

# ***Achieve Excellence in Nuclear Fleet Operations***

Amir Shahkarami  
CEO Exelon Nuclear Partners & Senior VP, Generation

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Exelon Generation.

# Exelon Overview



# Exelon®

- Ranked #1 Gas & Electric Utility in U.S. Fortune 500
- \$32.7 billion (USD) in annual revenues
- Over 34,000 MWe of Generating Capacity



- Largest nuclear fleet in U.S. (17 reactors at 10 sites)
- U.S. leader in safety, efficiency and innovation



- Operator of 5 reactors at 3 sites

## Traditional Transmission and Distribution



- ComEd and PECO distribute electricity to 5.4 million customers in Pennsylvania and Illinois



- PECO distributes gas to 485,000 customers in southeastern Pennsylvania



- BGE distributes electricity to 1.2 million customers and distributes gas to 700,000 customers in Northeast Maryland

# Exelon Overview

## Exelon Generation

### Power Generation



- Largest merchant fleet in the nation (~35 GW of capacity), with unparalleled upside
- One of the largest and best managed nuclear fleets in the world (~19 GW)
- Significant gas generation capacity (~10 GW)
- Renewable portfolio (~1 GW), mostly contracted

### Constellation



- Leading competitive energy provider in the U.S.
- Customer-facing business, with ~1.1 M competitive customers and large wholesale business
- Top-notch portfolio and risk management capabilities
- Extensive suite of products including Load Response, RECs, Distributed Solar

## Exelon Utilities

### ComEd, PECO & BGE



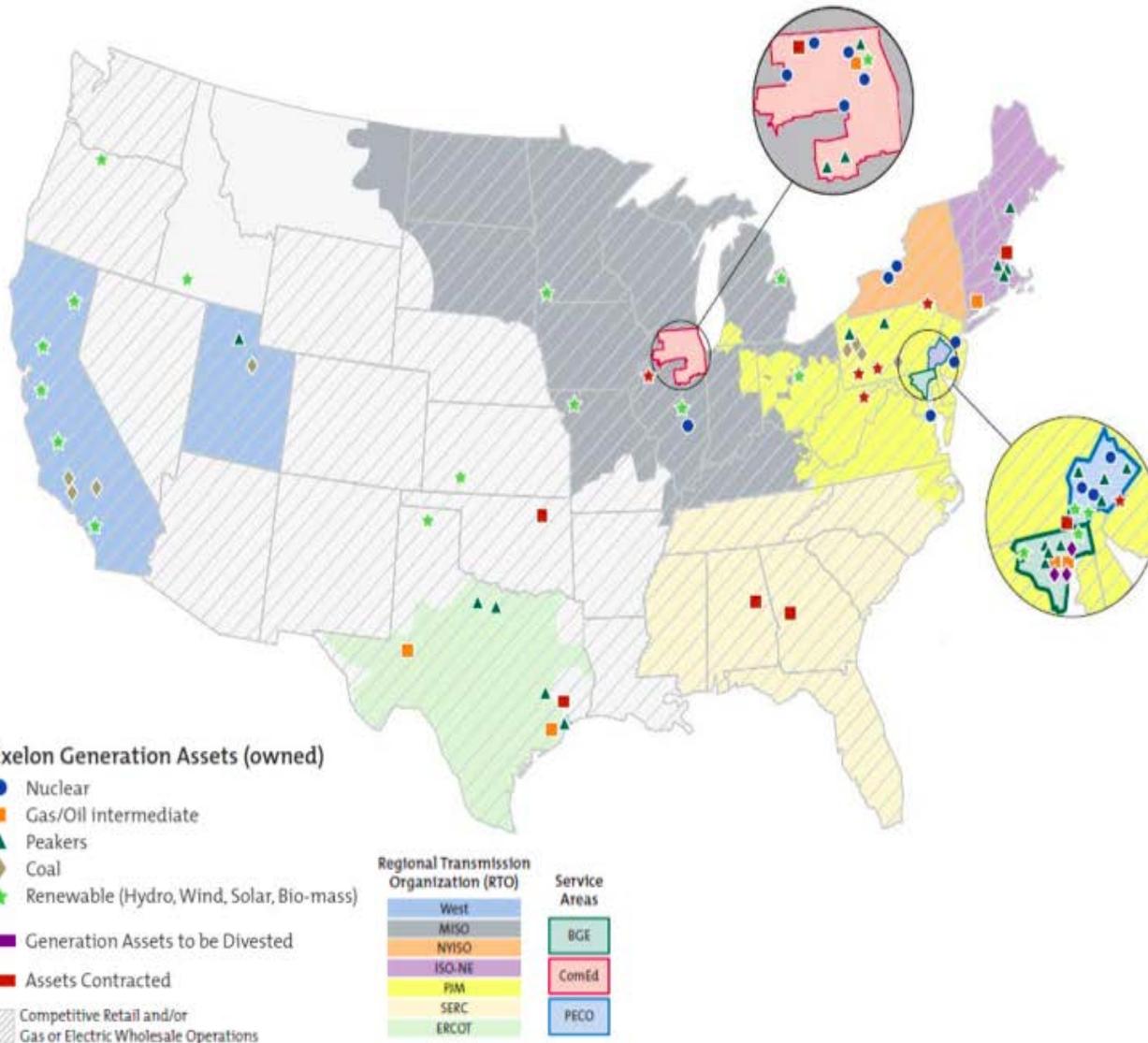
- One of the largest electric and gas distribution companies in the nation ~6.6 M customers
- Diversified across three utility jurisdictions – Illinois, Maryland and Pennsylvania
- Significant investments in Smart Grid technologies
- Transmission infrastructure improvement at utilities

