MEETING BETWEEN NRC AND

CONSTELLATION ENERGY GROUP (CEG)

ATTENDANCE LIST

AUGUST 18, 2004

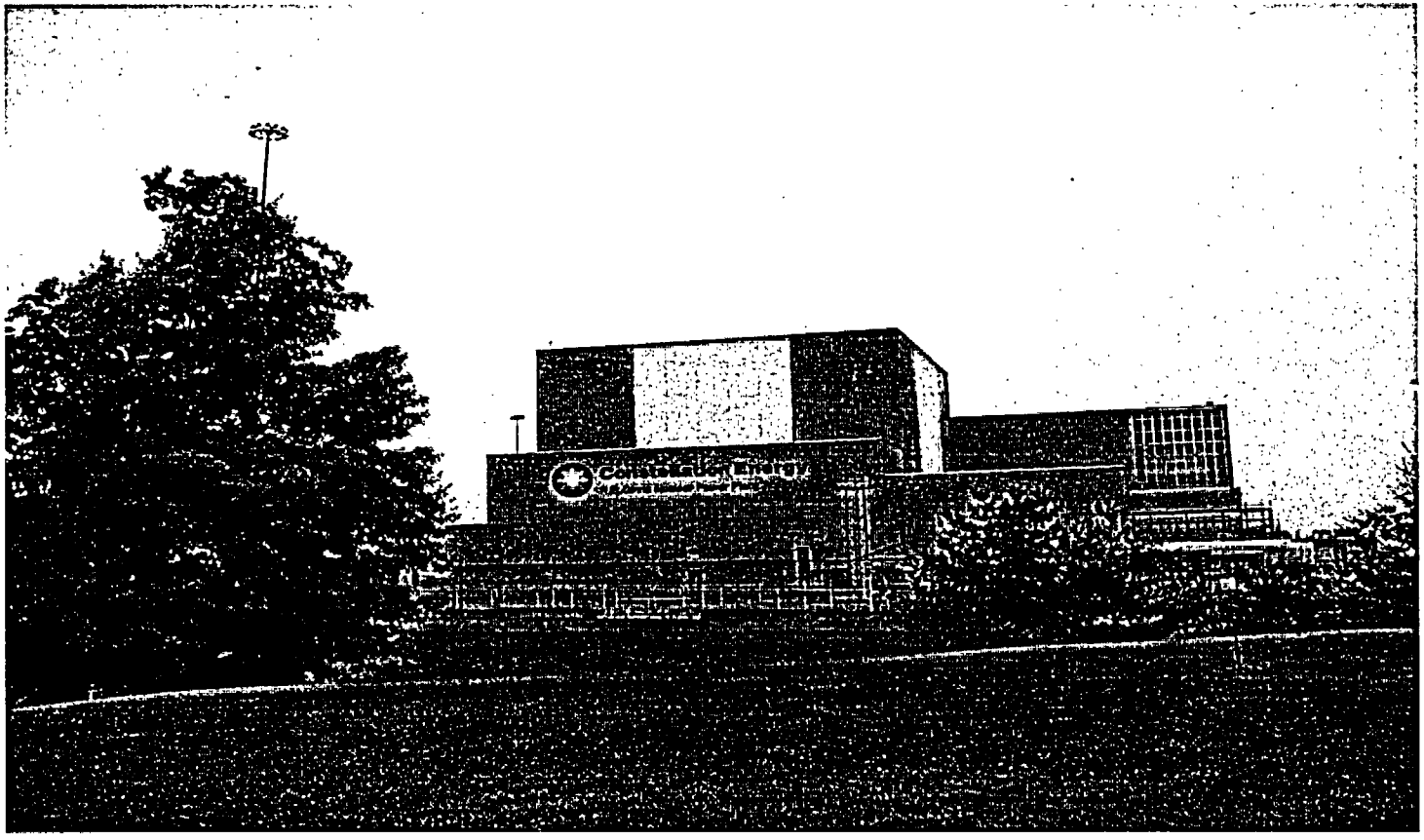
NRC

R. Clark, NRR
J. Stang, NRR
B. Elliot, NRR
R. Lobel, NRR
R. Pettis, NRR
P. Clifford, NRR
N. Iqbal, NRR
C. Holden, NRR
L. Raghavan, NRR
J. Lamb, NRR
S. Shang, NRR
C. Liang, NRR
F. Orr, NRR
S. Miranda, NRR
C. Liang, NRR
J. Hardy, NRR
P. Prescott, NRR

