

A satellite view of the Earth from space, showing the curvature of the planet and the blue oceans. The state of Florida is highlighted in a light green color, making it stand out from the rest of the landmass. The text is overlaid on this image.

***SUSTAINABILITY FOR  
JACKSONVILLE'S FUTURE***

**NUCLEAR  
ENERGY IN  
FLORIDA**

Douglas S. Roberts

Hopping Green & Sams, P.A.

Hopping Green & Sams

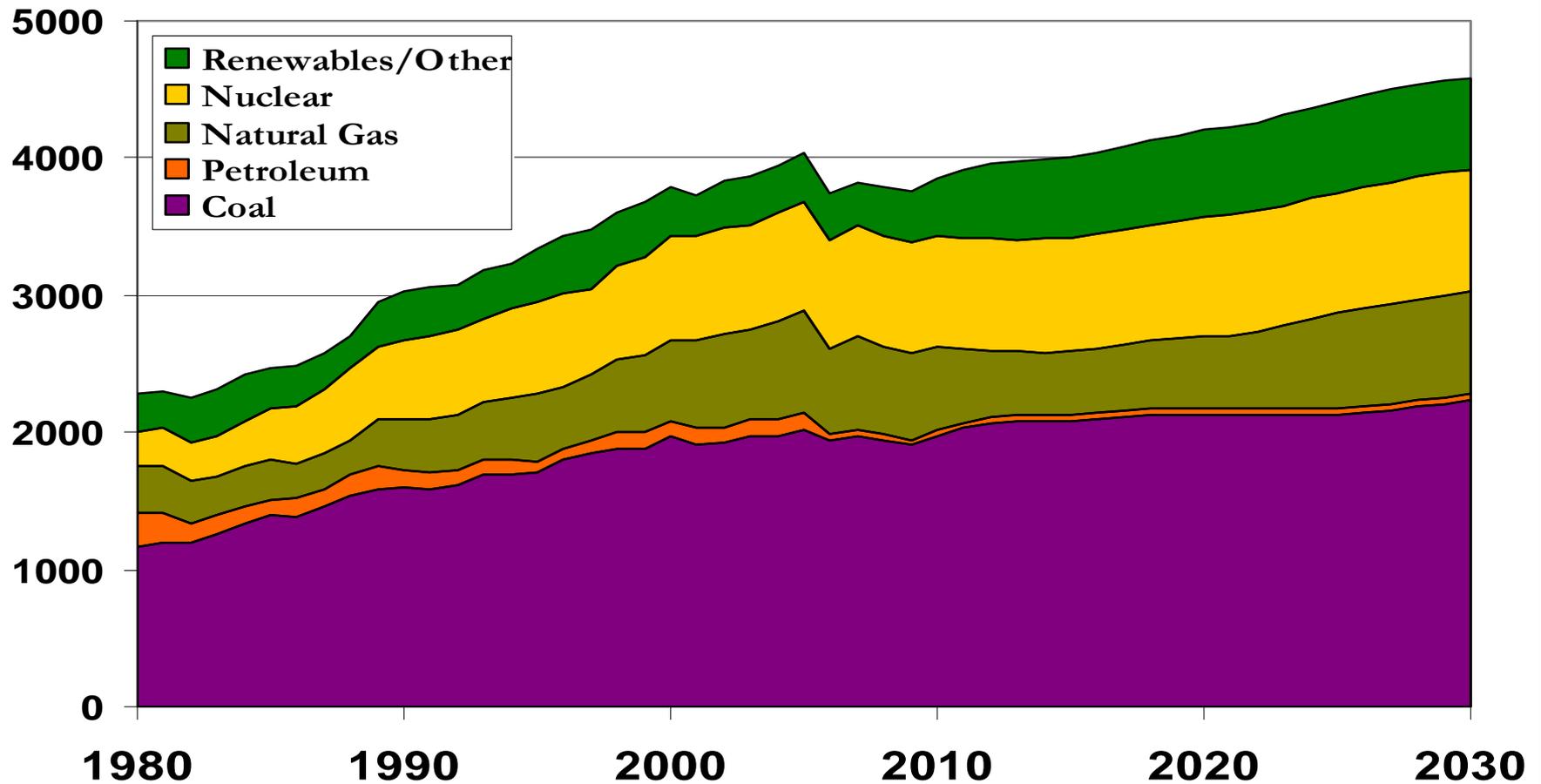




# Electric Generation by Fuel 1980 – 2030

Hopping Green & Sams

Attorneys and Counselors





**Hopping Green & Sams**

Attorneys and Counselors

# Florida's Electrical Mix

## ELECTRICITY BY FUEL SOURCE

	<u>2008</u>	<u>2018</u>
<b>Coal</b>	<b>25%</b>	<b>23%</b>
<b>Natural Gas</b>	<b>42%</b>	<b>47%</b>
<b>Nuclear</b>	<b>14%</b>	<b>23%</b>
<b>Oil</b>	<b>4%</b>	<b>&gt; 1%</b>
<b>Renewable</b>	<b>1%</b>	<b>1%</b>



