

# New Nuclear Plant Deployment

June 9, 2008

## Early Site Permits (ESP)

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**Summary:** Three ESPs issued, one utility ESP application is currently under NRC review.

- Exelon – Clinton site, IL – issued on March 15, 2007.
- Entergy – Grand Gulf site, MS – issued on April 5, 2007.
- Dominion Energy – North Anna site, VA – issued on November 27, 2007.
- Southern – Vogtle site, GA – Under NRC review; final EIS decision expected July 2008; Commission decision expected 2009.
- Duke notified NRC of future planned ESP applications (as many as 2) – Possibly Oconee County, SC, and Davie County, NC; no dates identified.
- Unspecified power company announced plans to submit an ESP application in fiscal year 2010.

## Combined Construction and Operating License (COL)

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**Summary:** Of nine COL applications submitted, eight have been docketed for NRC review. 20 power companies, of which two remain unidentified, intend to submit 23 license applications for up to 34 units. A Reference COL (R-COL) application has been submitted for four of the five reactor designs.

### Combined Construction and Operating License Applications (COLA) Submitted:

- STP Nuclear Operating Co. – South Texas Project (STP), TX (2 units, ABWR R-COL) – Submitted September 2007 and docketed for NRC review November 29, 2007.
- TVA (NuStart) – Bellefonte site, AL (2 units, AP1000 R-COL) – Submitted October 2007 and docketed for NRC review January 18, 2008
- Dominion Energy – North Anna site, VA (1 unit, ESBWR R-COL) – Submitted November 2007 and docketed for NRC review January 29, 2008
- Duke Energy – William States Lee III site, SC (2 units, AP1000) – Submitted December 2007 and docketed for NRC review February 25, 2008
- Progress Energy – Shearon Harris site, NC (2 units, AP1000) – Submitted February 2008 and docketed for NRC review April 17, 2008
- Entergy (NuStart) – Grand Gulf site, MS (1 unit, ESBWR) – Submitted February 2008 and docketed for NRC review April 17, 2008
- UniStar – Calvert Cliffs, MD (1 unit, US-EPR R-COL) – Partial COLA submitted July 2007 and environmental portion docketed January 25, 2008; remainder submitted March 2008 and full application was accepted for NRC review June 5, 2008
- Southern Nuclear – Vogtle site, GA (2 units, AP1000) – COLA submitted March 2008 and docketed for NRC review June 9, 2008
- SCE&G – V.C. Summer site, SC (2 units, AP1000) – COLA submitted March 31, 2008

### Combined Construction and Operating License Applications (COLA) Planned:

- Alternate Energy Holdings – Elmore County, ID (1 unit EPR) – submit COLA 4<sup>th</sup> Qtr. 2008
- Amarillo Power – Amarillo vicinity (undeclared), TX (2 units, EPR) – submit COLA in 2009
- AmerenUE (UniStar) – Callaway site, MO (1 unit EPR) – submit COLA in 3<sup>rd</sup> Qtr. 2008
- DTE Energy – Fermi site, MI (1 unit, ESBWR) – submit COLA in October 2008
- Entergy – River Bend site, LA (1 unit, ESBWR) – submit COLA in October 2008
- Exelon Generation – Victoria County, TX (2 unit, ESBWR) – submit COLA in November 2008
- Florida Power and Light – Turkey Point site, FL (2 units, AP1000) – COLA in 2009
- Luminant (formerly TXU) – Comanche Peak site, TX (2 units, US APWR) – COLA in September 2008
- PPL (UniStar) – Susquehanna site, PA, (1 unit, EPR) submit COLA in late 2008
- Progress Energy – Levy County, FL (2 units, AP1000) – submit COLA July 2008
- Transition Power – Blue Castle, UT (1 unit, unspecified design) – submit COLA in 2010
- UniStar – Nine Mile Point site, NY (1 unit, EPR) – submit COLA in 4<sup>th</sup> Qtr. 2008
- Unidentified Utility ‘A’ – (1 unit, unspecified design) – submit COLA in 2010
- Unidentified Utility ‘B’ – (1 unit, unspecified design) – submit COLA in 2010

**Licenses to Build Issued By NRC** – No license applications have been issued by NRC.

## Reactor Design Certification (DC)

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**Summary:** Two designs certified; three new designs and one amendment are under NRC review.

