

July 16, 2010

MEMORANDUM TO: Chairman Jaczko
Commissioner Svinicki
Commissioner Apostolakis
Commissioner Magwood
Commissioner Ostendorff

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, 2010

In response to the Commission's February 13, 2011, Staff Requirements Memorandum 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, 2010, through June 30, 2010. 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 to include an update on fusion technology, contracting activities, construction inspection activities, and international activities.

Enclosure:
As stated

cc: SECY
EDO
OGC
OCA
OPA
CFO

CONTACT: Amy Snyder, NRO/DNRL
(301) 415-6822

MEMORANDUM TO: Chairman Jaczko
 Commissioner Svinicki
 Commissioner Apostolakis
 Commissioner Magwood
 Commissioner Ostendorff

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, 2010

In response to the Commission's February 13, 2001, Staff Requirements Memorandum 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, 2010, through June 30, 2010. 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 to include an update on fusion technology, contracting activities, construction inspection activities, and international activities.

Enclosure:
 As stated

cc: SECY
 EDO
 OGC
 OCA
 OPA
 CFO

CONTACT: Amy Snyder, NRO/DNRL
 (301) 415-6822

DISTRIBUTION: **WITS200100018/EDATS: SECY-2010-0207, WITS200900163/EDATS: SECY-2010-0208**

ARP r/f RidsNroDserRenv RidsOcoMailCenter Resource
 DNRL r/f RidsNroDser
 DCIP r/f RidsNroOd
 NRO r/f RidsNroMailCenter Resource
 EDO r/f RidsOgcMailCenter Resource
 RidsNroDnrINrga RidsEdoMailCenter Resource
 RidsNroDnrI RidsSecyCorrespondenceMailCenter Resource

ADAMS Accession Number: **ML101890840** *via email

NRO-002

OFFICE	TA:DNRL/NRO	D:ARP/NRO	D:DCIP/NRO	D:DSER/NRO	D:DNRL/NRO	OGC NLO	OD:NRO
NAME	ASnyder	MMayfield	GTracy	SFlanders Nilesh Chokshi for	DMatthews Frank Akstulewicz for	MZobler	MJohnson
DATE	7/ 08 /2010	07/13/2010	07/9/2010	07/13/2010	07/14/2010	07/14/2010	07/16/2010

OFFICIAL RECORD COPY

Status of New Reactor Licensing Activities April 1 – June 30, 2010

The new reactor program consists of three subprograms: licensing, construction inspection, and advanced reactors. The U.S. Nuclear Regulatory Commission (NRC) is allocating its available resources to ensure that all three subprograms are successful. NRC's primary focus is on the licensing and construction activities necessary to support near-term build (i.e., operation expected to begin in 2016-2017) applications. NRC is also investing in activities to establish the necessary regulatory framework and infrastructure for advanced reactors in order to position it to succeed in the advanced reactor subprogram. In allocating resources among the subprograms and establishing scheduling for ongoing reviews, NRC will consider resource needs for the successful implementation of three subprograms as well as information regarding an applicant's construction and commercial operation plans and their support for issue resolution. NRC is using international experience and lessons-learned to assure safe designs both domestically and internationally.

The NRC expects to review applications for licenses for the next generation of nuclear power plants using Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants." Part 52 governs the issuance of standard design certifications (DCs); early site permits (ESPs), and combined licenses (COLs) for nuclear power plants.

The NRC has three DC applications and two DC amendment applications under review. Thorough and timely reviews of these DC applications are critical to successful completion of the combined license application (COLA) reviews. As of June 30, 2010, the NRC has received 18 COLAs in-house, 13 of which are under active review. NRC is midway through its reviews of the first COLA reviews that were submitted beginning in 2007.

The NRC expects to complete both the safety and environmental portions of the first of these COLA reviews in 2011-2012. NRC's experience with these applications has demonstrated that Part 52 and the design-centered review approach have been successful in achieving standardization around a selected design and have resulted in a clear safety focus and resource savings. At this time, the NRC staff is making good progress on the applications it currently has under review. The reviews have been complicated because some applicants are revising the proposed design currently under review. For all of the applications, it is important that applicants minimize design and siting modifications and work aggressively to resolve open issues. Further, COL applicants are revising the submittal dates for responses to requests for additional information (RAIs), thereby causing schedule delays and, therefore, causing resource impacts. The NRC is working with applicants to overcome these challenges. NRC is focusing on bringing the remaining technical issues to resolution. NRC has moved forward on reviewing applications and is on a closure path for many issues.