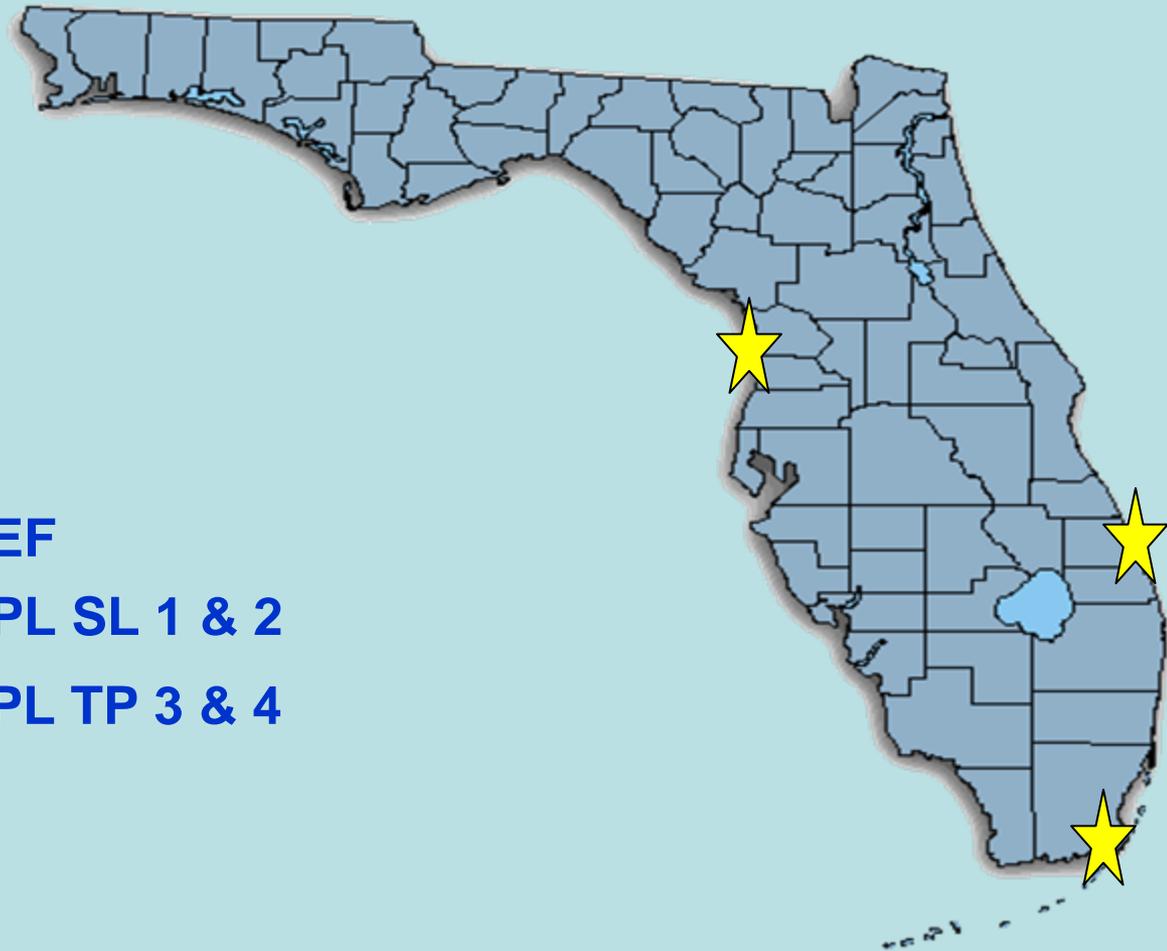
# Florida's Existing Nuclear Power Plants

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## 3 Sites – 5 Units

- Citrus 800 MW, PEF
- St. Lucie 1600 MW, FPL SL 1 & 2
- Miami-Dade 1400 MW, FPL TP 3 & 4





