



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

October 25, 2000

LICENSEE: Carolina Power & Light Company (CP&L)
FACILITY: Brunswick Steam Electric Plant, Unit Nos. 1 and 2
SUBJECT: BRUNSWICK STEAM ELECTRIC PLANT, UNIT NOS. 1 AND 2 - MEETING BETWEEN CAROLINA POWER & LIGHT COMPANY AND THE NUCLEAR REGULATORY COMMISSION (NRC) STAFF REGARDING POWER UPRATE PLANS (TAC NO. MA9953)

On October 18, 2000, the NRC staff met with representatives of CP&L, the licensee for the Brunswick Steam Electric Plant, Units 1 and 2 (Brunswick), at the NRC offices in Rockville, Maryland. The purpose of the meeting was to discuss the content and format of CP&L's upcoming license amendment applications for a power uprate at Brunswick. Enclosure 1 lists the meeting participants. Enclosure 2 is a copy of the overhead slides that the licensee presented during the meeting.

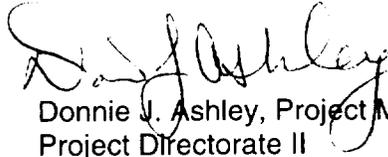
The licensee plans to submit the extended power uprate amendment in October 2001, with an anticipated approval needed by October 2002. The planned amendment will be for an extended power uprate to be implemented over the next two refueling outages for each unit to 2923 MWt, which would be approximately 15 percent above the current licensed power level of 2558 MWt. A previous uprate provided approximately a 5 percent increase above the original licensed power level. This would represent a total uprate of approximately 20 percent above the original licensed power level of 2436 MWt. As part of the power uprate program, the plant's accident dose calculations are being modified using final Regulatory Guide 1.183 guidance for new alternate source terms with some deviations that will be reviewed by the staff. Submittals in support of the planned uprate will begin in June 2001.

During the meeting, the NRC staff discussed various aspects of the review with the licensee. The extended power uprate amendment will be similar to those approved for the Monticello and Hatch plants. However, CP&L is requesting a higher percentage power level increase (15 percent) for Brunswick than previously implemented at the other plants. The uprate is planned in two steps: 6 percent for the first outage in the 2002-2003 timeframe, and 9 percent during the 2004-2005 timeframe. In addition, the licensee has plans to submit a revised safety limit for minimum critical power in October 2001 (Unit 1), and October 2002 (Unit 2), to allow for the use of GE-14 fuel.

DFC1

NRR-111

The Advisory Committee on Reactor Safeguards plans to review the Safety Evaluation for the power uprate prior to issuance. The NRC staff emphasized to CP&L the importance of timely and complete submittals in view of the tight schedule restraints.



Donnie J. Ashley, Project Manager, Section 2
Project Directorate II
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-325 and 50-324

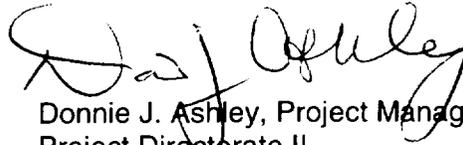
Enclosures:

1. List of Meeting Attendees
2. Licensee Handouts

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October 25, 2000

The Advisory Committee on Reactor Safeguards plans to review the Safety Evaluation for the power uprate prior to issuance. The NRC staff emphasized to CP&L the importance of timely and complete submittals in view of the tight schedule restraints.



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LIST OF MEETING ATTENDEES

NRC AND CAROLINA POWER AND LIGHT COMPANY

October 18, 2000

<u>NAME</u>	<u>AFFILIATION</u>
Rich DeLong	CP&L/Brunswick
Warren Dorman	CP&L/Brunswick
Tom Dresser	CP&L/Brunswick
Mark Grantham	CP&L/Brunswick
Bob Kitchen	CP&L/Brunswick
Jeffrey Lyash	CP&L/Brunswick
Gene Eckert	General Electric
Carl Hinds	General Electric
Isreal Nir	General Electric
Michael Knapik	McGraw-Hill
Allen Hansen	NMSS/SFPO
Barry Elliot	NRR/DE
Subinoy Mazumdar	NRR/DE
Cheng-Ih Wu	NRR/DE
Jim Bongarra	NRR/DIPM
Donnie Ashley	NRR/DLPM
Herbert Berkow	NRR/DLPM
Richard Correia	NRR/DLPM
T. J. Kim	NRR/DLPM
Larry Rossbach	NRR/DLPM
Kim Leigh	NRR/DRIP
Ralph Caruso	NRR/DSSA
Amy Cubbage	NRR/DSSA
Linda Perrett	Washington Group Intl.

