



## 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 NRC suspended review of four COL applications due to changes in technology or economic considerations, and one was withdrawn and converted to an ESP. A total of eighteen power companies, of which one remains unidentified, have submitted or intend to submit 24 license applications for 35 units. The Reference COL (R-COL) application has been submitted for all five reactor designs; the 17 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. 2	Ph. 3
	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. 4	EIS Issued
	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	US-EPR <sup>1</sup>	1	3/08	6/3/08	Ph. 1	Ph. 2
	Southern Nuclear	Vogtle	GA	AP1000 <sup>1</sup>	2	3/08	5/30/08	Ph. 4	ESP
	SCE&G	V.C. Summer	SC	AP1000	2	3/08	7/31/08	Ph. B	Ph. 2
	Progress Energy	Levy	FL	AP1000	2	7/30/08	10/6/08	Ph. A	Ph. 2
	Exelon Generation	Victoria County <sup>3</sup>	TX	N/A	—	Withdrawn	—	Now ESP	Now ESP
	DTE Energy	Fermi	MI	ESBWR	1	9/18/08	11/25/08	Ph. 1	Ph. 2
	Luminant (TXU)	Comanche Peak	TX	US-APWR <sup>1</sup>	2	9/19/08	12/2/08	Ph. 2	Ph. 2
	Entergy	River Bend	LA	Unspecified <sup>2</sup>	1	9/25/08	12/4/08	Suspended	Suspended
	AmerenUE (UniStar)	Callaway	MO	US-EPR	1	7/24/08	12/12/08	Suspended	Suspended
	UniStar (Constellation)	Nine Mile Point	NY	US-EPR	1	9/30/08	12/12/08	Suspended	Ph. 1
PPL (UniStar)	Bell Bend	PA	US-EPR	1	10/10/08	12/19/08	Ph. B	Ph. 2	
Florida Power and Light	Turkey Point	FL	AP1000	2	6/30/09	9/8/09	TBD	TBD	
Planned COL Applications	Alternate Energy (UniStar)	Payette County	ID	TBD	2	2011 (2 <sup>nd</sup> Quarter)		N/A	
	Alternate Energy (UniStar)	Pueblo, Colorado	CO	TBD	2	2012 (2 <sup>nd</sup> Quarter)		N/A	
	Amarillo Power (UniStar)	Vicinity of Amarillo	TX	US-EPR	2	N/A		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 withdrawn and 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; rulemaking currently scheduled for September 2011.
- AREVA US-EPR – Submitted December 12, 2007, and docketed February 25, 2008; rulemaking in February 2012.

- Mitsubishi Heavy Industries US-APWR – Submitted December 31, 2007, and docketed February 29, 2008; rulemaking expected 2012.

## Early Site Permits (ESP)

**Summary:** Four ESPs issued; one under 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; Southern – Vogtle site (GA), 08/26/09.
- Duke notified NRC of two possible ESP applications at Oconee County (SC) and/or Davie County (NC); no dates provided.
- On March 25, 2010, Exelon submitted an ESP application for its Victoria County site. This replaces a COLA, withdrawn July 2009.



## 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 the only ultra-large forging vendor worldwide, is capacity limited; AREVA, Lehigh Heavy Forge, BWXT, Russia's Uralmash-Izhora Group (OMZ), and the UK's Sheffield Forgemasters are reportedly developing large forging capabilities.
- Areva and Northrop Grumman have begun to build a facility in Newport News, Virginia, to manufacture heavy components for the EPR.
- Shaw and Westinghouse plan to build a facility near Lake Charles, Louisiana, to fabricate structural and equipment modules for the AP1000.

**Plant Construction Contracts:** Engineering, Procurement, and Construction (EPC) contracts have been signed for four plants, and a term sheet for a future EPC contract has been signed for one plant.

- 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. Safety-related construction began March 2010, with placement of engineered backfill in accordance with the LWA.
- SCE&G and Santee Cooper with Westinghouse for two AP1000s at V.C. Summer.
- STPNOC with Toshiba for two ABWRs at South Texas Project.
- AREVA has signed a term sheet with Bechtel for one EPR at Calvert Cliffs.

**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, Tennessee, 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, Alabama; 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, no contract issued.

- Final Rulemaking Issued August 2006.

**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.
- DOE has offered conditional agreements for \$8.33 billion in loan guarantees for the construction and operation of two AP1000 reactors at Vogtle

Due to the current limited guarantee authority, DOE has narrowed the remaining power facilities under consideration for loan guarantees to three applicants, planning to build a total of five reactors.