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# AP1000® Global Plant Licensing

2<sup>nd</sup> CNRA International Workshop on  
“New Reactor Siting, Licensing  
And Construction Experience”

Atlanta, 24 October 2012

# Topics – Detailed Breakdown

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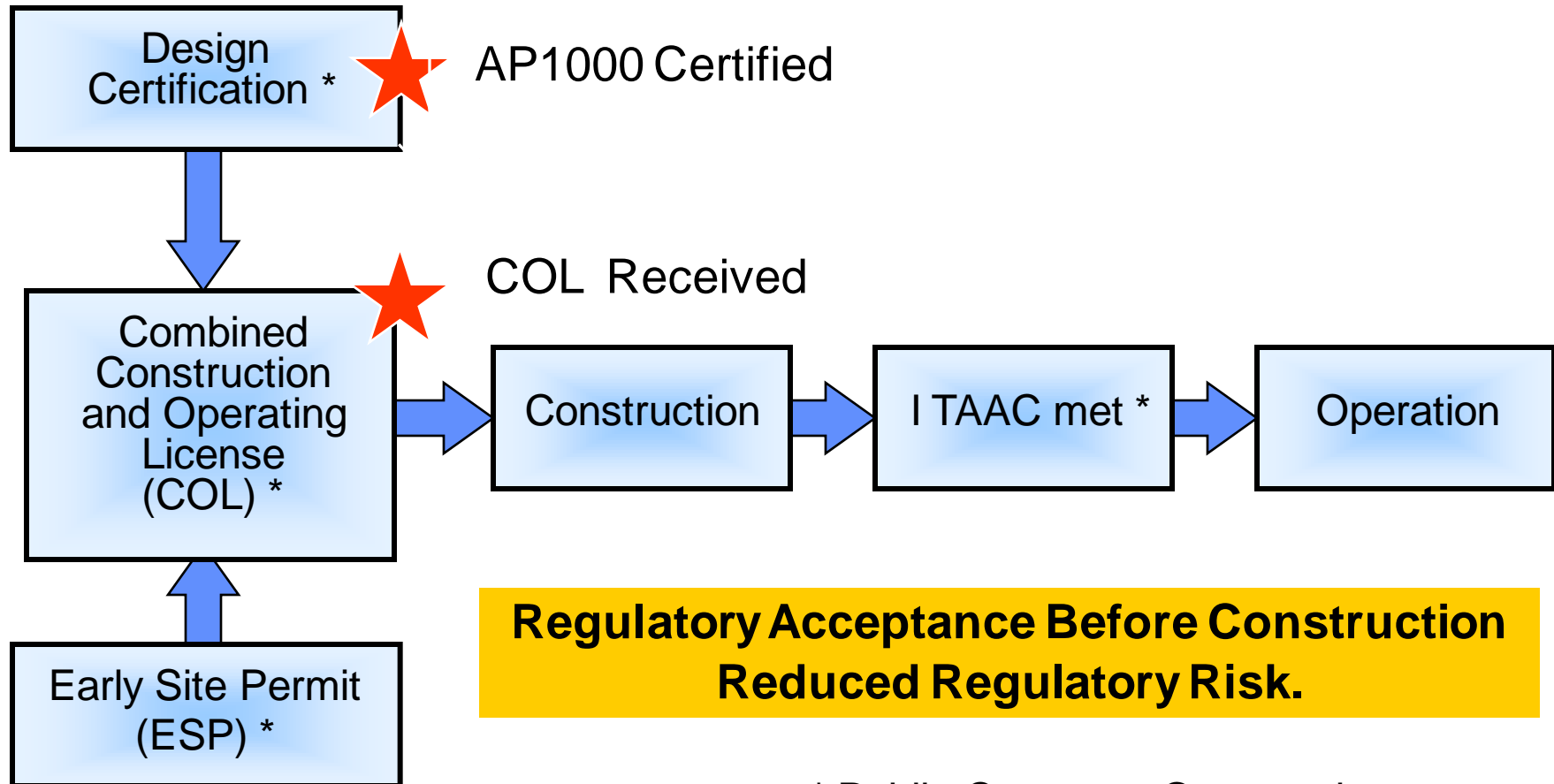
## Licensing

- US Licensing Status
- China Licensing Status
- Other International Licensing Activities
  - UK
  - Canada

