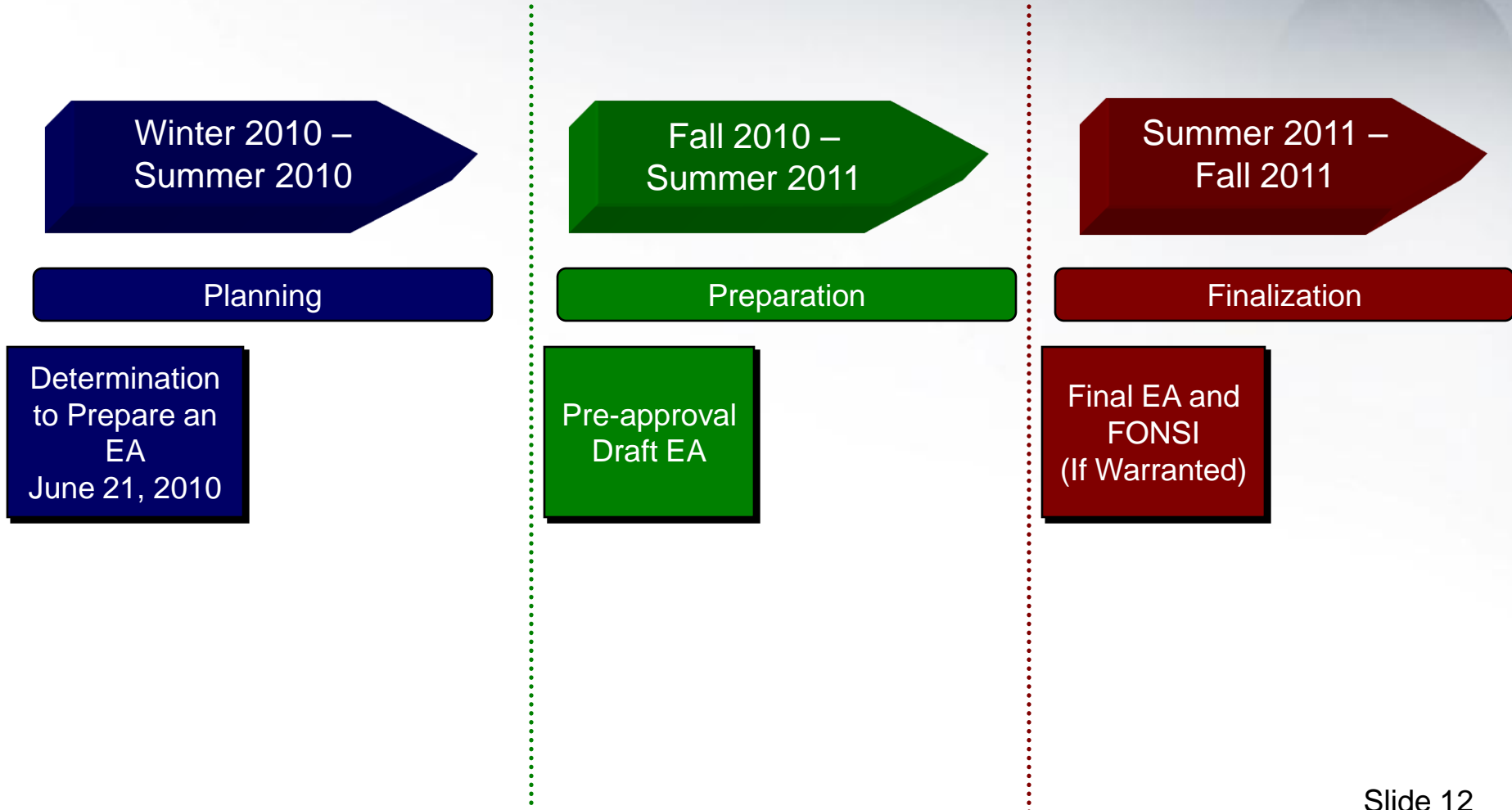


NEPA Responsibilities

- ❖ *The Head of the Field Organization has the responsibility to officially determine that an EA is required. (DOE Order 451.1B 5.a.(8))*
- ❖ *The NEPA Compliance Officer has the responsibility to make recommendations (DOE Order 451.1B 5.d.(6))*
- ❖ *Determination was made on June 21, 2010*