The NRC staff continues to work with the applicants to ensure that they understand the regulatory process and the regulations. In addition, the NRC staff is taking a proactive approach to address schedule issues by actively engaging the applicants regarding their progress in meeting their established COLA review schedules.

During this reporting period, the NRC issued 30 DC safety evaluation report (SER) chapters covering 4 design centers to the Advisory Committee on Reactor Safeguards (ACRS), and issued 15 SER COLA chapters covering 3 design centers to the ACRS.

The following areas covering the third quarter of fiscal year (FY) 2010 are summarized in this report in the following order: new reactor licensing reviews and rulemaking (organized by design center), regulatory infrastructure, construction inspection activities, advanced reactors, international activities, and funding.

New Reactor Licensing Reviews and Rulemaking

A status of new reactor licensing reviews and associated rulemakings, organized by design center are summarized below for the third quarter FY2010. At the beginning of each design center discussion, there is a table summarizing key public milestone dates for each project.

AP1000

PROJECT	Final Safety Evaluation Report (FSER)	Final Environmental Impact Statement (FEIS)	Rulemaking
AP1000 Amendment	December 2010	N/A	September 2011
Vogtle, Units 3 and 4	April 2011	TBD	
Summer Units 2 and 3	April 2011	February 2011	
Levy County Units 1 and 2	July 2011	July 2011	-
Bellefonte Units 3 and 4	TBD*	TBD	-
WS Lee Units 1 and 2	TBD*	August 2012	-
Harris Units 2 and 3	TBD*	TBD*	-
Turkey Point Units 6 and 7	December 2012	October 2012	-

* Review schedule milestones being evaluated as part of rebaselining effort.

AP1000 DESIGN CERTIFICATION AMENDMENT

General Information:

Design: Advanced Passive 1000 (AP1000)
 Application Type: Design certification (DC) amendment
 Location: N/A
 Docket Date: January 18, 2008

Project Schedule Risks:

- The shield building design methodology is the critical path task for Phase 2 and is a significant project risk. Westinghouse has agreed to do verification testing of its design for critical sections. Westinghouse submitted a design report dated August 31, 2009, explaining design methodologies for entire structure. Staff has completed its review of Westinghouse's submittal in September 2009 and concluded that the proposed design would require modification in some specific areas to ensure its ability to perform its safety function under design basis conditions.

The staff issued a letter to Westinghouse on October 15, 2009, informing Westinghouse of the specific technical concerns.

A meeting with Westinghouse occurred on November 18, 2009, at which Westinghouse outlined proposed design changes (such as added shear reinforcement, simplified air-inlet design and change in plate thickness and material).

On December 3, 2009, a non technical meeting between the NRC and Westinghouse on the AP1000 shield building was conducted to identify dates for specific technical meetings

associated with the testing and benchmarking plans. A meeting on test program setup and criteria and analysis was held on December 21-22, 2009. A technical meeting was conducted on January 28-29, 2010, on the test program and analyses. A meeting was held on February 23, 2010, to discuss construction inspection of the shield building.

By letters dated March 22, 2010, Westinghouse submitted its revised Shield Building Design Report, Part 1, and its extension to Soft Soil Report (Technical Report 03). Revision 2 of Westinghouse's Shield Building Design Report was submitted on May 7, 2010.

Westinghouse submitted to the NRC its Hard Rock High Frequency Report (Technical Report 115) in May 2010. The staff inspected the Westinghouse Quality Assurance Program (at Purdue University) and observed the testing of structural modules during the week of May 25-28, 2010. A public meeting (with portions closed for proprietary information) was held during June 9-11, 2010, to provide the NRC feedback. A matrix of 21 action items was developed for Westinghouse to provide specific information in response to staff questions.

Next Steps: The staff will summarize the meeting and publish the publicly available information within 30 days of the meeting. Westinghouse is to respond to the 21 action items by early July 2010.

- The staff believes that Westinghouse's current seismic rack design for new and spent fuel storage does not appear to meet the American Society of Mechanical Engineers (ASME) code. To address the potential risk to the review schedule, the staff has engaged Westinghouse many times, through teleconferences, since the staff issued RAIs at the end of January 2009. Westinghouse has submitted a revised rack design analysis in mid November 2009 and its RAI responses. The staff conducted the audit June 2-4, 2010, and several action items were generated with specific steps for closure. Westinghouse responded to action items by June 30, 2010.