## Westinghouse Relationship with MDEP

- Expectations with the AP1000® Working Group

# US Regulatory Process - 10CFR52



\* Public Comment Opportunity

# U.S. NRC Review and Approval

***Amended Design Approval received from the US NRC in December 2011.***

***Amended AP1000 certification based on DCD Rev 19.***



The United States Nuclear Regulatory Commission  
certifies the amended

**AP1000 Standard Design**

as set forth in Appendix D of 10 CFR Part 52

  
Michael R. Johnson  
Director, Office of New Reactors

  
Gregory B. Jaczko  
Chairman, U.S. Nuclear Regulatory Commission

Dated the 30th day of December, 2011

***Design Approval received from the US NRC in 2005.***

***Final Rulemaking in January 2006.***

***Original AP1000 certification based on DCD Rev 15.***



# AP1000® in U.S.

## NRC License Applications (12 AP1000 Units)

### Southern Co. - Vogtle

COL Approved February 10, 2012

Nuclear Construction February 10, 2012

### SCE&G- Summer

COL Approved March 30, 2012

Nuclear Construction April 2012

### Progress Energy – Levy County

COL Approval 2013\*

### Duke Energy – W.S. Lee

COL Approval 2013\*

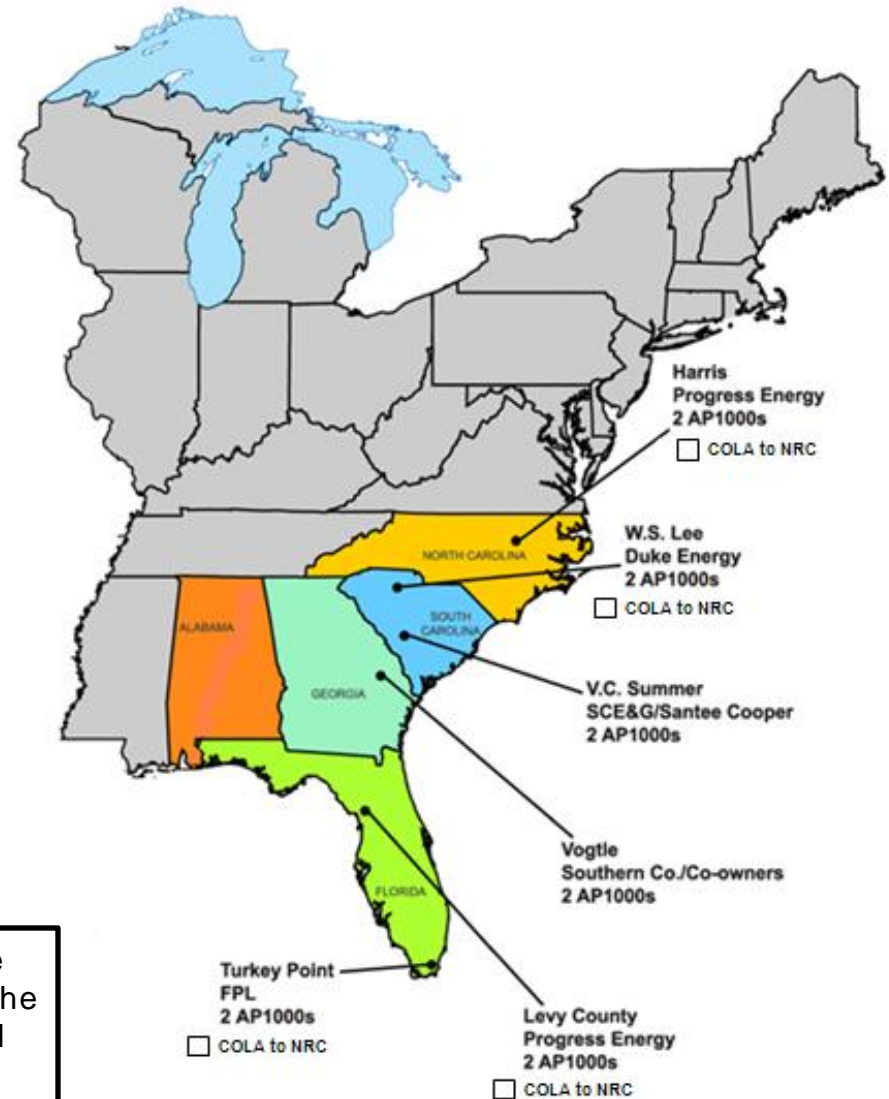
### Progress Energy – Harris

COL Approval 2014\*

### FPL- Turkey Point

COL Approval TBD

\*Waste Confidence Rule resolution by the NRC will delay final license approval





# **International AP1000® PWR Licensing**

# International Licensing Approach

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- Every country has its own unique approach to nuclear plant licensing
