

**REVISED**

July 22, 2009

MEMORANDUM TO: Chairman Jaczko  
Commissioner Klein  
Commissioner Svinicki

FROM: Michael R. Johnson, Director */RA/*  
Office of New Reactors

SUBJECT: QUARTERLY REPORT ON THE STATUS OF NEW REACTOR  
LICENSING ACTIVITIES – APRIL 1 – JUNE 30, 2009

In response to the Commission's February 13, 2001, SRM for COMJSM-00-0003, "Staff Readiness for New Nuclear Plant Construction and the Pebble Bed Modular Reactor," the enclosed report provides the status of new reactor licensing activities for the quarter beginning April 1, 2009, through June 30, 2009. The report outlines detailed information on the status of new reactor licensing reviews for design certifications, early site permits, and combined license applications for this quarter. It also provides information on regulatory infrastructure activities, advanced reactors, contracting activities, construction inspection activities, international activities, and cooperation between the Nuclear Regulatory Commission and U.S. Army Corps of Engineers.

Enclosure:  
As stated

cc: SECY  
EDO  
OGC  
OCA  
OPA  
CFO

CONTACT: Tania Martinez-Navedo, NRO/DNRL  
(301) 415-6561

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**ADAMS Accession Number: ML092030200**

**NRO-002**

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<b>DATE</b>	07/22/2009	07/22/2009	7/22/2009	07/22/2009

## **Status of New Reactor Licensing Activities April 1 – June 30, 2009**

### New Reactor Licensing

The U.S. Nuclear Regulatory Commission (NRC) expects to license the next generation of nuclear power plants using Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52. Part 52 governs the issuance of standard design certifications (DCs), early site permits (ESPs), and combined licenses (COLs) for nuclear power plants.

The staff is engaged in numerous ongoing interactions with vendors and utilities regarding licensing activities and prospective new reactor applications. As of June 30, 2009, the staff had received 18 COLAs for a total of 28 new nuclear units. Based on industry information submitted to the NRC, the staff expects to receive six additional COLAs for seven additional nuclear units, one Limited Work Authorization (LWA) application, and two additional ESP applications by the end of 2011.

At this time, the staff is making good progress on the applications it currently has under review. However, the reviews have been complicated because some applicants are revising both the proposed designs and information submittal dates thereby causing schedule delays and resource impacts. NRC is working with applicants to overcome these challenges.

It is now clear to the agency that about one-third of the COL applicants intend to begin construction as soon as their COLAs are approved. The others still desire the COL but for longer-term use. The NRC is responding with a set of goals that reflect the evolving plans of new reactor applicants and that align its resources on the licensing reviews expected to result in new plant operation (beginning during calendar years (CYs) 2016 – 2017). The agency is sequencing its work to focus on those COLAs with near-term construction intentions and the necessary supporting activities. As this process matures, the NRC will seek the continued support of Congress to sustain these efforts.

### New Reactor Licensing Reviews

#### *Design Certifications:*

To date, three DCs and one DC amendment are under review. The staff is currently conducting reviews of the Economic Simplified Boiling Water Reactor (ESBWR) DC; the US Evolutionary Power Reactor (US EPR) and the US-Advanced Pressurized Water Reactor (US-APWR) DCs as well as the Advance Passive (AP)1000 DC amendment. All acceptance reviews have been completed and review schedules issued.

The staff's updated review schedule for the ESBWR DC was provided to GE-Hitachi Nuclear Energy (GEH) on February 18, 2009. Staff issuance of the Final Safety Evaluation Report (FSER) is scheduled for August 16, 2010; however, the staff notes that there are significant risks to this schedule and that the schedule depends on GEH's ability to address open items in a timely manner and with high-quality information.

Phase 1 of the DC for US EPR DC was completed on January 28, 2009. The schedule was revised on February 19, 2009, adding one month to the FSER schedule due to responses to certain questions from the vendor exceeding 30 days. The FSER is scheduled for completion in June 2011.

The staff issued its review schedule for the US-APWR DC on May 9, 2008. Twelve MHI US-APWR Topical Reports referenced in the DC are also under staff review. The FSER is scheduled for completion in September 2011.

The staff's updated review schedule for the AP1000 DC amendment was provided to Westinghouse Electric Company, LLC (Westinghouse) on April 3, 2009. The schedule was revised due to delayed request for additional information (RAI) responses and new submittals, such as Revision 17 submitted in September 2008. Staff issuance of the FSER is scheduled for December 28, 2010; the schedule depends upon Westinghouse's ability to address open items in a timely manner with complete information.