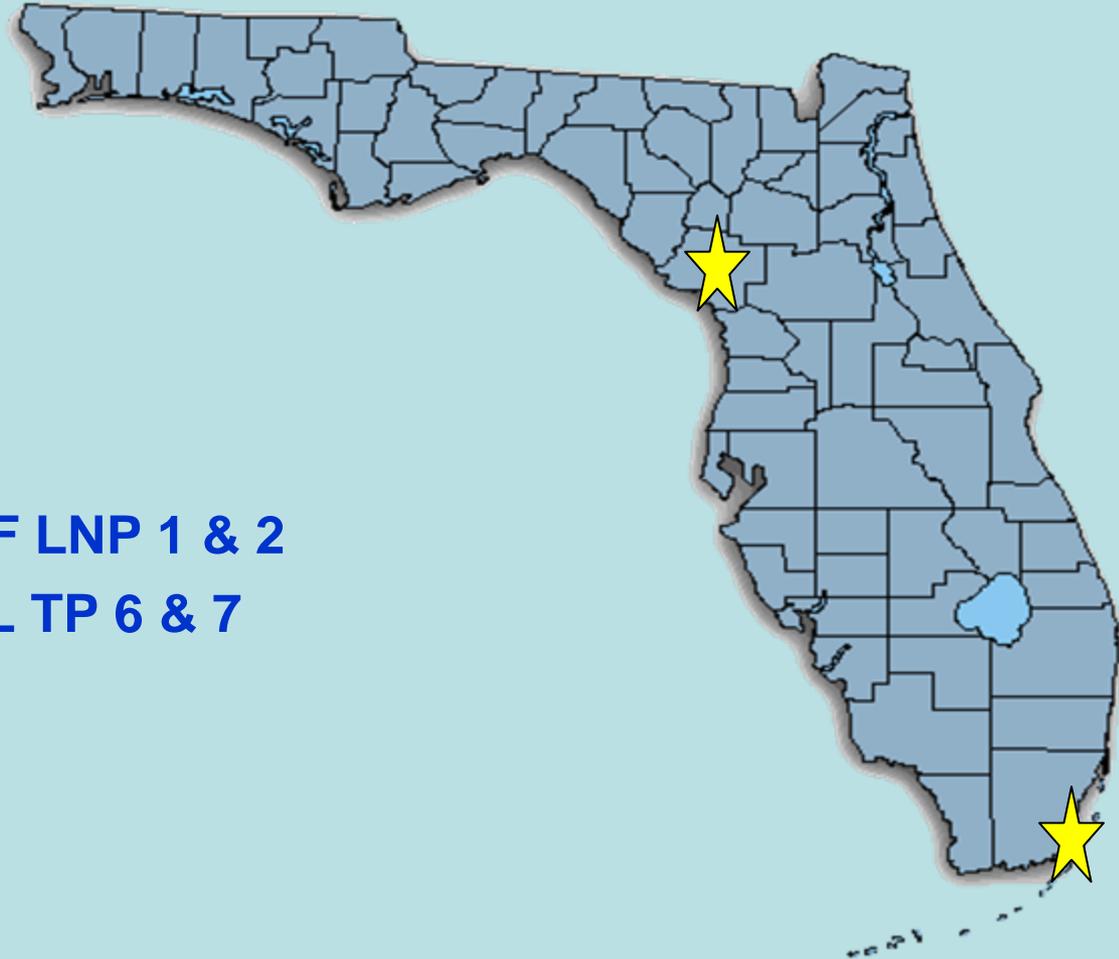
# Florida's New Nuclear Projects

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## 2 Sites – 4 Units

- Levy 2200 MW, PEF LNP 1 & 2
- Miami-Dade 2200 MW, FPL TP 6 & 7





# Progress Energy Florida Levy Nuclear Project

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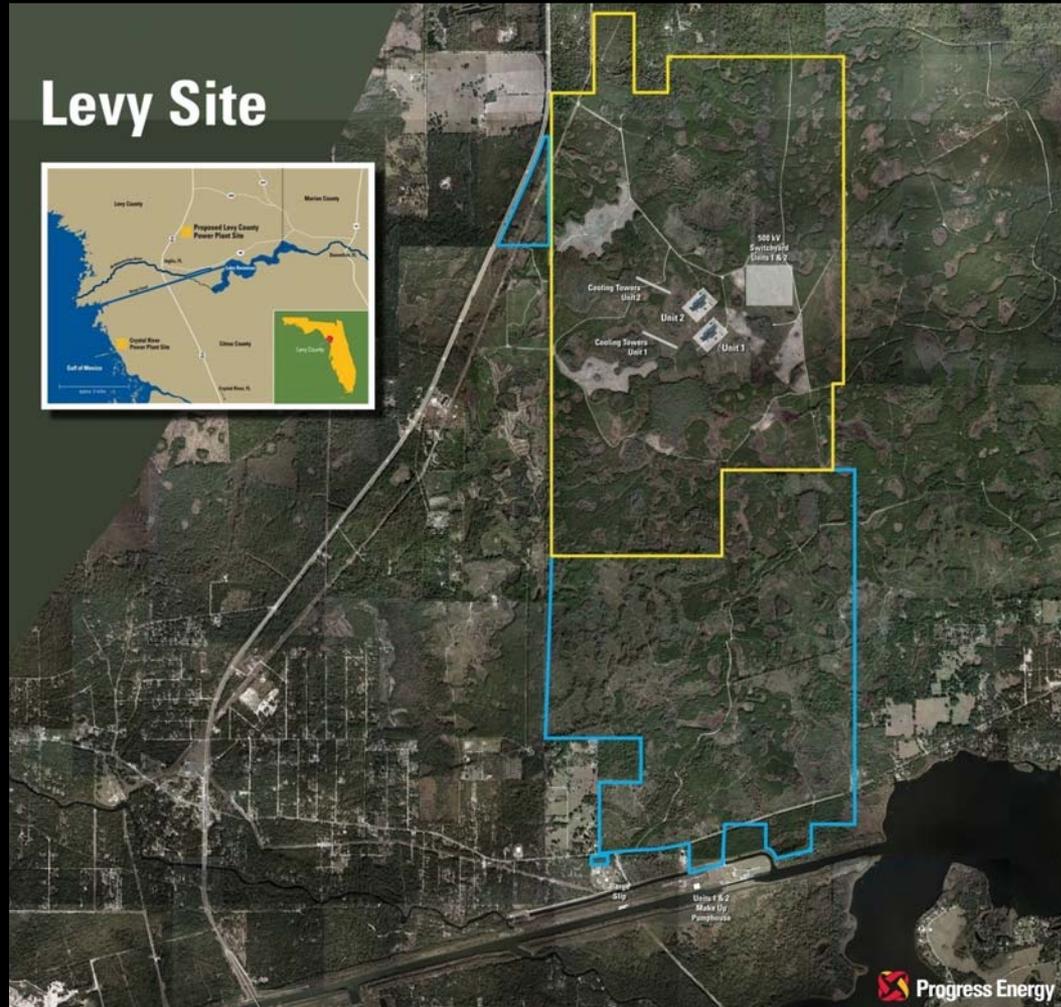