  - Review Host Country Process and Regulations
  - Identify Common Elements of EUR /IAEA/ WENRA Guidance
- Establish early dialog with regulators
- Promote the benefits of standard AP1000<sup>®</sup> licensing documentation (DCD) as input to Licensing documentation.

**Experienced In Multiple Licensing Processes.**



# International AP1000® Licensing benefits from Country of Origin Licensing Approval



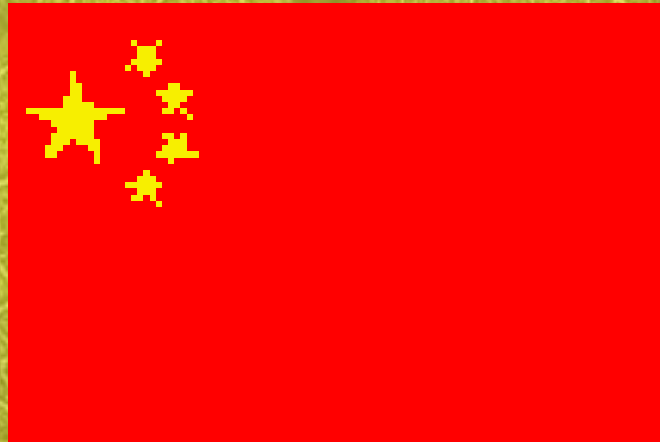
**NRC Design  
Certification  
(December 30  
2011)**





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# ***China***



# China: Sanmen



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- Process similar to US 10 CFR Part 50
  - Sanmen Owner submitted Preliminary Safety Analysis Report to Chinese Regulator (NNSA – National Nuclear Safety Administration) in February 2008
  - Regulatory Review Completed – Construction Permits Issued March 2009
  - Owner delivered Final Safety Analysis Report to NNSA in July 2012
  - Fuel Load Permit expected 3<sup>rd</sup> Quarter 2013

# China: Haiyang

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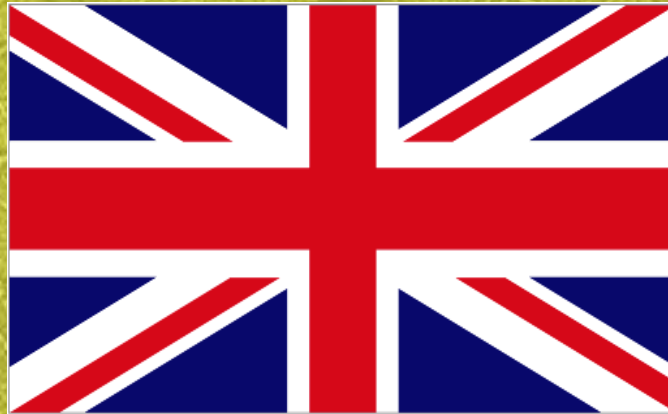


- Preliminary Safety Analysis Report submitted to NNSA in May 2008
- Regulatory Review Completed – Construction Permits Issued – Sep 2009
- Owner delivery of FSAR to NNSA in 4<sup>th</sup> Quarter 2012
- Fuel Load Permit expected 4<sup>th</sup> Quarter 2013