The status of the DCs that are currently under review is provided in the table below:

<b>Applicant</b>	<b>Design Type</b>	<b>Application Date</b>	<b>Acceptance Date</b>	<b>Status</b>
GEH	ESBWR	Various	Various	Review schedule published. Safety review underway.
Westinghouse	AP1000 DC Amendment	5/26/07	01/18/08	Review schedule published. Safety review underway.
AREVA Nuclear Power	US EPR	12/11/07	02/26/08	Review schedule published. Safety review underway.
Mitsubishi Heavy Industries, Ltd.	US-APWR	12/31/07	2/29/08	Review schedule published. Safety review underway.

*Early Site Permits:*

The NRC staff has completed its review of both Vogtle ESP application and LWA request. On August 22, 2008, the NRC staff issued its final Environmental Impact Statement and on February 5, 2009, the NRC staff issued its final Safety Evaluation Report (SER).

The NRC received a letter from Transition Power Development LLC (Transition Power) dated January 30, 2008 informing the NRC of Transition Power's intention to submit an ESP and/or a COLA for two nuclear units by April 2010. The two units will be part of the Blue Castle Generation Project, to be located in east central Utah. In addition, the NRC received a letter from PSEG Power LLC (PSEG) informing the NRC of PSEG's intention to submit an application for an ESP during the second quarter of 2010.

On June 30, 2009, Exelon advised the staff and issued a press release stating the company will pursue an ESP at the Victoria County location rather than a combined construction and operating license. No firm submittal date was provided; however, the press release indicated late 2009 or early 2010.

*Combined License Applications:*

As of June 30, 2009, the staff has received eighteen (18) COLAs for review. The current status of the COLAs that are currently under review is provided in the table below.

<b>Applicant</b>	<b>Design Type</b>	<b>Status</b>
<p>Calvert Cliffs 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC. [UniStar] (Calvert Cliffs)</p>	<p>US EPR (Reference Plant)</p>	<p>On August 14, 2007, the staff conducted a public outreach meeting.</p> <p>The first part of the application was submitted on July 13, 2007.</p> <p>The staff completed its acceptance review of the partial COLA (first part of the application) on January 25, 2008.</p> <p>The second part of the COLA was submitted on March 17, 2008.</p> <p>The third part of the COLA was submitted on March 17, 2008.</p> <p>The staff completed its acceptance review of the second part of the application on June 3, 2008.</p> <p>The staff issued the schedule for the review of the full COLA on August 18, 2008.</p> <p>The schedule was revised on December 19, 2008, to change all environmental review due dates to “to be determined” pending complete and sufficient responses from UniStar.</p> <p>The safety review schedule was revised on February 19, 2009 because of changes of the US EPR design certification schedule.</p> <p>The FSER is scheduled for completion in April 2012.</p> <p>Due to the intake structure location change, numerous open items from RAIs, and ongoing negotiations between UniStar and the State of Maryland on environmental impact mitigation issues, the Draft Environmental Impact Statement (DEIS) may be delayed.</p>

Applicant	Design Type	Status
		<p>Between March 17 and 19, an audit was conducted for the Calvert Cliffs COL application on the seismic analysis parameters, methodology, and the seismic design approach.</p> <p>During the week of May 8, 2009, UniStar requested the staff to re-establish the schedule for issuance of the draft and final environmental impact statements (EIS) to allow site preparation activities to begin for Calvert Cliffs Unit 3.</p> <p>Staff held a public meeting on May 8, 2009, to discuss its concerns with the alternative site selection process and to inform UniStar that the information currently submitted on the docket regarding this process was insufficient to prepare the DEIS.</p> <p>The applicant has committed to revise the alternative site selection process and address the staff concerns. The applicant has stated the revised alternative site selection process and associated environmental report sections will be submitted on the docket on July 15, 2009, along with all other remaining outstanding RAIs.</p>
<p>South Texas Project Nuclear Operating Company (STPNOC) (South Texas Project [STP])</p>	<p>ABWR (Reference Plant)</p>	<p>On June 27, 2007, the staff conducted a public outreach meeting.</p> <p>The application was submitted on September 20, 2007.</p> <p>The staff completed its acceptance review on November 29, 2007; but noted that a schedule would not be provided until additional information was submitted by STPNOC.</p> <p>By letter dated January 10, 2008, STPNOC informed the staff it was arranging vendor support for the application and requested that the NRC suspend its review of several sections of its application. As a result, the staff continued to conduct only a partial review of the STP application.</p> <p>STPNOC has chosen Toshiba, Inc. (Toshiba) as the engineering and procurement contractor for the new STP units.</p>