ACRS = Advisory Committee on Reactor Safeguards

DIPM = Division of Inspection Program Management

DLPM = Division of Licensing Project Management

DE = Division of Engineering

DRIP = Division of Regulatory Improvement Programs

DSSA = Division of Systems Safety and Analysis

NMSS = Office of Nuclear Material Safety and Safeguards

NRR = Office of Nuclear Reactor Regulation

ENCLOSURE 1

Brunswick Steam Electric Plant Units 1 & 2

**Extended Power Uprate Overview
October 18, 2000**

CP&L

Extended Power Uprate

Agenda

- Opening Comments
- Project Overview
- Regulatory Reviews
- Summary

Jeff Lyash

Bob Kitchen

Mark Grantham

Jeff Lyash

Extended Power Uprate

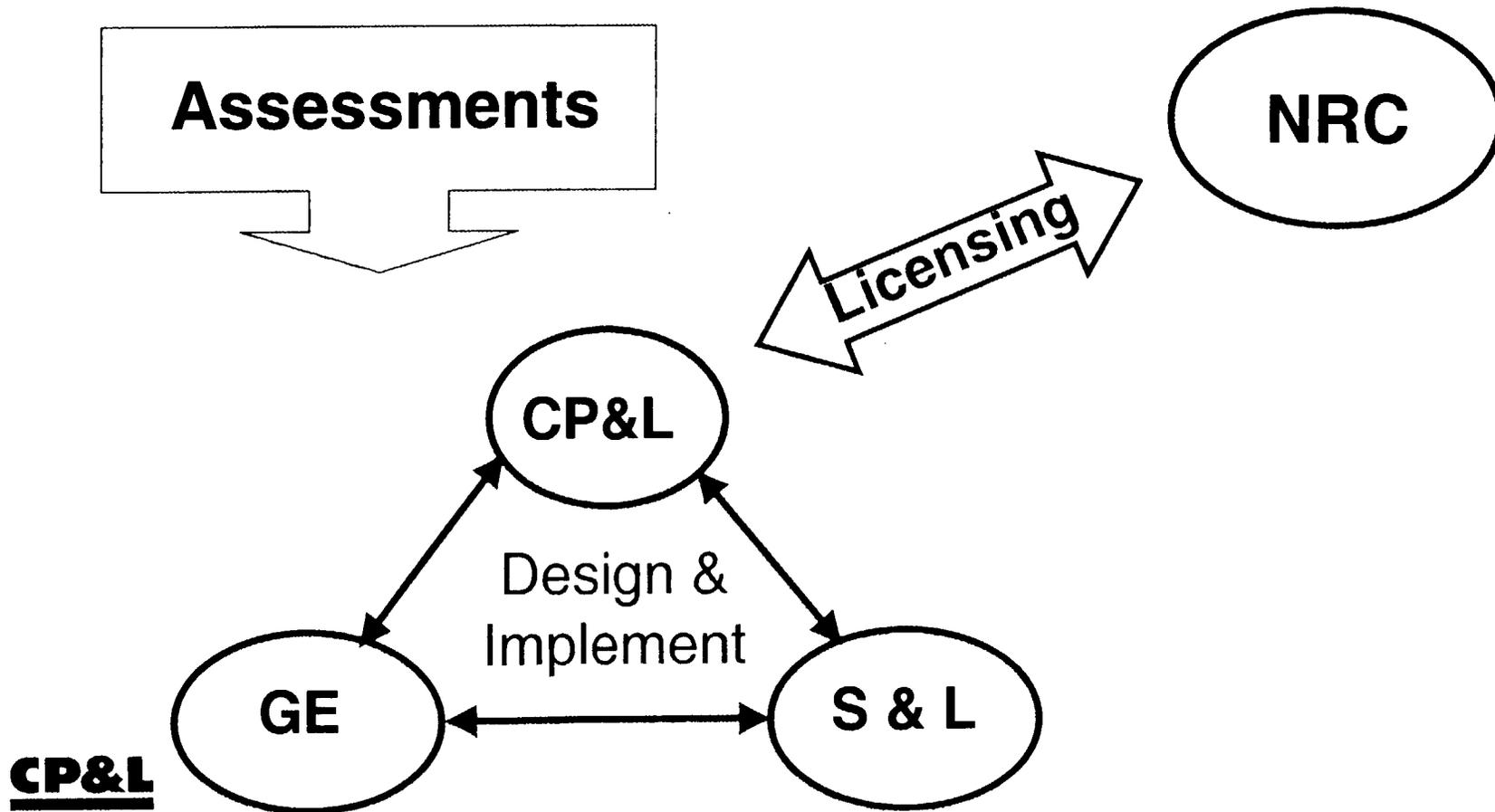
Project Objectives

- **Obtain Operating License for 120%**
 - ◆ **Reference to Original License Thermal Power (OLTP)**
- **Previous Power Uprate - 5% (OLTP)**
- **Extended Power Uprate**
 - ◆ **2 Step Uprate for Each Unit**
 - **First Outage: 6% Uprate (OLTP)**
 - **Second Outage: 9% Uprate (OLTP)**

