#### BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

090009-EI

### ATTACHMENT B

COM ECR I GCL OPC RCP SSC SGA ADM

DOCUMENT NUMBER-CATE

07723 JUL 288

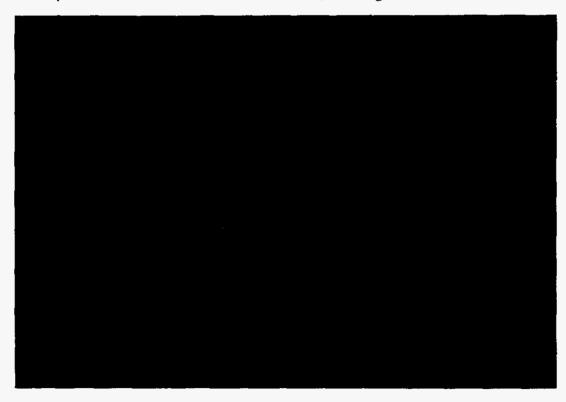
FPSC-COMMISSION CLERK

#### Question 65.

Please identify the steps taken to undertake any analysis or determination of the costs and/or benefits of signing the EPC contract on a date after December 31, 2008. If no analysis of the sort was done, please state how, from a prudent expenditure of funds standpoint, the determination to sign the SSW/WEC EPC was made. Please identify all documents relating to or containing such analyses or determination.

#### **Answer**

It is unclear what is meant by the "analysis" or "determination" of "costs and/or benefits" in this question. PEF was not required to do a cost benefit analysis before signing the EPC contract, because the total overall project cost was within the estimate provided in the need determination proceeding. Nevertheless, PEF considered myriad factors prior to executing the EPC contract. For example, PEF considered all of the contractual provisions as a whole in determining whether the EPC contract represented a reasonable overall deal given the market conditions at the time. As a result of PEF's more than two years of tough negotiating, the EPC agreement included a number of provisions favorable to PEF and its customers, including but not limited to:



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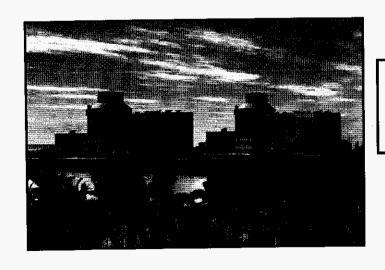
FPSC-COMMISSION CLERK



understanding of the regulatory environment indicated that if PEF retained the right to suspend work through the EPC, PEF would be able to ensure that any licensing risk was no greater than it would have been had execution of the EPC been postponed until after the NRC issued the COL/LWA schedule. Rather, PEF believed that the execution of the EPC Agreement would actually reduce the licensing risk to the extent the NRC understood the contractual commitment to move forward with the LNP when the NRC considered the review schedule for the LNP. Also, please see PEF's response to OPC Interrogatory No. 63.

# Levy Nuclear Plant Integrated Project Plan (IPP)

# Presentation to Senior Management September 8th, 2008



Specific slides (marked) in this presentation contain PGN Proprietary and Confidential Information, and should be treated as such.

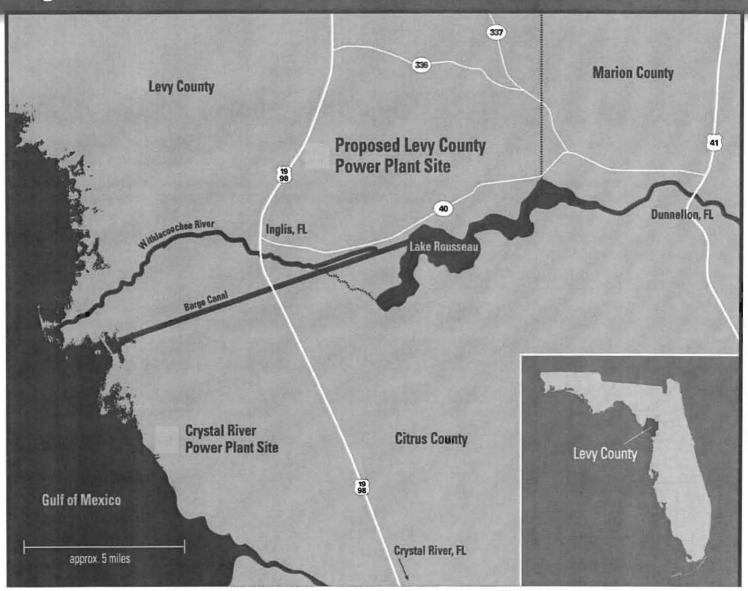


# Levy Nuclear Project Key Activities to Date

- Dec 2006 Levy Site Announced
- Sep 2007 Closing on 3,105 acre "Rayonier" site
- Dec 2007 Closing on 2,159 acre "Lybass" site
- Mar 2008 Petition for Levy Need Determination submitted
- Mar 2008 LOI executed for Long-Lead Equipment
- Mar 2008 Levy Comp Plan Land Amendment Approved
- Jun 2008 Site Certification Application (SCA) submitted
- Jul 2008 Combined License Application (COLA) submitted
- Jul 2008 Limited Work authorization (LWA) submitted
- Aug 2008 FL PSC Order on Levy Need Petition Issued
- Aug 2008 EPC Offer to WEC/SSW by PGN CEO
- Sep 2008 Levy "Special Exception" Zoning Approved



## **Levy Site Location**



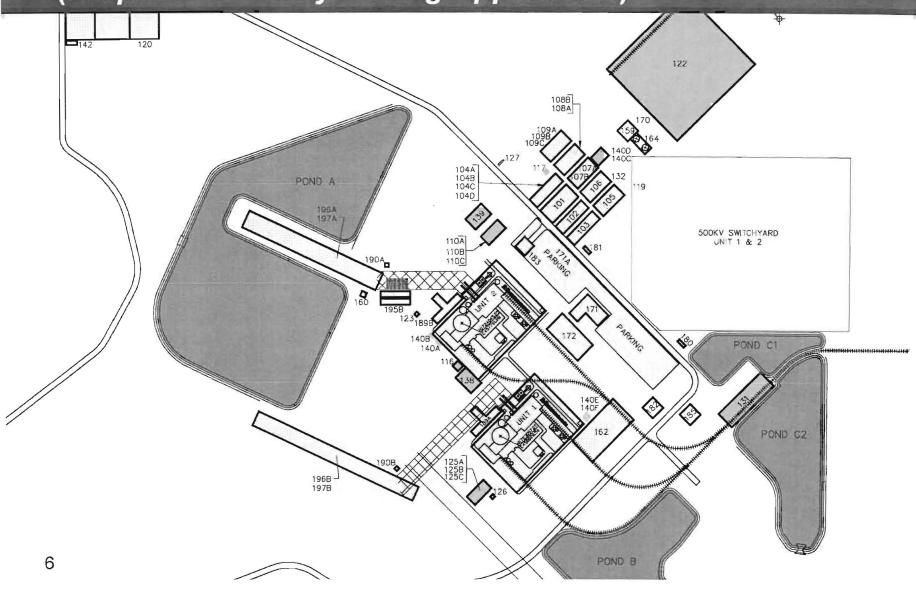


## AP1000 Artist Conceptual View



## **Levy Site Layout**

(Graphic from Levy Zoning Application)



