

Supplemental Emergency Power System (SEPS) Project



Seabrook Station

NRC Presentation

June 12, 2003



FPL Energy
Seabrook Station

SEPS Project Team Members

- **Greg Kann - Project Manager**
- **Ken Letourneau - Project Engineering Manager**
- **Mike O'Keefe - Licensing Supervisor**
- **Renée-Nicole Leclerc - Licensing Lead**
- **Jim Hill - Operations Lead**
- **Larry Rau - Risk Management Supervisor**
- **Carl Bible - FPL Project Office**

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Meeting Objective

- Brief NRC staff on Supplemental Emergency Power System (SEPS) Project
- Initiate dialog on the project and schedule



Overview

- Supplemental Emergency Power System (SEPS) provides defense-in-depth for the emergency AC power system
- Lower core damage frequency
- Combined with an extended AOT will allow focused maintenance and improved EDG reliability



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Project Description

- Provide a reliable backup standby electrical supply for a loss of all AC event



Design Concept

- Two permanently installed non-safety DGs and switchgear
- Connect to plant busses by permanently installed cables
- Supply emergency 4.16 kV bus E5 or E6 by switching operations
- SEPS available on an as needed basis



Licensing Precedent

■ Waterford

- A similar Technical Specification change (10 Days AOT) was granted to Waterford on July 21, 2000 (Amendment No 166 to NPF-38)

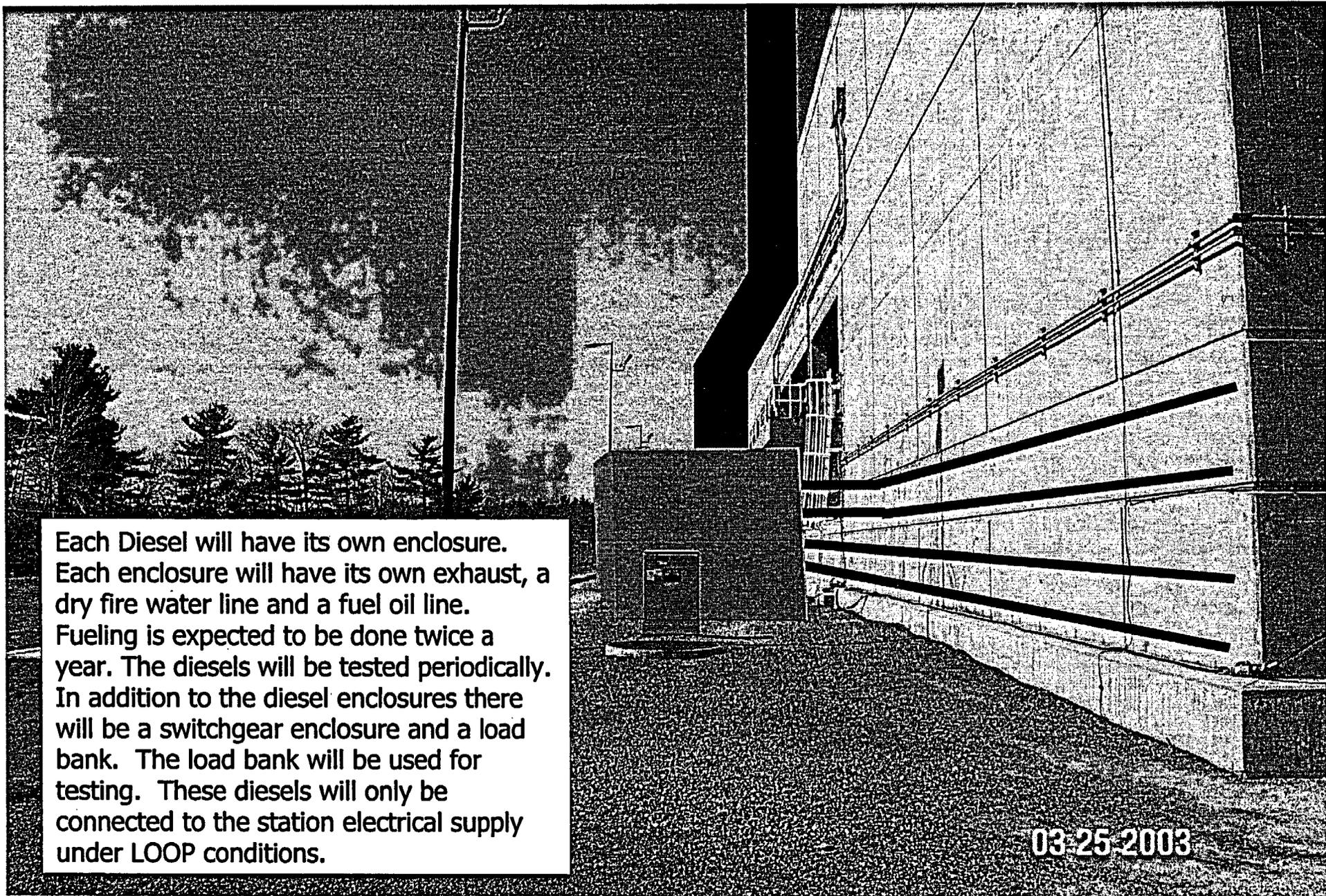
■ Crystal River

- A similar Technical Specification change (14 days AOT) has been requested by Crystal River on March 20, 2003 (TAC No. MB5616)