INDUSTRY

M. Finley, CEG
J. Nicholson, Stone & Webster
D. Dominicis, Westinghouse
D. Sklarsky, Westinghouse
R. Cavedo, CEG
G. Wrobel, CEG
J. Dunne, CEG
G. Verdin, CEG

Enclosure 1



GINNA POWER UPRATE PROJECT

NRC Meeting
August 18, 2004

Enclosure 2

Ginna Uprate Project

Introduction

Goal is to kick-off close communications between the Ginna Uprate Project Team and NRC

- Introduction - Mark Finley
- Plant Modifications - Mark Finley
- Analytical Methods - Dave Dominicis
- License Amendments - George Wrobel
- Application of RS-001 - George Wrobel
- Application of 10CFR50.59 - Mark Finley
- PSA Approach - Rob Cavedo
- Startup Test and Vibration Monitoring Programs - Jim Nicholson
- Questions

Ginna Uprate Project

Introduction

Ginna is in a unique position for PWRs to safely accomplish an Extended Power Uprate of 17.2% thermal power.

The Westinghouse two-loop NSSS with 422V+ fuel has demonstrated the ability at Kewaunee to produce an equivalent thermal power.

Ginna replaced steam generators in 1996 with an oversized design that is fully capable of transferring the required heat.

Ginna replaced the reactor vessel head in 2003 to resolve the Alloy 600 PWSCC issue.

Introduction

Constellation Energy is committed to investing what it takes to safely implement this power uprate while maintaining overall plant reliability for the extended license period.

Ginna Uprate Project

Introduction - Schedule

The following schedule has been established for the Ginna power uprate:

- [Initiated Project in January 2004]
- Complete the engineering for spring 2005 refueling outage modifications in December 2004
- Implement the spring 2005 refueling outage modifications in April 2005
- Complete the RS-001 licensing report in May 2005
- Submit the License Amendment Request in June 2005
- Implement the fall 2006 refueling outage modifications in November 2006
- Startup and perform power escalation testing in November 2006

Ginna Uprate Project

Introduction - Project Team

An integrated project team has been formed and is actively engaged.

Experienced vendors have been chosen to perform the engineering analyses (Westinghouse -NSSS/fuel, Stone&Webster - BOP/modifications, Siemens-Westinghouse - turbine/generator).