# Levy Nuclear Plant Common Nuclear & Transmission Project Risk

#### **Program Key Risk ID**

1. Cost escalation/estimate validity

2. Project scope change

3. Availability of skilled craft labor

4. Project Financing

5. Land Acquisition

6. State and Local Permitting, including Public Acceptance

7. Federal Licensing and State Certification Approval for Construction

#### Likelihood

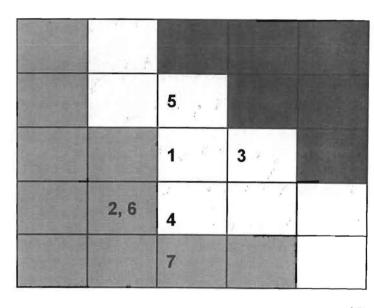
Very High

High

Moderate

Low

Very Low



Moderate

Significant

Sever

Critical

Consequence

Overall Project Risk Assessment

Cost	Schedule	Performance	Safety	Environmental
g	G	(G)		G



# Barge Canal (Looking West)

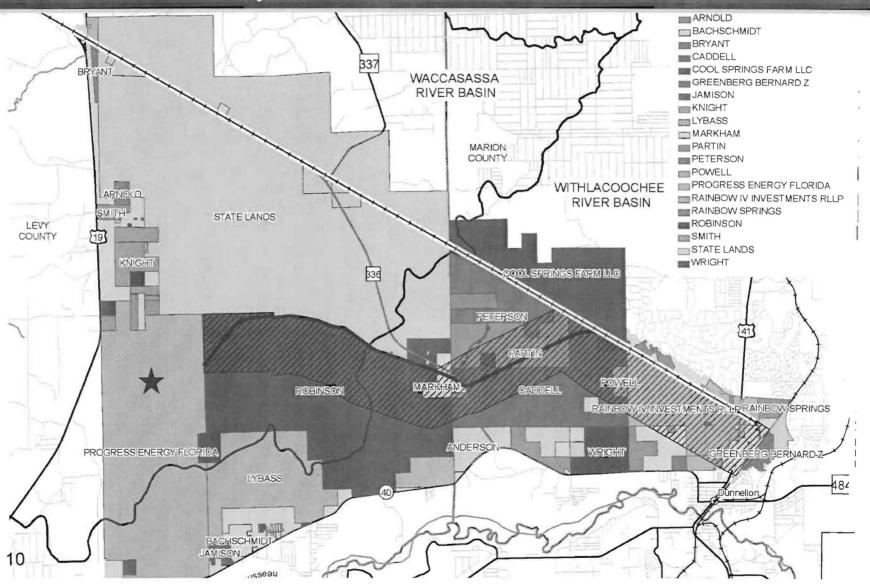


## **Crystal River Site**

Discharge Canal



### Levy Site Industrial Rail Spur



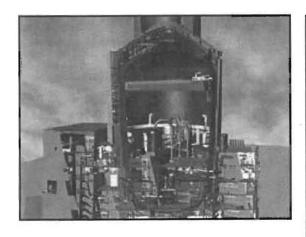
### **AP1000 Reactor Technology**

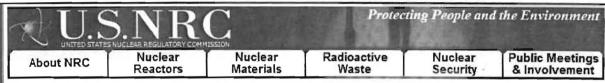
### **Design Certification**

Sept 2004 Staff Final Design Approval (Rev 15)

Dec 2005 Commission Approval (Rev 15)

Jan 2007 Final Rule Issued (Rev 15)





Home > Electronic Reading Room > Document Collections > NRC Regulations (10 CFR) > Part Index > Appendix D to Part 52--Design Certification Rule for the AP1000 Design

### Appendix D to Part 52-- Design Certification Rule for the AP1000 Design

#### I. Introduction

Appendix D constitutes the standard design certification for the AP1000 <sup>1</sup> design, in accordance with 10 CFR part 52, subpart B. The applicant for certification of the AP1000 design is Westinghouse Electric Company LLC.

#### II. Definitions

- A. Generic design control document (generic DCD) means the document containing the Tier 1 and Tier 2 information and generic technical specifications that is incorporated by reference into this appendix.
- B. Generic technical specifications means the information required by 10 CFR 50.36 and 50.36a for the portion of the plant that is within the scope of this appendix.
- C. Plant-specific DCD means the document maintained by an applicant or licensee who references this appendix consisting of the information in the generic DCD as modified and supplemented by the plant-specific departures and exemptions made under Section VIII of this appendix.
- D. Tier 1 means the portion of the design-related information contained in the generic DCD that is approved and certified by this appendix (Tier 1 information). The design descriptions, interface requirements, and site parameters are derived from Tier 2 information. Tier 1 information includes:
- Definitions and general provisions;

### **AP1000 Reactor Technology**

**Design Certification (continued)** 

May	2007	WEC Submits DCD Amendment request (Rev 16)
Jan	2008	NRC dockets DCD Amendment request (Rev 16)
Mar	2010	Initial NRC Estimate of Final SER (Rev 16)
Apr	2011	Initial NRC estimate of Final Rule Making (Rev 16)

but....

Jun 2008 Sep 2008 4<sup>th</sup> Qtr 2008 NRC Letter on Extending DCD Amendment Schedule WEC to submit updated DCD Amendment (Rev 17) NRC to issue revised DCD Amendment Schedule (potential 3 to 6 month schedule shift)

#### Revision 17 Significant Changes



- Change to Integrated Head Package design
- Revision to 50.46 analyses methodology (Cobra-Trac)
- Revised station battery voltage (125 V to 250 V)



# Operational Experience NuStart























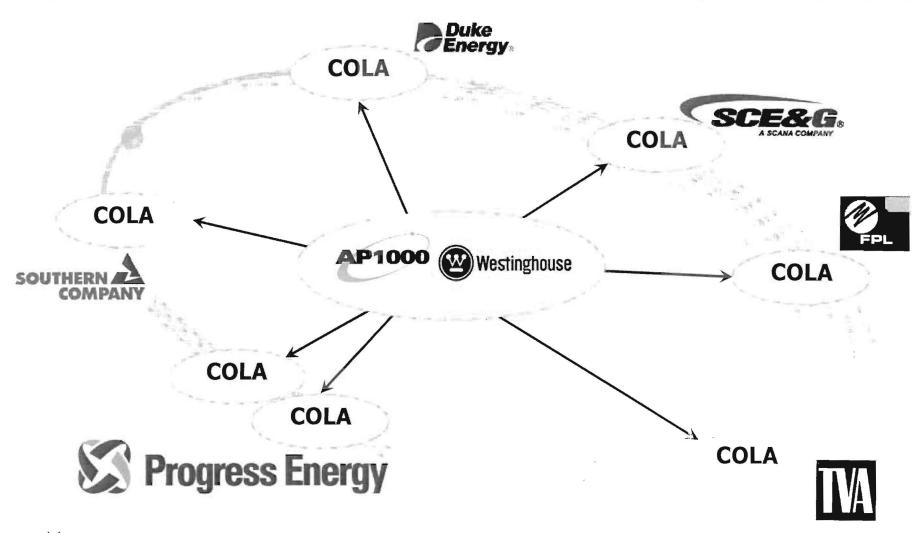






## Operational Experience

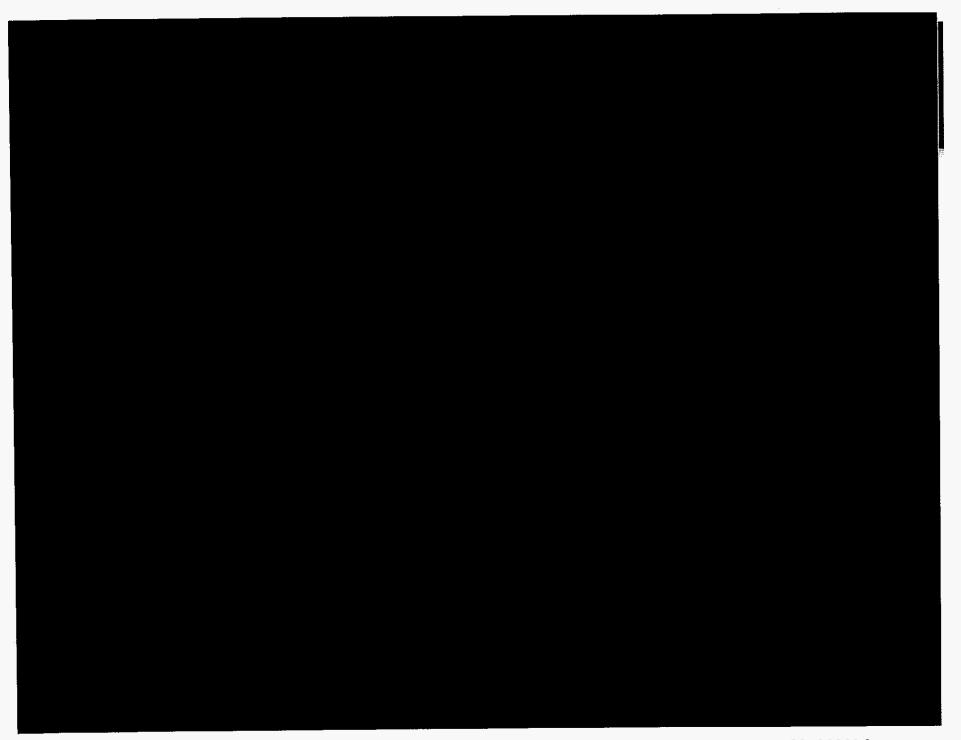
**AP1000 NuStart Members** 



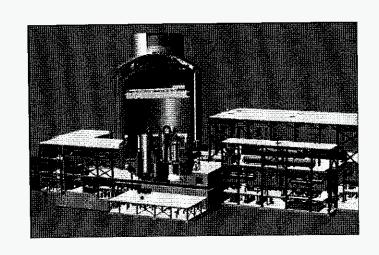
## Levy Management Organization

**Nuclear Projects & Construction (NP&C)** 

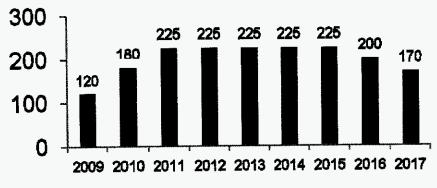
#### **EPC** Project Quality Project Operational Field Management **Assurance** Initiation Controls Management Readiness and Support Feasibility Inspections Schedule Construction Workforce study Development · Change order safety Auditing Cost · Site selection controls Engineering Field Training Quality Design Oversight Prudency Control Transparency Emergency decision reviews Self -Build **Preparedness** Performance · NQA-1 · EPC projects Joint owners Compliance monitoring Start-up Testing negotiation coordination **Program** Site Logistics Management Licensing Joint Procurement **Owner Control** reporting ownership Program audits Construction · COLA Cost Development Procedures Contract preparation Accounting Procedures audits Site Maint Need Filing ITAAC · Site Const. Certification Security security Progress Energy