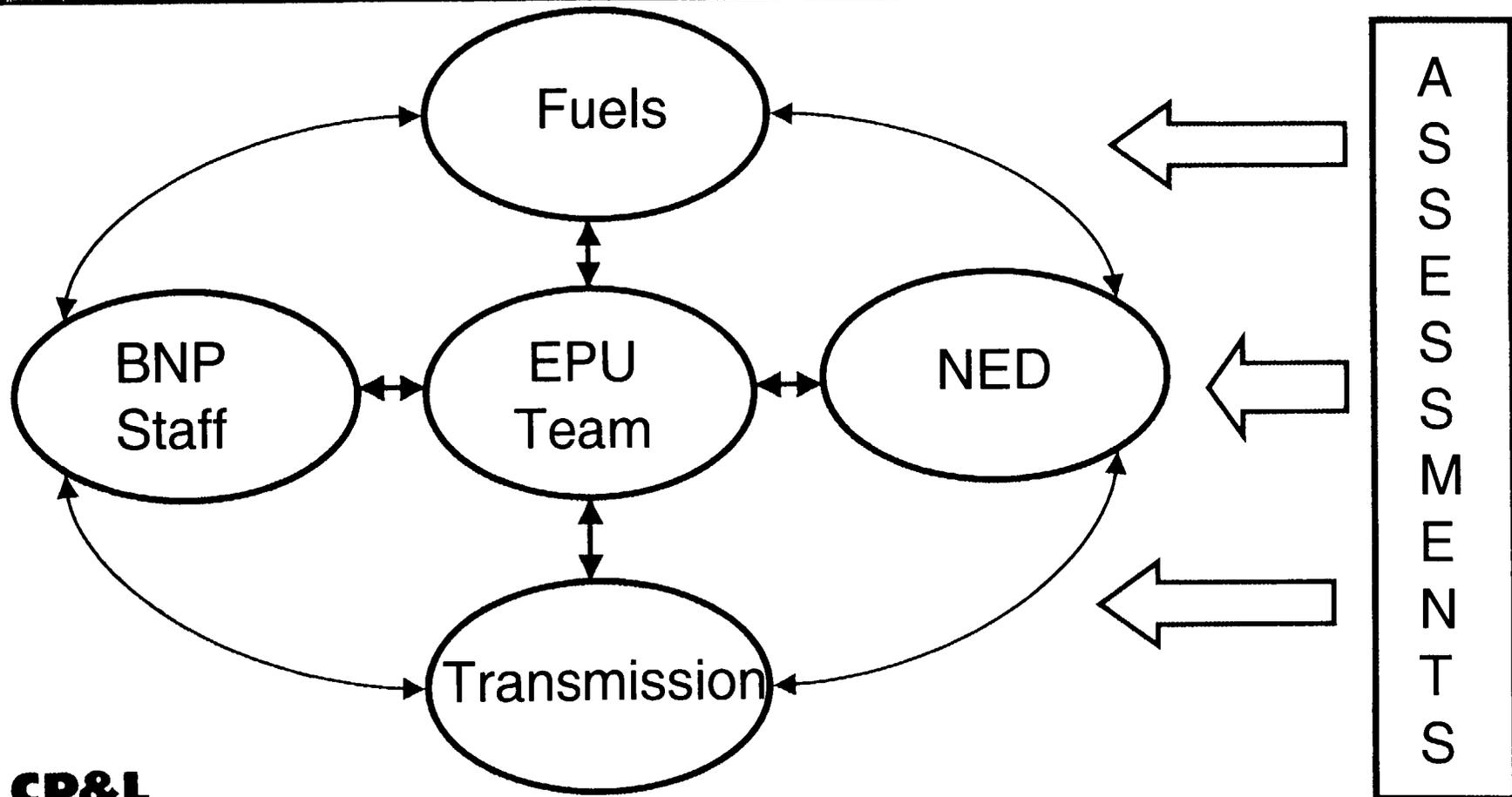
Extended Power Uprate Implementation Synergies

- **Plant Reliability/Design Strength**
- **Current Life Attainment**
- **Plant Life Extension**
- **Plant Staff Technical Capabilities**

Extended Power Uprate Integrated Organization



Extended Power Uprate Site Organization



Extended Power Uprate Plan & Schedule

Outage Activities

- Initial GE-14 Fuel Load
- Main Generator Rewind
- Moisture Separator Reheater Upgrade