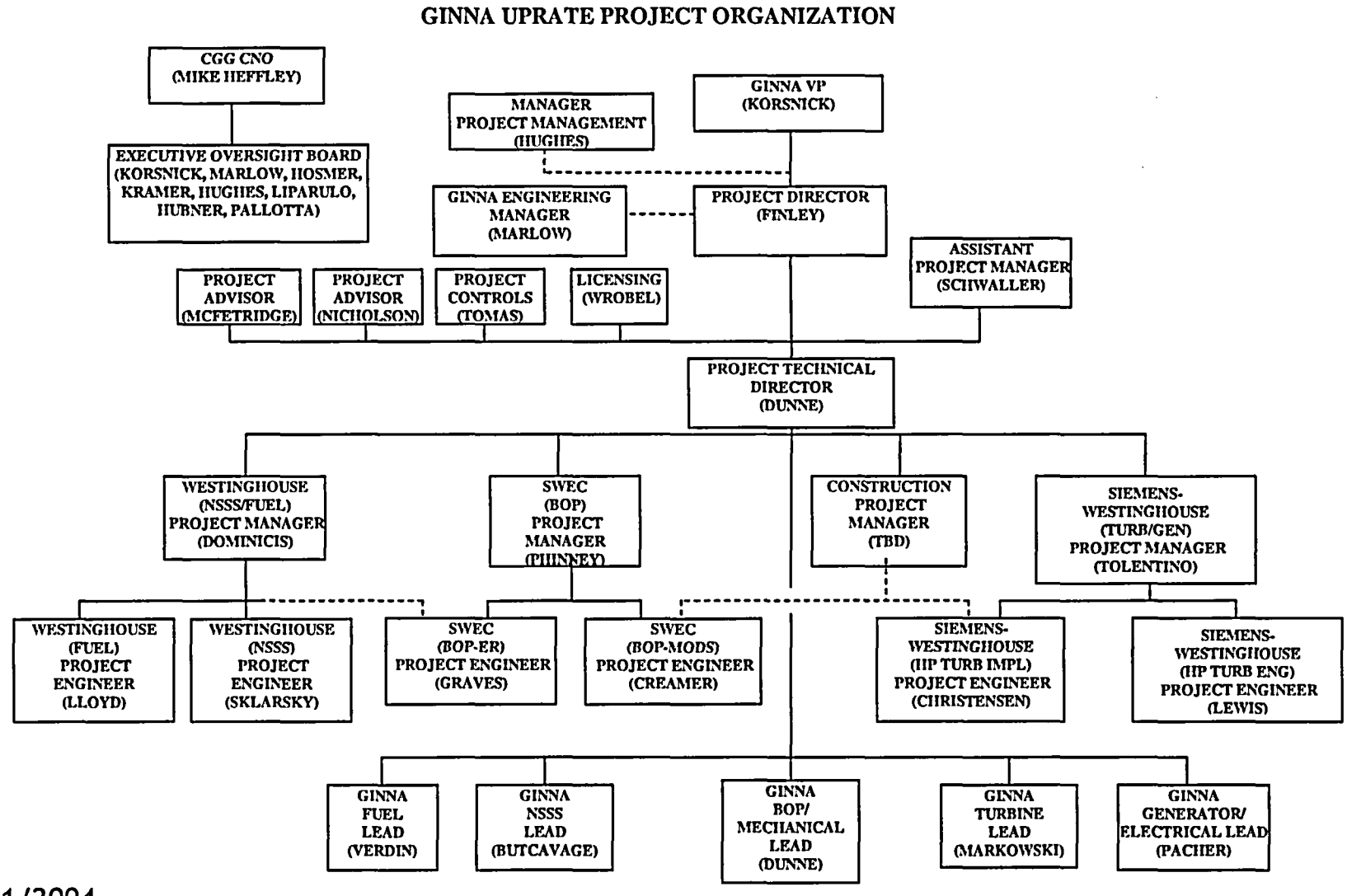
Independent industry experts have and will be chosen to supplement the engineering team in critical areas.

Lessons Learned are being incorporated from previous uprates.

An Executive Oversight Committee has been created to assure the right resources are applied to be successful.

Ginna Uprate Project

Introduction - Project Organization, Top Level



Ginna Uprate Project

Modifications

A detailed feasibility study was completed in December 2003 including preliminary analysis of critical systems.

Based on the feasibility study and successful analyses for Kewaunee, the plant safety analysis will be successful with minimal modification of the NSSS and plant safety systems.

Only three safety related modifications are expected: upgrade to the standard 14 X 14 fuel assembly and modified fuel handling equipment, a fast-acting air actuator for the manual feed isolation valves, and a larger discharge MOV for the standby AFW pump.

All necessary modifications of the balance of plant will occur to retain overall plant reliability.

Ginna Uprate Project

Modifications - Fuel Assembly

Existing Ginna Fuel

0.400 ZIRLO™ Clad

141.4" Fuel Stack

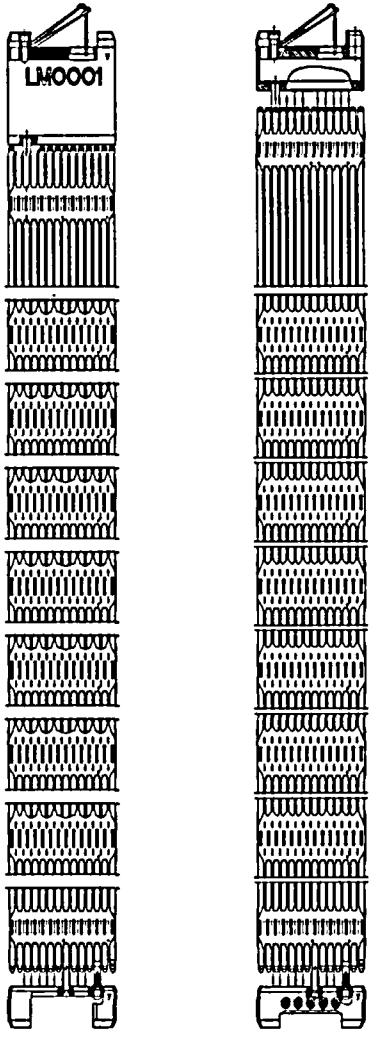
Tall Top Nozzle

RRB Top Grid

OFA Zirc-4 Mid-grids (0.026/0.032)