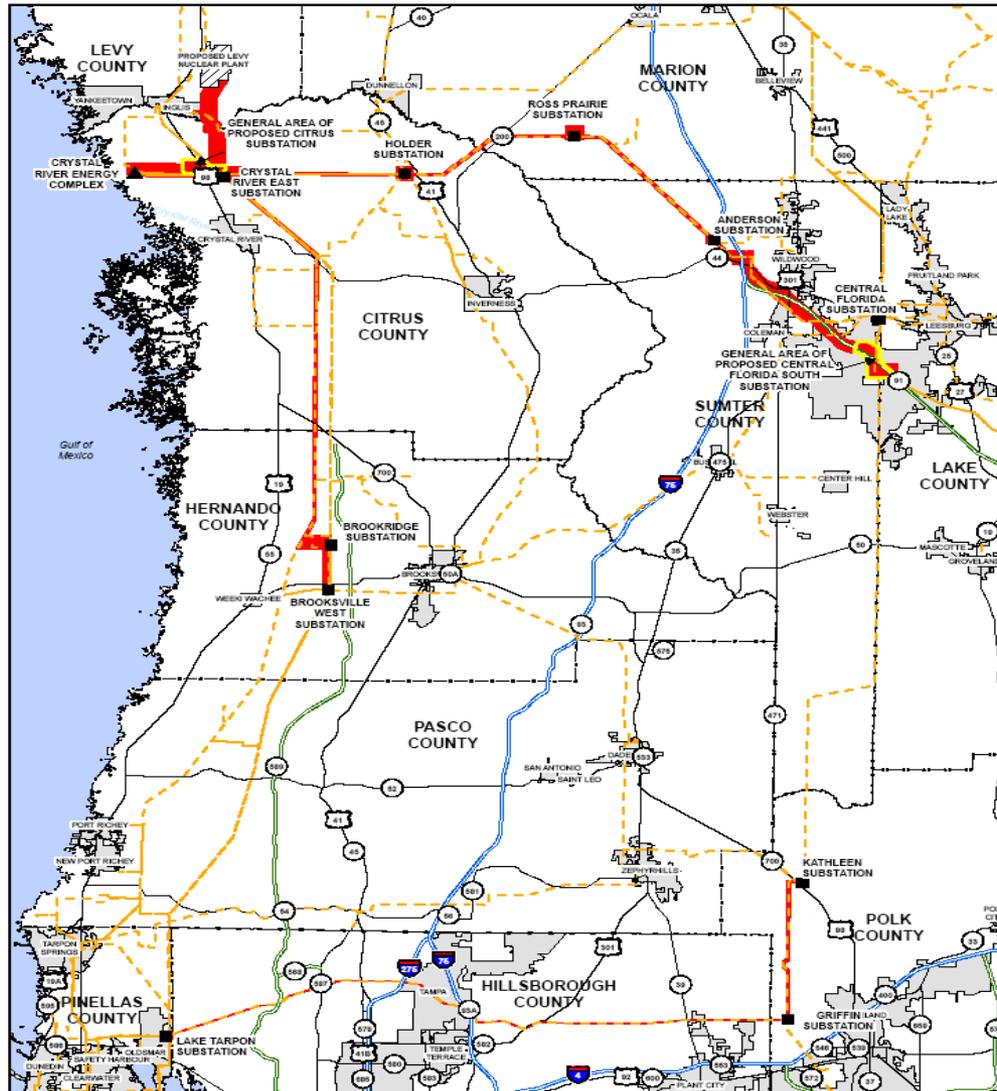
# Progress Energy Florida Levy Nuclear Project

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## Levy Site





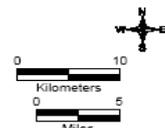
- LEGEND**
- ▲ Crystal River Energy Complex
  - Substation
  - Existing Transmission Line
  - Interstate
  - Toll Road
  - US Road
  - State Road
  - Railroad
  - ▨ Proposed Levy Nuclear Plant
  - ▭ General Area of Proposed Substations
  - ▭ Municipality
  - ▭ County Boundary

**SOURCES**

1. Debitation & Design Transmission Lines - Progress Energy Florida
2. Corridors - Golden Associates Inc. & Progress Energy Florida
3. County Boundaries - Florida Department of Transportation
4. Roadway - Florida Department of Transportation
5. Railroads - Florida Department of Transportation
6. Municipalities - University of Florida Geopac Center, 2005 with Golden updates, 2008

**Note**  
Please note that the municipal boundaries are approximate.

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Please note that the municipal boundaries are approximate.



