

PMFermiCOLPEm Resource

From: Hale, Jerry
Sent: Wednesday, May 18, 2011 9:32 AM
To: Muniz, Adrian; Anand, Raj; Brown, Christopher
Cc: Nagel, Cheri; FermiCOL Resource
Subject: FW: ACRS Slides
Attachments: Chapter 8, Electrical Power.pptx; Chapter 7, Instrument & Control.pptx; Chapter 4, Reactor.pptx; Chapter 18, Human Factors Engineering.pptx; Chapter 15, Safety Analysis.pptx

Attached are the slides the Fermi 3 staff will present at ACRS for Chapters 4, 7, 8 15 and 18 in PowerPoint format.

JRH

From: Nicholas A Latzy [<mailto:latzyn@dteenergy.com>]
Sent: Tuesday, May 17, 2011 11:05 AM
To: Hale, Jerry
Subject: Re: ACRS Slides

Here are the electronic copies of the presentations as you requested.

If you are in need of any more information, please feel free to ask.

Thank you
Nicholas A. Latzy
Supervisor - Engineering
Nuclear Development - DTE Energy
(313)-235-3370

-----"Hale, Jerry" <Jerry.Hale@nrc.gov> wrote: -----

To: Nicholas A Latzy <latzyn@dteenergy.com>
From: "Hale, Jerry" <Jerry.Hale@nrc.gov>
Date: 05/17/2011 09:18AM
Subject: ACRS Slides

Nick,

Could you send me an electronic copy of the Fermi ACRS slides in PowerPoint format by COB today. I need to get the electronic copy to our secretary so she can put the entire package together for ACRS.

Jerry Hale

Project Manager

U.S. Nuclear Regulatory Commission

Office of New Reactors

(301) 415-8148

Hearing Identifier: Fermi_COL_Public
Email Number: 830

Mail Envelope Properties (E3D0DF334F617344BE38EB00C881B1B35152AEF5F0)

Subject: FW: ACRS Slides
Sent Date: 5/18/2011 9:31:47 AM
Received Date: 5/18/2011 9:31:58 AM
From: Hale, Jerry

Created By: Jerry.Hale@nrc.gov

Recipients:

"Nagel, Cheri" <Cheri.Nagel@nrc.gov>
Tracking Status: None
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Files	Size	Date & Time
MESSAGE	1094	5/18/2011 9:31:58 AM
Chapter 8, Electrical Power.pptx		1919063
Chapter 7, Instrument & Control.pptx		799692
Chapter 4, Reactor.pptx	805125	
Chapter 18, Human Factors Engineering.pptx		801734
Chapter 15, Safety Analysis.pptx	802960	

Options

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**Fermi 3 COLA
Presentation to ACRS Subcommittee
Chapter 8**



Chapter 8, Electrical Power: Chapter Topics

- Introduction – General Description
- Offsite Power Systems
- Onsite Power Systems
- Miscellaneous Electrical Systems



