

News Updates

- ★ On August 7, NRC issued an order halting issuance of any new construction licenses or license renewals until the Commission can respond to a June 8 court ruling striking down the NRC's waste confidence rule, which assumes that a waste repository will be available "when necessary"; reviews of license applications will continue and the order does not apply to design certifications.
- ★ On September 6, NRC directed the agency's staff to develop an environmental impact statement (EIS) and a revised waste confidence decision and rule on the temporary storage of spent nuclear fuel. The EIS and rule are to be completed within 24 months.
- ★ Due to low natural gas prices and unfavorable economic conditions, Exelon has withdrawn its application for an Early Site Permit for its Victoria County, Texas site.
- ★ On September 25, NRC issued a license to General Electric-Hitachi Global Laser Enrichment LLC (GLE) to construct and operate a uranium enrichment plant using laser technology in Wilmington, N.C. The license authorizes U-235 enrichment of up to 8 percent by weight.
- ★ On August 30, A panel for the Atomic Safety Licensing Board ruled that a license cannot be granted to Unistar for its proposed Calvert Cliffs reactor due to legal restrictions on foreign ownership; Unistar is wholly owned by EDF. The Board has given Unistar 60 days to correct this violation.

Regulatory Status

- ★ Eighteen Combined Construction and Operating License (COL) applications have been docketed, ten of which (totaling 16 nuclear reactors) remain under active NRC review. NRC reviews of five 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, South Texas Project faces 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 <sup>4</sup>	Environ. <sup>5</sup>
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	Progress Energy	Levy FL	AP1000 2	7/30/08	10/6/08	-	Ph. D	Completed
	STP Nuclear Operating Co.	South Texas Project TX	ABWR <sup>1</sup> 2	9/20/07	11/29/07	-	Ph. 2	Completed
	Luminant (TXU)	Comanche Peak TX	US-APWR <sup>1</sup> 2	9/19/08	12/2/08	-	Ph. 2	Completed
	UniStar	Calvert Cliffs MD	US-EPR <sup>1</sup> 1	3/14/08	6/3/08	-	Ph. 2	Completed
	DTE Energy	Fermi MI	ESBWR <sup>1</sup> 1	9/18/08	11/25/08	-	Ph. 2	Ph. 3
	Duke Energy	William States Lee SC	AP1000 2	12/13/07	2/25/08	-	Ph. B	Ph. 2
	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	-	Ph. B	Ph. 2
	Dominion Energy	North Anna VA	US-APWR 1	11/27/07	1/28/08	-	Ph. A	Ph. 2

<sup>1</sup> Reference COL Application (R-COL)

<sup>4</sup> 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

<sup>5</sup> 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 having a capacity of less than 300 MWe. Nine SMR vendors have initiated contact with the NRC regarding their reactor designs. Four of these designs are domestic Light Water-based designs. While all four will submit DC applications, B&W and Holtec have plans to submit Construction Permits under 10CFRPart 50, as well.

	COMPANY	REACTOR	SIZE (MWE)	APPLICATION	EXPECTED SUBMITTAL DATE
Light Water Reactors	Babcock & Wilcox mPower, Inc.	mPower SMR	180	DC CP	Late 2013 March 2014
	Holtec International	SMR-160	160	CP DC	Mid 2014 March 2015
	NuScale Power, LLC	NuScale SMR	45	DC	Late 2014
	Westinghouse Electric Co.	W-SMR	225	DC	Mid to Late 2013
Advanced Non-LWRS	Department of Energy	NGNP	TBD	COL	FY2013
	GEH	PRISM	311	DC	TBD
	Gen4 Energy	G4M	25	DC	TBD
	PBMR Ltd.	PBMR	165	DC	FY2013
	Toshiba	4S	10	TBD	Mid 2012

- ★ DOE released a funding opportunity announcement on March 22, 2012, to support engineering, design certification and licensing of up to two SMR projects for construction and operation at a domestic site. DOE intends to fund the program over a five year period through cost-share agreements with private industry partners that want to be the first-movers in the SMR arena.

### Reactor Design Certification (DC)

**Summary:** Two reactor designs that are being considered for future builds are certified and two renewal applications are under NRC review.

- ★ AREVA US-EPR – Submitted December 12, 2007, and docketed February 25, 2008; rulemaking expected in December 2014.
- ★ GE ESBWR – Final Design Approval in March 2011; rulemaking expected 2013.
- ★ Mitsubishi Heavy Industries US-APWR – Submitted December 31, 2007, and docketed February 29, 2008; rulemaking expected in 2015.
- ★ KEPCO APR1400 – Pre-application interactions began in January 2012. Design certification application anticipated March 2013.
- ★ GE 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.
- ★ B&W Mpower and NuScale are in pre-application meetings with NRC

### Early Site Permits (ESP)

**Summary:** Four ESPs issued; one under review:

- ★ Exelon has withdrawn its application for an Early Site Permit for its Victoria County, Texas site.
- ★ PSEG submitted an ESP application for its nuclear plant site in Salem County, New Jersey, on May 25, 2010. The final SER and EIS are expected in mid to late 2014.
- ★ NRC anticipates two further ESP applications at Blue Castle, Utah, and Callaway, Missouri.
- ★ 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

- ★ Assembly and welding of unit 3's containment vessel bottom head is complete. Assembly of unit 4's containment vessel bottom head is 50% complete. The first ring of unit 3's containment vessel, which will attach to the bottom head and form part of the vertical wall of the containment vessel, is approximately 25 percent complete. Pouring concrete for the unit 3 basemat (first nuclear concrete) planned for October.



*Vogtle Unit 3 Turbine Building Basement and Containment Vessel (Courtesy of Southern Company)*

### VC Summer

- ★ Testing for the heavy-lift derrick crane at the V.C. Summer site was recently finished. Welding is complete on the unit 2 bottom containment vessel head and work is progressing on the cooling towers and switchyard. The waterproof membrane and mud mat have been installed for about 75% of the unit 2 nuclear island; 40% of the rebar cage is in place. Pouring concrete for the unit 2 basemat planned for October 5.



*VC Summer Unit 2 Lower Bowl Assembly and Containment Vessel Ring (Courtesy of SCANA)*

### Watts Bar 2

- ★ Work is progressing on installing cable, conduit supports and tubing supports.

### 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 2016 and 2017, respectively.
- ★ SCE&G's VC Summer Units 2 and 3 are expected to come online in 2017 and 2018, respectively.
- ★ Florida Power and Light's Turkey Point expects Unit 6 to come online by 2022 and Unit 7 by 2023 .
- ★ Progress Energy's Levy site expects the first unit to come online in 2024 and the second unit to follow 18 months later.