### Competitive Business

### Regulated Business

**Exelon is the largest competitive integrated energy company in the U.S.**

# National presence gives us a unique platform to perform and grow



## Power Generation

Operations in seven RTOs, with strong positions across PJM, ERCOT & New England

## Constellation

Serves more than 2/3<sup>rd</sup>s of the Fortune 100 companies in the U.S.

## Exelon Utilities

Large urban presence with operations in three states – IL, PA and MD

**Coast-to-coast presence with operations in 47 states and Canada**

# Consistent Performance

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## Largest U.S. nuclear fleet

- 13 sites with 22 reactors  
Third largest in world

## Premier U.S. nuclear fleet

- High fleet capacity factor:  
**93.3% in 2011**  
**>93% average since 2000**
- Low fleet production costs:  
**\$18.22/MWh in 2011**
- Short refueling outages  
**25 day average since 2001**  
versus 42 days U.S. industry average in 2011
- Strong reputation for performance
- Excellent safety performance as measured by INPO\* index



\* Institute of Nuclear Power Operations

# Technology Diversity

2 BWR3			2 PWR
2 BWR3			2 PWR
1 PWR			2 BWR5
1 BWR6			2 BWR4
1 BWR2			2 BWR4

## Exelon Nuclear Fleet

		
SALEM/HOPE CREEK		
2 PWR/1 BWR		
Operating Services Contract (OSC) with Exelon (2005-2006)		