Applicant	Design Type	Status
		<p>STPNOC conducted a due diligence review to assess Toshiba's ability to provide the certified ABWR design. STPNOC submitted the results of its due diligence assessment to the NRC on August 19, 2008.</p> <p>The staff is reviewing the results of STPNOC's due diligence assessment to determine whether STPNOC has demonstrated that Toshiba is qualified to supply the certified ABWR design.</p> <p>Revision 2 of the STPNOC's application was received on September 24, 2008.</p> <p>The staff completed its review of Revision 2 of the STPNOC application and published a review schedule for the STP COLA review on February 11, 2009.</p> <p>A full scope review of the STP COLA is now underway.</p> <p>The FEIS is scheduled for completion in March 2011.</p> <p>The FSER is scheduled for completion in September 2011.</p> <p>On April 16, 2009, STPNOC presented, to NRC staff, its plan to amend Revision 4 of generic ABWR DCD to address the Aircraft Impact Rule for STP Units 3 and 4.</p>
Tennessee Valley Authority (TVA) (Bellefonte)	AP1000 (Reference Plant - in transition)	<p>On September 11, 2007, the staff conducted a public outreach meeting.</p> <p>The application was submitted on October 30, 2007.</p> <p>The staff completed its acceptance review on January 18, 2008.</p> <p>The staff issued a review schedule on February 15, 2008.</p> <p>The safety and environmental reviews are currently underway.</p>

Applicant	Design Type	Status
		<p>In a letter dated July 17, 2008, the staff informed TVA that its Bellefonte COL review schedule in the area of seismology is extended by one month due to TVA's delayed response to the staff's request for additional information. The letter also informed TVA that its COL review schedule in the area of hydrology is likely to be delayed an additional 8-12 months due to TVA's inability to meet interim commitments it made to address issues identified earlier this year.</p> <p>On June 3, 2009, the staff informed TVA that it intends to hold publication of the Bellefonte Unit 3 and 4 DEIS until TVA tells the staff of its plans for Units 1 and 2.</p> <p>The staff issued an SER with open items for Chapters 1, 4, 5, 10, 11, 12, 14, 16, 17, and 19 on or before June 24, 2009, to support ACRS meeting on July 23 and 24 to discuss these chapters.</p> <p>The staff is evaluating the safety review schedule and will revise it to reflect the hydrology review schedule. The staff plans not to issue the DEIS until after TVA makes a decision on whether it will complete Bellefonte Units 1 and 2.</p>
<p>Dominion Virginia Power (Dominion) (North Anna)</p>	<p>ESBWR (Reference Plant)</p>	<p>On October 24, 2007, the staff conducted a public outreach meeting.</p> <p>The application was submitted on November 27, 2007.</p> <p>The staff completed its acceptance review on January 28, 2008.</p> <p>The staff issued a review schedule on February 27, 2008.</p> <p>The safety and environmental reviews are currently underway.</p> <p>The FEIS is scheduled for completion in December 2009.</p> <p>The FSER is scheduled for completion in February 2011.</p>

Applicant	Design Type	Status
		<p>On December 19, 2008, the NRC published the draft Supplemental Environmental Impact Statement (SEIS) for the COL for North Anna Unit 3.</p> <p>On February 3, 2009, the staff held a public meeting at which the staff discussed the results of the North Anna Unit 3 draft SEIS in Mineral, Virginia.</p> <p>On April 2, 2009, the staff received notification from the Environmental Protection Agency that the NRC's draft supplemental EIS for the North Anna COLA has been rated EC-1.</p>
Duke Energy (William States Lee III)	AP1000	<p>On August 30, 2007, the staff conducted a public outreach meeting.</p> <p>The application was submitted on December 13, 2007.</p> <p>The staff completed its acceptance review on February 25, 2008.</p> <p>The staff issued a review schedule on April 2, 2008.</p> <p>The safety and environmental reviews are currently underway.</p> <p>The EIS Scoping Summary Report was issued on September 11, 2008. The FEIS completion date has not yet been determined.</p> <p>The FSER is currently scheduled for completion in February 2011. However, the review schedule is expected to change to reflect the revised review schedule for the AP1000 DCA review and the need for sequencing the reviews.</p>
Progress Energy Carolinas, Inc. (PEC) (Shearon Harris)	AP1000	<p>On September 18, 2007, the staff conducted a public outreach meeting.</p> <p>The application was submitted on February 19, 2008.</p> <p>The staff completed its acceptance review on April 17, 2008.</p>