- GE ABWR – Certified in 1997 (10CFR52 App A).
- Westinghouse AP1000 – Certified 2005 (10CFR52 App D). A modification to the certified design was docketed January 18, 2008 and is currently under NRC review.

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- GE ESBWR – Under NRC certification review, application docketed December 2005.
- AREVA US-EPR – Submitted December 12, 2007 and docketed February 25, 2008.
- Mitsubishi Heavy Industries US-APWR – Submitted December 31, 2007 and docketed February 29, 2008.

## New Nuclear Plant Orders

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**Summary:** Two plant construction contracts have been initiated; nine power companies have ordered large component forgings from three reactor vendors for potential nuclear plants; one vendor ordered other large equipment.

**Long-Lead Equipment Orders:** Large forging orders initiated by AREVA, GE-Hitachi, Toshiba and Westinghouse; Westinghouse has also ordered reactor coolant pumps.

- Progress, SCE&G, and Southern have contracted with Westinghouse for long-lead component forgings
- Dominion, Entergy, and Exelon have contracted with GE-Hitachi for long-lead component forgings.
- AmerenUE and UniStar have contracted with AREVA for long-lead component forgings.
- NRG Energy signed an agreement with Toshiba for long-lead component forgings.
- Japan Steel Works currently only ultra-large forging venter worldwide – capacity limited; AREVA, Lehigh Heavy Forge, BWXT and Russia's Uralmash-Izhora Group (OMZ) reportedly developing forging capabilities.
- Westinghouse has ordered 24 AP1000 reactor coolant pumps (RCPs) from Curtiss-Wright.

**Plant Construction Contracts:** Two utilities have executed plant engineering, procurement, and construction (EPC) contracts.

- Southern Nuclear (Georgia Power) entered into an EPC contract with Westinghouse/Shaw Group for two AP1000s at the Vogtle site.
- South Carolina Electric & Gas Company (SCE&G) and Santee Cooper entered into an EPC contract with Westinghouse for two AP1000s at the V.C. Summer site.

## New Nuclear Plant Construction, Operation & Deferral

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**Summary:** TVA board voted to proceed with the completion of Watts Bar unit 2 in Tennessee at a total cost of \$2.5 billion with an estimated completion date in 2013.

**New Nuclear Plants under Construction:** Watts Bar unit 2 near Spring City, Tennessee.

**New Nuclear Plant Begin Operation:** None.

**Deferred:** None.

## Federal Financial Incentives

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**Summary:** EAct 2005 incentives are at various stages of development: two rules issued and one notice published.

**Standby Support:** Rule issued, no industry requests to date, no contracts issued.

- Final Rulemaking Issued – August 2006.
- Published Standard Conditional Agreement – September 2007.
- DOE released on-line instructions for requesting Conditional Agreement – December 2007
- Received first Notice of Intent to Request Conditional Agreement – April 21, 2008
- Expect first request from industry for Conditional Agreements – FY 2008.
- Expect first approval by DOE for standby support contracts – Late 2010.

**Production Tax Credits:** Notice issued.

- Published Internal Revenue Bulletin 2006-18 on May 2006.
- Final Rule on Tax Credit and Guidelines on "Certification Process" – FY 2008.

**Energy Facility Loan Guarantee:** Final rulemaking issued. Congress provided DOE with authority to issue guarantees for up to \$4 billion in loans (FY07);

- Guidelines issued August 2006 and DOE's small scale loan guarantee solicitation with \$4 billion ceiling (excludes nuclear power participation) closed – December 2006.
- Final Rulemaking issued October 23, 2007 and amended January 11, 2008 to correct language.
- \$18.5 billion in loan guarantees for new nuclear plants approved in FY08 budget, December 2007.
- FY08 Omnibus Appropriations Act requires that DOE submit an implementation plan to congressional committees prior to issuing loan guarantee solicitation.
- On April 11, the Department submitted an FY 2008 loan guarantee implementation plan to Congressional Appropriations Committees.
- Nuclear industry may begin applying for loan guarantees by mid to late 2008.