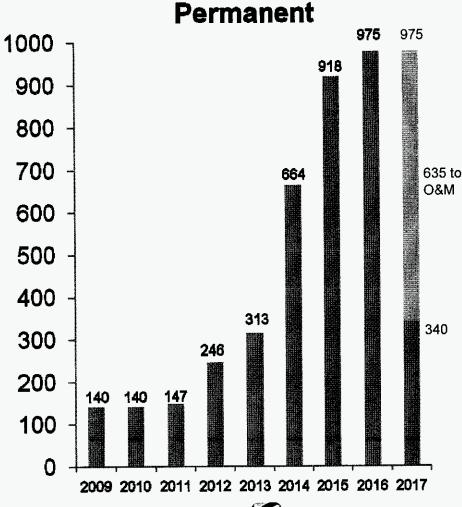


# Levy Staffing Construction & Project Management and Permanent

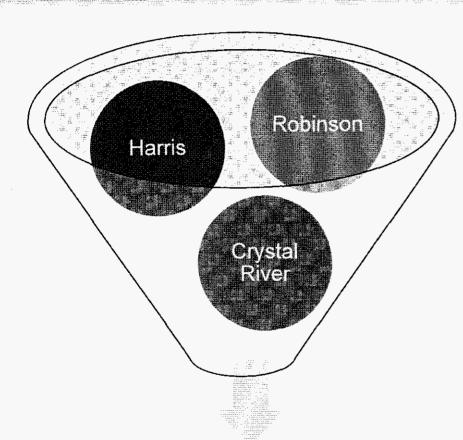








# Levy Staffing Operations Pipeline



**Levy Operations Staff** 

#### **Licensed Operators**

RNP - Starting in 2010: add 10 operators ever other year for the next 4 years (30 total) Levy License class 2011, 2013, 2015

**HNP -** Starting in 2010: add 10 operators ever other year for the next 4 years (30 total) Levy License Class 2012, 2014, 2016

**CR3 -** Starting 2009: 10 operators each year for the next 4 years (40 total) Levy License Class 2011, 2012, 2013, 2014

#### **Non Licensed Operators**

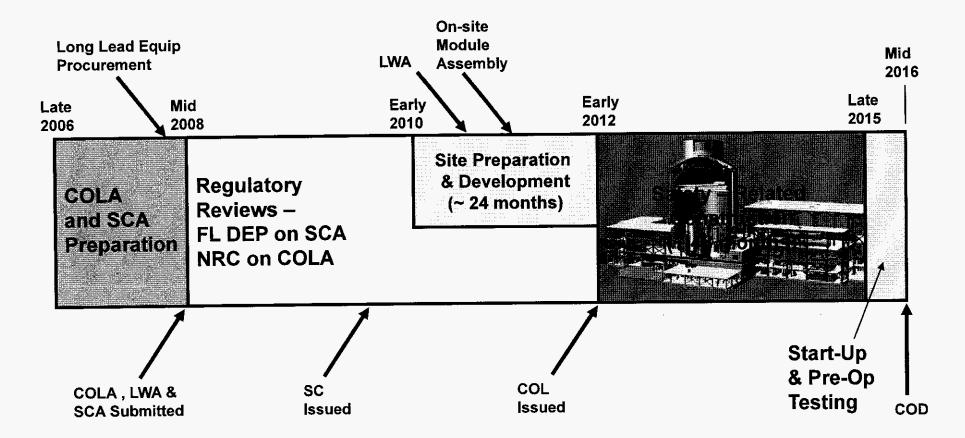
**RNP-** Starting in 20012: Add 10 NLOs each year for 2 years