2001
2002

Power
Increase

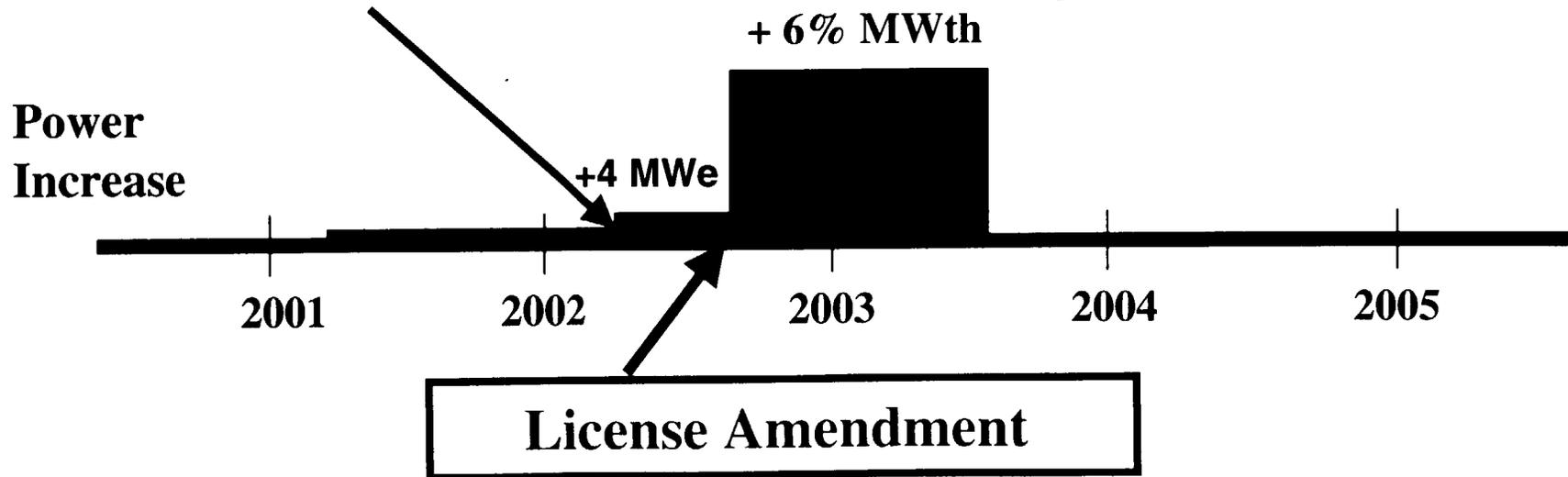


Extended Power Uprate Plan & Schedule

Outage Activities

- Initial GE-14 Fuel Load
- Main Generator Rewind
- Startup Transformer (LOCA Voltage)
- Grid Stability Modifications
- Major BOP Components
- Moisture Separator Reheater Upgrade

