



PSEG Nuclear NRC Region I Update

PSEG Nuclear Leadership Team

May 26, 2010



Agenda

Introductions

Tom Joyce

Overview

Bob Braun

Hope Creek Performance Update

Larry Wagner

Salem Performance Update

Ed Eilola

Salem Unit 2 Tritium

Carl Fricker

Security Update

Paul Davison

License Renewal & New Nuclear

Christine Neely

Closing Comments

Tom Joyce

EXCELLENCE

Continuous Improvement

Learning Organization

BASE CAMP

Beginning
the CLIMB

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TO
EXCELLENCE
NEEDS A STRONG
BASE CAMP

PSEG Nuclear 2010 Objectives

Safety Excellence

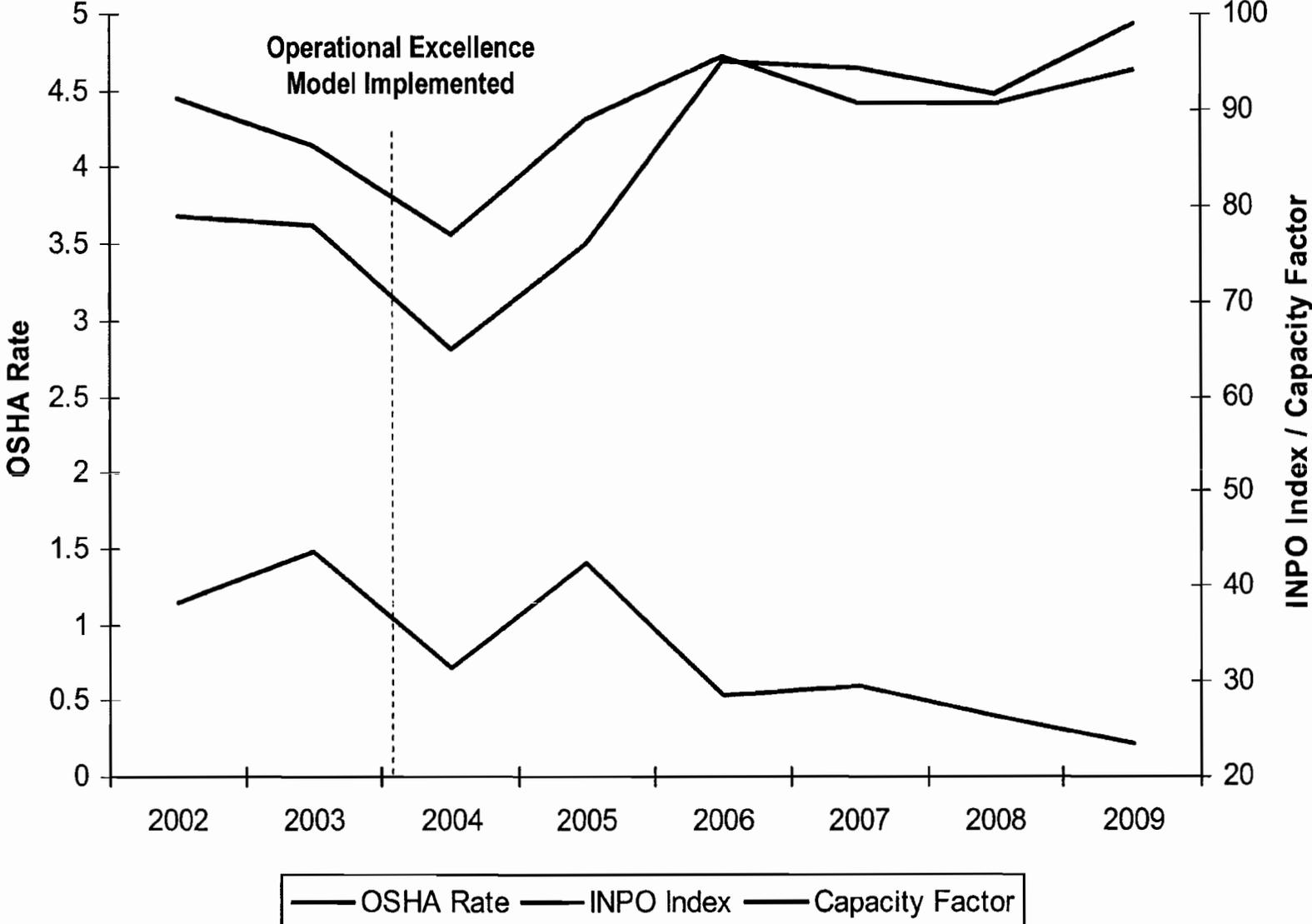
Equipment Reliability Excellence

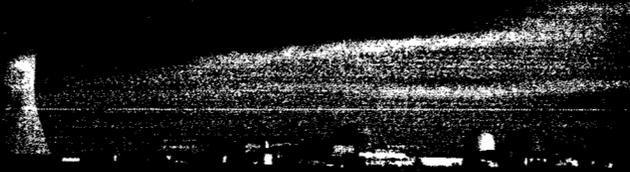
Refueling Outage Excellence

Developing Our People

Running the Business

PSEG OSHA Rate vs. INPO Index / Capacity Factor





Hope Creek Performance Update

Larry Wagner

Hope Creek Plant Manager



Hope Creek Scorecard – Results through April

	April Results	April Goal	Year-End Stretch
People Providing			
Total Industrial Safety Accident Rate (TISAR 18 Months)	0.15	0.00	0.00
OSHA Recordable Incident Rate (YTD)	0.00	0.19	0.19
OSHA Days Away from Work (YTD)	0.00	0.00	0.00
Event-free Clock Resets (YTD)	1	1	3
Employee Development MAST (Quarterly, YTD)	23%	10%	93%
Safe, Reliable			
INPO Performance Index	99.3	99.4	100.0
MSPI Margin (Systems in Action Status)	0	0	0
Regulatory Performance	Green	Green	Green
Collective Radiation Exposure (YTD)	11.2	11.8	150.0
Equipment Reliability	82	85	85
Economic			
Operating Cost (YTD)	15.1	15.9	20.5
O & M Budget Controllable (\$M YTD)	164	165	436
O&M Joint Owned Units (\$M YTD)	35	43	156
Total Generation (GWhrs YTD, Net 2)	3,364	3,262	9,378
Summer Generation (GWhrs, Net 2)	0	0	2,604
Capital Plan Versus Actual (\$M YTD)	9.2	11.3	51
Capital Projects Results (Quarterly + month lag)	96%	95%	95%
Nuclear Fringe Cost (Quarterly)	17	18	73
Forced Loss Rate (YTD)	0.63	0.42	0.42