Chapter 8, Electrical Power: Supplemental Information

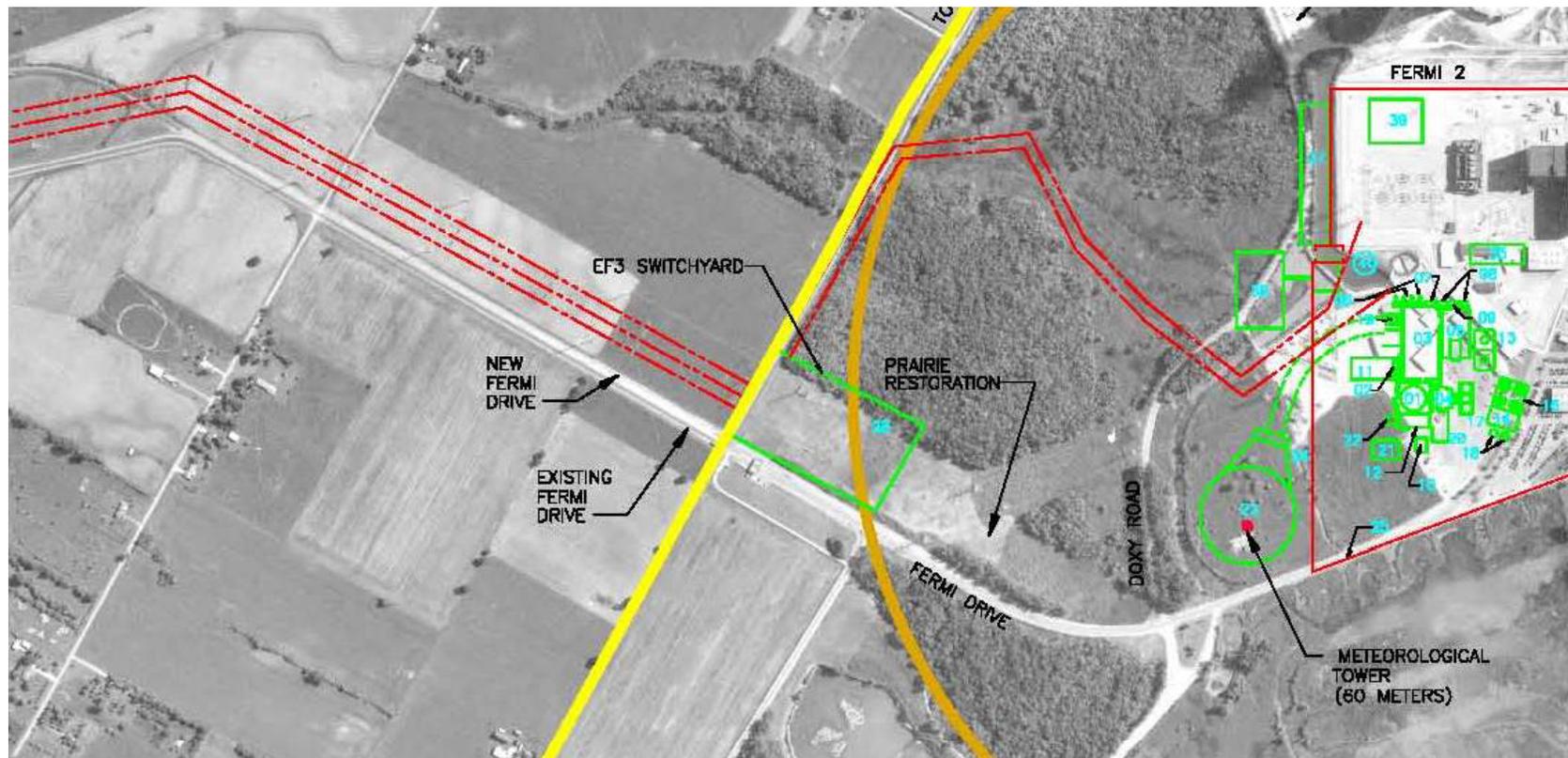
8.1 Introduction

EF3 SUP Provides overview of the transmission system, including the switchyard, transformers, and the transmission lines.