**Progress Energy Florida**

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Corridors

Rev 0

# CITY OF MIAMI



① Miami-Dade County Wastewater Treatment Plant

Raw sewage to treatment

Treated waste water to FPL, instead of ocean outfall or injection

② FPL Reclaimed Water Treatment Facility

Turkey Point

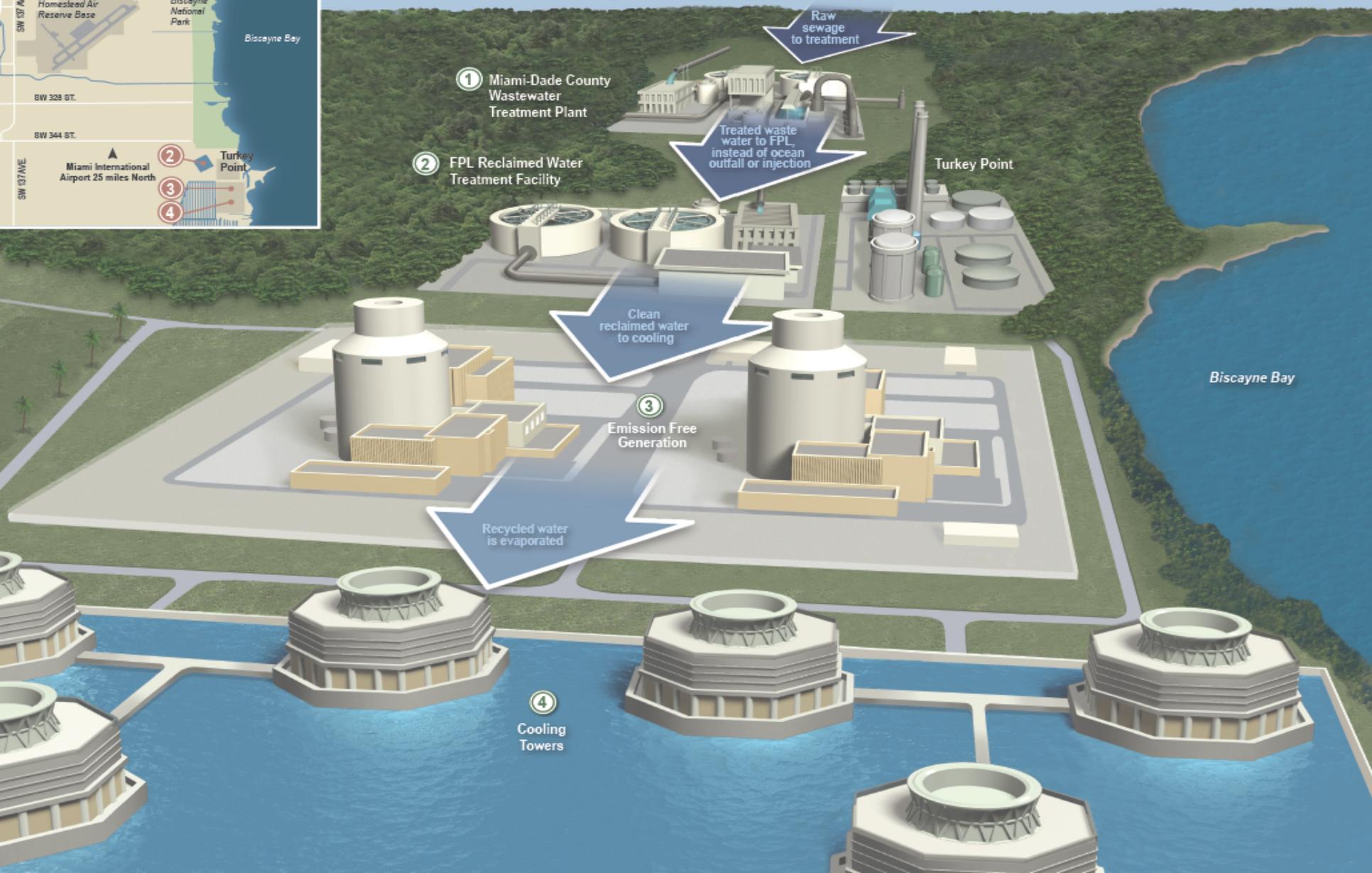