**2002
UNIT 1**



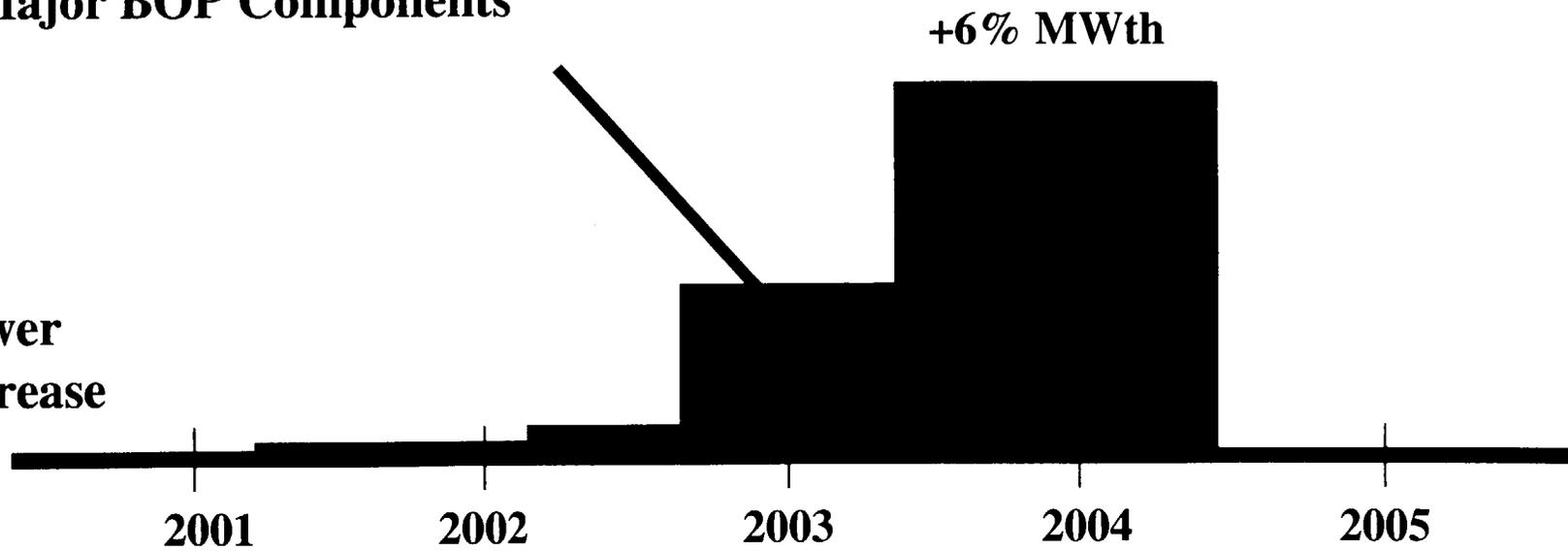
Extended Power Uprate Plan & Schedule



Outage Activities

- Startup Transformer (LOCA Voltage)
- Grid Stability Modifications
- Major BOP Components