		1 PWR
		BWR2 & BWR5
		2 PWR

## CENG Fleet

		1 PWR
OSC with Exelon Signed in 2H2012		

2000

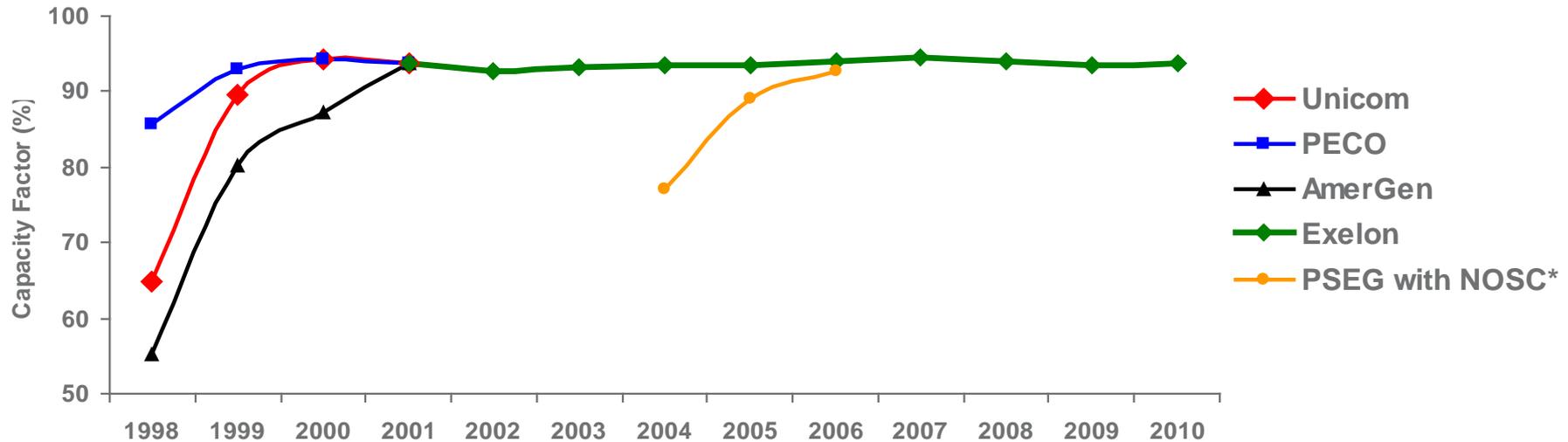
2004

2005-2006

2012

# Proven Results

## Transferability of Exelon Nuclear Management Model

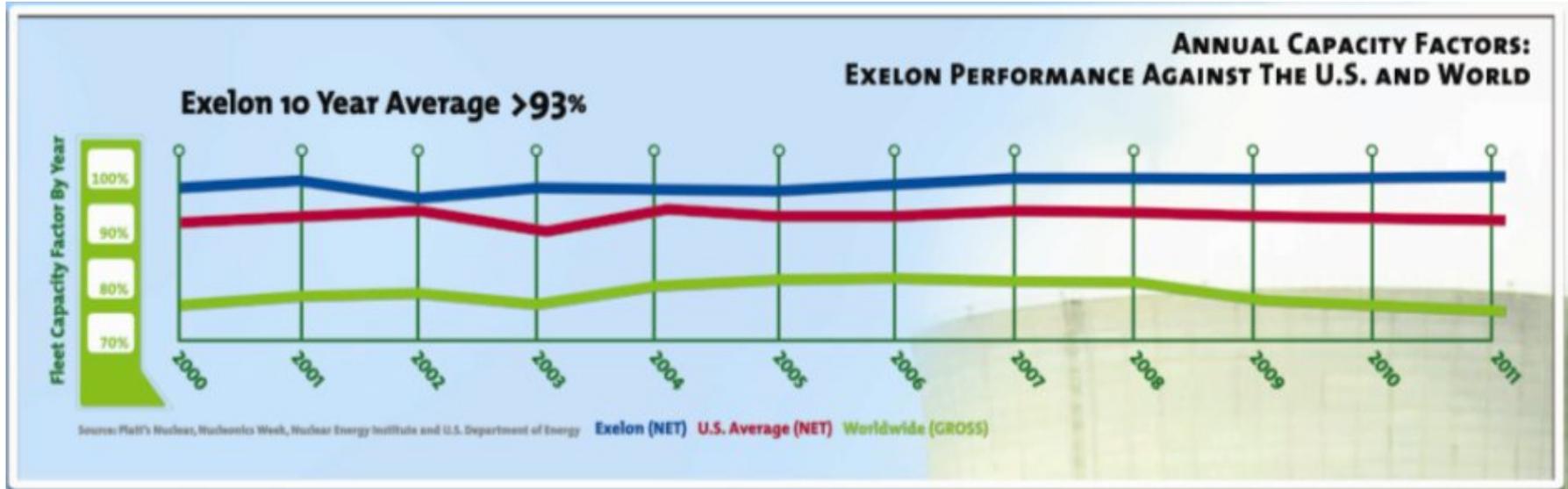


- ✓ Exelon Nuclear has implemented its Management Model in 20 units, with sustained similar excellent results
  - Capacity factor is consistently high and averages 94%