Clean reclaimed water to cooling

③ Emission Free Generation

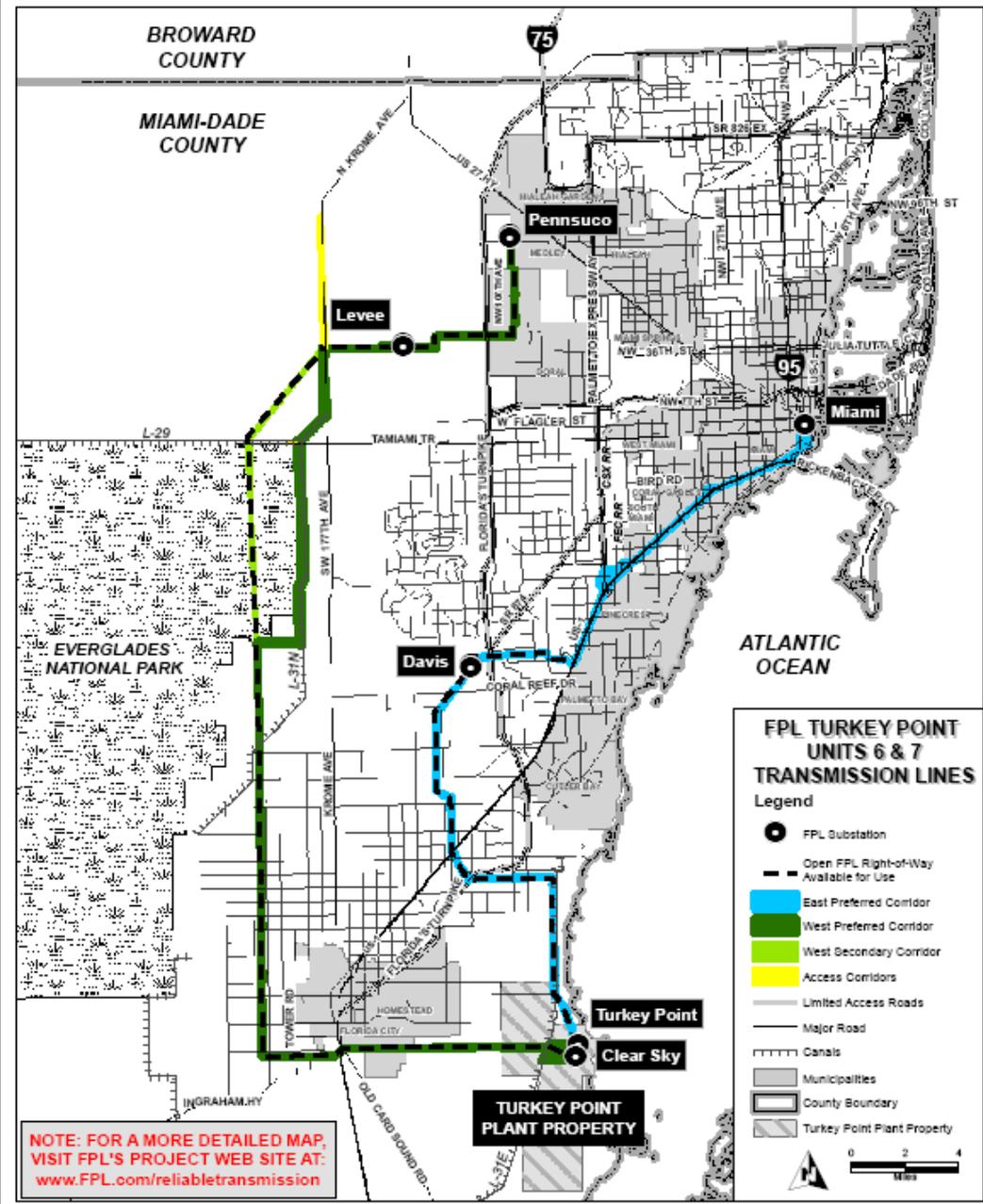
Recycled water is evaporated

Biscayne Bay

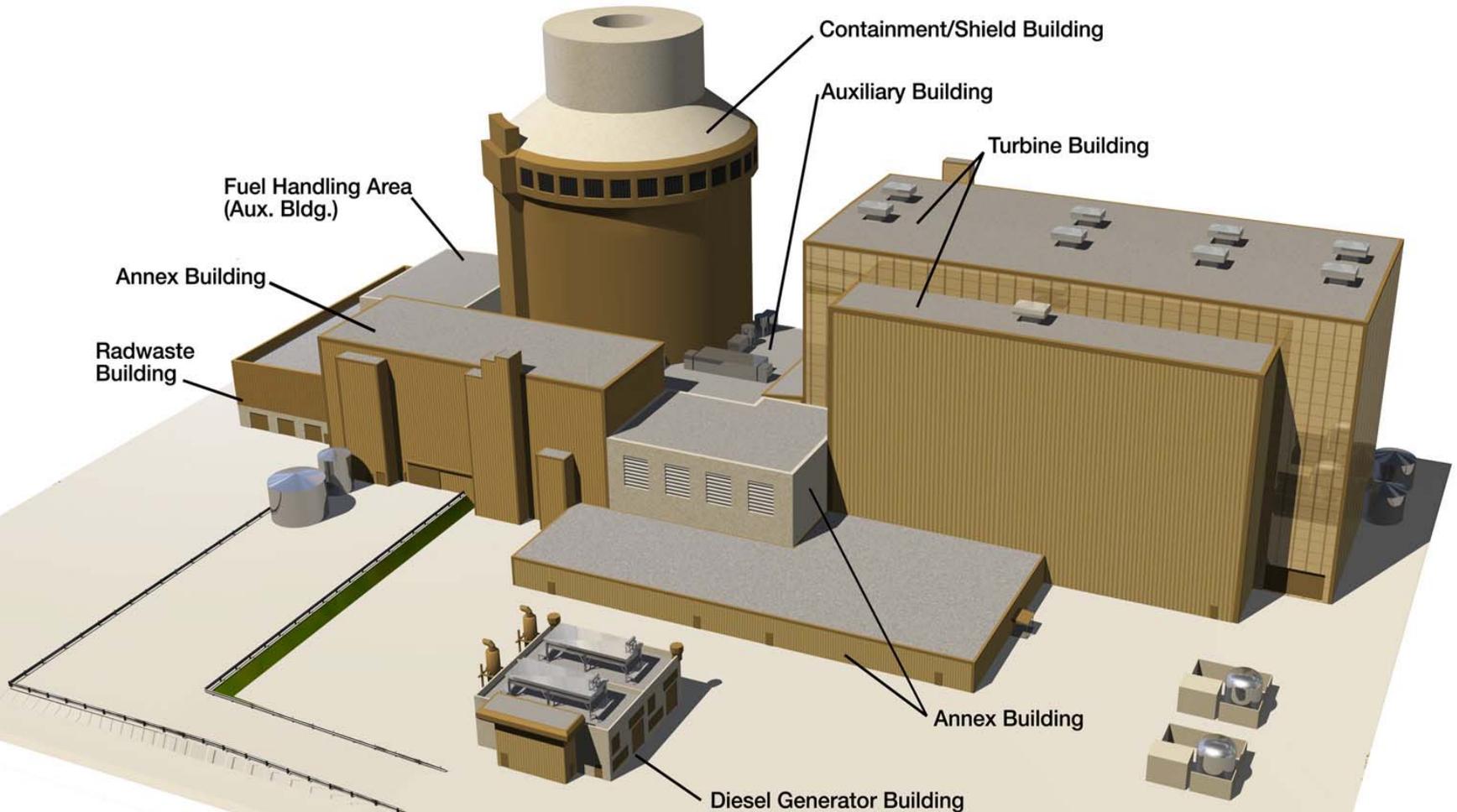
④ Cooling Towers

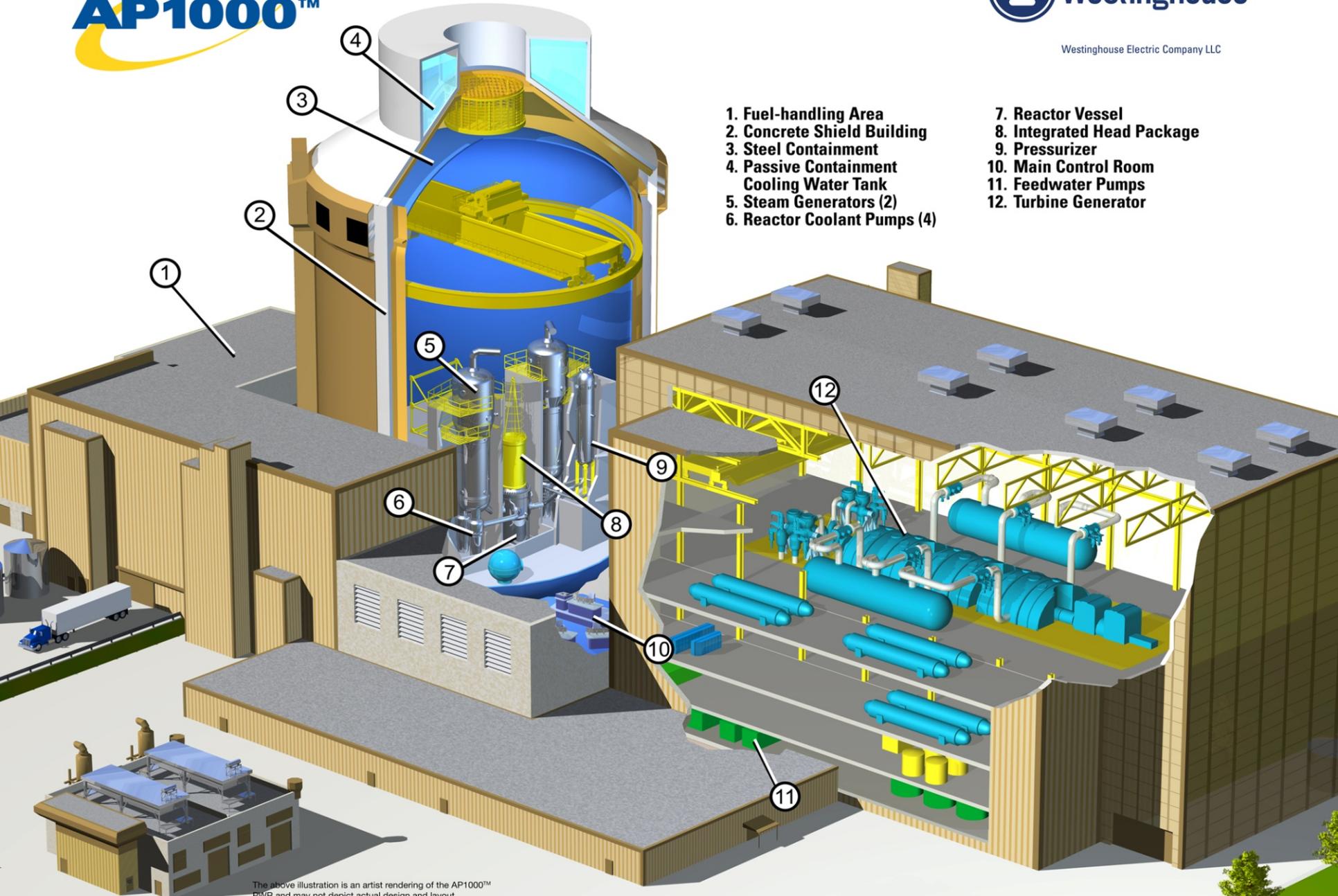


# FPL'S PREFERRED CORRIDORS



# The Westinghouse AP1000™





- 1. Fuel-handling Area
- 2. Concrete Shield Building
- 3. Steel Containment
- 4. Passive Containment Cooling Water Tank
- 5. Steam Generators (2)
- 6. Reactor Coolant Pumps (4)

- 7. Reactor Vessel
- 8. Integrated Head Package
- 9. Pressurizer
- 10. Main Control Room
- 11. Feedwater Pumps
- 12. Turbine Generator



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# State of Florida Approvals- PEF Levy Project