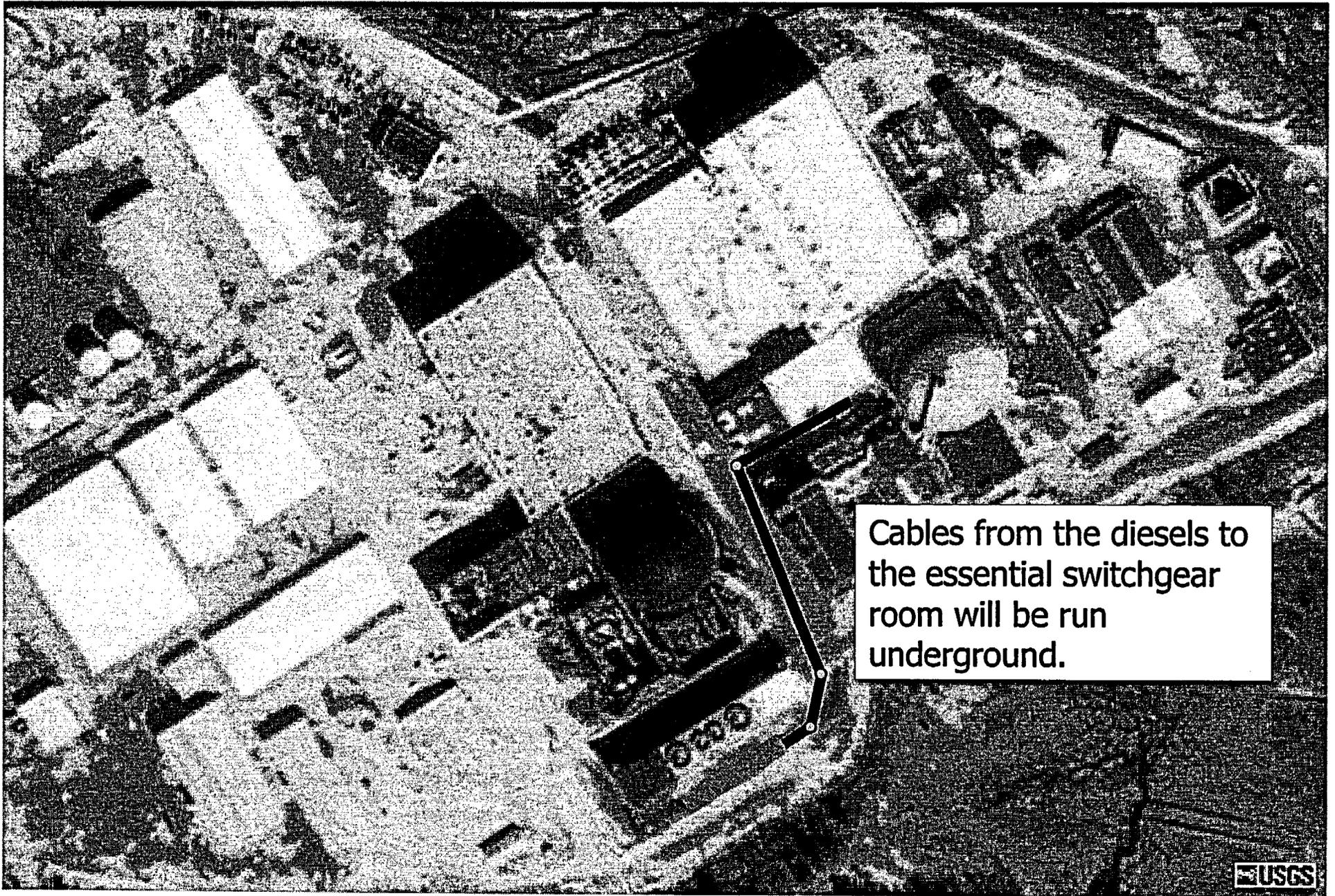
Proposed Design

- Two non-safety diesel generators approximately 2.5 MW each
- Share Unit 1 services (electrical, fire detection, security, lighting etc.)
- Permanent electrical connections to safety busses
- Manual transfer capability between Train A & Train B
- Manually connected using switching operations
- Automatic load sequencing with minimal manual load shedding (in accordance with EOPs)