Chapter 8, Electrical Power: Fermi 3 Transmission System Configuration

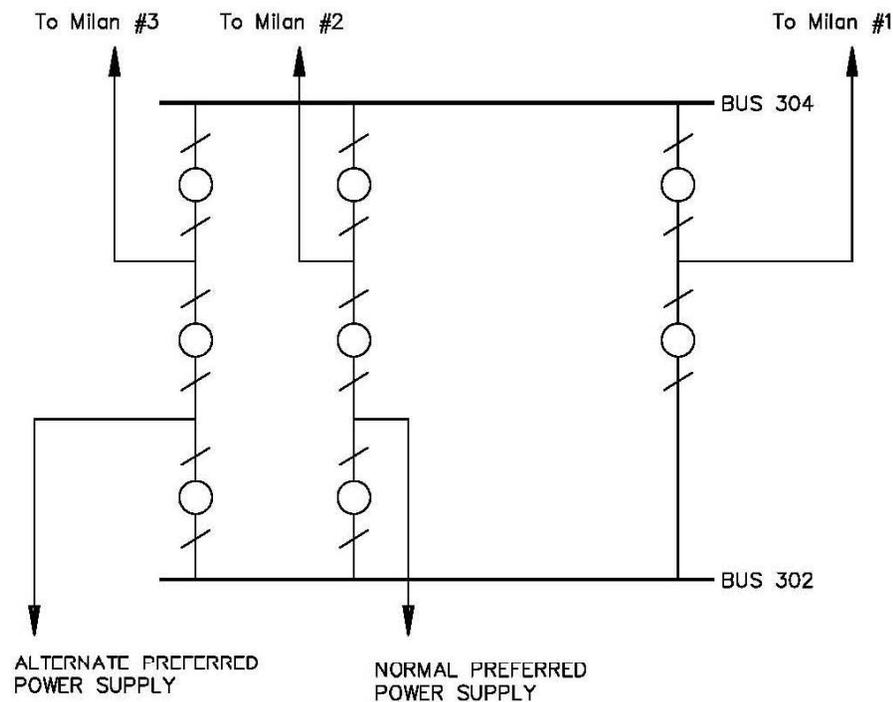
On-Site Transmission System





Chapter 8, Electrical Power: Fermi 3 Transmission System Configuration

On-Site Transmission System Fermi 3 Switchyard

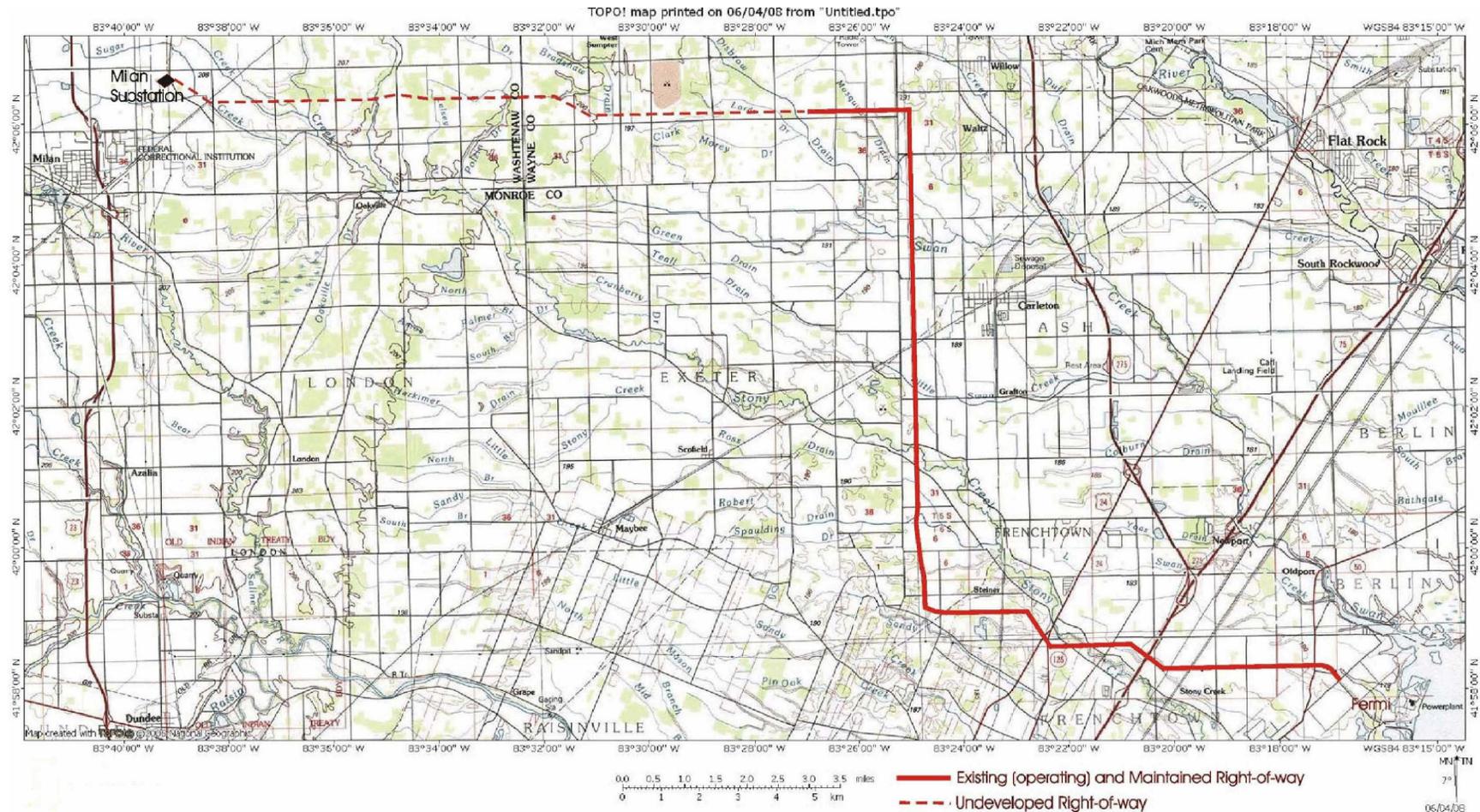


LEGEND:

-  HIGH VOLTAGE CIRCUIT BREAKER
-  DISCONNECT SWITCH



Chapter 8, Electrical Power: Fermi 3 Transmission System Configuration





Chapter 8, Electrical Power: Supplemental Information

8.2 Offsite Power System

EF3 COL Described the transmission system including transmission lines, voltages and switchyard arrangement

EF3 COL Described the normal and alternate preferred power sources. For Fermi 3, the switchyard is fed from three 345-kV transmission lines from the Milan substation. The normal and alternate preferred power sources are, each, any one of the three lines.