Next Steps: The staff will complete its safety evaluation report by August 30, 2010.

- Westinghouse has informed the staff that changes to the AP1000 Design Control Document (DCD), identified through the Westinghouse change control process, will be submitted as part of Revision 18 to the AP1000 DCD. By letter dated January 20, 2010, as supplemented by letters dated March 12, 2010, and April 26, 2010, Westinghouse provided the staff with details of these design and administrative changes intended for submittal with Revision 18 to the DCD. On March 17 and March 18, 2010, the staff held a public meeting with Westinghouse to discuss the January 2010 submittal and the process presented in ISG-11, "Finalizing Licensing-basis Information." Westinghouse reevaluated its design changes to focus on the changes that are absolutely necessary. Additional changes were submitted in a letter dated May 10, 2010. A public meeting was held on May 20, 2010, to discuss these changes as well as to discuss two additional changes that Westinghouse would be submitting. These topics are referred to by Westinghouse as "DCPs" (Design Change Packages). Westinghouse submitted additional changes on May 25, 2010, to include changes associated with gas accumulation in safety injection lines.

Next Step: Staff is evaluating the impact to review schedule. Any RAIs regarding DCPs are due by June 30, 2010. Staff expects that the reviews of DCPs will become critical path review items with resolution of shield building in July 2010. Other challenging areas of ongoing review include: seismic issues (aside from shield building) associated with

extension to soil sites; hard rock high frequency topic; resolution of concrete impingement as related to the reactor sump; air inlet change effect on containment cooling as related to the shield building design change; determination of the extent of design acceptance criteria completion in the DC amendment (DCA); and aircraft impact assessment.

- The staff plans to complete the DC rulemaking using a streamlined process outlined in SECY-09-0018, "Streamlining Design Certification Rulemaking." This streamlined process has not yet been tested on any DC rules. The process has the following associated risks for which the staff may have little or no control over:
 - Potential for significant number of and/or complex public comments
 - Potential for public request for proprietary information (PI)/ Sensitive Unclassified Non-Safeguards Information (SUNSI)/Safeguards Information (SGI) to inform comments
 - Timeliness of the Office of Management and Budget (OMB) approval of information collections
 - Timeliness of the Office of the Federal Register (OFR) approval of incorporation by reference
 - Potential for ACRS request to review final rule
 - Timeliness of Commission review
 - Timeliness of parallel interoffice concurrence

Schedule Status:

FSER Completion Date:

Original: FSER – March 2010

Current: FSER – December 2010

The staff's goal is to complete the advanced FSER (with confirmatory items) by December 2010 to support the AP1000 DCA rulemaking goal of September 2011. A letter, identifying the schedule to complete the remainder of the AP1000 DCA review, was issued to Westinghouse on June 21, 2010.

Current Safety Review Phase: The project currently spans Phases 2, 4, and 5. The project is in Phase 2– SER with open items (OIs) and several chapters are in Phase 4 – SER with no OIs. Chapters 4, 10, 11, 12, 14, and 22 have been issued to the ACRS as final and are in Phase 5. The remaining chapters in Phase 2 (Sections 3.7 and 3.8, Chapter 6, and Sections 9.1.1.2.1 and 9.1.2.2.1) will be issued in July 2010, to complete Phase 2. The balance of the technical review is in Phase 4.

VOGTLE COMBINED LICENSE APPLICATION REVIEW

General Information:

Design Type: Advanced Passive 1000 (AP1000)
Application Type: Reference Combined License (RCOL)
Location: Waynesboro, GA
Docket Date: May 30, 2008

Project Schedule Risks:

Completion of advanced FSER with no OIs is dependent on the AP1000 DCA FSER.

Next Step: Staff is managing this review to maximize its ability to conduct the review in parallel with the design certification in order to minimize the effect of this dependency.

- Reviews of large area fires and explosions are being conducted in the “Advanced FSER” phase.
- On October 2, 2009, Southern Nuclear Operating Company and its four co-applicants submitted a request for a second limited work authorization (LWA) as part of its COLA. The requested activities under this LWA include:
 - Installation of reinforcing steel, sumps, and drain lines and other embedded items in the Nuclear Island (NI) foundation base slab
 - Placement of concrete for the NI foundation base slab

A supplementary notice of hearing and opportunity to petition for leave to intervene on the second LWA has been published in the *Federal Register*.