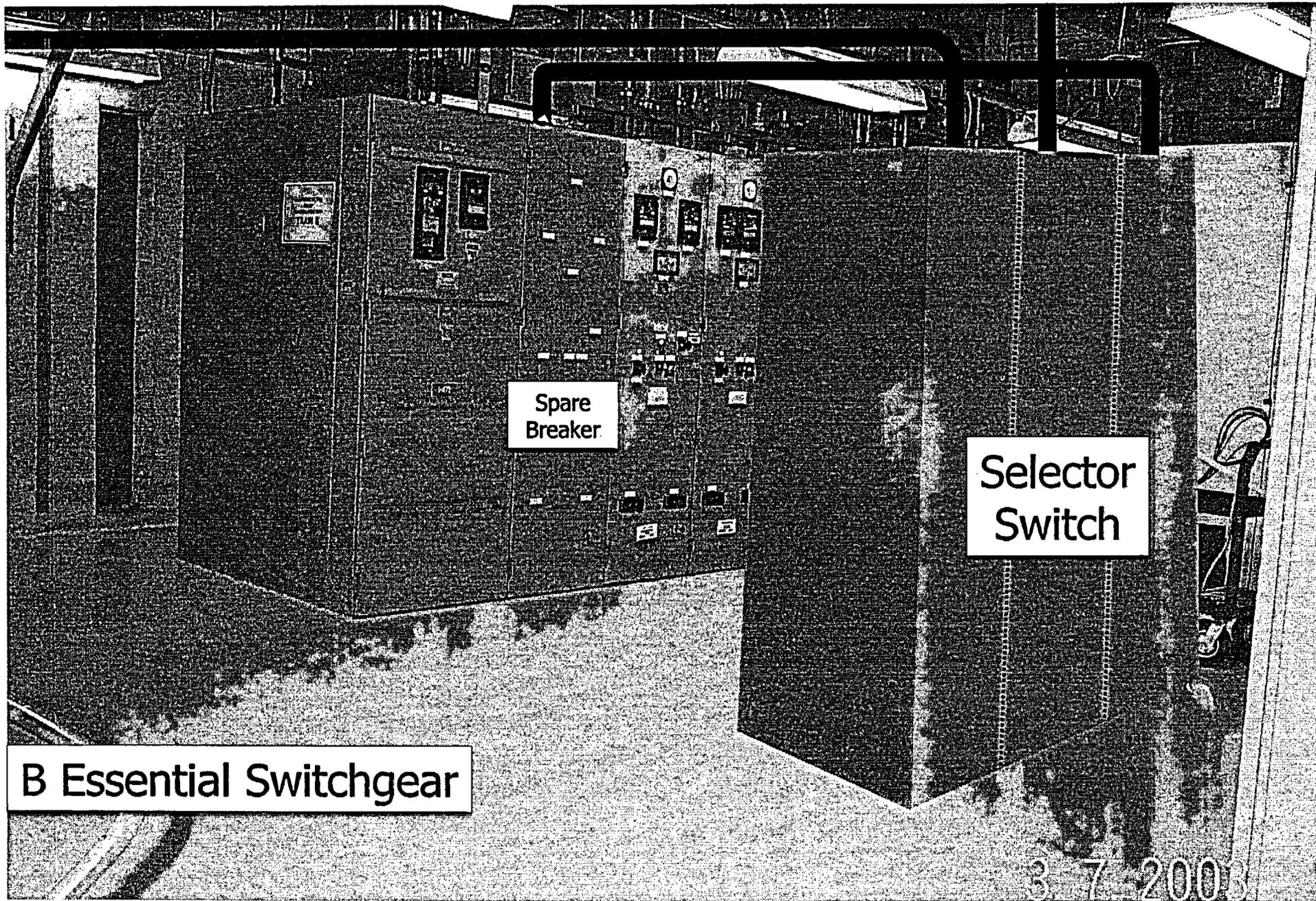
Each Diesel will have its own enclosure. Each enclosure will have its own exhaust, a dry fire water line and a fuel oil line. Fueling is expected to be done twice a year. The diesels will be tested periodically. In addition to the diesel enclosures there will be a switchgear enclosure and a load bank. The load bank will be used for testing. These diesels will only be connected to the station electrical supply under LOOP conditions.