Applicant	Design Type	Status
		<p>The staff issued a review schedule on May 16, 2008.</p> <p>The safety and environmental reviews are currently underway.</p> <p>The FEIS schedule was revised on June 19, 2009, to change all remaining environmental review due dates to "to be determined" pending complete and sufficient RAI responses from progress Energy Carolinas, Inc. Also, the review schedule is expected to change to reflect the revised review schedule for the AP1000 DCA review and the need for sequencing the reviews.</p>
<p>Entergy Operations, Inc. (EOI) (Grand Gulf)</p>	<p>ESBWR</p>	<p>On February 21, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on February 27, 2008.</p> <p>The staff completed its acceptance review on April 17, 2008.</p> <p>The staff issued a review schedule on May 16, 2008, and work was on schedule for the safety and environmental reviews.</p> <p>By letter dated January 9, 2009, EOI requested that the staff suspend, until further notice, its review of the docketed COLAs for the River Bend Station Unit 3 and the Grand Gulf Nuclear Station Unit 3. Entergy plans to reconsider the GEH ESBWR reactor technology, which was the basis for the COL. The staff responded to the request and has worked with other Federal agencies supporting the staff, to suspend the COLA review in a timely and orderly manner in an effort to preserve appropriately the work that has been accomplished.</p> <p>This review remains suspended except for emergency preparedness reviews which the Federal Emergency Management Agency (FEMA) performs and is independent of any future selected reactor technology.</p>

Applicant	Design Type	Status
Southern Nuclear Operating Company (SNC) (Vogtle)	AP1000 (in transition to become the Reference COL)	<p>On July 17, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on March 31, 2008.</p> <p>The staff completed its acceptance review on May 30, 2008.</p> <p>The staff issued a review schedule on June 27, 2008.</p> <p>The staff is currently conducting the safety and environmental reviews.</p> <p>The FEIS was scheduled for completion in April 2009. However, the environmental review schedule is being changed to "to be determined" to reflect uncertainties in the issuance date for a decision in the Vogtle ESP proceeding.</p> <p>The staff issued a revised safety review schedule on June 30, 2009. The FSER is scheduled for completion in April 2011.</p>
South Carolina Electric & Gas (SCE&G) (Virgil C. Summer)	AP1000	<p>On August 27, 2007, the staff conducted a public outreach meeting.</p> <p>The application was submitted on March 27, 2008.</p> <p>The staff completed its acceptance review on July 31, 2008.</p> <p>The staff issued a review schedule on September 26, 2008.</p> <p>The safety and environmental reviews are underway.</p> <p>The FEIS and FSER are scheduled for completion in February 2011. However, the review schedule is expected to change to reflect the revised review schedule for the AP1000 DCA review.</p>
AmerenUE (Callaway)	US EPR	<p>On July 9, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on July 24, 2008.</p>

Applicant	Design Type	Status
		<p>The staff completed its acceptance review on December 4, 2008.</p> <p>The review schedules for the FEIS and FSER are currently under development.</p> <p>Public scoping meetings to support the EIS were held on February 18, 2009, and environmental site audits were completed on March 23, 2009, and April 20, 2009.</p> <p>Callaway's review was suspended by request of the applicant in June 2009.</p>
Progress Energy Florida, Inc. (PEF) (Levy County)	AP1000	<p>On June 5, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on July 30, 2008.</p> <p>The staff completed its acceptance review on October 6, 2008.</p> <p>The staff issued a review schedule on February 18, 2009.</p> <p>The safety and environmental reviews are underway.</p> <p>The FEIS is scheduled for completion in September 2010.</p> <p>The FSER is currently scheduled for completion in May 2011. However, the review schedule is expected to change to reflect the revised review schedule for the AP1000 DCA review.</p> <p>In a letter dated May 1, 2009, Progress Energy formally withdrew a LWA request associated with the Levy County site in Florida.</p>
Exelon Nuclear Texas Holdings, LLC (Exelon) (Victoria County Station)	ABWR	<p>On August 7, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on September 3, 2008.</p> <p>The staff completed its acceptance review on October 30, 2008.</p>