With respect to the staff’s ongoing review of the COLA for Vogtle Electric Generating Plant (VEGP) Units 3 and 4, the staff will need to also consider any new and significant environmental information associated with the ESP amendments in its Draft Supplemental Environmental Impact Statement (DSEIS). As a result of the license amendment requests, the schedule for issuance of the DSEIS was changed from May 2010 to “to be determined” (TBD). Also, the schedule for the issuance of the Final EIS was changed from February 2011 to TBD.

- On June 28, the staff issued Amendment Number 2 to the VEGP ESP. Amendment 2 revises the VEGP ESP site safety analysis report to allow the use of Category 1 and 2 backfill material from additional onsite areas that were not specifically identified as backfill sources for the activities approved under the ESP and LWA that was issued in August 2009. Amendment 1, issued on May 21, 2010, approved only a subset of onsite borrow sources specified in VEGP’s request dated May 13, 2010, for a limited scope approval. The potential exists for additional amendments.

Schedule Status:

Review Completion Dates:

Original: FSER – December 2010
Draft EIS (DESI) – TBD

Current: FSER – April 2011
Final Supplemental EIS – TBD

Current Review Phase:

Safety Review – Phase 4 – advanced SER with no OIs.

Environmental Review – Phase 2 – DSEIS

SUMMER COMBINED LICENSE APPLICATION REVIEW

General Information:

Design Type: Advanced Passive 1000 (AP1000)
Application Type: Subsequent Combined License (SCOL)
Location: Fairfield County, SC
Docket Date: July 31, 2008

Project Schedule Risks:

- Completion of advanced FSER with no OIs is dependent on AP1000 DCA FSER.

Next Step: Staff is managing this review to maximize its ability to conduct the review in parallel with the design certification and VEGP COLA in order to minimize the effect of these dependencies.

- Emergency Planning Review – Summer Units 2 and 3 are located approximately one mile to the southwest of Unit 1. The applicant proposed to use the same offsite emergency planning zones for all three units. The Federal Emergency Management Agency (FEMA) is waiting for the applicant to respond to an RAI stating that the impacted counties agree to this approach. FEMA's interim findings report for offsite emergency planning is being delayed because of this RAI response. The staff will come to a conclusion on its emergency plan review after FEMA provides its interim findings report. The applicant did not meet the March 15, 2010, deadline for responding to the FEMA RAI. In a letter dated April 13, 2010, the applicant was informed that the emergency planning schedule will be rebaselined after the staff has had a chance to review a May 15, 2010, submittal that will include the response to the RAI.

On May 17, 2010, the applicant informed the staff that it missed the May 15, 2010, deadline for providing the information. On June 15, 2010, the last of the four affected counties agreed, through a resolution, to the proposed Emergency Planning Zone (EPZ) for Summer Units 2 and 3. The applicant provided its response to FEMA's RAI in a letter dated June 24, 2010. Because a change to the EPZ is not needed, the staff expects the schedule impact to be minimal.

Next Step: FEMA is to provide its interim findings report by July 15, 2010.

- Maximum safety wet bulb temperature exemption – In a recently submitted revision to the FSAR, the applicant requested an exemption to the AP1000 design control document (DCD) revision 17 value for the maximum safety wet bulb temperature, which is a parameter used to measure the evaporative cooling capability of the air. The applicant's site value was recalculated based on interactions with the staff. To support an exemption request, additional analysis were completed and recently submitted by the applicant. Staff is assessing impact to the Summer Combined License application review schedule from all issues.

Next steps: Applicant to supplement RAIs by the end of June 2010.

- Environmental Review – The staff held two public meetings for the DEIS on May 27, 2010. The DEIS comment period was open until July 9, 2010.

Next Steps: Coordinate with other agencies, and process comments for response in the FEIS.

Schedule Status:

Review Completion Date:

Original: FSER – February 18, 2011
Final EIS – February 3, 2011

Current: FSER – TBD
Final EIS – February 3, 2011

Current Review Phase:

Safety Review – Phase B – Advanced FSER. Safety review schedule to be rebaselined to reflect current DC and RCOL review schedules.