HF Bottom Grid

Double Dashpot GTs



Uprate Ginna Fuel

0.422 ZIRLO™ Clad

143.25" Fuel Stack

Standard Height Top Nozzle

RRB Top Grid

422V+ ZIRLO™ Mid-grids (0.018/0.026)

HF Bottom Grid

Tube-in-Tube Design GTs

Ginna Uprate Project

Modifications - Fuel Assembly Comparison With Point Beach

The Ginna uprate fuel assembly is essentially identical to the Point Beach assembly with the following exceptions:

Features/Design Types	14X14 422V+ GINNA (Uprate fuel assembly)	14X14 OFA GINNA (Existing)	14X14 422V+ POINT BEACH
Overall Assembly Height	159.975	159.935	159.775
Type of Guide Thimble	Tube-In-Tube	Double Dashpot	Single Dashpot
Total Number of Grids	9	9	7
Mid Grid Design	Balanced Vane	Original Vane	Original Vane

Ginna Uprate Project

Modifications - 2005

- Main Generator Monitoring Instrumentation (Flux, Vibration and Partial Discharge Probes)
- (Begin) Condensate Booster Pump/Motor
- Main Transformer Bushing and Cooler
- MSR RV Vent Line
- FWH #5 Relief Valve
- New Fuel Handling Equipment and Dummy Fuel Assembly

Ginna Uprate Project

Modifications - 2006

- First Region of Uprate Fuel
- Fast Acting Feedwater Isolation Valve
- Standby AFW Discharge MOV
- New HP Turbine and Turbine Control Valves
- MFW Pump Impellers/Motors
- MFW Regulating Valves
- Complete Booster Pumps
- MSR Safety Valves
- FWH and MSR Drain Valves
- Condenser Dump Valves (Potential)
- Generator Condensate Cooler
- Iso-Phase Bus Duct Cooling
- Forced Cooling System for Oilstatic Cables
- Various Instrument Replacements and/or Rescaling

Ginna Uprate Project

Analytical Methods - Westinghouse

Analysis	Current	Uprate
LBLOCA	App K SECY	BE w/ ASTRUM
SBLOCA	NOTRUMP	NOTRUMP
Non-LOCA	LOFTRAN	RETRAN-02
Fuel T&H	THINC	VIPRE-01
SGTR	LOFTR2	RETRAN-02
LOCA M&E	1979 Model	1979 Model
SLB M&E	LOFTRAN	RETRAN-02
Containment	COCO	GOTHIC
Core Design	CAOC	RAOC

Ginna Uprate Project

License Amendments - With Uprate Submittal

Core rated thermal power and power/flow safety limit.

RPS/ESFAS setpoint changes as necessary.

Condensate storage tank level.

Feedwater isolation valve with closure time.

Accumulator and RWST boron concentration.

Axial Flux Difference (CAOC to RAOC).

Methodology changes as necessary (Section 5.6.5).

Ginna Uprate Project

Related License Submittals

Reactor vessel pressure/temperature limits (RIS 2004-04).

Alternate Source Term (Control Room Habitability).

Hydrogen recombiners and monitors.

Setpoint uncertainty methodology.

Leak-Before-Break for main coolant branch lines.

Ginna Uprate Project

Environmental Impact

Circulating Water Discharge Temperature Will Increase 3°F.
Discharge SPDES Temperature Limit Will Need to Be Increased.

No Other Significant Environmental Impacts.

Ginna Uprate Project

Conformance With RS-001

Ginna is not designed and licensed to the Standard Review Plan - Operating License was issued in 1969.

Three potential types of responses to RS-001 Sections:

- Ginna Current Licensing Basis is consistent with SRP criteria and CLB/SRP criteria continue to be met.
- Ginna Current Licensing Basis is not consistent with SRP criteria and CLB continues to be met.
- Power uprate has no effect.

Ginna Uprate Project

Application of 10CFR50.59

10CFR50.59 will be applied to determine when prior NRC review is required.

Preliminary evaluation indicates all plant modifications with the exception of the main feedwater isolation valves will not require prior NRC review.

The modification of the main feedwater isolation valves will require changes to the Technical Specifications in order to credit closure of the valves during MSLB.

Preliminary evaluation also indicates that the mechanical design of the uprate fuel assembly will not require prior NRC review.