**HNP:** - Starting in 2012: Add 10 NLOs each year for 2 years

**CR3** - Starting in 2009: Add 10 NLOs each year for 6 years; feed Levy starting in 2012

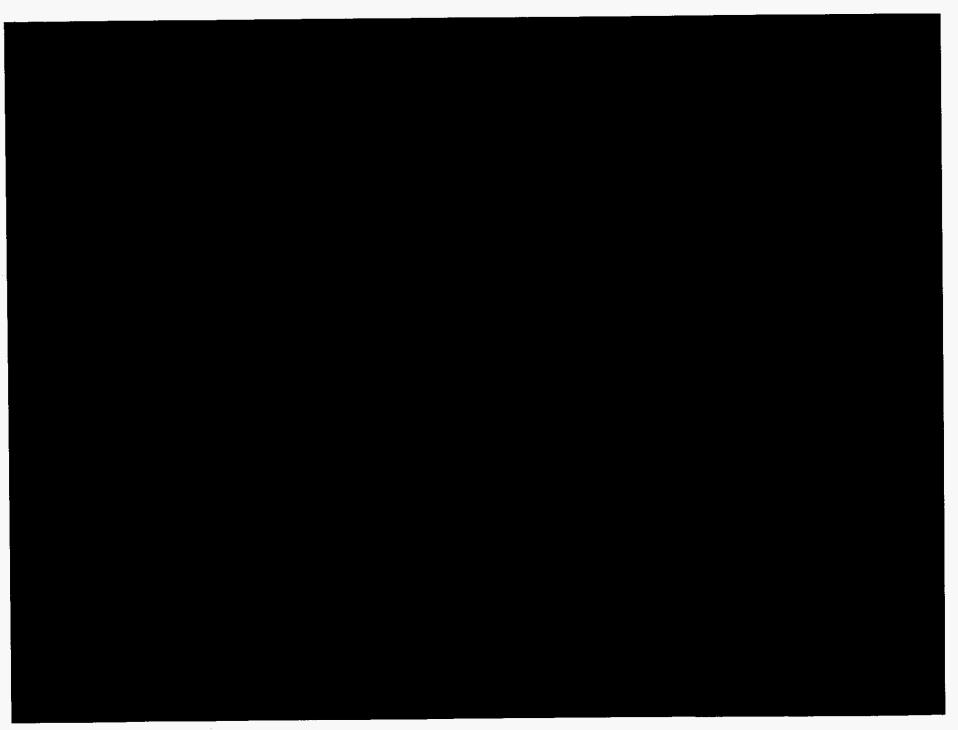


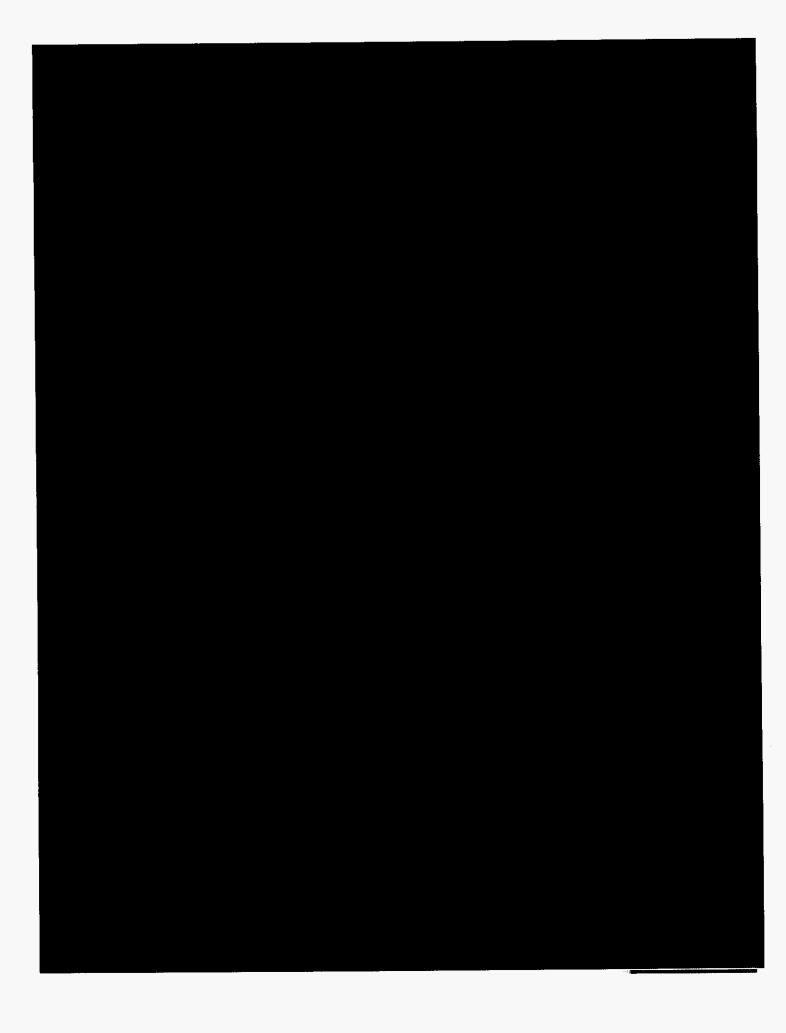
# Levy Estimated Timeline 1st Unit

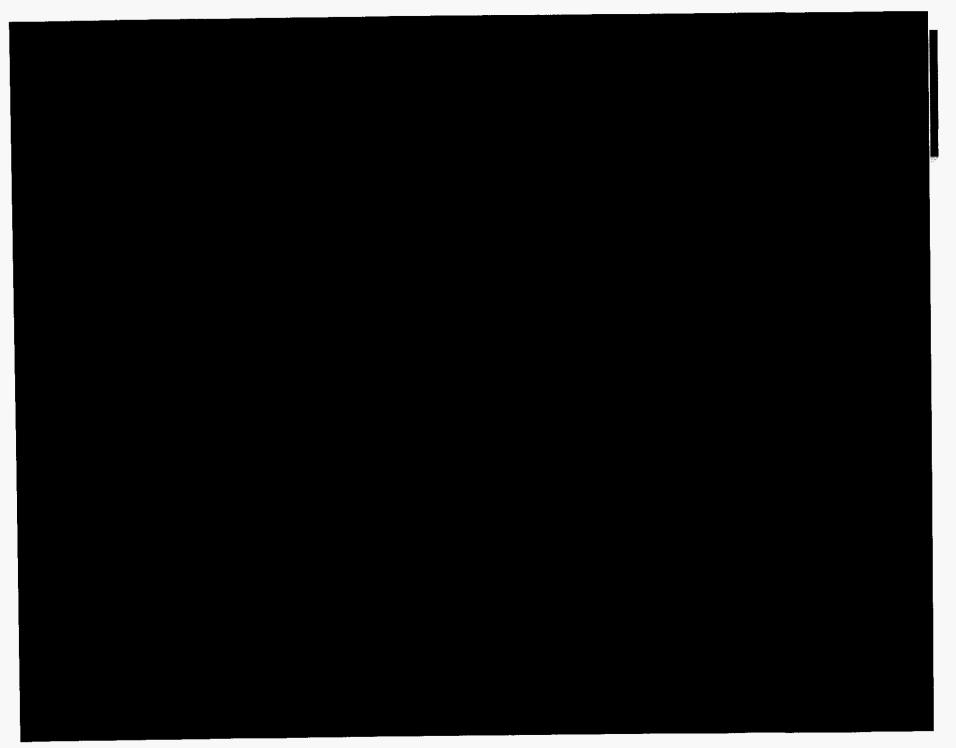


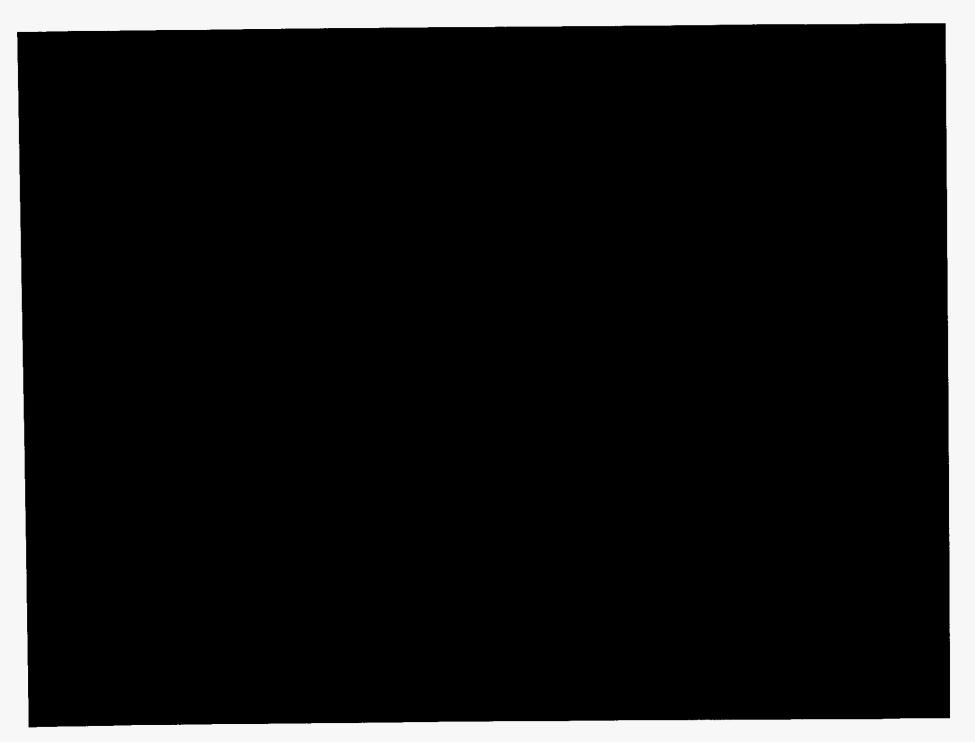
**COLA – Combined Construction & Operating License Application SCA – Site Certification Application** 











### Levy Nuclear Plant Nuclear - Project Risk

### Program Key Risk ID

- 8. Limited Work Authorization (LWA) Approval
- 9. QA Program Implementation
- 10. Achieving Plant Training and Staffing Objectives
- 11. Site Geotechnical Challenges

#### Likelihood

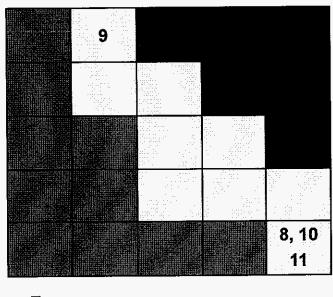
Very High

High

Moderate

Low

**Very Low** 



Minimal

Moderate

Significant

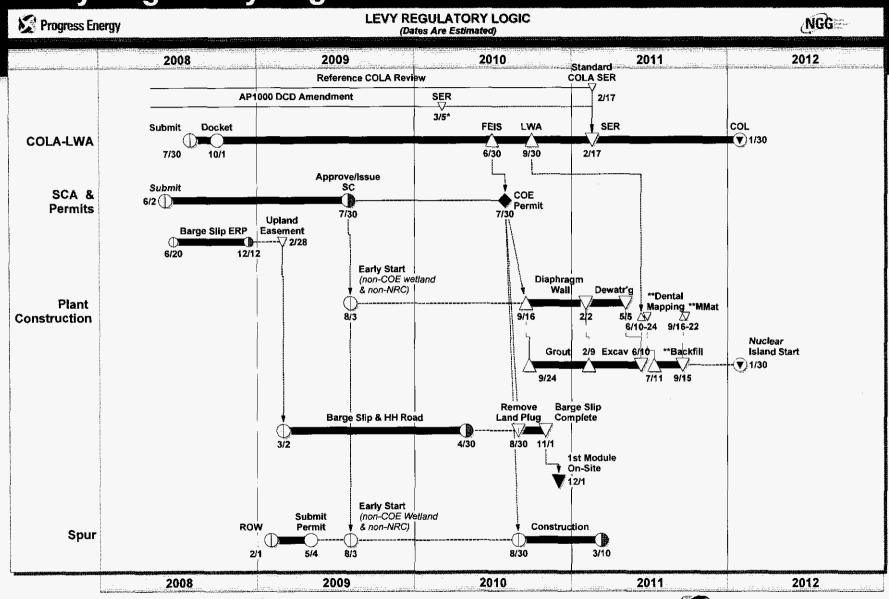
Consequence

#### Overall Project Risk Assessment

	Cost	Schedule	Performance	Safety	Environmental
!	G	1		4.0	



### **Levy Regulatory Logic**

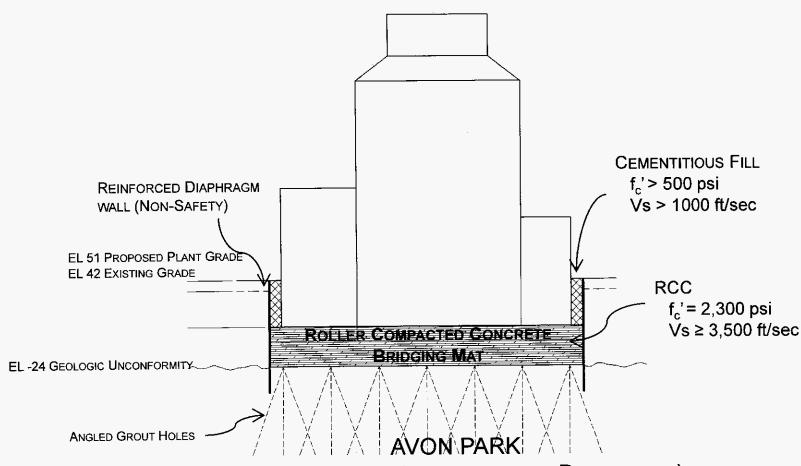


<sup>\*</sup> Date is likely to be revised by NRC.