Green Energy			
Radwaste (Cubic Meters YTD)	21	76	250
Waste – Percent Landfill Disposal (YTD)	28.7%	30.6%	30.6%
Air, Water, Spills (All Exceedances YTD)	0	0	1
Notices of Violation (YTD)	0	0	0

Year end goals reflect Corporate Scorecard unless Nuclear stretch goal established

Goal Not Met

ERI through April 2010

Area	ERI Sub-Indicator No.	ERI Sub-Indicators	ERI Points Maximum	Hope Creek
Elec. Generation (Lagging)	1.1	Forced Loss Rate (Industry definition - 18 mo running average)	10	6
	(Lagging)	1.2	Unplanned Power Reductions per 7000 hrs Critical (NRC Indicator)	5
	(Lagging)	1.3	Post Refueling Outage Performance (100 days)	2
Challenge to Ops (Lagging)	2.1	Unplanned LCO Entries (<72 hours in last 3 months)	3	3
	(Lagging)	2.2	Operator Work Arounds	2
	(Lagging)	2.3	High Critical Component Failures (in last 3 months)	4
System Health (Lagging)	3.1	Safety System Unavailability (NRC Indicators - MSPI)	8	8
	(Leading)	3.2	Sys Health Improvement Effectiveness	6
Maintenance (Leading)	4.1	Corrective Maintenance Backlog (Non-Outage)	3	3
	(Leading)	4.2	Total Maintenance Backlog (Non-Outage)	4
	(Leading)	4.3	Deferral of Critical PMs (Critical Equipment)	6
	(Leading)	4.4	Maintenance Feedback (% of PMs with Feedback)	2
	(Leading)	4.5	Timely Completion of Critical PMs (1st Half of Grace)	4
Work Mgmt. (Leading)	5.1	Work Week Schedule Stability (Average of last 3 months)	4	4 ↓
	(Leading)	5.2	Work Week Schedule Adherence (Average of last 3 months)	6
Long Term Planning (Leading)	6.1	Long Range Plan Implementation Effectiveness	7	7
	(Leading)	6.2	Age of Red & Yellow Systems	6
Chemistry (Leading)	7.1	Chemistry Effectiveness Index (18 month)	2	2
AP-913 Config. Mgmt (Leading)	8.1	PM Program Bases	2	2
ERI Point Total			100	82
75 to 84	White	ERI Monthly Goal		85
60 to 74	Yellow	ERI Year-End Goal		85
Leading Indicators			54	52
Lagging Indicators			46	30
2010 Top Quart	91	ERI Point Total (Last Month)		85

