

News Updates

- ★ SCANA corporation has filed a petition with the Public Service Commission of South Carolina seeking an update to the construction schedule for V.C. Summer units 2 and 3. Revised estimates for substantial completion (“without consideration of all mitigating strategies”) now stand at June 2019 and June 2020. Primary reasons for the delay included issues with submodule design and fabrication.
- ★ The NRC’s Advisory Committee on Reactor Safeguards (ACRS) has recommended approval of an operating license for the Tennessee Valley Authority’s Watts Bar 2 reactor. Commercial operation of the 1,150MWe reactor is expected to begin by June 2016. It will be the first new U.S. reactor in 20 years and will prevent the emissions of approximately 7 million tons of carbon dioxide each year.
- ★ The NRC ACRS has also recommended approval of a construction and operating license for the South Texas Project’s Advanced Boiling Water Reactor (ABWR) following the final revision of the application.
- ★ General Electric Hitachi has opened an under-vessel simulation training center at their Castle Hayne, N.C. facility. The center includes a full scale mock-up of the lower portion of an ESBWR reactor vessel for training of technical personnel under realistic working conditions.

Regulatory Status

- ★ Eighteen Combined Construction and Operating License (COL) applications have been docketed; two have received COLs; eight (totaling 12 nuclear reactors) remain under active Nuclear Regulatory Commission (NRC) review, and 8 were suspended¹ due to utility economic considerations. The Calvert Cliffs application continues to face foreign ownership issues. A Reference COL (R-COL) application has been submitted for five reactor designs; subsequent COLs (S-COLs) will incorporate the corresponding R-COL application by reference, noting any site-specific departures. Southern Nuclear’s Vogtle units 3 and 4 and SCE&G’s V.C. Summer units 2 and 3 have received COLs.

¹ Bellefonte 3&4, Callaway 2, Grand Gulf 3, River Bend 3, Victoria County 1&2 (later withdrawn), Shearon Harris 2&3, Comanche Peak 3&4, Nine Mile Point 3 (later withdrawn)

	UTILITY	SITE/LOCATION	REACTOR/ NO. UNITS	COLA DATES			REVIEW PHASE IN PROGRESS	
				Submitted	Docketed	Issued	Safety ³	Environ. ⁴
Issued	Southern Nuclear	Vogtle GA	AP1000 2	03/31/08	05/30/08	02/10/12	Completed	Completed
	SCE&G	V.C. Summer SC	AP1000 2	03/27/08	07/31/08	04/10/12	Completed	Completed
Active COL Applications	Duke Energy	Levy FL	AP1000 2	7/30/08	10/6/08	-	Ph. D	Completed
	STP Nuclear Operating Co.	South Texas Project TX	ABWR ² 2	9/20/07	11/29/07	-	Ph. 6	Completed
	UniStar	Calvert Cliffs MD	US-EPR ² 1	3/14/08	6/3/08	-	Ph. 4	Completed
	DTE Energy	Fermi MI	ESBWR ² 1	9/18/08	11/25/08	-	Completed	Completed
	Duke Energy	William States Lee SC	AP1000 2	12/13/07	2/25/08	-	Ph. B	Completed
	Florida Power and Light	Turkey Point FL	AP1000 2	6/30/09	9/4/09	-	Ph. A	Ph. 3
	PPL (UniStar)	Bell Bend PA	US-EPR 1	10/10/08	12/19/08	-	Ph. A	Ph. 2
	Dominion Energy	North Anna VA	ESBWR 1	11/27/07	1/28/08	-	Ph. 4	Complete

² Reference COL Application (R-COL)

³ Safety Review: **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

⁴ Environmental Review Phases: **Ph 1** Environmental Scoping Report **Ph 2** Draft EIS **Ph 3** Public comment **Ph 4** Final EIS



Small Modular Reactors

- ★ Small modular reactors are defined as those having a capacity of less than 300 MWe and are transportable to a site by truck, barge, or rail.