<sup>\*\*</sup> LWA Scope

# Levy Site Foundation Concept

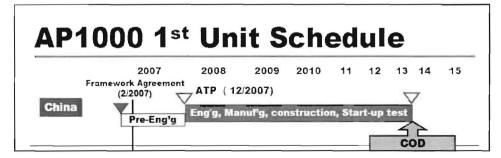


(MIDDLE EOCENE LIMESTONE AND DOLOSTONE) UCS  $\approx$  1,000-4,000 psi; Vs  $\approx$  3,000-4,500 ft/sec

### **Sharing the China Experience**



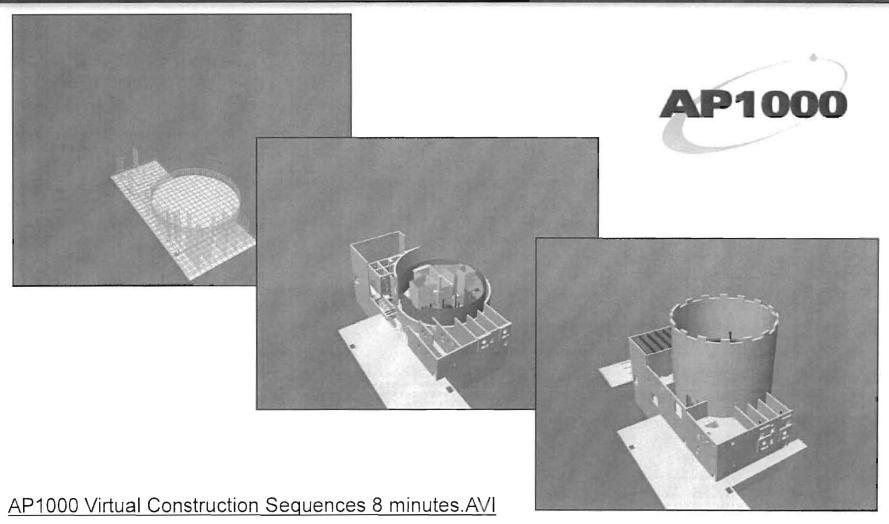




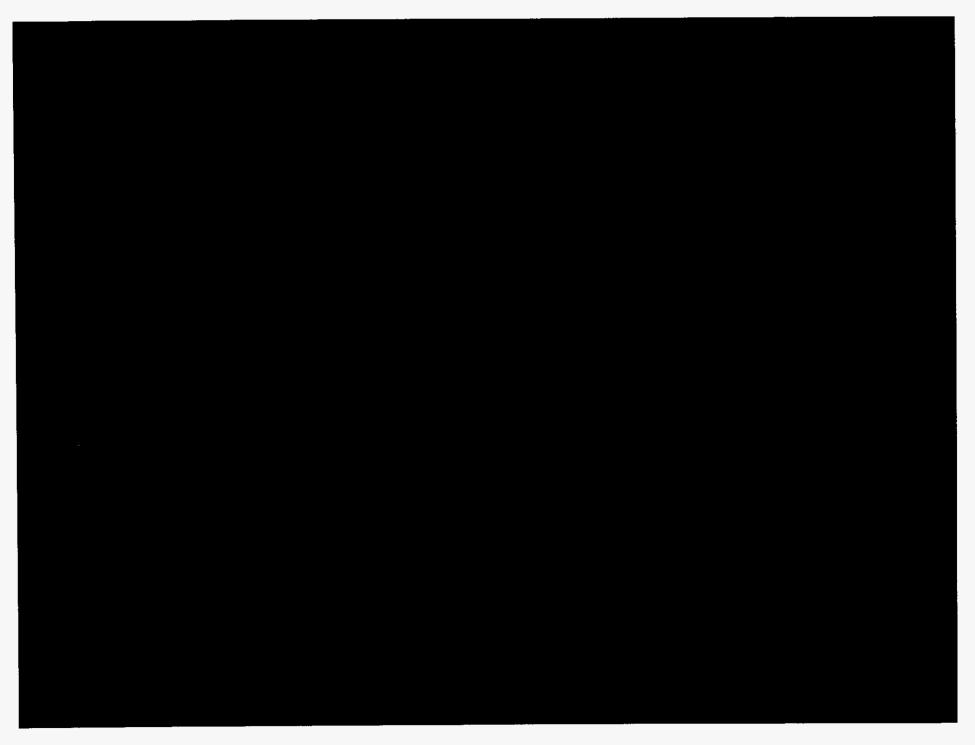


## **AP1000**

### **Construction Simulation Video**



Progress Energy

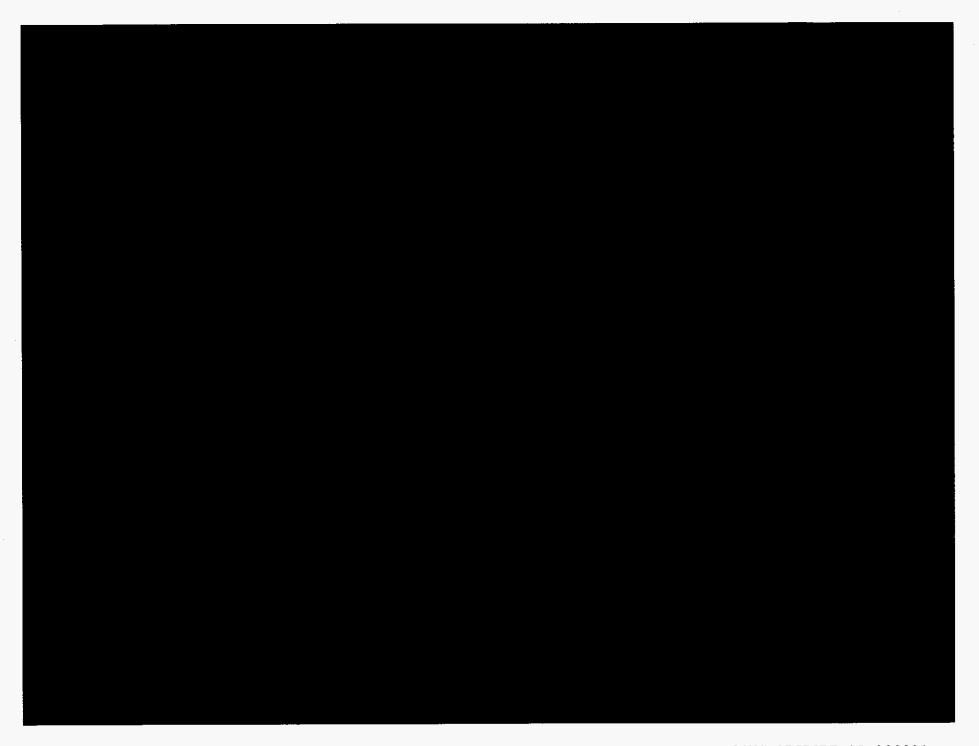


### Levy Transmission Key Activities (thru 2009)

## Continue activities for certain engineering, land acquisition, major equipment procurement and contracting strategies, and external communication activities

- Strategic Right-of-Way acquisition
- North and South Admin Substations and Lines -- Detail design, permitting, material and equipment procurement, ROW clearing, and construction
- Crystal River Substation (Phase I) -- Detail design, permitting, material and equipment procurement, and construction
- Levy-Central Florida South 500kV line -- Begin detail design, permitting
- Levy-Crystal River Plant 500kV line -- Begin detail design, permitting
- Crystal River Plant–Brookridge 230kV line -- Begin detail design, permitting, begin material and equipment procurement
- Brookridge Substation -- Begin detail design, permitting, begin material and equipment procurement
- Citrus Substation -- Begin detail design, permitting





# Levy Nuclear Project Transmission - Project Risk

#### **Program Key Risk ID**

- 12. Lack of public acceptance influences decision makers
- 13. Co-location with Suncoast Parkway II and Florida Gas Transmission (FGT) Expansion