Recent Challenges

EDG update

'B' RHR Heat Exchanger leak

'A' Recirculation Pump trip

'A' Circulating Water Pump discharge valve

Hope Creek Procedure Excellence Focus Area

Establish a culture that ensures procedures are used as written

Procedure quality is continuously improved through ownership and engagement of end users

Three Team Approach – Administrative, Implementing and Metrics

Procedure of the Week Program

Hope Creek Safety Culture Pilot Project

NEI Pilot Process concludes with recommendations to NRC for implementation

- Next meeting June 2010

HC completed two cycles of monitoring process and continues process

- Most issues binned to SCP #5: Nuclear technology is recognized as special and unique
 - Two attributes (Procedure quality & mastery of fundamentals) capture most issues
 - A Common Cause Evaluation will address corrective actions

Hope Creek Key 2010 Events Completed

Component Design Basis (CDBI)

License renewal audits

Triennial Fire Protection Inspection and B.5.b

INPO E&A visit

EP exercise evaluation

- Bi-annual NRC Graded Exercise
- FEMA Ingestion Pathway Exercise

Hope Creek Key 2010 Events Upcoming

Dry cask storage campaign

RF16

- **Co60**

License renewal inspection

Managing Gas Accumulation in ECCS inspection

Operations Training accreditation renewal

ILOT exam



Salem Performance Update

Ed Eliola

Salem Plant Manager



Salem Scorecard – Results through April

	April Results	April Goal	Year-End Stretch
People Providing			
Total Industrial Safety Accident Rate (TISAR 18 Months)	0.05	0.00	0.00
OSHA Recordable Incident Rate (YTD)	0.36	0.19	0.19
OSHA Days Away from Work (YTD)	0.00	0.00	0.00
Event-free Clock Resets (YTD)	1	2	4
Employee Development MAST (Quarterly, YTD)	23%	10%	93%
Safe, Reliable			
INPO Performance Index	98.9	99.0	99.5
MSPI Margin (Systems in Action Status)	1	1	0
Regulatory Performance	Green	Green	Green
Collective Radiation Exposure (YTD)	36.2	42.9	89.3
Equipment Reliability	93.5	85	85
Economic			
Operating Cost (YTD)	158	20.92	14.45
O & M Budget Controllable (\$M YTD)	164	165	436
O&M Joint Owned Units (\$M YTD)	35	43	156
Total Generation (GWhrs YTD, Net 2)	570	6,051	19,566
Summer Generation (GWhrs, Net 2)	0	0	5,034
Capital Plan Versus Actual (\$M YTD)	16	21	43
Capital Projects Results (Quarterly + month lag)	96%	95%	95%
Nuclear Fringe Cost (Quarterly)	17	18	73
Forced Loss Rate (YTD)	0.36	0.42	0.42
Green Energy			
Radwaste (Cubic Meters YTD)	23	39	140.0
Waste – Percent Landfill Disposal (YTD)	28.7%	30.6%	30.6%
Air, Water, Spills (All Exceedances YTD)	0	1	1
Notices of Violation (YTD)	0	0	0

Year end goals reflect Corporate Scorecard unless Nuclear stretch goal established