Chapter 8, Electrical Power: Supplemental Information

8.2 Offsite Power System (continued)

- EF3 COL Described the switchyard including equipment design criteria, capacities, and ratings
- EF3 COL Described the AC/DC station service provided in the switchyard
- EF3 COL Described monitoring program for underground cables. In addition, there is a COL item in Section 8.3 related to underground cable monitoring.
- EF3 COL Described switchyard transformer protection equipment and criteria



Chapter 8, Electrical Power: Supplemental Information

8.2 Offsite Power System (continued)

EF3 COL Described the switchyard protective relaying

EF3 SUP Described the inspection and testing of transmission lines and the switchyard. Inspection of transmission lines is performed by the transmission operator (*ITC Transmission*)

EF3 COL Described the results of the system impact study that analyzed load flow, transient stability, and fault analysis for the addition of Fermi 3.



Chapter 8, Electrical Power: Supplemental Information

8.2 Offsite Power System (continued)

- EF3 COL Described the Generator Interconnection and Operation Agreement with ITC *Transmission* for switchyard control and systems analysis.
- EF3 SUP Described that there are no single failures that can prevent the Fermi 3 offsite power system from performing its required functions of providing power to Fermi 3.



Chapter 8, Electrical Power: Supplemental Information

8.3 Onsite Power Systems

EF3 COL Described the Safety-Related Battery Float and Equalizing Voltages based on vendor information.

EF3 SUP Described training and procedures to mitigate a Station Blackout (SBO).



Chapter 8, Electrical Power: Supplemental Information

8A Miscellaneous Electrical Systems

EF3 COL Described Cathodic Protection System. Cathodic Protection system design is in accordance with Industry Standards.

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**Fermi 3 COLA
Presentation to ACRS Subcommittee
Chapter 7**



Chapter 7, Instrumentation and Control

- Entire chapter is Incorporated by Reference (IBR)

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**Fermi 3 COLA
Presentation to ACRS Subcommittee
Chapter 4**



Chapter 4, Reactor: Chapter Topics

Incorporates the DCD by Reference with Two Supplemental Items – denoted with * in the following List of Topics

- Fuel System Design
- Nuclear Design*
- Thermal and Hydraulic Design
- Reactor Materials
- Functional Design of Reactivity Control System
- Typical Control Rod Patterns and Associated Power Distribution for ESBWR*
- Fuel Licensing Acceptance Criteria
- Control Rod Licensing Acceptance Criteria
- Stability Evaluation



Chapter 4, Reactor: Supplemental Information

4.3 Nuclear Design

STD COL Confirmed no changes to the fuel, control rod, or core design from that described in the referenced certified design.

4A Typical Control Rod Patterns and Associated Power Distribution for ESBWR

STD COL Confirmed no changes to the fuel, control rod, or core design from that described in the referenced certified design.

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**Fermi 3 COLA
Presentation to ACRS Subcommittee
Chapter 18**



Chapter 18, Human Factors Engineering: Chapter Topics

Incorporates the DCD by Reference with One Standard COL Item – denoted with * in the following List of Topics

- MMIS and HFE Program Management
- Operating Experience Review
- Functional Requirements Analysis and Allocation of Functions
- Task Analysis
- Staffing and Qualifications
- Human Reliability Analysis
- Human-System Interface Design
- Procedure Development
- Training Program Development
- Human Factors Verification and Validation
- Design Implementation
- [Human Performance Monitoring *](#)



Chapter 18, Human Factors Engineering: Supplemental Information

18.13 Human Performance Monitoring

STD COL Provided milestone for implementing HPM program prior to beginning of first licensed operator training class.

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Presentation to ACRS Subcommittee
Chapter 15**



Chapter 15, Safety Analysis: Chapter Topics

Incorporates the DCD by Reference with One Standard Supplemental Item – denoted with * in the following List of Topics

- Analytical Approach
- Nuclear Safety Operational Analysis
- Analysis of Anticipated Operational Occurrences
- Analysis of Infrequent Events*
- Analysis of Accidents
- Special Event Evaluations



Chapter 15, Safety Analysis: Supplemental Information

15.3 Analysis of Infrequent Events

STD SUP Identified procedural use of nuclear instrumentation to aid in detecting a possible mislocated fuel bundle after fueling operations.



Chapter 15, Safety Analysis: Supplemental Information

Site-specific short-term atmospheric dispersion values for the off-site (EAB, LPZ) and on-site (Control Room and TSC) are within the values assumed in the DCD.

Therefore, the Fermi 3 site-specific off-site and on-site doses for each Design Bases Accident are lower than the values in the DCD.