Applicant	Design Type	Status
		<p>By letter dated November 24, 2008, Exelon Nuclear Texas Holdings, LLC advised the staff that it expected to designate an alternate reactor technology.</p> <p>The staff suspended most of the COLA review and its development of a review schedule.</p> <p>FEMA's review of offsite emergency preparedness continues because it is independent of any future reactor technology selection. The existing application remains docketed.</p> <p>By a letter dated March 13, 2009, Exelon notified the staff that they have selected the ABWR reactor technology and indicated that a revised application will be submitted in the third quarter of CY 2009.</p> <p>On June 30, 2009, Exelon advised the staff and issued a press release stating the company will pursue an ESP at the Victoria County location rather than a combined construction and operating license. No firm submittal date was provided; however, the press release indicated late 2009 or early 2010.</p>
Detroit Edison Energy (Fermi)	ESBWR	<p>On August 20, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on September 18, 2008.</p> <p>The staff completed its acceptance review on November 25, 2008.</p> <p>The staff is developing the safety and environmental reviews.</p> <p><i>A Federal Register</i> Notice of Intent to Prepare an EIS and Conduct Scoping was published on December 10, 2008.</p> <p>Public scoping meetings to support the EIS were held January 14, 2009, and an environmental site audit was completed on February 6, 2009.</p> <p>A hydrology audit was held at the Fermi 3 site in Newport, Michigan, and at DTE headquarters in Detroit, Michigan on June 9 and 10, 2009.</p>

Applicant	Design Type	Status
		By letter dated June 30, 2009, staff issued a review schedule for the COLA.
Luminant Generation Company, LLC (Luminant) (Comanche Peak)	US-APWR	<p>On August 20, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on September 19, 2008.</p> <p>The staff completed its acceptance review on November 25, 2008.</p> <p>The staff is developing the safety and environmental reviews.</p> <p><i>A Federal Register</i> Notice of Intent to Prepare an EIS and Conduct Scoping was published on December 10, 2008.</p> <p>Public scoping meetings to support the EIS were held January 14, 2009, and an environmental site audit was completed on February 6, 2009.</p> <p>On April 2, 2009, the staff held a public meeting with Luminant and Mitsubishi to discuss Risk Informed Technical Specifications.</p> <p>The EIS Scoping Summary Report will be issued on July 2, 2009. Draft EIS to be issued March 2010.</p>
Entergy Operations, Inc. (EOI) (River Bend Station)	ESBWR	<p>On November 18, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on September 25, 2008.</p> <p>The staff completed its acceptance review on December 4, 2008.</p>

Applicant	Design Type	Status
		<p>By letter dated January 9, 2009, EOI requested that the staff suspend, until further notice, its review of the docketed COLAs for the River Bend Station Unit 3 and the Grand Gulf Nuclear Station Unit 3. Entergy plans to reconsider the GEH ESBWR reactor technology, which was the basis for the COL. The staff responded to the request and has worked with EOI, and other Federal agencies supporting the staff, to suspend the COLA review in a timely and orderly manner in an effort to preserve appropriately the work that has been accomplished.</p> <p>A review schedule has not yet been developed.</p> <p>This review remains suspended except for Emergency Preparedness Reviews which the FEMA performs and is independent of any future selected reactor technology.</p>
<p>Nine Mile Point 3 Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC (UniStar) (Nine Mile Point)</p>	<p>US EPR</p>	<p>On August 21, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on September 30, 2008.</p> <p>The staff completed its acceptance review on December 12, 2008.</p> <p>On February 9, 2009, UniStar submitted a letter requesting that the staff stagger the review of the Nine Mile Point Unit 3 COLA, relative to the current schedule of the Calvert Cliffs Unit 3 Reference COLA. UniStar requested that some review activities, such as those associated with the Department of Homeland Security (DHS) Audit, Emergency Preparedness (FEMA), the Environmental Scoping Summary Report, and the Physical Security Plan, continue during the first half of 2009.</p> <p>The Environmental Scoping Meeting was conducted on June 10, 2009.</p> <p>UniStar requested that the remaining portions of the review be sequenced so that the staff technical reviews commence in September 2009.</p> <p>The staff plans to develop the SER and EIS schedules in the fall of 2009.</p>