Power
Increase



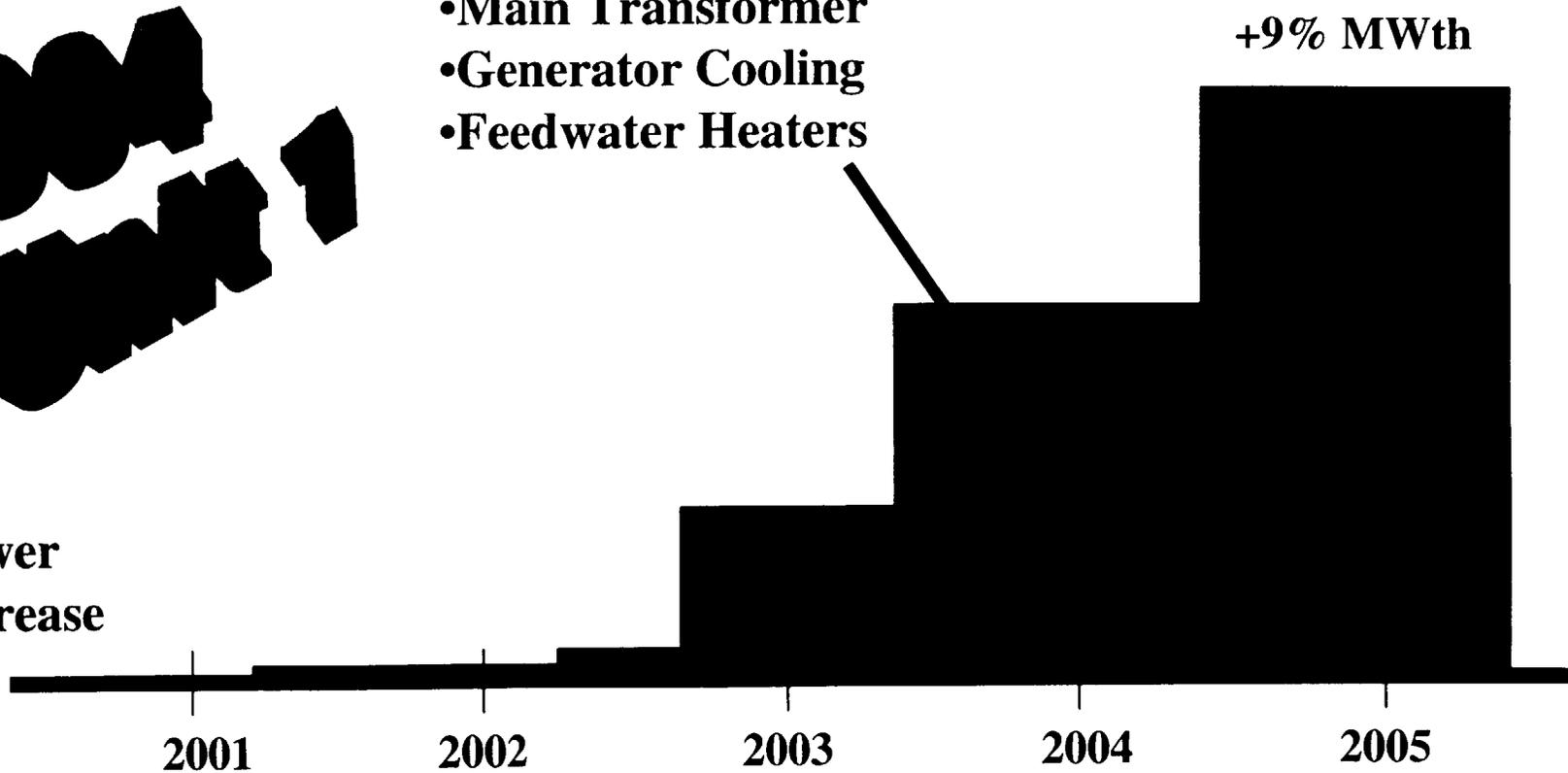
Extended Power Uprate Plan & Schedule

Outage Activities

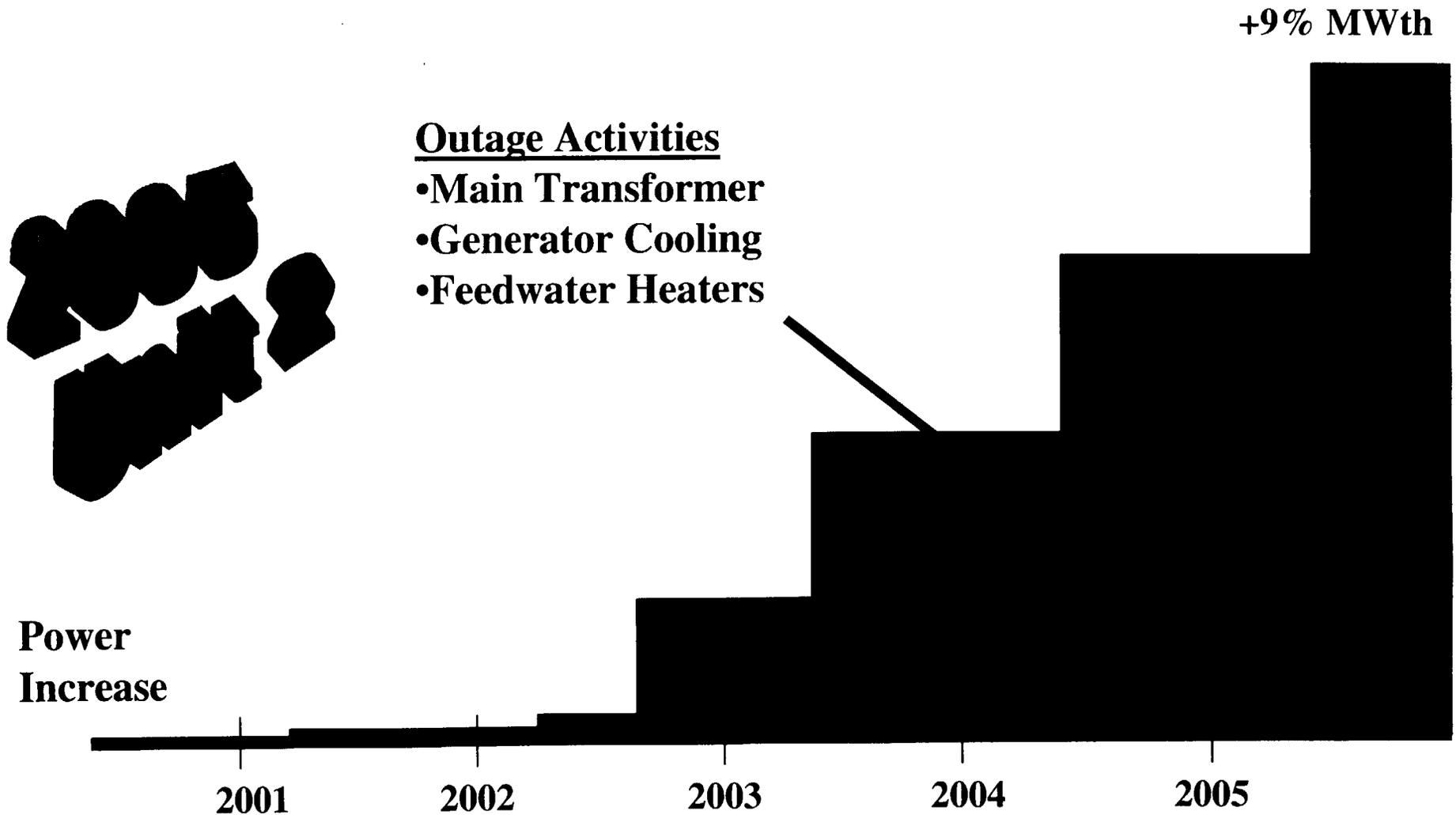
- Main Transformer
- Generator Cooling
- Feedwater Heaters