Ginna Uprate Project

PSA Approach - Current Ginna Model Overview

CDF: 5.4E-5/yr

LERF: 6.4E-6/yr

This includes internal events, fires, floods and shutdown events.

Ginna Uprate Project

PSA Approach - Areas to Be Evaluated

Modification and Megawatt Changes can Impact:

Internal Events, External Events, Shutdown

- Initiating Events
- Human Action Timing
- Component/System Reliability
- System Level Success Criteria

Ginna Uprate Project

PSA Approach - T/H Evaluations

Human Action Timing and System Success Criteria will be Evaluated using PCTran and/or Design Calculations

Ginna Uprate Project

PSA Approach - PCTran

PCTran has been used by the NRC as Early as 1986 and used as recently as Feb 2003

The Ginna version of PCTran has been benchmarked against MAAP runs and the UFSAR

Ginna Uprate Project

PSA Approach - Human Actions

The Human Action Failure Rates will be Adjusted using a Time-Reliability Correlation

(e.g. Hall 82 NUREG/CR-3010

or

Swain 85 NUREG/CR-1278)

Ginna Uprate Project

PSA Approach - Beneficial Modifications

We will Evaluate the Post-Uprate Risk Profile and Consider Cost Beneficial Modifications to Reduce Risk

Ginna Uprate Project

Startup Test Program - Objective

Objective: Demonstrate that Uprate-Impacted Systems and Components (SCs) Perform Satisfactorily at EPU Conditions

Startup Test Program Will Provide Assurance that:

- Power Ascension is Adequately Controlled
- SCs Will Operate Within Design Requirements

Testing and Operator Training for EPU Related Modifications - Performed in Accordance with Existing Plant Programs & Procedures

Ginna Uprate Project

Startup Test Program - Basis

Power-Ascension Startup Test Program Will Be Based on:

- Original Plant Tests in UFSAR Section 14
- Guidance Contained in Draft SRP 14.2.1, "Generic Guidelines for Extended Power Uprate Testing Programs"
- Guidance Contained in RG 1.68, "Initial Test Programs for Water-Cooled Nuclear Power Plants"
- Lessons Learned From Previous Uprates

Ginna Uprate Project

Startup Test Program - Approach

Power Ascension Testing Approach

- Review Original Plant Tests
- Identify Tests to Be Performed
- Provide Justification for Tests not Repeated
- Identify New Tests to Be Performed

Ginna Uprate Project

Startup Test Program - Procedures

Power Ascension Procedures Will:

- Specify Critical Parameters for Monitoring
- Direct Power Ascension and all Related Testing
- Ensure Properly Sequenced & Coordinated
- Specify Requirements for Data Collection, Review, & Documentation
- Specify Requirements for Review & Approval of Results, Resolution of Testing Deficiencies

Ginna Uprate Project

Vibration Monitoring Program - Objectives

Vibration Monitoring Program Objectives:

- Identify System & Components Impacted by EPU
- Establish System Boundaries (Including Branch Lines)
- Establish Monitoring & Instrumentation Requirements
- Establish Acceptance Criteria

NSSS & BOP Component Vibration Issues - Addressed as Part of the EPU Assessments & Will Remain Within Vendor Recommendations

Ginna Uprate Project

Vibration Monitoring Program - Scope

Vibration Monitoring Program Will Include:

- Past Piping Vibration Issues
- Lessons Learned
- Walkdowns of Piping Systems
- Piping Vibration Acceptance Criteria (AC) - Based on "Standards and Guides for Operation and Maintenance of Nuclear Power Plants," ASME OM-S/G-1994
- Guidance on Data Collection Methods, Screening Criteria, & Detailed Evaluation Methods

Ginna Uprate Project

Vibration Monitoring Program - Scope

Systems Included in Vibration Monitoring Program:

- Main Steam System
- Feedwater System
- Condensate System
- Heater Drain System
- Extraction Steam System
- Moisture Separator/Reheat System

Additional Systems May Be Added Based on the Results of the EPU Evaluations

Ginna Uprate Project

Schedule - NRC Resources

Ginna Power Uprate Milestones:

- Submit the License Amendment Request in June 2005
- Anticipate NRC LAR approval in July 2006
- Startup and perform power escalation testing in November 2006

Potential Schedule Impacts:

- ACRS Review?
- NRC Inspections?

Ginna Uprate Project

Questions