**The Exelon Nuclear model works – and is scaleable**

\* Nuclear Operating Services Contract

# Exelon Performance Compared to the U.S. and World

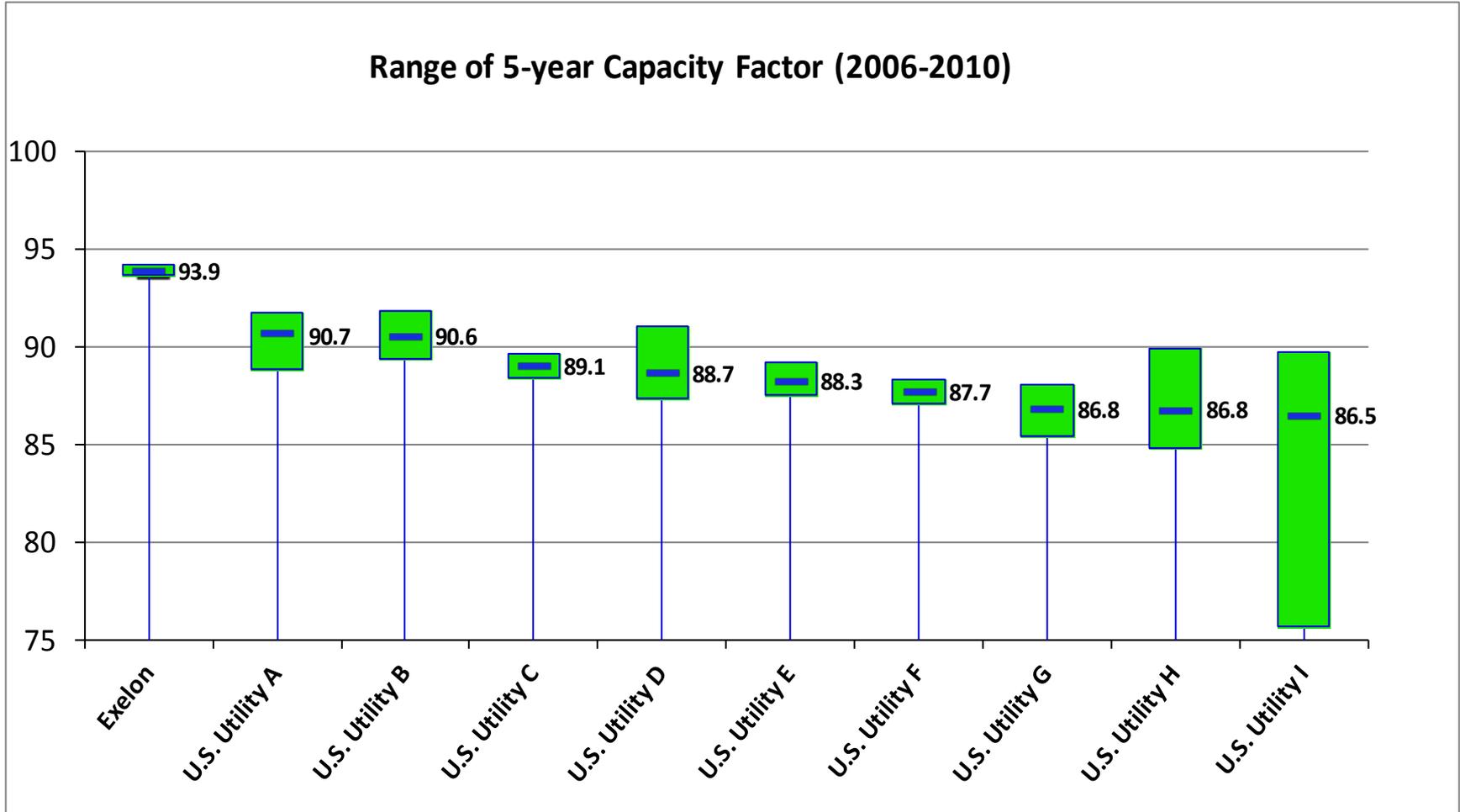


- ✓ Exelon Nuclear has implemented its Management Model in 20 units, with sustained similar excellent results
  - Capacity factor is consistently high and >93%