Environmental Review – Phase 3 – Response to Public Comments on DEIS

BELLEFONTE COMBINED LICENSE APPLICATION REVIEW

General Information:

Design Type: Advanced Passive 1000 (AP1000)
Application Type: Subsequent Combined License (SCOL)
Location: Jackson County, AL
Docket Date: January 18, 2008

Project Schedule Risks:

- In an October 29, 2008, letter, the staff informed Tennessee Valley Authority (TVA) it was stopping the hydrology review. The staff anticipates that the hydrology review will extend the FSER date by about 18 months. TVA has provided hydrology information and the staff will schedule the reviews based on available resources.
- In a July 21, 2009, letter, the staff informed TVA that it will not issue a DEIS until after TVA's Board of Directors makes a decision on whether or not it will complete the Babcock and Wilcox (B&W) units. Should TVA's Board decision alter the current scope of the agency's National Environmental Policy Act (NEPA) review for Bellefonte Units 3 and 4, the staff would need to evaluate the impacts to the schedule and resources needed to complete the environmental review for the proposed reactors. On May 12, 2010, TVA issued a final supplement EIS in which the TVA staff recommended to the TVA Board that it pursue the option to complete or construct and operate a single nuclear operating unit Bellefonte Unit 1 at the Bellefonte nuclear plant site located in Jackson County, Alabama. The final SEIS identifies that the completion and operation of a B&W pressurized light water reactor is the TVA preferred alternative. In the final SEIS, TVA also evaluates the impact of refurbishing, reenergizing, and upgrading existing electrical transmission infrastructure. TVA accepted comments for 30 days beginning May 21, 2010, when the notice of availability of the final SEIS was published in the *Federal Register*. TVA has received 11 comments from various entities including the Environmental Protection Agency (EPA) during the comment period. The majority of the comments were similar to those received on the draft SEIS. Comments will either be addressed in the Record of Decision, or in a Final SEIS Comment Summary as part of the Administrative Record.

Next Step: TVA board will make a decision as early as August 2010 and no later than April 2011. Should TVA decide to pursue the AP1000 units, the issuance of the DEIS by NRC staff will depend on the timing of the TVA board decision.

- Chapter 6, exclusion area boundary X/Q – Bellefonte is seeking a plant-specific departure and exemption to reduce containment leakage in order to meet the dose requirements at the exclusion area boundary.

Next Step: Review scheduled to begin in summer 2010.

- In a September 4, 2009, letter, TVA informed the staff that an updated TVA interconnection system impact study has identified the need for a 5th 500 kV transmission line to support the Bellefonte site. The letter indicates that more information regarding the 5th 500 kV offsite power line will be provided at a later date in revisions to both TVA's environmental report and its FSER. Chapter 8 of the Bellefonte SER with OIs identifies this issue as an OI. The addition of a 5th 500 kV power line will also impact the environmental review.

Next Step: TVA to provide detailed information regarding the 5th 500 kV offsite power line.

Schedule Status:

Review Completion Dates:

Original: FSER – March 2011
FEIS – January 2010

Current: FSER – TBD
FEIS –TBD

Current Review Phase:

Safety Review: Phase 2 – SER with OIs. Safety review to be rebaselined to reflect design certification review schedule and change from reference COL to SCOL status.

Environmental Review: Phase 2 – DEIS (deferred)

LEVY COUNTY COMBINED LICENSE APPLICATION REVIEW

General Information:

Design Type: Advanced Passive 1000 (AP1000)
Application Type: Subsequent Combined License (SCOL)
Location: Levy County, FL
Docket Date: October 6, 2008

Project Schedule Risks:

- The seismology review identified that the applicant did not use the NRC-endorsed methodology for Probabilistic Seismic Hazard Analysis (PSHA). As a result, the seismic source term for the Gulf Mexico appears to be underestimated. RAIs were issued in February. The staff anticipates that the applicant will need to re-perform its PSHA, which could take several months to complete.

Next Step: Evaluate applicant's PSHA RAI responses (expected in late July 2010).

- The hydrology review uses Pacific Northwest National Laboratory (PNNL) technical resources, that are also used to support the DEIS activities on other high priority projects. This resource over allocation has delayed confirmatory analyses and resolution of OIs in several hydrology review sections, including tsunami flooding and flooding protection requirements. The hydrology review schedule has been revised based on current PNNL work completion estimates. Although the overall project completion date is unchanged, the hydrology review now shares a critical path. RAIs have been issued for all unresolved issues; RAI responses are expected in late June 2010.

Next Step: Upon receipt, the staff will evaluate the applicant's hydrology RAI responses.

