



## Combined Construction and Operating License (COL)

**Summary:** Eighteen COL applications have been submitted, thirteen of which remain under active NRC review. NRC suspended review of five COL applications due to changes in technology or economic considerations. A total of twenty power companies, of which one remains unidentified, intend to submit 23 license applications for 34 units. The Reference COL (R-COL) application has been submitted for all five reactor designs; the 18 subsequent COLs (S-COLs) will incorporate the corresponding R-COL application by reference, noting any site-specific departures. No COLs have been issued to date.

	UTILITY	SITE/LOCATION		REACTOR/ NO. UNITS		COLA DATES		REVIEW PHASE	
						Submitted	Docketed	Safety <sup>4</sup>	Environ. <sup>5</sup>
COL Applications Submitted	STP Nuclear Operating Co.	South Texas Project	TX	ABWR <sup>1</sup>	2	9/07	11/29/07	Ph. 1	Ph. 2
	TVA (NuStart)	Bellefonte	AL	AP1000	2	10/07	1/18/08	Ph. 1	Ph. 2
	Dominion Energy	North Anna	VA	ESBWR <sup>1</sup>	1	11/07	1/28/08	Ph. 2	Ph. 3
	Duke Energy	William States Lee	SC	AP1000	2	12/07	2/25/08	Ph. A	Ph. 2
	Progress Energy	Shearon Harris	NC	AP1000	2	2/08	4/17/08	Ph. A	Ph. 2
	Entergy (NuStart)	Grand Gulf	MS	Unspecified <sup>2</sup>	1	2/08	4/17/08	Suspended	Suspended
	UniStar (Constellation)	Calvert Cliffs	MD	EPR <sup>1</sup>	1	3/08	6/3/08	Ph. 1	Ph. 1
	Southern Nuclear	Vogtle	GA	AP1000 <sup>1</sup>	2	3/08	5/30/08	Ph. 1	Ph. 2
	SCE&G	V.C. Summer	SC	AP1000	2	3/08	7/31/08	Ph. A	Ph. 1
	Progress Energy	Levy County	FL	AP1000	2	7/30/08	10/6/08	Ph. A	Ph. 1
	Exelon Generation	Victoria County	TX	ABWR <sup>3</sup>	2	9/3/08	10/30/08	Suspended	Suspended
	DTE Energy	Fermi	MI	ESBWR	1	9/18/08	11/25/08	TBD	TBD
	Luminant (TXU)	Comanche Peak	TX	US-APWR <sup>1</sup>	2	9/19/08	12/2/08	Ph. 1	Ph. 1
	Entergy	River Bend	LA	Unspecified <sup>2</sup>	1	9/25/08	12/4/08	Suspended	Suspended
	AmerenUE (UniStar)	Callaway	MO	EPR	1	7/24/08	12/12/08	Suspended	Suspended
	UniStar (Constellation)	Nine Mile Point	NY	EPR	1	9/30/08	12/12/08	Suspended	Ph. 1
	PPL (UniStar)	Bell Bend	PA	EPR	1	10/10/08	12/19/08	TBD	TBD
	Florida Power and Light	Turkey Point	FL	AP1000	2	6/30/09	9/8/09	TBD	TBD
Planned COL Applications	Alternate Energy (UniStar)	Hammett	ID	Unspecified	1	2009		N/A	
	Amarillo Power (UniStar)	Vicinity of Amarillo	TX	EPR	2	2009		N/A	
	Transition Power	Blue Castle	UT	Unspecified	1	2010		N/A	
	Unidentified Utility 'A'	Unspecified	-	Unspecified	1	2010		N/A	
	Southern Nuclear	Unspecified, greenfield	-	Unspecified	1	2011		N/A	

<sup>1</sup> Reference COL Application (R-COL)    <sup>2</sup> COLA submitted for ESBWR but utility considering different technologies    <sup>3</sup> COLA being changed to ESP

<sup>4</sup> Safety Review Phases

R-COL: Ph 1 Issue RAIs    Ph 2 SER w/ Open Items    Ph 3 ACRS Review    Ph 4 Advanced SER/ No OI    Ph 5 ACRS Review    Ph 6 Final SER  
 S-COL: Ph A Issue RAIs and supplemental RAIs    Ph B Advanced SER/ No OI    Ph C ACRS Review    Ph D Final SER