<b>Applicant</b>	<b>Design Type</b>	<b>Status</b>
PPL Bell Bend, LLC (Bell Bend)	US EPR	<p>On August 19, 2008, the staff conducted a public outreach meeting.</p> <p>The application was submitted on October 10, 2008.</p> <p>The staff completed its acceptance on December 19, 2008.</p> <p>The staff is developing a review schedule.</p> <p>Public scoping meetings to support the EIS were held on January 29, 2009.</p> <p>An Environmental Site Audit was conducted on April 27, 2009.</p>
Florida Power and Light (FPL) (Turkey Point)	AP1000	<p>On March 26, 2009, the staff conducted a public outreach meeting.</p> <p>The COL application was tendered on June 30, 2009.</p> <p>The staff is currently conducting its acceptance review. A decision to docket is expected in August or September 2009.</p>
Alternate Energy Holdings (Hammett)	US EPR (1 unit)	The application is expected on the 4 <sup>th</sup> Quarter 2009.
Amarillo Power	US EPR (2 units)	The application is expected on the 4 <sup>th</sup> Quarter 2009.
Transition Power Development LLC (Transition) (Blue Castle Generation Project)	TBD (2 units)	The application is expected on April 2010.
Unannounced (TBD)	TBD (units -TBD)	The application is expected during the 2010-2011 timeframe.
Southern Nuclear Operating Company (SNC) (TBD)	TBD (units TBD)	The application is expected in late 2010.
Unannounced	TBD (2 units)	The application is expected late in FY 2010.

In addition, review schedules and other pertinent information regarding these reviews are available on the public webpage at <http://www.nrc.gov/reactors/new-reactors.html>. The staff has also posted detailed review schedules for COLAs and DCs on the NRC's public website.

### *Other Licensing Activities:*

During the week of May 26-30, 2009, a Readiness Assessment was conducted at Salem/Hope Creek.

Site Safety Audits - Geology, Seismology & Geotechnical Engineering, was conducted at Levy County (4/28/09).

DHS Site Visits (coordinated with the Office of Nuclear Security and Incident Response [NSIR]) were conducted at Fermi (during the week of April 6, 2009), and Nine Mile Point (during the week of June 8, 2009).

### Regulatory Infrastructure Activities

#### *Aircraft Impact Assessment (AIA) Rulemaking:*

On October 15, 2008, SECY-08-0152, "Final Rule—Consideration of Aircraft Impacts for New Nuclear Power Reactors (RIN 3150-A119)," was issued to request Commission approval to publish in the *Federal Register* the subject final rule. On February 17, 2009, the Commission approved publication of the final rule with changes.

On June 12, 2009, the final rule was published in the *Federal Register* (74 FR 28111). The rule requires applicants for new nuclear power reactors to perform a design-specific assessment of the effects of the impact of a large, commercial aircraft. The rule will become effective on July 13, 2009. The staff has completed its review of an NEI guidance document related to the performance of the aircraft impact assessment. The staff is preparing DG-1176 endorsing NEI's guidance to be issued for public comment.

#### *Part 73 Security Rulemaking:*

The Part 73 security rulemaking is primarily the vehicle to codify the requirements imposed on operating reactors by Orders issued after September 11, 2001. On December 17, 2008, the Commission issued an SRM approving the draft final rule with changes. The final rule was sent to the Office of the Federal Register for publication on March 17, 2009, and was published in the *Federal Register* on March 19, 2009. The rule was effective 60 days after publication.

The staff began discussions with NEI and Design Center Working Groups (DCWGs) in July 2008 on the development of guidance for mitigating strategies for loss of large areas due to explosions or fires (Item B.5.b in Interim Compensatory Measures Order for operating plants; and section 50.54(hh) in proposed security rulemaking). The staff had a follow-up meeting with NEI and the DCWGs on February 10, 2009.

The security rulemaking includes a new provision for cyber security. A draft of the associated guidance document was issued for public comment. A meeting on the associated draft regulatory guide was held on July 18, 2008. Between February 26 and March 5, 2009, Instrumentation and Controls (I&C) staff from NRO, the Office of Nuclear Reactor Regulation (NRR) the Office of Nuclear Regulatory Research and NSIR, briefed the ACRS Digital I&C Subcommittee and Full Committee on draft regulatory guide (RG) RG-5.71, "Cyber Security Programs for Nuclear Facilities." The regulatory guide was developed in response to the new cyber security rule 10 CFR 73.54. For new reactor applications, the detailed engineering review

of cyber security is conducted as part of the Final Safety Analysis Report's Chapter 7 review by NRO, while the programmatic review of cyber security is conducted as part of Chapter 13 review by NSIR. A meeting was held with stakeholders on March 5, 2009, to discuss the draft NEI-08-09, "Cyber Security Plan Template," and staff provided comments to NEI in June 2009.