Goal Not Met

Salem Equipment Reliability Index through April

Area	ERI Sub-Indicator No.	ERI Sub-Indicators	ERI Points Maximum	SALEM 1	SALEM 2
Elec. Generation (Lagging)	1.1	Forced Loss Rate (Industry definition - 18 mo running average)	10	9	10
	1.2	Unplanned Power Reductions per 7000 hrs Critical (NRC Indicator)	5	5	10
	1.3	Post Refueling Outage Performance (100 Days)	2	2	0
Challenge to Ops (Lagging)	2.1	Unplanned LCO Entries (S/D & ≤72 hrs in last 3 months)	4	4	3
	2.2	Operator Work Arouns	2	2	2
	2.3	High Critical Component Failures (in last 3 months)	8	8	10
System Health (Lagging)	3.1	Safety System Unavailability (NRC Indicators - MSPI)	8	8	8
	3.2	System Health Improvement Effectiveness	6	6	6
Maintenance (Lagging)	4.1	Corrective Maintenance Backlog (Non-Outage)	3	3	3
	4.2	Total Maintenance Backlog (Non-Outage)	4	4	4
	4.3	Deferral of PMs (Critical Equipment)	6	6	6
	4.4	PM Feedback (% of PMs with Feedback)	2	2	2
	4.5	Timely Completion of PMs (1st Half of Grace)	4	4	4
Work Management (Leading)	5.1	Work Week Schedule Stability (Average of last 3 months)	6	6	6
	5.2	Work Week Schedule Adherence (Average of last 3 months)	6	6	6
Long Term Planning (Leading)	6.1	Long Range Plan Implementation Effectiveness	7	7	7
	6.2	Age of Red & Yellow Systems	5	5	4
Monitoring & Trending (Leading)	7.1	Chemistry Effectiveness	1	1	2
AP-913 Process (Leading)	8.1	PM Program Bases	2	2	2
ERI Point Total			100	90	95
ERI Monthly Goal			85	85	85
75 to 84	WHITE	ERI Year-End Goal	85	85	85
60 to 74	YELLOW	Leading Indicators	47	45	45
		Lagging Indicators	53	45	50
TopQ (rev 5)	88	ERI Point Total (Last Month)	Mar-10	84	89

Recent Challenges

Aux Feedwater System piping

Control Room Chiller performance

January Salem Unit 2 forced outages

Salem Unit 2 tritium

Salem Procedure Excellence Focus Area

Use and reinforce of Human Performance and Error Prevention Tools

- Procedure of the Week
- 2R17 and 1R20 performance

Specific Areas of Focus

- Procedure use and adherence
- Procedure and work document quality
- Accountability

Overall Trends Reflect Continuing Improvement

Salem Key 2010 Events Completed

Salem 1R20 refueling outage

License renewal audits

EP exercise evaluation

- Bi-annual NRC Graded Exercise
- FEMA Ingestion Pathway Exercise

Occupational Radiation Safety Inspection

ILOT exams

Salem Key 2010 Events Upcoming

First dry cask storage campaign

License renewal inspection

Managing Gas Accumulation in ECCS inspection

August INPO evaluation



Salem Unit 2 Tritium

Carl Fricker
Vice President Salem



Tritium Investigation Current Status and Next Steps

Repaired plant vent expansion joint leak and restored drain

- High level source eliminated

Monitor isolated drain pipe for in leakage

Continue sampling plan

- Well sampling to validate conditions
- Extend wells down to lean concrete
- Install additional monitoring wells where appropriate

Extent of condition investigation to address any additional sources

Continue stakeholder briefings



Security Update

Paul Davison
Vice President Operations Support



Security Excellence Plan

Work Environment

- Communications
- Integration with site organization (Part of the team)
 - Executive & crew MRMs
 - Safety Committee
- Staffing
 - Increased PSEG Security staffing/oversight
 - Security engineer position
 - New officers to support Fatigue Rule

Equipment

- Corrected “long-standing” maintenance issues
- Ensure security equipment is repaired in timely manner

Security Excellence Plan – Human Performance

Behaviors

- Observation program
- Fundamental of the Month
- Human Performance training
 - Lesson plans incorporate Human Performance (HU)
 - Eight hours in initial training dedicated to HU/risk awareness
- Implement Wackenhut Supervisory Development Program
 - Recently completed all Team Leads participation in Wackenhut Certified Security Specialist program
- Industrial safety performance
 - Surpassed one-million man-hours without a lost-time accident
 - First time Security accomplished this performance