- Issuance of Draft Environmental Impact Statement (DEIS):
 - Least Environmentally Damaging Practicable Alternative (LEDPA): U.S. Army Corps of Engineers (USACE) is a cooperating agency for development of the EIS and requires information that affects its LEDPA decision under the Clean Water Act. Additional RAIs were submitted to the applicant to address inconsistent details associated with its Section 404(b)(1) Alternatives Analysis for LEDPA and its evaluation of Florida Sites reports. These RAIs were sent to the applicant on September 25, 2009, and responses were received on December 16, 2009. The USACE sent another letter to Progress Energy Florida, Inc. (PEF) [the applicant] on March 5, 2010, that identified additional deficiencies in its LEDPA analysis.
 - Next Step: PEF expects to submit a revised analysis to USACE in July 2010. Staff will review PEF's response for potential impact to DEIS content and schedule.

Schedule Status:

Review Completion Date:

Original: FSER – May 5, 2011
FEIS – September 22, 2010

Current: FSER – July 14, 2011
FEIS – July 20, 2011

Current Review Phase:

Safety Review – Phase A – Issuance of RAIs
Environmental Review – Phase 2 – Issuance of DEIS

WILLIAM STATES LEE, III COMBINED LICENSE APPLICATION REVIEW

General Information:

Design Type: Advanced Passive 1000 (AP1000)
Application Type: Subsequent Combined License (SCOL)
Location: Cherokee County, SC
Docket Date: February 25, 2008

Project Schedule Risks:

- There are no project schedule risks at this time.

Schedule Status:

Review Completion Dates:

Original: FSER – February 2011
FEIS – March 2010

Current: FSER – TBD
FEIS – August 2012

Current Review Phase:

Safety Review - Phase A – Issuance of RAIs: Safety review schedule to be rebaselined due to changes to the AP1000 DC review schedule and addition of pond “C”.

Environmental Review - Phase 2 – DEIS

SHEARON HARRIS COMBINED LICENSE APPLICATION REVIEW

General Information:

Design Type: Advanced Passive 1000 (AP1000)
Application Type: Subsequent Combined License (SCOL)
Location: Wake County, NC
Docket Date: April 17, 2008

Project Schedule Risks:

Issuance of DEIS

- Least Environmentally Damaging Practicable Alternative (LEDPA) Analysis and Analysis and Alternative Selection Process: The USACE is a cooperating agency for development of the EIS and requires information that affects its LEDPA decision under the Clean Water Act. The USACE provided comments to the NRC on April 15, 2010, regarding supplemental information provided by the applicant on September 14, 2009. The USACE identified deficiencies in the applicant’s LEDPA analysis regarding alternative reservoir levels for the Harris site and aquatic impacts to the proposed and alternative sites. The transmittal letter, with USACE comments enclosed, was sent to the applicant on April 20, 2010.

Next Step: The USACE will engage the applicant regarding revising the LEDPA analysis. A response date from the applicant is to be determined and depends on the results of the discussions between the applicant and the USACE. Once the staff receives the information, the staff will review the applicant’s response for potential impact to the DEIS content and schedule with respect to NRC alternative siting guidance in NUREG-1555.

- General Conformity Determination: The Harris site is in a Clean Air Act (CAA) Maintenance Area for ozone and carbon monoxide. The staff must complete CAA conformity analysis prior to issuance of COLs. A supplemental RAI was sent to the applicant on June 15, 2010 requesting the analysis of emissions be revised based on new guidance from the U.S. Environmental Protection Agency and the plans of the State of North Carolina to revise their State Implementation Plan in accordance with the CAA. Next Step: The staff will assess

the applicant's updated air emission analysis once the RAI response is submitted (expected to be in the last half of July 2010).

- National Historic Preservation Act (NHPA) Consultation: The NHPA consultation process is under review by the staff and the USACE. The dates for completion of archaeology Phase 2 and 3 surveys by the applicant are unknown at this time.

Next Step: The staff will engage the USACE to discuss the options available to both agencies.

Schedule Status: Safety Review:

Review Completion Dates:

Original: FSER – April 2011
FEIS – May 2010

Current: FSER – TBD
FEIS – TBD

Current Review Phase:

Safety Review- Phase A – Issuance of RAIs. Safety review to be rebaselined to reflect current DC and RCOL review schedules.

Environmental review – Phase 2 – DEIS. Environmental review to be rebaselined once RAI issues are resolved.

