

News Updates

- ★ Dominion has filed an updated integrated resource plan with Virginia and North Carolina State regulators; the plan sets an “earliest possible” in-service date of October 2024 for North Anna 3. Earlier this year, the company announced its intention to return to the General Electric-Hitachi (GEH) ESBWR reactor design with an amended Combined Operating License (COL) to be filed by the end of 2013.
- ★ Entergy announced that it will close its single unit Vermont Yankee nuclear power 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. This is the fourth plant this year to announce decommissioning plans. Dominion’s closure of its single unit Kewaunee plant 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 100 reactor units operating in the United States.
- ★ On August 1, Duke Energy Florida filed a revised settlement agreement with the Florida Public Service Commission (FPSC); the agreement addresses several open items on Duke’s PSC docket including issues related to closure of Crystal River 3, and also outlines plans to cancel an engineering, procurement and construction (EPC) agreement for the Levy County nuclear power project. The company cited delays in obtaining a COL and uncertainties in its ability to recover construction costs due to recent changes in state legislation as reasons for the EPC cancellation. Duke stated that since it still considers the site to be a viable option for future nuclear generation, the COL application will remain active.
- ★ Duke Energy Carolinas and Duke Energy Progress have delayed the planned commercial operation date for the William States Lee nuclear power project due to a required updated seismic analysis; the units are now expected to come online in 2024 and 2026.

Regulatory Status

- ★ Eighteen Combined Construction and Operating License (COL) applications have been docketed, nine of which (totaling 14 nuclear reactors) remain under active Nuclear Regulatory Commission (NRC) review. NRC reviews of seven applications were suspended due to utility economic considerations. Review of the Fermi and South Texas Project applications could continue after submittal of additional technical information; in addition, the South Texas Project and Calvert Cliffs applications face foreign ownership issues. The 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 VC Summer Units 2 and 3 have received COLs.

	UTILITY	SITE/LOCATION	REACTOR/ NO. UNITS	COLA DATES			REVIEW PHASE IN PROGRESS	
				Submitted	Docketed	Issued	Safety ⁴	Environ. ⁵
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 ¹ 2	9/20/07	11/29/07	-	Ph. 4	Completed
	Luminant (TXU)	Comanche Peak TX	US-APWR ¹ 2	9/19/08	12/2/08	-	Ph. 2	Completed
	UniStar	Calvert Cliffs MD	US-EPR ¹ 1	3/14/08	6/3/08	-	Ph. 2	Completed
	DTE Energy	Fermi MI	ESBWR ¹ 1	9/18/08	11/25/08	-	Ph. B	Completed
	Duke Energy	William States Lee SC	AP1000 2	12/13/07	2/25/08	-	Ph. B	Phase 4
	Florida Power and Light	Turkey Point FL	AP1000 2	6/30/09	9/4/09	-	Ph. A	Ph. 2
	PPL (UniStar)	Bell Bend PA	US-EPR 1	10/10/08	12/19/08	-	Ph. A	Ph. 2
	Progress Energy	Shearon Harris NC	AP1000 2	2/19/08	4/17/08	-	Suspended	Suspended
	Dominion Energy	North Anna VA	ESBWR 1	11/27/07	1/28/08	-	Under Review	Under Review

¹ Reference COL Application (R-COL)

⁴ 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

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



- ★ 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. Nine SMR vendors have initiated contact with the NRC regarding their reactor designs. Four of these designs are domestic light water-based designs.

	COMPANY	REACTOR	SIZE (MWE)	APPLICATION	EXPECTED SUBMITTAL DATE
Light Water Reactors	Babcock & Wilcox mPower, Inc.	mPower SMR	180	DC	Q3 CY 2014
	Holtec International	SMR-160	160	DC	Q4 CY 2016
	NuScale Power, LLC	NuScale SMR	45	DC	Q3 CY 2015
	Westinghouse Electric Co.	W-SMR	225	DC	Q2 CY2014
Advanced Non-LWRS	Department of Energy	NGNP	TBD	COL	TBD
	GEH	PRISM	311	DC	TBD
	Gen4 Energy	G4M	25	DC	TBD
	PBMR Ltd.	PBMR	165	DC	TBD
	Toshiba Corp.	4S	10	TBD	TBD

Reactor Design Certification (DC)

Summary: Two reactor designs that are being considered for future builds in the U.S. are certified 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 – Final Design Approval in March 2011; rulemaking expected 2014.
- ★ Mitsubishi Heavy Industries US-APWR – Submitted December 31, 2007 and docketed February 29, 2008; rulemaking expected in 2016.
- ★ Korea Electric Power Corporation (KEPCO) APR1400 – Pre-application interactions began in January 2012. Design certification application submitted on September 30, 2013.
- ★ 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:

- ★ PSEG submitted an ESP application for its nuclear plant site in Salem County, New Jersey, on May 25, 2010. The final safety evaluation report (SER) and environmental impact statement (EIS) are expected in mid to late 2014.
- ★ 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.



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 the 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

- ★ Engineering, procurement and construction of the facility is approximately 50 percent complete, based on contractual milestone completion.
Unit 3: 44 of 72 CA20 sub-modules have been delivered; the remaining 28 sub-modules have been fabricated and are undergoing hardware verification and documentation reviews at Lake Charles. Module assembly is ongoing; setting of the unit 3 CA20 auxiliary building is forecast for late 2013.
Unit 4: Nuclear island mudmat is in place; basemat rebar installation and CR10 module assembly are progressing.



Vogtle Unit 4 Nuclear Island rebar placement and Unit 3 turbine support structure (Courtesy of Georgia Power/Southern Company)

VC Summer

- ★ Unit 2: Steam Generators have completed hydrostatic testing and are being fit with Reactor Coolant Pump (RCP) casings prior to delivery to the site. Unit 2 RV and Closure Head have been delivered to the site.
Unit 3: Nuclear island mudmat is in place; basemat rebar installation is underway. Construction of unit 3 Containment Vessel Bottom Head (CVBH) is underway. Work is continuing on the cooling towers. Switchyard construction is complete. Delivery of CA01 module segments was previously reported to be behind schedule; this is a critical path activity as CA01 must be set before installation of CV ring segments can progress beyond the 1st ring.



VC Summer Unit 2 CVBH placement and completed switchyard (Courtesy of SCANA)

Watts Bar 2

- ★ Work is progressing on installing valves, piping, cabling, conduit supports and tubing supports. Project is transitioning from performing bulk construction work to completion, testing, and turnover of individual systems. Several systems have been targeted for early completion. The Service Air system was the first system taken through the turnover process; the Essential Raw Cooling Water and the Component Cooling Water systems are scheduled for this summer.

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 2017 and 2018, respectively.
- ★ SCE&G's VC Summer Units 2 and 3 are expected to come online in late 2017 and 2019, respectively.
- ★ Florida Power and Light's Turkey Point Units 6 and 7 originally expected to come online in 2022 and 2023. COLA schedule is under review; changes are likely to result in project delays.
- ★ Duke Energy's Levy site expects the first unit to come online in 2024 and the second unit to follow 18 months later.
- ★ Duke Energy has set a target date of 2024 for completion of the first unit at the William States Lee site.



Updates available at: www.energy.gov/ne
NEXT UPDATE – January 2014

★ Dominion has set an "earliest possible" in-service date of 2024 for North Anna 3.