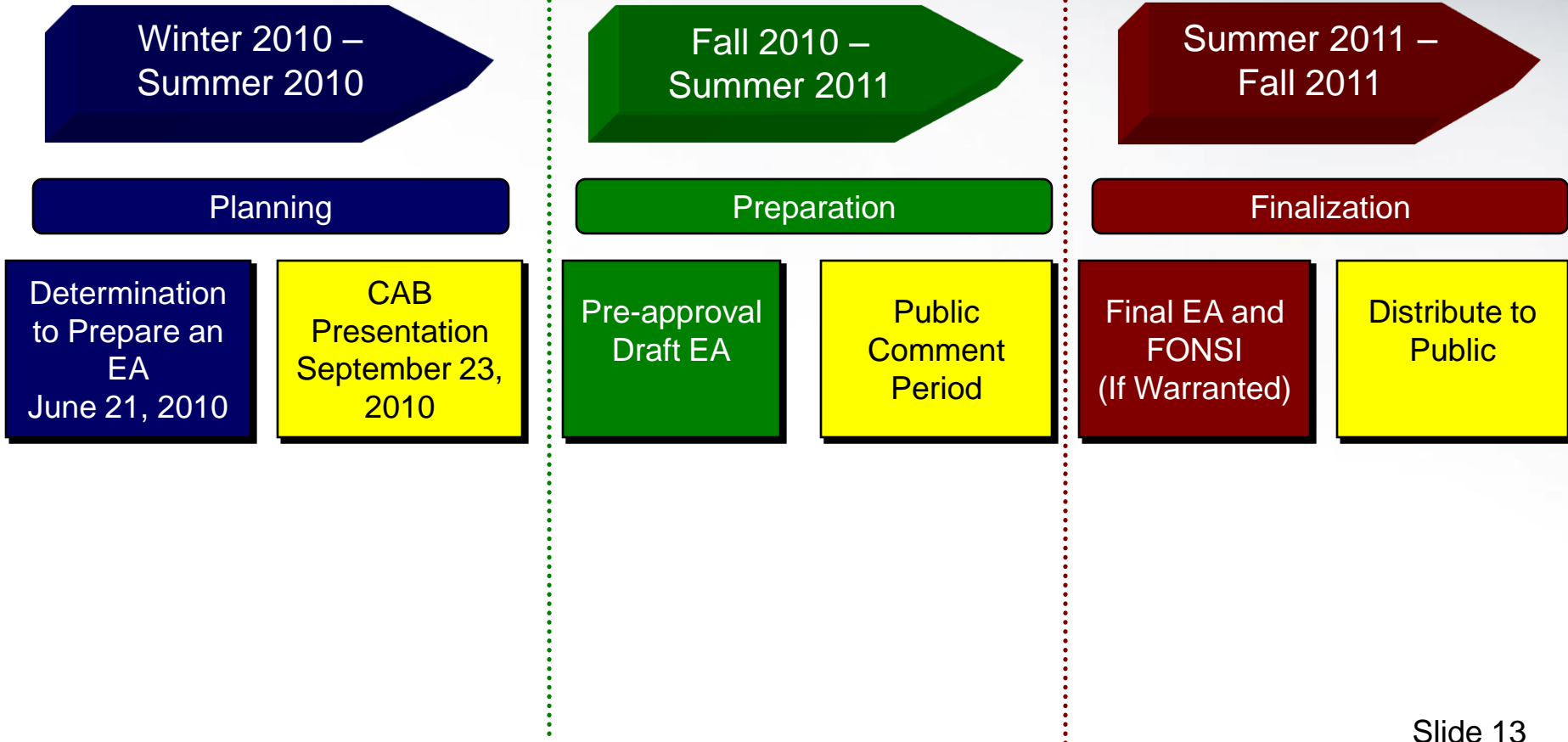


NEPA Schedule for the LBNE





Public Involvement in the LBNE NEPA Process





What Will the Draft EA include?

- ❖ Statement of Purpose and Need for Action
- ❖ Description of Proposed Action
 - Description of the Proposed Facility Design, Construction and Operation
 - Technology, Configuration, and No Action Alternatives
 - Description of the Research to be Conducted
- ❖ Description of the Environment at the Site
- ❖ Detailed Estimate of the Environmental Impacts



Impacts Analysis

- Human Health
- Biological Resources
- Transportation
- Accident Analysis
- Socioeconomics
- Environmental Justice
- Noise
- Soils and Geology
- Utilities
- Water Quality
- Air Quality
- Floodplains and Wetlands
- Cultural/Historic Resources
- Waste Management
- Land Use
- Cumulative Impacts



Our Commitments To You

- ❖ The LBNE EA will be considered in project decisions
- ❖ We are committed to the safety of your community, the Fermilab employees and the protection of the environment



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Questions and Advice



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Back-up Slides



What Are the Typical Impacts?

- ❖ Construction impacts would be similar to other large buildings
 - Noise
 - Air pollution related to heavy equipment
 - Increased construction traffic, temporary road closures
 - Accidents – The LBNE require tunneling
- ❖ Operational impacts would be similar to other accelerator physics laboratories
 - Within permit/license emissions to the air and water
 - Low levels of tritium generation
 - Increased electricity use
 - Commuting workers