#### *DC Rulemaking:*

A potential scheduling issue that has been introduced by the concurrent reviews of DC applications and related combined COLAs relates to the need to complete the DC rulemaking prior to the completion of hearings and issuance of a Combined License (COL) that relies on that DC. The typical rulemaking process includes publication of a proposed rulemaking for public comment, resolution of public comments, and then the issuance of the final rule. Including the development of the rulemaking packages, public comment periods, reviews by the Commission, the Office of the Federal Register, and the Office of Management and Budget, the rulemaking process typically takes approximately 2 years from the start of the effort to the time the final rule is published. Given the current schedules for completing some of the DCs and related COLAs, the rulemaking process could be a significant critical path item for the issuance of the first COL in several design centers. The staff evaluated the DC rulemaking process as part of the NRC's lean six sigma program in order to identify possible ways to shorten the rulemaking process and coordinate activities (design reviews, rulemaking, licensing) to minimize the contribution of the rulemaking to the COL schedules.

The staff issued SECY-09-0018, "Design Certification Rulemaking," on January 30, 2009, that details the staff's streamlining effort for this rulemaking. If the various identified improvements are implemented, the staff believes that the DC rulemakings could be completed in about one year and could be timed to minimize possible delays in the COL licensing process. The staff is currently implementing the identified improvements.

The Commission approved the staff's request to request to establish NRO as a lead rulemaking office similar to NRR and FSME on February 27, 2009. The Commission asked the staff to report on efficiency and effectiveness gains in a future self-assessment. The staff is scheduled to issue its first report in September 2011.

#### *Advanced Reactors:*

The NRC has established an Advanced Reactor Program (ARP) to plan for future applications involving small and medium-sized reactors. The ARP is currently working with the Department of Energy (DOE) to coordinate various research and pre-application activities related to the Next Generation Nuclear Plant (NGNP) program. The NGNP program is currently the primary focus of the ARP as the NRC develops the necessary infrastructure to license gas-cooled reactors using approaches described in the joint NRC/DOE NGNP licensing strategy. As resources allow, the ARP is also interacting with various designers of small and medium-sized reactors using gas-cooled, light water, and sodium-cooled technologies.

The staff continued its efforts to focus its pre-application review efforts on advanced reactor designs in a more integrated manner. Focusing the attention of the staff on the NGNP program

will also serve to enhance the effectiveness and efficiency of other advanced reactor activities by:

- providing the information necessary to develop resource estimates for reviewing the designs for advanced reactors;
- allowing the technical review staff sufficient time to become familiar with advanced reactor design concepts;
- providing feedback on key design, technology, safety research, and licensing issues;
- identifying interrelated or cross-cutting regulatory safety issues and beginning to identify reasonable resolution paths for these issues; and
- identifying technical skills necessary to review these designs and, as appropriate, hire staff and identify potential contractors who possess the requisite knowledge, skills and abilities.

The staff participated in several meetings and drop-in visits with potential applicants for advanced reactor designs.

The NRC staff also met with various international organizations regarding technical and licensing issues associated with small and medium-sized reactors. The NGNP was also the subject of a well attended session at the NRC's 2009 Regulatory Information Conference.

Several letters have been received regarding licensing plans for various small and medium-sized reactors. A summary is provided below:

<b>Reactor</b>	<b>Application Type</b>	<b>Projected Application Schedule</b>
NGNP	Combined License (or Design Certification)	2013
NuScale	Design Certification	June 2011
Toshiba 4S (Super Safe, Small & Simple)	Design Approval	October 2010
Westinghouse International Reactor Innovative & Secure (IRIS)	Design Certification	3 <sup>rd</sup> Quarter 2011
Pebble Bed Modular Reactor (PMBR), (as part of NGNP)	Combined License (or Design Certification)	2013
B&W mPower Design	Design Certification	Early 2011

### *Contracting Activities:*

For the third quarter of FY2009, NRO committed a total of approximately \$12.4 M and obligated a total of \$10.5 M (offset by de-obligation of approximately \$1.517 M from FY 2007 and FY 2008 funds) to support the ongoing technical and environmental COLA reviews and ongoing technical reviews for DCs. Expenditures totaled \$13.54 M across all fiscal years.