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# ***United Kingdom***

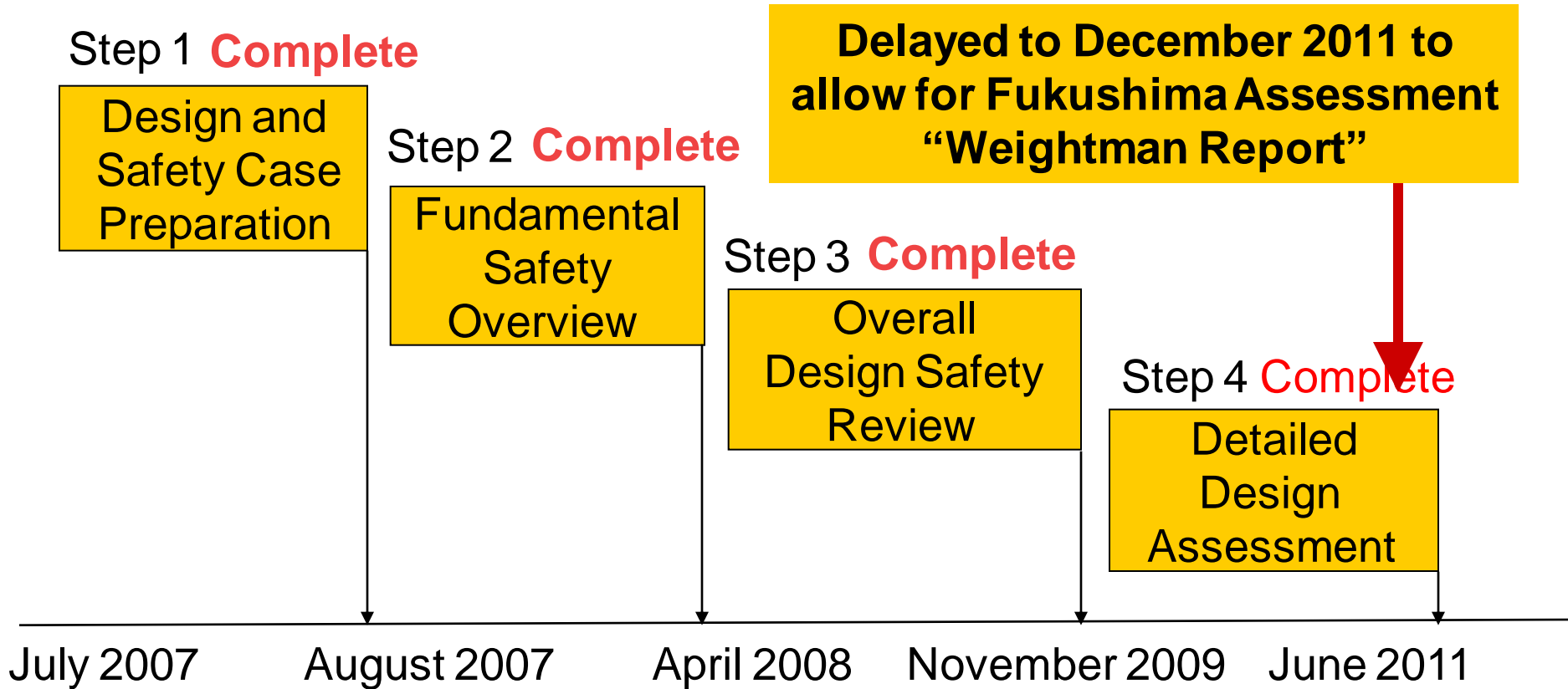


# UK Licensing

## Current Status



### *Phase 1: Four Step Process with Increasing Levels of Scrutiny*



# UK Licensing Summary

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- Resolution plans for open issues accepted July 2011
- Interim Design Acceptance Confirmation issued  
December 2011
- Final Design Acceptance Confirmation expected ~2 years  
after being selected by a Utility



# UK Generic Design Assessment

## Lessons Learned

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Resources

Joint Programme  
Office

Programme  
Management

Regulatory  
Nuclear Interface  
Protocol

Metrics

Quarterly Report

Multi Party  
Agreement

Three way  
communication

Behaviours

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# ***Canada***





# Canada Licensing Activities

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- Phase 1 pre-licensing review completed 2009
- Phase 2 pre-licensing review document prep commenced June 2012
  - Service Agreement with CNSC signed in September 2012
  - Submittals to 19 focus topics addressing issues identified by the CNSC in Phase 1
  - An audit of the Westinghouse design process
  - CNSC final Report expected by the end of June 2013



# Westinghouse Relationship with MDEP

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- Expectations with the AP1000® Working Group
  - Regulators should be like-minded on requirements
  - Standard Plant should be licensable in each country
  - Country Specific design changes should be minimized
  - Transparency of MDEP Working Group members activities/collaboration

# Questions?

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