#### <u>Likelihood</u>

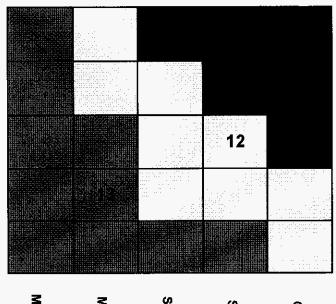
Very High

High

Moderate

Low

**Very Low** 



Minimal

Moderat

Significant

Consequence

Overall Project Risk Assessment

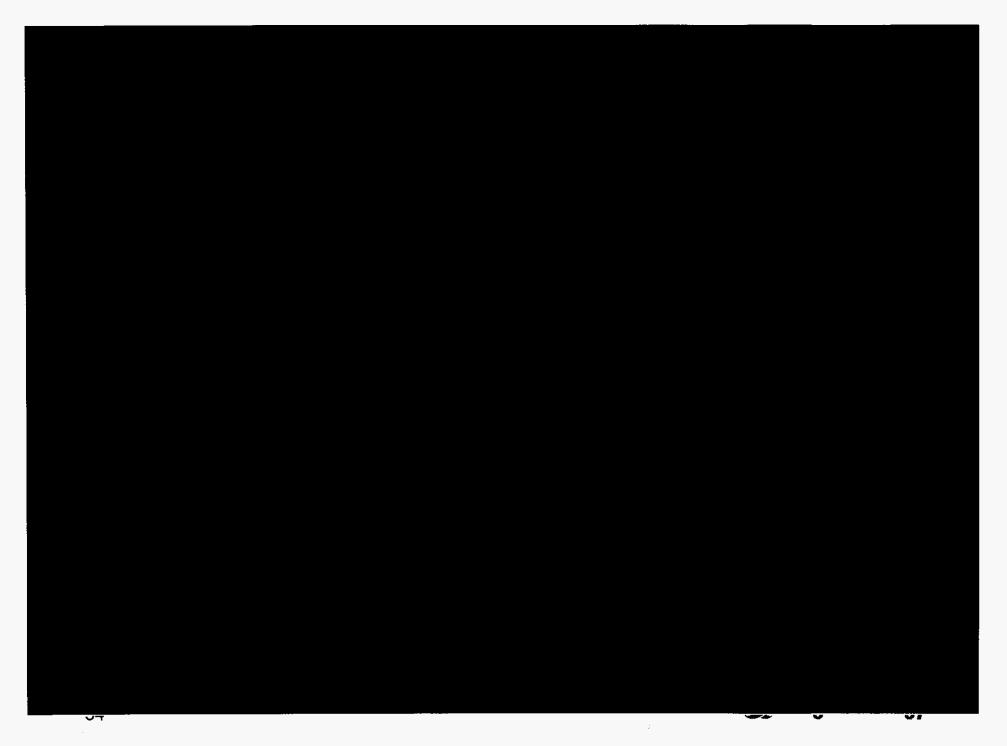
Cost	Schedule	Performance	Safety	Environmental



# Levy Nuclear Project Transmission Contract Strategy

- The recommended contracting strategy is a hybrid approach
- Hybrid approach includes:
  - Owner's Engineer to supplement existing resources
  - Program Manager for Line Construction
  - Program Manager for Right of Way Acquisition
  - Engineer Procure Construct & Design Bid Build strategy for substations contracted directly with PEF
  - Major Equipment contracts by PEF
- PEF directly contracts for and manages certain aspects of the program using either lump sum or target cost plus incentives as dictated by marketplace factors and PEF's risk appetite







# Levy Nuclear Project Recommendation

- Approve Levy Combined IPP \$ 17.2 B
- Authorize Spending thru 2009 for Levy

### <u>Transmission</u> \$60.5M (Year '09) \$100.6M (All Years thru '09)

- Rights-of-Way acquisitions and/or option arrangements
- Purchase agreements for long-lead time equipment
- Engineering contracts, Crystal River Substation Ph I

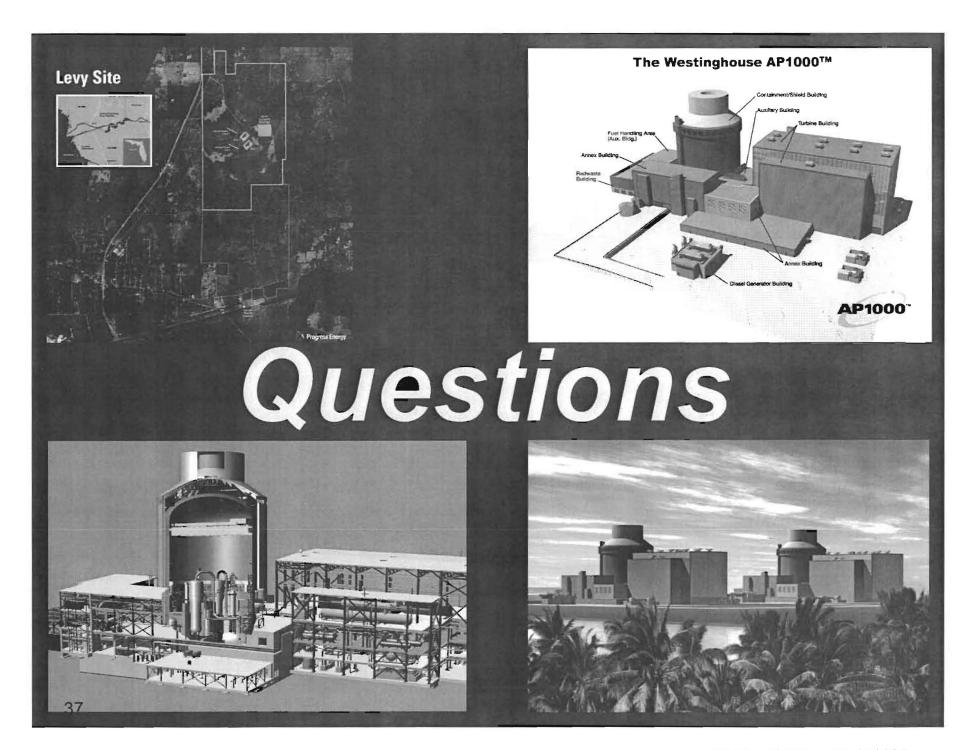
### Nuclear \$791.6M (Year '09) \$1,105.9M (All Years thru '09)

- COLA, other regulatory permitting/approval activities
- EPC engineering, construction planning, early site preparation activities
- Long-lead equipment procurement

### Planned Return to SMC

Important IPP Milestone Activities	Return Date
Final EPC Contract complete; revised cash flow analysis available	1 <sup>st</sup> Qtr 2009
Joint Owner Agreements complete; Terms & Conditions known	1 <sup>st</sup> Qtr 2009
Authorization to issue Full Notice to Proceed to WEC/SSW	4 <sup>th</sup> Qtr 2009