The Exelon Nuclear model works – and is scaleable

# Consistent Results – Capacity Factor

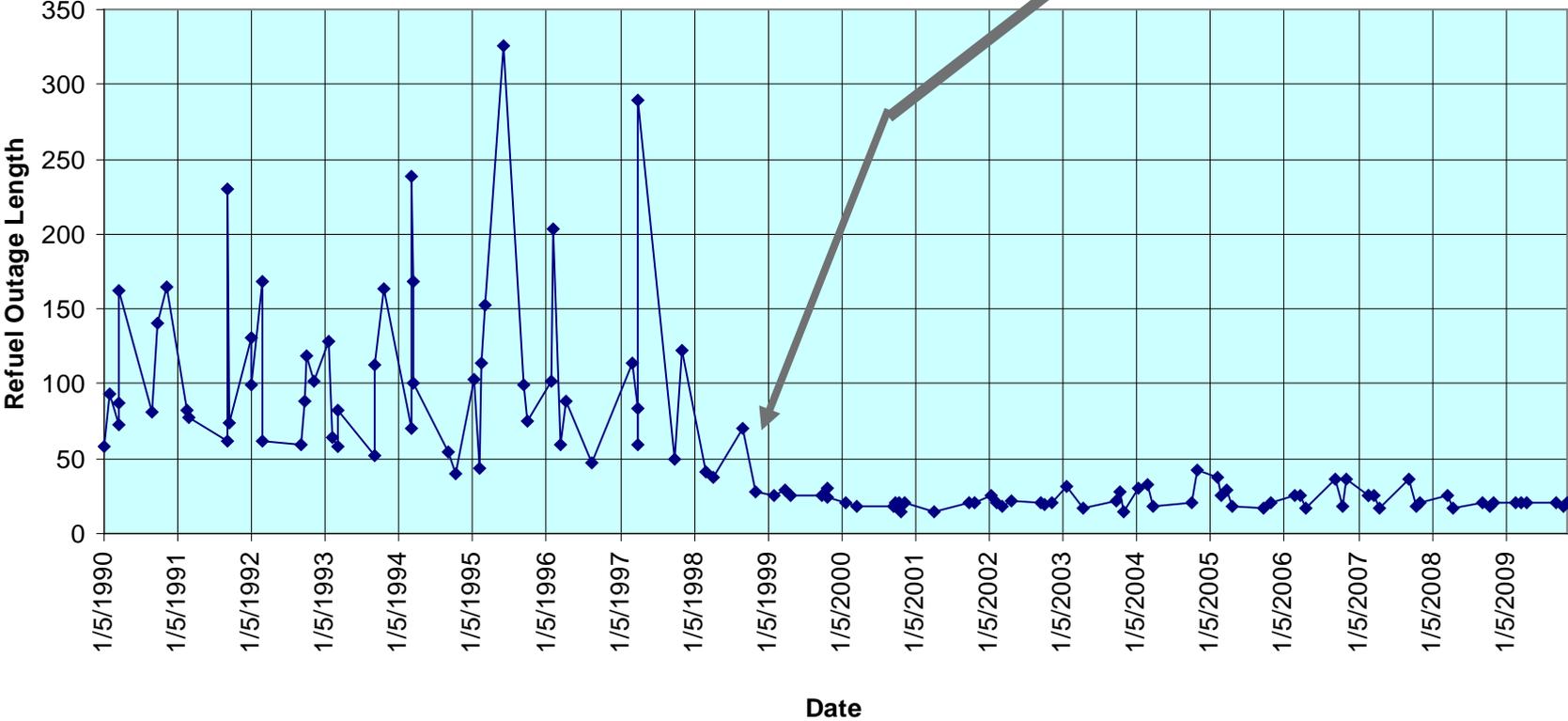
SUPERIOR OPERATIONAL PERFORMANCE



# Consistent Results – Refueling Outage Length

Exelon Outage Duration  
1990 through 2009

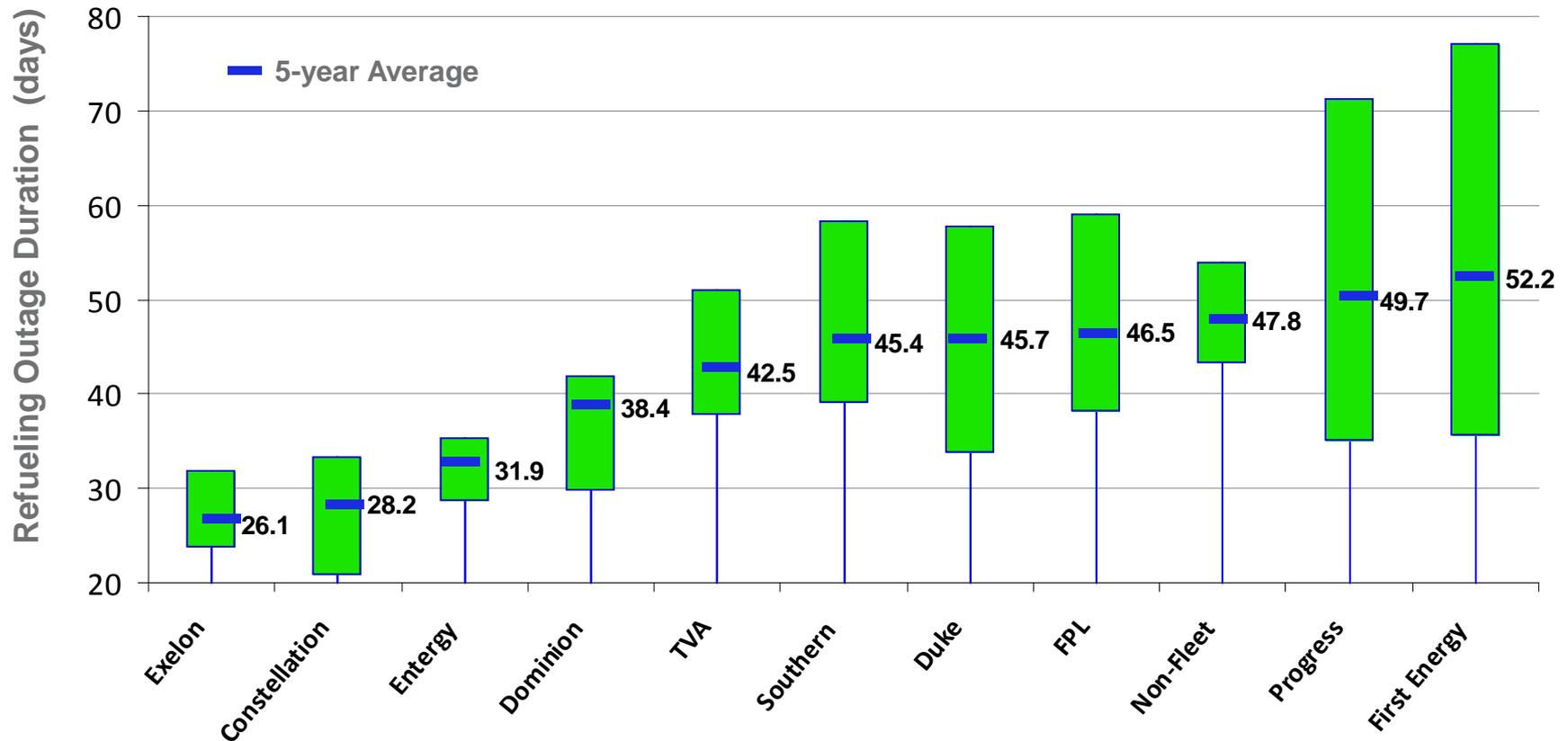
ENMM Implemented



# Exelon Nuclear Outages

## CONSISTENT REFUELING PERFORMANCE

Range of Nuclear Refueling Outage Duration (2006 - 2010)





# What drives this continuous Performance?

## The Exelon Nuclear Management Model

# A Robust Model: The Exelon Nuclear Management Model



# Key Monthly Performance Indicators

## Preface

The **Exelon** *Business Planning and Performance Management Process* establishes the strategic direction; sets the business plan goals and content; and provides objective performance indicators to evaluate and conduct performance reviews of the fleet. This enables the organization to focus on results that promote safe operation, sustain improved performance, and strengthen management accountability.

### Approach

Implementation of the *Business Planning and Performance Management Process* is executed through the application of four primary elements: Vision, Business Plans, Performance Measures, and Performance Reviews.

### Results Achieved

Following this process has enabled **Exelon** to set clear goals for the fleet and established appropriate and timely review to ensure that safe, productive, cost effective results are achieved.