	COMPANY	R EACTOR	SIZE (MWE)	APPLICATION	EXPECTED DC SUBMITTAL DATE
Light Water Reactors	Babcock & Wilcox mPower, Inc.	mPower SMR	180	DC/CP	TBD
	Holtec International	SMR-160	160	DC	Q4 CY 2016
	NuScale Power, LLC	NuScale SMR	45	DC	Q4 CY 2016
	Westinghouse Electric Co.	W-SMR	225	DC	TBD

Reactor Design Certification (DC)

Summary: Three reactor designs that are being considered for future builds in the U.S. are certified, two additional designs are under review and two renewal applications are under NRC review.

- ★ AREVA US-EPR – Submitted December 12, 2007, and docketed February 25, 2008; certification schedule is under review.
- ★ GEH ESBWR – Design certified; final rule effective November 14, 2014.
- ★ Mitsubishi Heavy Industries US-APWR – Submitted December 31, 2007 and docketed February 29, 2008; MHI has requested a deferral of the review due to their work on reactor restarts in Japan.
- ★ Korea Electric Power Corporation (KEPCO) APR1400 – Submitted December 23, 2014 and docketed March 4, 2015.
- ★ GEH ABWR – Certified in 1997. Toshiba and GEH have also separately submitted Design Certification renewal applications that are currently under review.
- ★ Westinghouse AP1000 – Amended design certified on December 30, 2011.

Early Site Permits (ESP)

Summary: Four ESPs issued; one under review:

- ★ TVA plans to submit an ESP application for a small modular reactor at its Clinch River site in Tennessee in the Spring of 2016.
- ★ PSEG submitted an ESP application for its nuclear plant site in Salem County, New Jersey, on May 25, 2010. The final environmental impact statement (EIS) and safety evaluation report are expected in September 2015; the safety review schedule is under review due to problems related to documentation of the hydrology portion of the ESP application.
- ★ 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.

Decommissioning

- ★ Four plants have announced decommissioning plans. Entergy closed its single unit Vermont Yankee plant in late 2014; sustained low natural gas prices, financial impacts of cumulative regulations, and the wholesale market structure all contributed to the company's decision to shutter the plant. Dominion's closure of its single unit Kewaunee plant in May 2013 also followed from low wholesale electricity prices; closures at San Onofre and Crystal River were both due to problems related to steam generator replacements. There are currently 99 reactor units operating.



New Plant Construction Progress

Summary: Full nuclear construction has begun for V.C. Summer units 2 and 3 and Vogtle units 3 and 4. TVA is proceeding with the completion of Watts Bar 2.

New Nuclear Plants under Construction: COLs for Vogtle units 3 and 4 and V.C. Summer units 2 and 3 have been issued.

Vogtle

Unit 3: The CA01 steam generator/refueling canal module and CA05 structural modules have been set in place. Containment vessel lower ring has been set in place.

Unit 4: Major construction activities continue, CH80 turbine module has been set in place. Fabrication and testing of steam generators has been completed.



*Unit 3 steam generator arrives on site; progress on unit 4 switchyard
(Courtesy of Georgia Power/Southern Company)*

VC Summer

Unit 2: Critical path continues to run through in-place fabrication work on the CA20 auxiliary building module and the CA01 steam generator and refueling canal module.

Unit 3: Critical path for unit 3 is defined by successful fabrication and placement of the CA20 structural module, CA01, and CA03 wall module.



Site aerial photo and placement of unit 2 containment ring (Courtesy of SCANA)

Watts Bar 2

- ★ Hot functional testing was scheduled to begin in March. Plant staffing is at the required level for dual unit operation. Training for dual unit operation has been completed; the project continues to track to a most likely commercial operation date of December 2015.

Expected Operation Dates

- ★ TVA expects Watts Bar 2 to be completed by late 2015.
- ★ Southern Nuclear's Vogtle units 3 and 4 are expected to come online in mid 2019 and 2020, respectively.
- ★ SCE&G's V.C. Summer units 2 and 3 are expected to come online in mid 2019 and 2020, respectively.