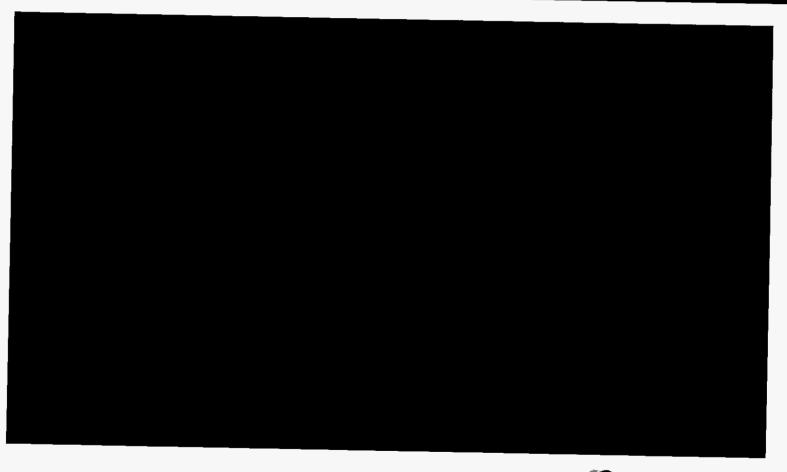


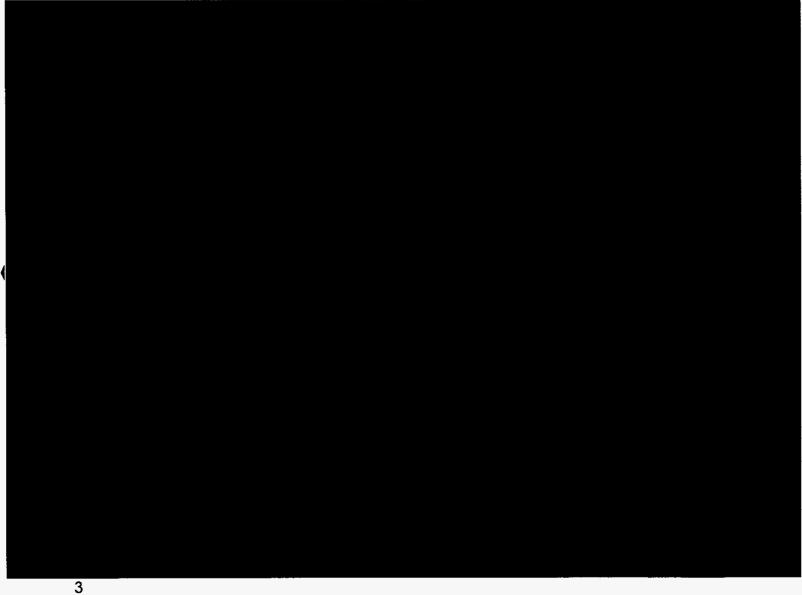
# **Levy Update**

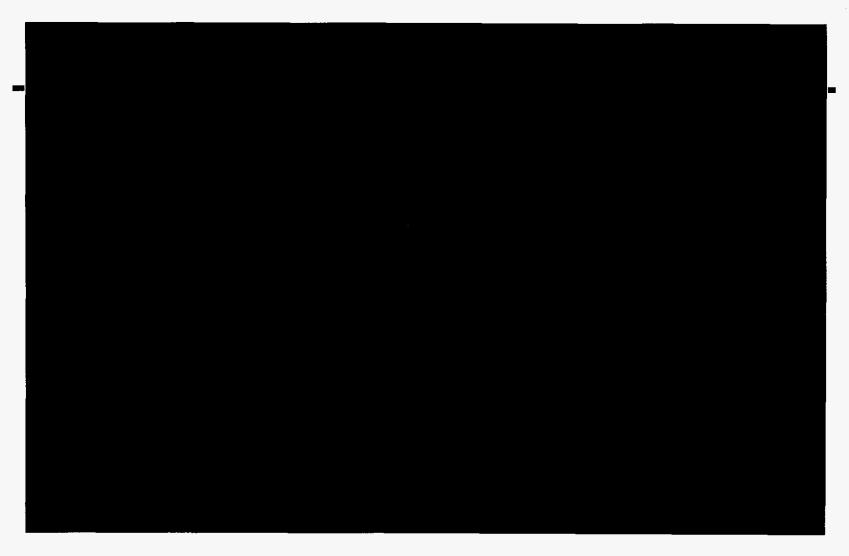
For SMC Meeting on June 17, 2009



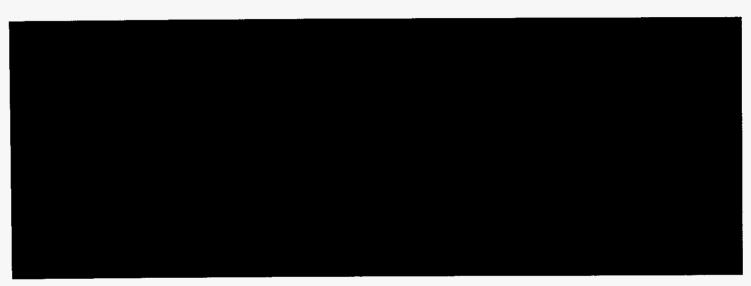
# Agenda / Topics





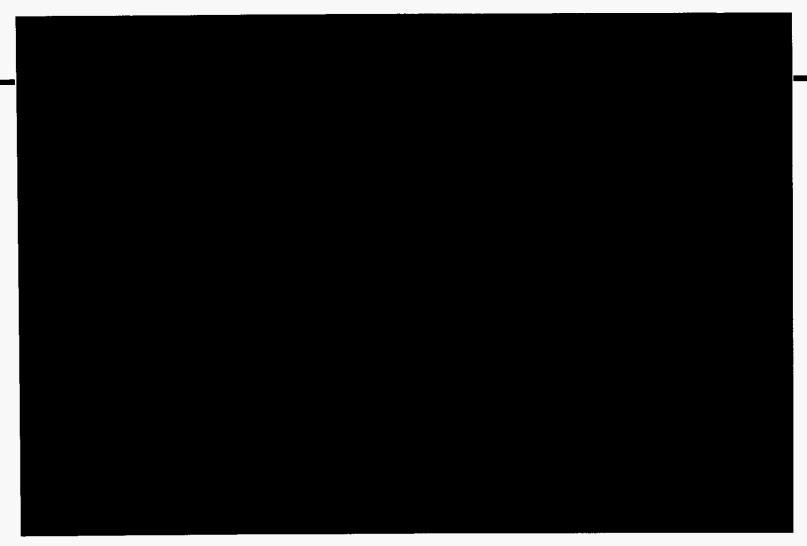


## Multiple objectives to solve for...



### PEF operational benefits

- Source of CO2-free generation, a key to PEF attaining emission compliance goals
- More balanced, less volatile fuel mix for customers
- Proper long-term policy decision for State

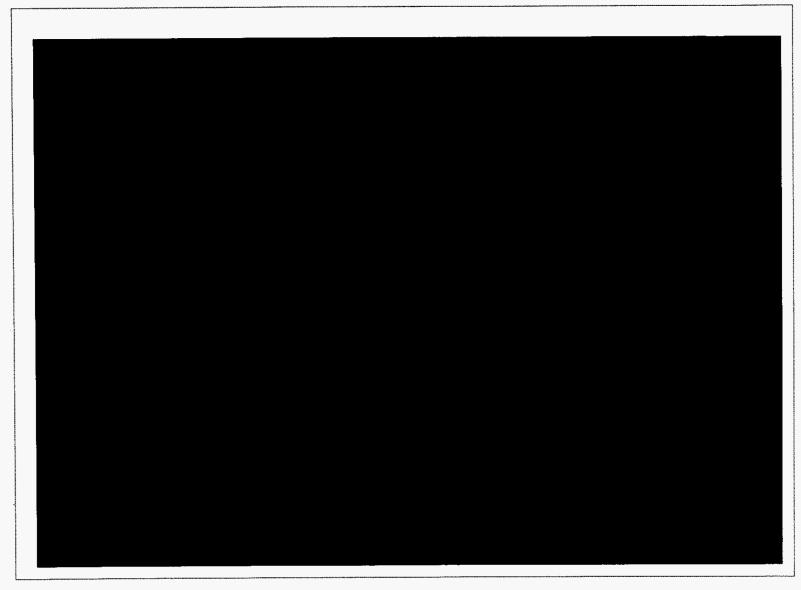


## **Table of CPVRR's Over Life**

2007	50% Ownership Fuel Cost Sensitivity		
	Low Fuel	Mid Fuel	High Fuel
No Carbon Tax			433
Bingaman Specter			1,692
EPA			2,227
MIT		817	3,594
Lieberman Warner	248	2,130	5,048

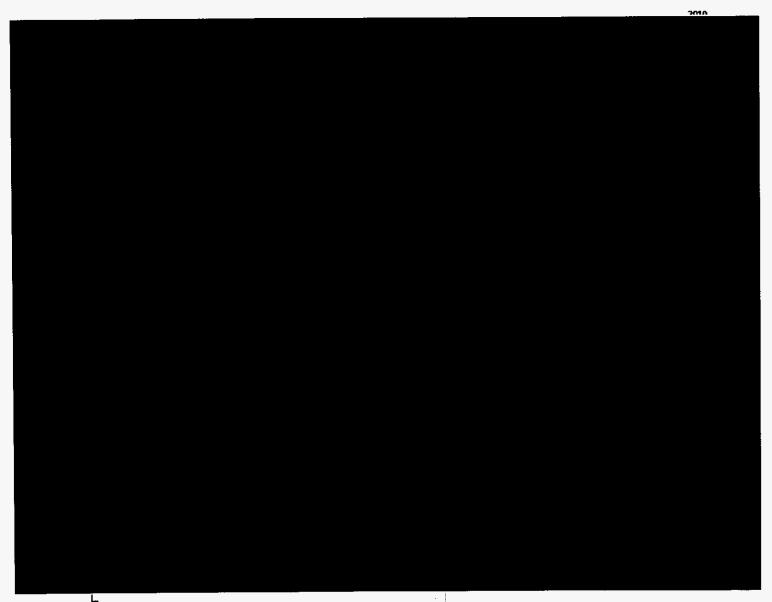
100% Ownership Fuel Cost Sensitivity			
Low Fuel	Mid Fuel	High Fuel	
		2,512	
		5,089	
	670	6,194	
	3,490	8,953	
2,806	6,257	11,768	

These numbers are based on our need case filing, and will be subject to revision, up or down, based on a number of factors, including EPC renegotiations