### Vision

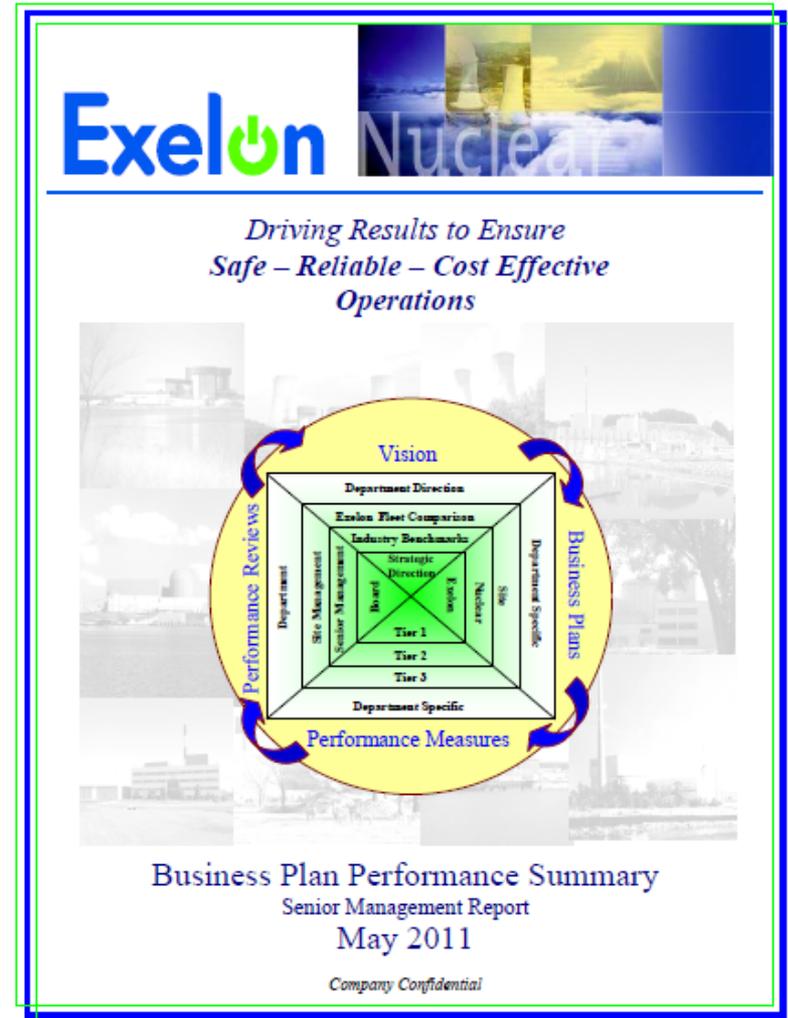
- The Senior Management Team establishes the vision and the strategic direction for the fleet. The vision is that " **Exelon** will be the best operator of nuclear plants world-wide".
- Benchmarking data is collected and analyzed to determine the key drivers that impact the strategic direction. These drivers are used to determine the direction and level of performance that must be achieved to attain the strategic direction.

### Business Plans

- The goal setting process is convened on an annual basis to reaffirm the strategic direction and assess the current gaps in performance. A review of performance gaps between current and targeted performance is conducted so that the key targets (goals) may be set for the next three years. During this time, the major strategies, initiatives, and projects are identified.
- Goals are established for the key targets at the distinguished, target and threshold levels. Focus is always on the distinguished goals.
- Business Plans are prepared and are consolidated into focus areas that align with the *Nuclear Management Model* (Operational Execution and Nuclear Safety, Commercial Excellence – Production and Cost, Workforce Effectiveness and Safety, Asset Management, and Environmental Management).

### Performance Indicators

- A common process implements the indicator program across the fleet. The process includes standard definitions, indicator display, performance reporting and analysis.
- Indicators are grouped into focus areas that align with the Business Plans and *Nuclear Management Model* (Operational Execution and Nuclear Safety, Production and Asset Management, Cost, and Workforce).



# Business Planning Process

2011  
Benchmarking Report  
*Based on Data Through 2010*

*Company Confidential*

**Exelon**  
Nuclear

# ENP Product Offerings

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## ✓ Nuclear Operating Services

- Broad spectrum of support from targeted consultative performance improvement engagements to a comprehensive full facility management contract

## ✓ Performance Improvement Services

### Examples:

- Plant capacity factor improvements
- Outage duration optimization
- Equipment reliability
- Fuel Procurement
- Operating License Renewal
- Training

## ✓ New Nuclear Plant Development Services