### Construction Inspection Activities

The staff continues to refine concepts for inspection, test analysis, and acceptance criterion/criteria (ITAAC) closure and closed ITAAC maintenance prior to 10 CFR 52.103(g) Commission finding. The staff issued DG-1204, "Guidance for ITAAC Closure Under 10 CFR Part 52" for public comment and conducted three additional public meetings (for a total of 14 since the beginning of FY08) to provide a forum for stakeholders to participate and comment on staff proposals for ITAAC closure, ITAAC maintenance, and other construction inspection program issues. Additional activities included developing and issuing NRO Office Instruction NRO-REG-112, "New Reactor Construction Experience Program," and deployment of the Construction Inspection Program Information Management System in the Reactor Program System format.

As a follow-on to the December 2008 Workshop on Vendor Oversight for New Reactor Construction, the staff provided training on Part 21 and Commercial Grade Dedication to Nuclear Procurement Issue Committee auditors. In addition, the staff completed quality assurance implementation inspections at STP and Vogtle in support of COL licensing reviews and conducted two additional vendor inspections (domestic valve manufacturer and foreign large component forger/manufacturer).

### International Activities

From March 27 – April 4, 2009 that staff conducted a vendor inspection of Doosan Heavy Industries at Changwon, Republic of Korea; and Busan, Republic of Korea an inspection focused on corrective actions associated with a 2008 Westinghouse stop-work notice, welding issues associated with AP1000 components. The inspection was observed by other regulators such as the Republic of Korea nuclear regulatory authority (KINS) and the Canadian Nuclear Safety Commission (CSNC). These observations fostered the sharing of international experiences with the construction of new reactors, oversight of vendors, and modular construction techniques consistent with the objectives of the Multinational Design Evaluation Program (MDEP).

On April 22 and 23, 2009, NRO staff participated in a meeting of the Multinational Design Evaluation Program Vendor Inspection Cooperation Working Group at the NEA offices in Paris, France.

On April 10, 2009, NRO staff participated in the Second Meeting of Nuclear Safety Strategy Dialogue of the Asian Nuclear Safety Network (ANSN), held in Seoul, Republic of Korea.

On May 20, 2009 an NRO manager participated in the Global Nuclear Energy Partnership Infrastructure Development Working Group Resources and Gaps Workshop focusing on small and medium size reactors, held in Manchester, UK.

May 25-29, 2009 an NRO manager participated in the IAEA Technical Meeting on Capacity Building for Regulatory Bodies for Countries Embarking on Nuclear Power, held in Vienna, Austria.

On May 28 and 29, 2009, NRO staff participated in a meeting of the MDEP EPR working group in Paris. Regulators from the U.S., France, the United Kingdom, Canada, and Finland discussed the review of AREVA NP's EPR design. The regulators discussed commonality and differences in regulatory positions for the EPR design and identified documents that could be shared with other regulators.

On June 3-5, 2009, the NRO representatives to the MDEP Steering Technical Committee participated in a meeting of the Steering Committee at the NEA offices in Paris.

From June 5 - 13, 2009 the NRC staff observed an inspection of Mitsubishi Heavy Industries in Kobe, Japan conducted by the French regulatory Authority, Autorité de Sûreté Nucléaire. NRO vendor inspectors observed the inspection and participated in discussions with the ASN, NISA, and JNES inspection program representatives regarding the implementation of and requirements for performance of vendor inspections.

During the week of June 22, NRO staff participated in a meeting of the Digital I&C Working Group in Paris.

#### Cooperation between the NRC and the U.S. Army Corps of Engineers

NRC and the U.S. Army Corps of Engineers (Corps) are actively engaged in the review of new reactor applications under an updated Memorandum of Understanding (MOU) on Environmental Reviews Related to the Issuance of Authorizations to Construct and Operate Nuclear Power Plants that was signed on September 12, 2008.

In most cases, new reactor applicants will need permits from the Corps under the Federal Water Pollution Control Act (Clean Water Act) and the Rivers and Harbors Act. The NRC and the Corps believe cooperation provides the most effective and efficient use of Federal resources for environmental review of new reactor plant applications when an NRC license and a Corps permit will both be needed. Therefore, the goal is for the Environmental Impact Statement (EIS) to provide the environmental basis for NRC's license decision and the Corps' permit decision.

The Corps is a cooperating agency in developing the EIS for most of the new reactor applications, and representatives of both agencies are interacting collaboratively to implement the provisions of the MOU. On June 2-3, 2009, NRC staff held a workshop with the Corps in Bethesda, Maryland, to further facilitate interactions between the agencies related to the MOU.