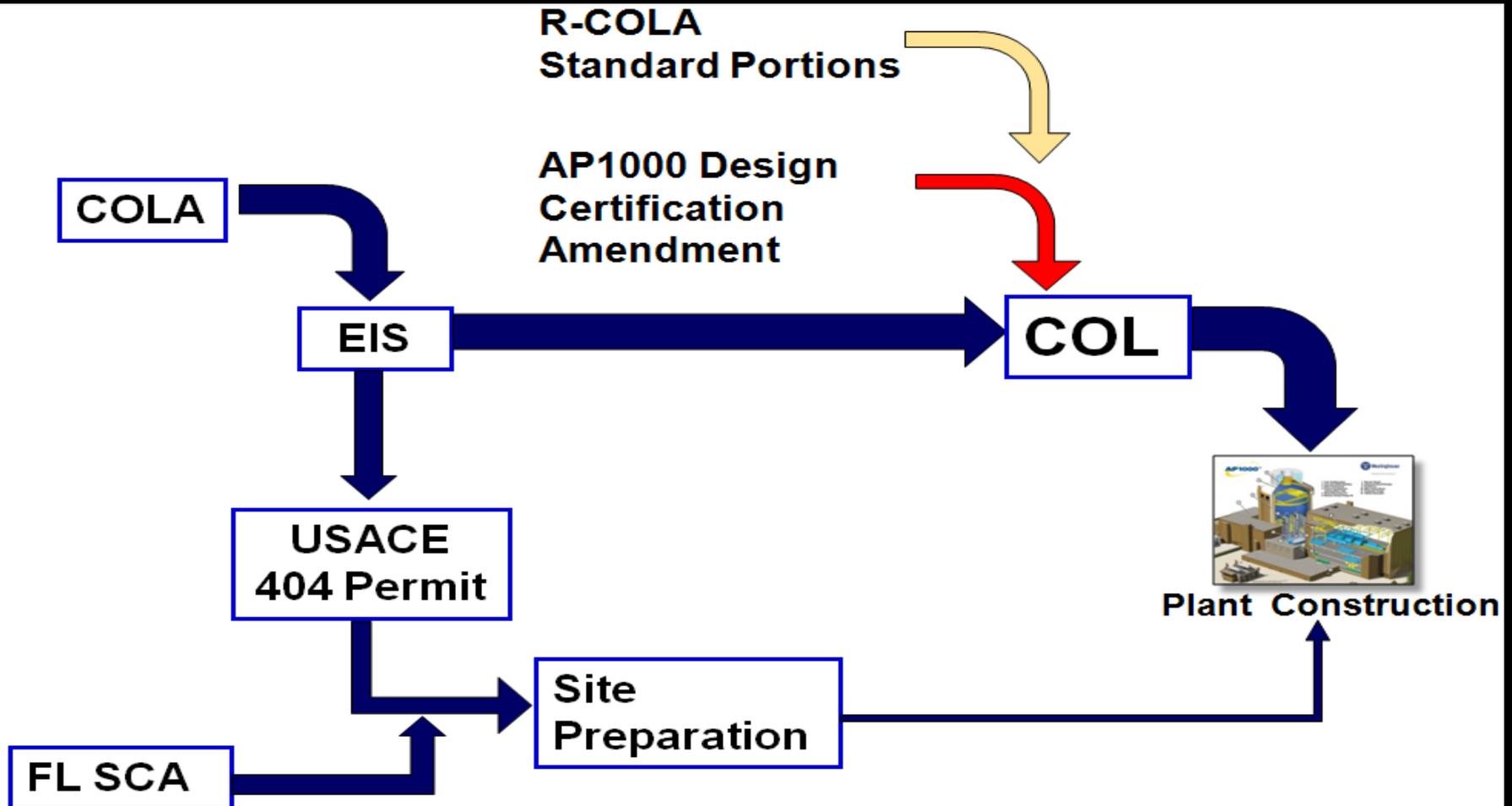
- **June 2008 - Site Certification Application (SCA) submitted to Florida DEP**
- **August 2008 - Florida PSC Affirmative Determination of Need issued**
- **September 2008 - Levy County Land Use/Zoning/Comp. Plan required approvals obtained**
- **January 2009 - Florida DEP Agency Report Issued**
- **February/March 2009 - Site Certification Hearings held**
- **August 2009 - Florida Power Plant Siting Board Approval Granted**



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# Federal requirements, status and timeframes –Regulatory Sequence





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# NEW NUCLEAR PLANT ISSUES

- **Water Supply / Sources**
- **Wastewater Disposal**
- **Land Use**
- **Spent Fuel Storage**
- **Transmission Lines**
- **Wetlands**
- **Community Impacts**

# Beneficial Economic Impacts of Levy Nuclear Project

	Construction (2014 - Peak)	Operation (2017)
<b>Employment</b>	<b>3300</b>	<b>800</b>
<b>Payroll</b> (Annual)	<b>\$151.5 million</b>	<b>\$53.3 million</b>
<b>Local Property Taxes</b> (Annual)	<b>\$0*</b>	<b>\$104 million</b>
<b>Annual Regional Goods and Services</b> (Direct, Indirect and Induced)	<b>\$263 million</b>	<b>\$520.6 million</b>

\$'s in 2007 – 2008 dollars.

\*Property Tax Collections of approximately \$63 million will start when Unit 1 is brought online.