TURKEY POINT COMBINED LICENSE APPLICATION REVIEW

General Information:

Design Type: Advanced Passive 1000 (AP1000)
Application Type: Subsequent Combined License (SCOL)
Location: Miami, FL
Docket Date: September 4, 2009

Project Schedule Risks:

The staff initially identified the technical and environmental review areas that may affect the length of the review schedule. Florida Power and Light Company (FPL) submitted its response to the NRC's September 4, 2009, docketing letter RAIs on November 10, 2009. These RAIs address scheduling questions that relate specifically to certain portions of the safety review. The staff evaluated the RAI responses and found that only the geologic/seismic source description was not adequate for the staff to begin its technical review.

- Regional Geology description: The applicant needs to provide more information regarding the geologic characteristics of the region surrounding the site to allow an adequate safety evaluation of the proposed site. FPL has hired a new contractor to address the issues.

Next Steps: Applicant to provide additional information by August 2010.

- EIS issues: There are additional information needs for the environmental report in such areas as Aquatic Ecology, Radiological Health, Cultural Resources, and Alternative Site

Selection that will require additional effort to resolve. The review team developed initial drafts of the EIS sections and the information needs and completed the environmental site audit in June 2010.

Next Steps: Complete the alternative sites audit and the public scoping meetings in July 2010.

Schedule Status:

The Office of New Reactors has developed an initiative to contract out the safety aspects of the SCOL review. Turkey point has been selected as the pilot project for this initiative. On May 28, 2010, the NRC issued a schedule for the Turkey Point Units 6 and 7 COLA, which incorporates by reference the AP1000 DCA. The schedule for safety review shows completion dates for the Advance SER with no OIs in May 2012 and completion of the final SER in December 2012. The environmental review supports the issuance of the draft EIS in October 2011, with the final EIS issued in October 2012.

The *Federal Register* Notice related to notice of hearing and opportunity to petition for leave to intervene was issued on June 18, 2010.

ESBWR

PROJECT	FSER	FEIS	Rulemaking
ESBWR	January 2011	N/A	September 2011
Fermi 3	TBD	TBD	-

ESBWR DESIGN CERTIFICATION REVIEW

General Information:

Design: Economic Simplified Boiling-Water Reactor (ESBWR)
Application Type: Design certification
Location: N/A
Docket Date: December 1, 2005

Project Schedule Risks:

- Hydrogen Concentration in Passive Containment Cooling System (PCCS) and Isolation Condenser (ICS) (RAI 6.2-202): Based on comments from the ACRS in November 2009, an RAI was issued on December 10, 2009, requesting that the applicant address the potential buildup of a combustible concentration of hydrogen in the PCCS and ICS heat exchangers following a loss-of-coolant accident (LOCA). Supplemental questions were sent to General Electric Hitachi Nuclear Energy on June 4, 2010.

Next Steps: Issue resolution planned to be presented to ACRS on July 12, 2010.

- The staff plans to complete the DC rulemaking using a streamlined process outlined in SECY-09-0018. This streamlined process has not yet been tested on any DC rules. The process has the following associated risks for which the staff may have little or no control over:
 - Potential for significant number of and/or complex public comments
 - Potential for public request for PI/SUNSI/SGI to inform comments
 - Timeliness of OMB approval of information collections
 - Timeliness of OFR approval of incorporation by reference
 - Potential for ACRS request to review final rule
 - Timeliness of Commission review
 - Timeliness of parallel interoffice concurrence

Schedule Status: (Note: ESBWR schedule is not modeled in phases)

AN SER with OIs has been issued and ACRS review of the SER with OIs was completed in December 2008. DCD Rev. 7 was submitted on March 31, 2010. The staff has begun preparing the proposed rule package.

FERMI 3 COMBINED LICENSE APPLICATION

General Information:

Design: Economic Simplified Boiling-Water Reactor (ESBWR)
Application Type: Subsequent Combined License (SCOL)
Location: Monroe County, MI
Docket Date: November 25, 2008

Project Schedule Risks:

Dominion, the applicant for the ESBWR RCOL, has publicly announced its decision to change reactor technology. Dominion's decision has little or no impact on the Fermi 3 schedule. The staff continues to assess the potential for future schedule impacts and is preparing to transition Fermi 3 to be the RCOL. The schedule for preparing the DEIS will be revised to adjust for delays in resolving environmental RAIs.

Next Step: The staff is seeking complete and final RAI responses from the applicant.