03-25-2003



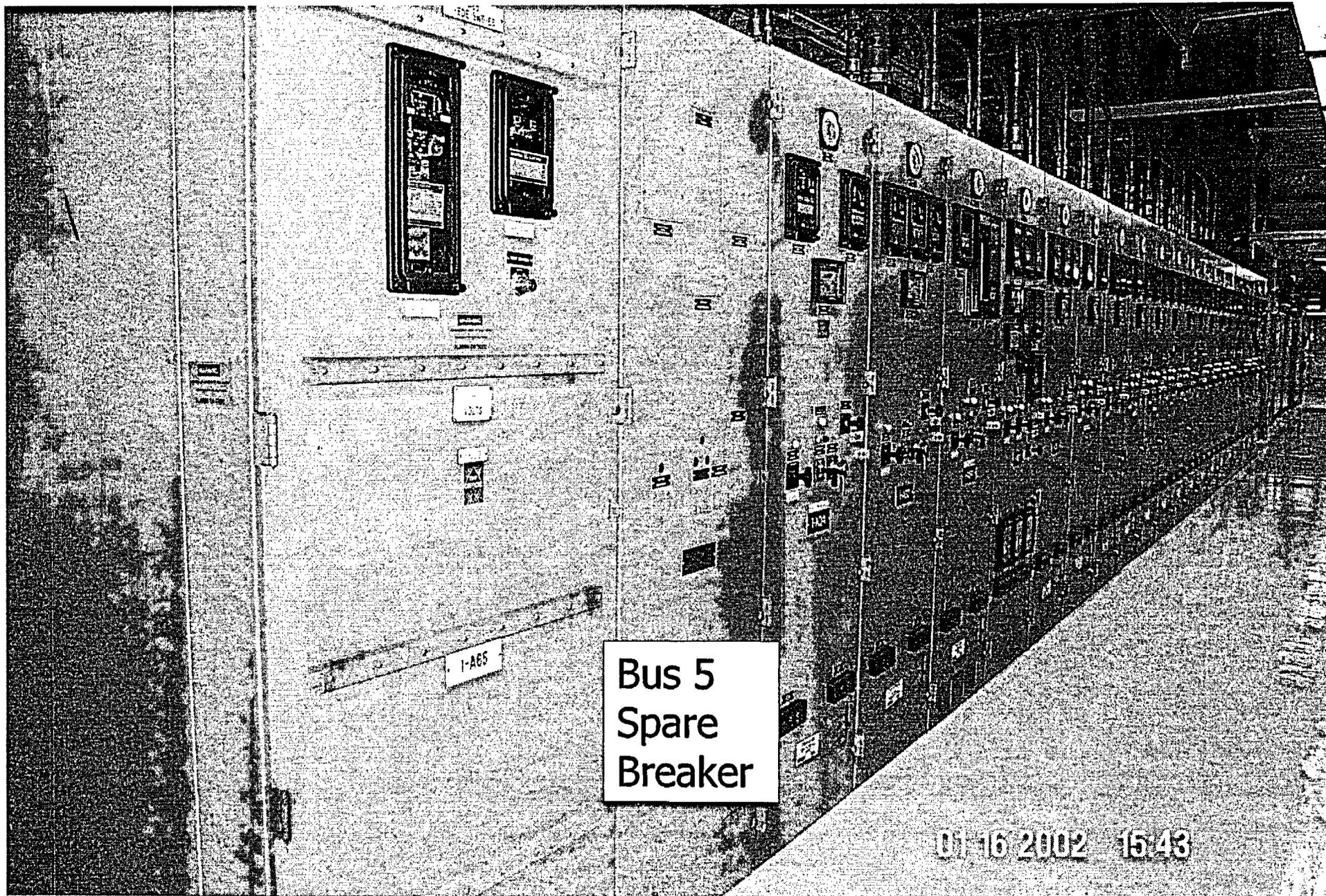
Cables from the diesels to the essential switchgear room will be run underground.

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B Essential Switchgear

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Attributes

- Has capacity for safe shutdown loads
- Lower core damage frequency (Approximately 30% reduction from baseline)
- Allows for an extended EDG AOT to perform maintenance
- On-line maintenance facilitates greater focus on EDGs



Availability

- The SEPS will be included in the Technical Requirements Manual as being available
- The SEPS will be monitored periodically in accordance standard industry practices



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Tech Spec Change

- EDG allowable outage time increase from 72 hours to 14 days when SEPS is available

Project Schedule



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Milestones:

Review Electrical Loads	2/14/03 Complete
Develop Preliminary Engineering	4/1/03 Complete
Develop Project Plan	4/1/03 Complete
Project Approval	4/7/03 Complete
LAR Submitted to NRC	8/29/03
SORC Approval of DCR	2/11/04
Work Package Planning Complete	4/23/04
Field Work Starts	6/28/04
LAR Received from NRC	8/27/04
SEPS Available	10/21/04



Meeting Summary

- SEPS will improve defense-in-depth for the emergency AC power system
- Improves Core Damage Frequency by approximately 30%
- Submit LAR on August 29, 2003