<sup>5</sup> Environmental Review Phases: Ph 1 Environmental Scoping Report    Ph 2 Draft EIS    Ph 3 Public comment    Ph 4 Final EIS

## Reactor Design Certification (DC)

**Summary:** Two reactor designs are 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 with rulemaking currently scheduled for August 2011.
- 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

## Early Site Permits (ESP)

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

- The following ESPs have been issued: Exelon – Clinton (IL), 3/15/07; Entergy – Grand Gulf (MS), 4/5/07; Dominion – North Anna (VA), 11/ 27/07.
- Under NRC review: Southern – Vogtle site (GA). Final EIS issued August 18, 2008; SER issued November 18, 2008, and a Commission decision expected in late 2009
- Duke notified NRC of two possible ESP applications at Oconee County (SC) and/or Davie County (NC); no dates provided.
- Exelon is preparing an ESP for its Victoria County site, for which it had originally submitted a COL



## New Nuclear Plant Orders

**Summary:** Four 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; two vendors are building large fabrication facilities.

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

- 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 vendor worldwide – capacity limited; AREVA, Lehigh Heavy Forge, BWXT and Russia's Uralmash-Izhora Group (OMZ) reportedly developing large forging capabilities.
- Areva and Northrop Grumman plan to build a facility in Newport News, VA to manufacture heavy components for the EPR.
- Shaw and Westinghouse plan to build a facility near Lake Charles, LA to fabricate structural and equipment modules for the AP1000

**Plant Construction Contracts:** Engineering, Procurement and Construction (EPC) contracts have been signed for four plants.

- Progress Energy with Westinghouse and Shaw Group for two AP1000s at Levy County.
- Southern Nuclear with Westinghouse and Shaw Group for two AP1000s at Vogtle. Start of early site construction is delayed 6 months pending resolution of technical issue pertaining to soil.
- SCE&G and Santee Cooper with Westinghouse for two AP1000s at V.C. Summer.
- STPNOC with Toshiba for two ABWRs at South Texas Project.

**Spent Fuel Disposal Contracts:** Standard DOE contract for disposal of spent fuel and radioactive waste available.

- Contracts under 10 CFR Part 961 available October 31, 2008.
- Two COL applicants, Duke Energy and Southern Nuclear Co., publicly announced signing of disposal contracts with DOE.

## New Plant Construction, Operation, Deferral

**Summary:** TVA proceeding towards completion of Watts Bar Unit 2 and Bellefonte Units 1 and 2.

**New Nuclear Plants under Construction:** TVA resumed construction-related activities at two mothballed sites:

- Watts Bar 2, near Spring City, TN, resumed at a total cost of \$2.5 billion with an estimated completion date of 2013.

- Construction permits have been reinstated for Bellefonte Units 1 and 2 near Scottsboro, AL; no work underway.

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

**Deferred:** None.

## Federal Financial Incentives

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

**Standby Support:** Rule issued, one industry request for conditional agreements to date, no contract issued.

- Final Rulemaking Issued August 2006.
- Published Standard Conditional Agreement September 2007.
- DOE released on-line instructions for requesting Conditional Agreement December 2007.
- One request for a Conditional Agreement was received in September 2008
- One Notice of Intent to Request a Conditional Agreement was received in 2008 and a second in February 2009.
- One Notice of Intent received in 2008 has since been withdrawn.
- Expect first DOE approval for standby support contract in 2011.

**Production Tax Credits:** Notice issued.

- Internal Revenue Bulletin 2006-18 published May 2006.
- Treasury/IRS may issue additional guidance on Tax Credits for new nuclear plants; however, a date has not been set.

**Nuclear Energy Facility Loan Guarantees:** Congress provided DOE with authority to issue \$20.5 billion in guaranteed loans.

- DOE issued solicitations for \$18.5 billion in loan guarantees for new nuclear power facilities and \$2 billion for the “front end” of the nuclear fuel cycle on June 30, 2008.
  - Fifteen power companies have submitted applications, requesting a total of \$93 billion in loans to be guaranteed, by the Part II deadline of 12/19/08. The applications cover 10 sites with a total of 16 reactors, capable of providing 22 GW in generating capacity
  - DOE has narrowed the power facilities under consideration for loan guarantees to four applicants, with a total of seven reactors
  - Two companies submitted \$4 billion in loan guarantee applications for two front-end fuel cycle facilities, and followed up with Part II applications by the 12/2/08 deadline.