Security Excellence Plan – Human Performance

Procedure upgrade project completed

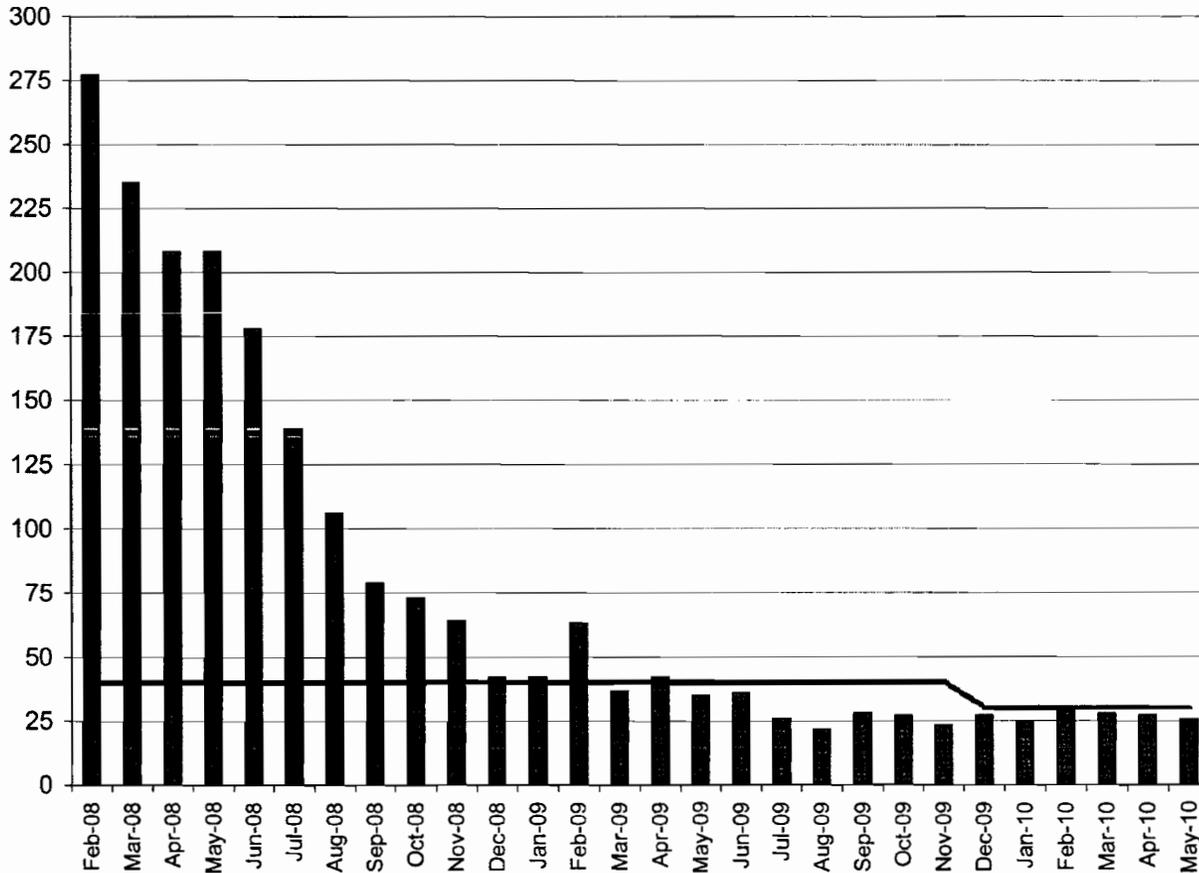
- Revised over 200 procedures
(All procedures requiring upgrade)

Procedure Use and Adherence Key Focus Area

- Field Books
- Management observations focusing as defined by trend data
 - Attained through DRUM, Corrective Action and FMS trending

Security Excellence Plan

**Monthly Average of Open Security Equipment Issues
(Total Open Work Orders / Notifications)
February 2008 - May 2010**



PI Status - GREEN	
PI Measures Total open notifications related to Security Equipment requiring Maintenance.	
Basis: Industry Comparison	
Updated: Weekly 2010 Year End Goal: < 30	
As of Nov 09, the year end goal was reset from <40 to <30 open notifications	
0 to 30	
31 to 50	White
51 to 60	Yellow
> 60	

Recent Security Rules

Time extension until December for portions of the rule

All other requirements implemented by March 2010

- Validate and verify Target Sets
- Revisions to Security Plan
- Additional Security officers for compensatory measures