2004
UNIT 1

Power
Increase

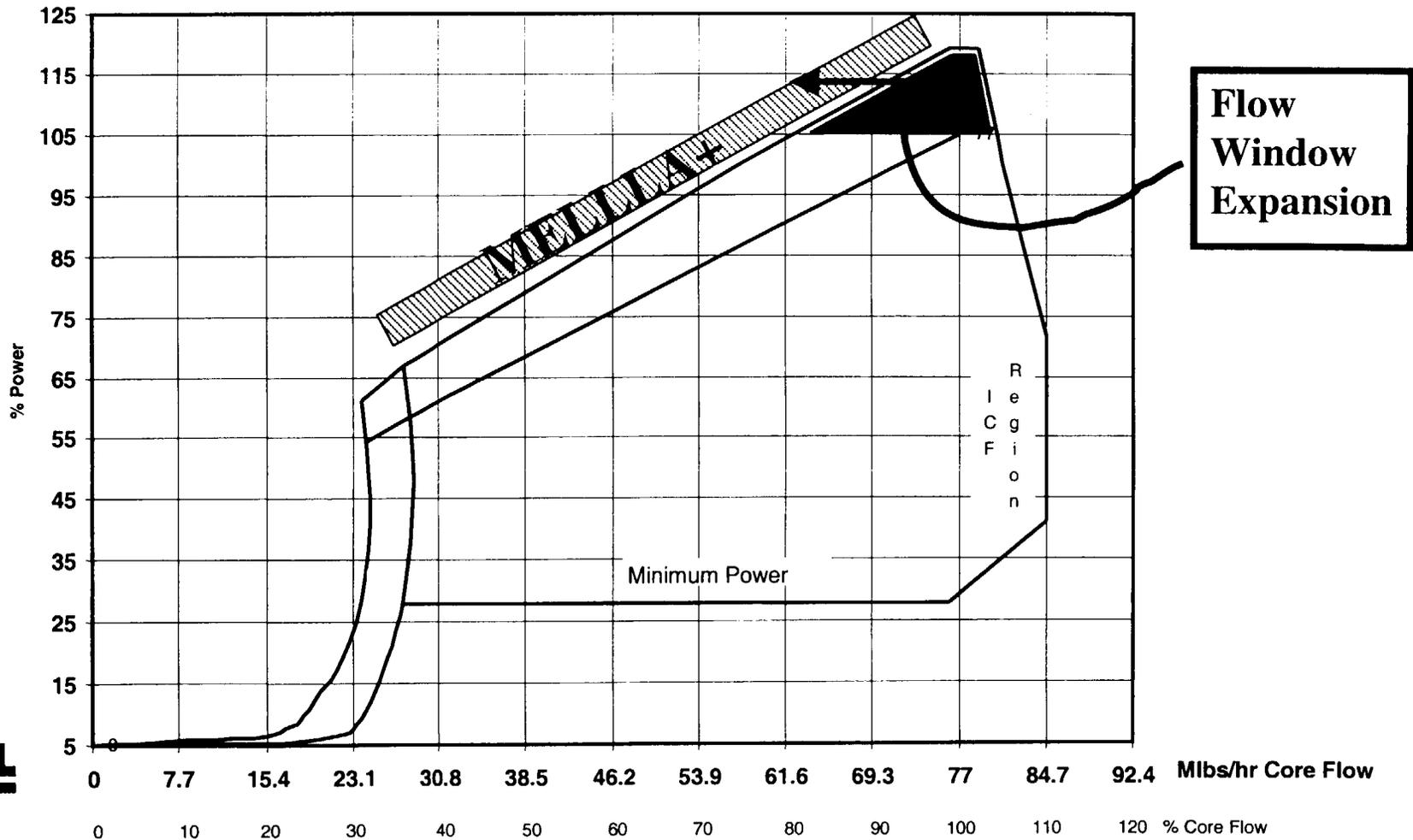


Extended Power Uprate Plan & Schedule



Expanded Power-Flow Map

MELLLA+

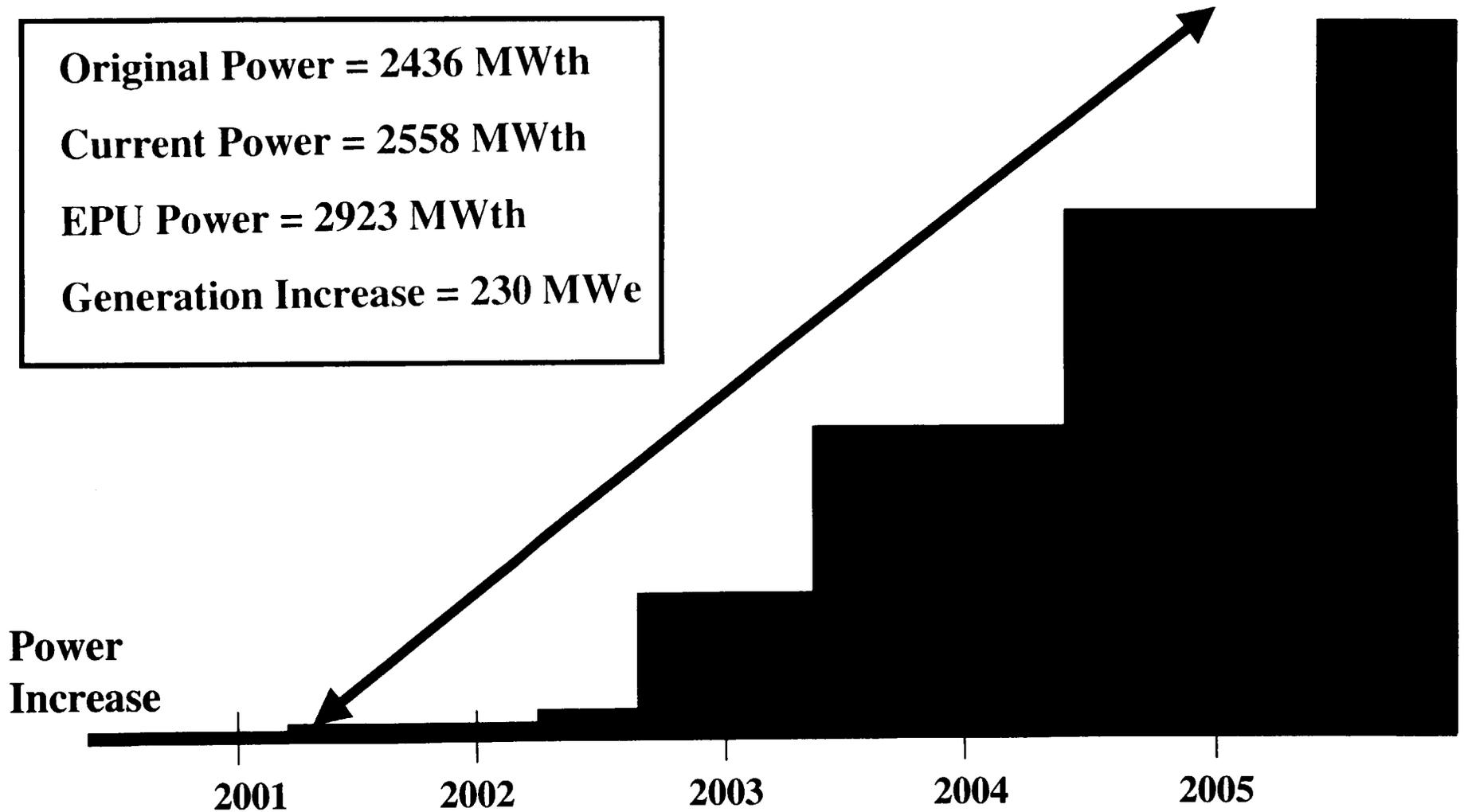


CP&L

Extended Power Uprate

Total Power Addition 2001 - 2005

Original Power = 2436 MWth
Current Power = 2558 MWth
EPU Power = 2923 MWth
Generation Increase = 230 MWe



Extended Power Uprate Regulatory Reviews

- **Thermal Hydraulic Instability (THI) – Option 3**
 - ◆ Currently Using Option E1A
- **Alternative Source Term**
- **Power Level Increase**
 - ◆ Operating License and Associated Technical Specification Changes
 - ◆ Credit for Containment Overpressure
- **Safety Limit MCPR/SLC Concentration**
 - ◆ Supports Use of GE-14 Fuel
- **MELLLA+**

Extended Power Uprate License Amendment Schedule

Topic	Expected Submittal Date	Needed Approval Date	Impact
THI Option 3 (Units 1 & 2)	June 2001	February 2002	Unit 1 Startup
Alternative Source Term (Units 1 & 2)	June 2001	February 2002	Unit 1 Initial Uprate
Power Uprate (Units 1 & 2)	October 2001	October 2002	Unit 1 Initial Uprate
Safety Limit MCP/SLC Concentration (Unit 1)	October 2001	February 2002	Unit 1 Startup
Safety Limit MCP/SLC Concentration (Unit 2)	October 2002	February 2003	Unit 2 Startup
MELLLA+ (Units 1 & 2)	October 2001	February 2003	Flow Window Expansion Unit 1 Core Design

Extended Power Uprate

Summary

- **Extended Power Uprate Represents a Significant Investment of Resources for CP&L**
- **CP&L Has Established a Plan Which Will Ensure Success of the Project**
- **Close Communication With the NRC Is Essential**

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Brunswick Steam Electric Plant
Units 1 and 2

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