## **Current State of Contacts**





## **Nuclear cost recovery timeline**

July 15

• Intervenor testimony due

July 27

• FPSC staff testimony due

Aug 10

• Rebuttal Testimony due

Aug 21

• Discovery Actions completed

Sept 8-11

Hearings

Oct. 7

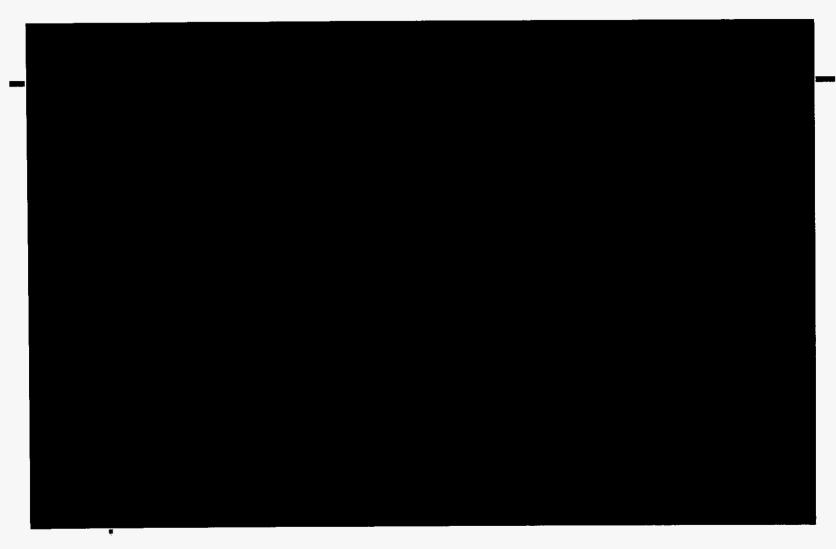
Staff recommendation

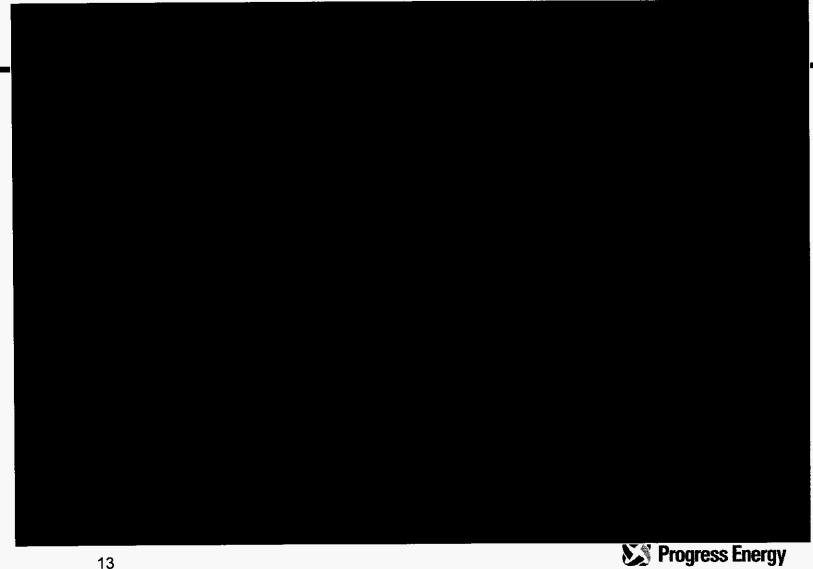
Oct 16

Agenda hearing

Oct 26

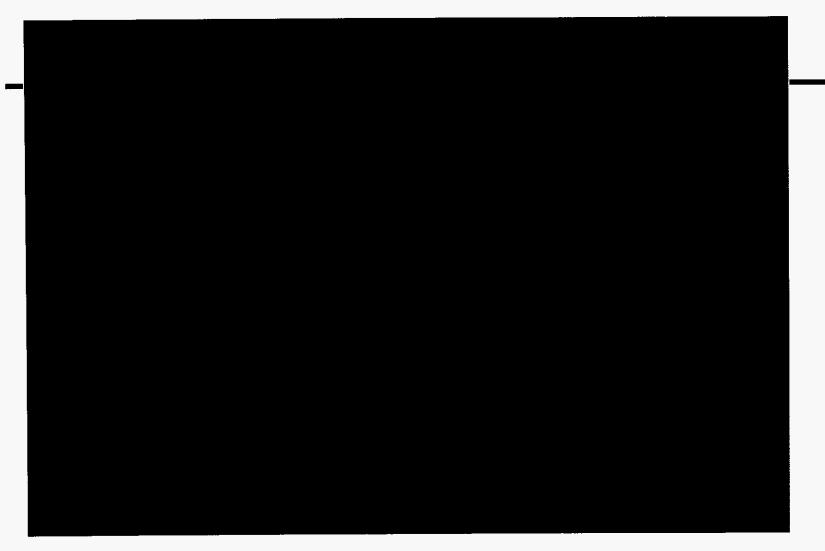
Standard Order



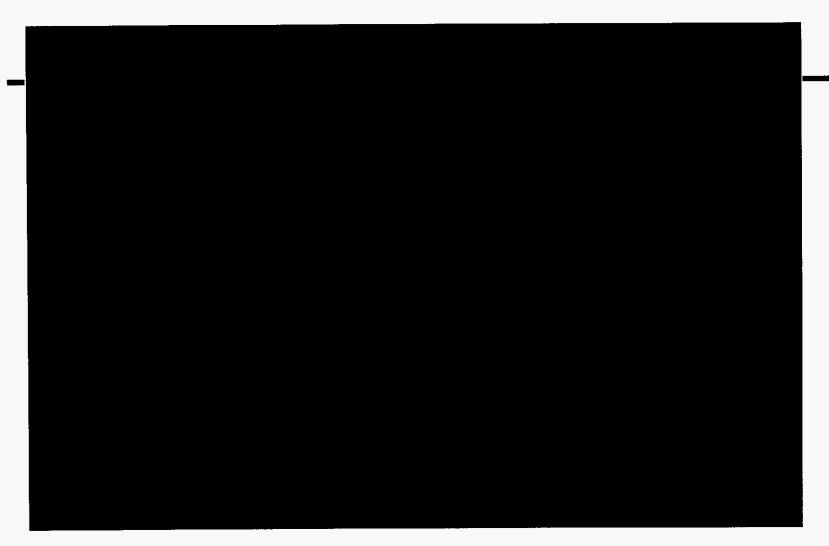


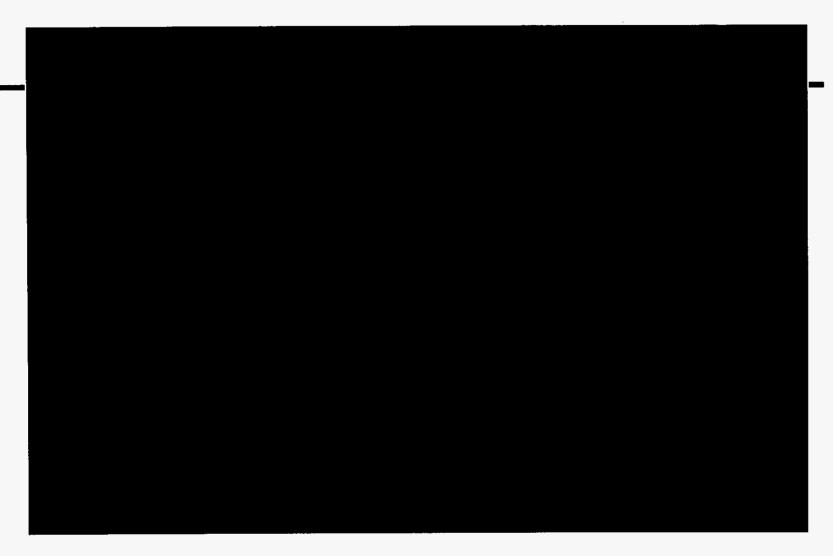
13

09NC-OPCPOD7-92-000013









IN RE: NUCLEAR COST RECOVERY

CLAUSE

Docket No. 090009-EI

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09NC-OPCINT6-70a-000001 Through 09NC-OPCINT6-70a-000013

IN RE: NUCLEAR COST RECOVERY

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09NC-OPCPOD7-89-000038 **Through** 09NC-OPCPOD7-89-000039

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09NC-OPCPOD7-94-000002 Through 09NC-OPCPOD7-94-000004

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09NC-OPCPOD7-94-000018 Through 09NC-OPCPOD7-94-000022

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09NC-OPCPOD7-94-000023 Through 09NC-OPCPOD7-94-000088

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09NC-OPCPOD7-94-000089 Through 09NC-OPCPOD7-94-000167

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09NC-OPCPOD7-94-000169 Through 09NC-OPCPOD7-94-000171

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09NC-OPCPOD7-94-000258 Through 09NC-OPCPOD7-94-000320

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09NC-OPCPOD7-94-000321 Through 09NC-OPCPOD7-94-000339

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09NC-OPCPOD7-94-000340 Through 09NC-OPCPOD7-94-000342

IN RE: NUCLEAR COST RECOVERY

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09NC-OPCPOD7-94-000343

IN RE: NUCLEAR COST RECOVERY

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000344

IN RE: NUCLEAR COST RECOVERY

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Docket No. 090009-EI

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000345 Through 09NC-OPCPOD7-94-000430

IN RE: NUCLEAR COST RECOVERY

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### PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000431 **Through** 09NC-OPCPOD7-94-000493

IN RE: NUCLEAR COST RECOVERY

CLAUSE

Docket No. 090009-EI

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000494 Through 09NC-OPCPOD7-94-000503

IN RE: NUCLEAR COST RECOVERY

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000504 Through 09NC-OPCPOD7-94-000553

IN RE: NUCLEAR COST RECOVERY

CLAUSE

Docket No. 090009-EI

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000554 Through 09NC-OPCPOD7-94-000603

IN RE: NUCLEAR COST RECOVERY

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000604 Through 09NC-OPCPOD7-94-000642

IN RE: NUCLEAR COST RECOVERY

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## PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000643 Through 09NC-OPCPOD7-94-000645

IN RE: NUCLEAR COST RECOVERY

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Docket No. 090009-EI

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## PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000646 **Through** 09NC-OPCPOD7-94-000648

IN RE: NUCLEAR COST RECOVERY

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Docket No. 090009-EI

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000649 Through 09NC-OPCPOD7-94-000656

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09NC-OPCPOD7-94-000657 Through 09NC-OPCPOD7-94-000660

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09NC-OPCPOD7-94-000682 Through 09NC-OPCPOD7-94-000688

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000689 Through 09NC-OPCPOD7-94-000695

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# PROGRESS ENERGY FLORIDA REDACTED DOCUMENTS

09NC-OPCPOD7-94-000696 Through 09NC-OPCPOD7-94-000702

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09NC-OPCPOD7-94-000703 Through 09NC-OPCPOD7-94-000717

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09NC-OPCPOD7-94-000718 Through 09NC-OPCPOD7-94-000724