Security Physical Improvements

\$40 million investment

**Protected Area alarm upgrade and camera modifications
(>2 mile perimeter)**

**Robust Intrusion Detection System (IDS) backed by
Uninterruptible Power Supply (UPS) - Power at all times**

**Underground penetrations / intake structures
IDS improvements**

Single Act mitigation measures

Modify Vehicle Barrier System

Warehouse process changes



License Renewal and New Nuclear

Christine Neely
Director Regulatory Affairs



Salem and Hope Creek License Renewal Status

Public meeting held on November 5, 2009

No contentions filed by outside groups

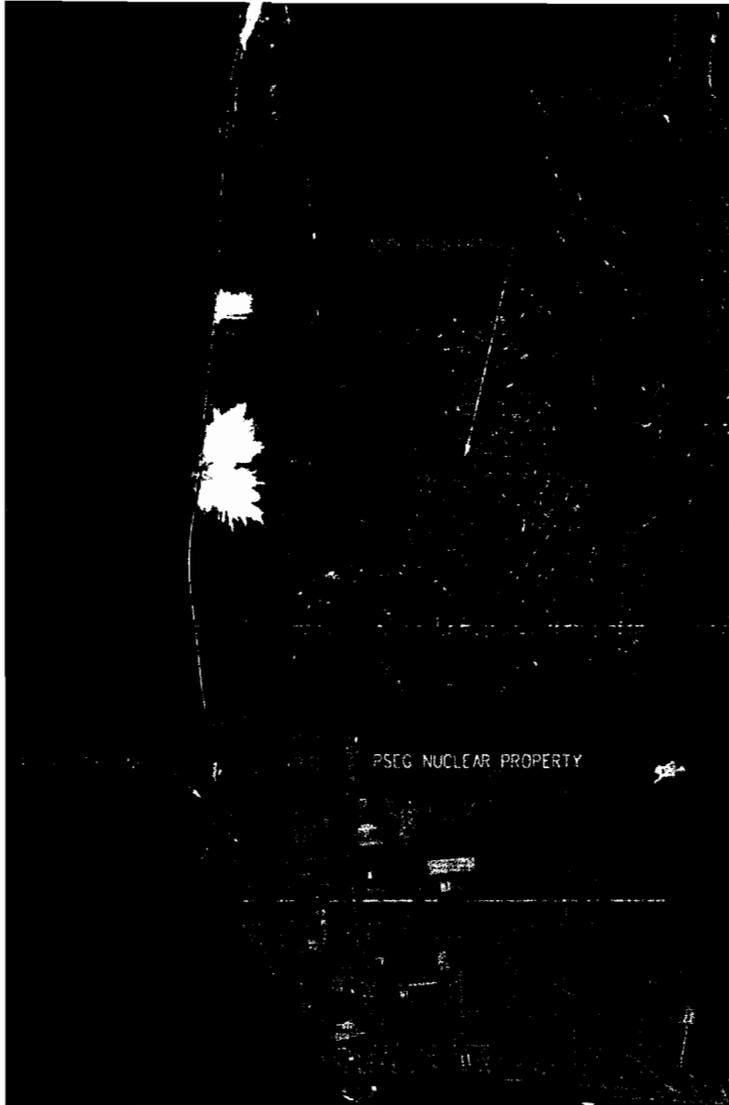
Ongoing series of audits and inspections throughout 2010

- Scoping & Screening Methodology in January
- Aging Management Program in February
- Environmental in March
- Regional Inspection in June and August
- NJDEP staff have been involved in all reviews

Next public meeting in October to review draft Site Environmental Impact Statement

ACRS Sub-Committee Scheduled for November and December

New Nuclear Development Site



- Requires additional property from Army Corps of Engineers
- Reduces/eliminates impact on existing operation
- Enables single Security Protected Area with existing station
- Cooling towers constructed on dredge spoil area (not wetlands)
- Wetland impact is 229 acres
 - 90 inside dikes
 - 41 for proposed causeway
 - 98 for permanent plant footprint
 - Most is degraded *Phragmites*-dominated wetlands

Proposed Infrastructure Improvements

New access road to Elsinboro

- Mitigates construction traffic
- Improves evacuation planning estimates
- Improves reliability of off-site EP support (Law Enforcement)

Transmission Interconnection

- A new line may be required for grid stability
- Two proposed routes in ESP (Southern DE or PA)
- PSEG developing a stability solution without a new transmission line

PSEG ESP Application

90-Day Letter submitted February 11, 2010

NRC public process meeting held on May 6, 2010

ESP application submitted May 25, 2010

- NJ Coastal Consistency Determination application filed concurrently

What's next

- NRC sufficiency review – May to July 2010
- NRC Federal Register notice starting environmental review in July or August 2010
- 90-day public comment period follows the Federal Register notice
- Environmental Scoping meeting – November 2010 timeframe



Closing Comments and Questions