Fermi referenced Revision 3 of the Nuclear Energy Institute's (NEI's) document titled, NEI 08-09, "Cyber Security Plan (CSP) Template," as the basis for the Fermi CSP. This revision is not endorsed by the NRC. Therefore, the safety review milestone for Phase 1 will not be achieved. The NRC staff will revise the safety review schedule after receipt of a revised CSP based on Revision 6 of NEI 08-09 or Appendix A of Regulatory Guide (RG) 5.71.

As a result of the schedule impacts for the environmental and safety reviews, both schedule milestones have been changed to TBD pending receipt and review of necessary information from the applicant.

Schedule Status:

Current Phase Completion Dates:

- Safety Review:
 - Phase 1 Preliminary Safety Evaluation Report (PSER) - TBD
 - Phase 2 (FSER) -TBD
- Environmental Review
 - Phase 1 (Scoping) – Completed, July 2, 2009
 - Phase 2 (DEIS) –TBD

Current Review Phase:

- Safety Review – Phase 1: RAIs have been issued.
- Environmental Review – Phase 2 is in progress

ABWR

PROJECT	FSER	FEIS	Rulemaking
South Texas Project Units 3 and 4	TBD	March 2011	TBD
Aircraft Impact Assessment Design Certification Amendment	TBD	NA	TBD

ABWR DESIGN CERTIFICATION RULE AMENDMENT

General Information:

Design: Advanced Boiling Water Reactor (ABWR)
 Application Type: Design Certification Rule (DCR) Amendment
 Location: NA
 Docket Date: November 23, 2009
 Revision Submittal Date: June 30, 2009

Project Risk:

- The staff originally planned to complete all the chapters by April 30, 2010, in order to complete rulemaking on an accelerated schedule. However, the staff identified an issue related to certain penetrations in walls that were not adequately addressed in the submittal and prevented issuing a FSER with no OIs to the ACRS as scheduled. The public milestone dates were changed "TBD" pending resolution of this issue. Recently the applicant submitted a revised application.

Next Steps: The staff is reviewing the revised application and is reflecting the changes in the aircraft impact assessment (AIA) SER. Assuming all issues are resolved, the staff will present to the ACRS August 18, 2010, and full committee is September 9, 2010.

- This DCA is a first-of-a-kind rulemaking for three reasons. First, this is the first DC rule to address the NRC's aircraft impact requirements at 10 CFR 50.150. Second, the rule would treat the amended portion of the design – that is, the portion of the design that is within the scope of this amendment – as an option which COL applicants could choose to reference in their applications. Third, the applicant for the amendment of the design certification is not the applicant for the initial DC (GE). These three unique situations could generate substantial public comments, including requests for sensitive information in order to inform those comments, potentially resulting in a longer-than-planned public comment period and/or additional time required to resolve those comments.
- The staff plans to complete the DC rulemaking using a streamlined process outlined in SECY-09-0018. This streamlined process has not yet been tested on any DC rules. The

process has the following associated risks for which the staff may have little or no control over:

- Potential for significant number of and/or complex public comments
- Potential for public request for PI/SUNSI/SGL to inform comments
- Timeliness of OMB approval of information collections
- Timeliness of OFR approval of incorporation by reference
- Potential for ACRS request to review final rule
- Timeliness of Commission review
- Timeliness of parallel interoffice concurrence

Schedule Status:

Review Completion Dates:

Original: Advanced SER – April 2010

Current: Advanced SER – TBD

Original: Environmental Assessment (EA) – June 2010

Current: EA – TBD

SOUTH TEXAS PROJECT COMBINED LICENSE APPLICATION

General Information:

Design: Advanced Boiling Water Reactor (ABWR)
Application Type: Reference Combined License (RCOL)
Location: Matagorda County, TX
Docket Date: November 27, 2007
Revision 3 Submittal Date: September 16, 2009

Project Schedule Risks:

- Ground Water Model (FSAR Chapter 2.4) - The technical challenges, faced by the applicant in both characterizing the onsite hydrogeology, and developing, assuring the quality of, and documenting the groundwater model for Sections 2.4.12 and 13, have contributed to late submittals of RAI responses. Completing the review may require the staff to request further additional information.

The staff conducted a site audit on South Texas Project's (STP's) groundwater modeling activities on May 25, 2010. As a result of the site audit, the staff believes that the information the applicant intends to submit will address the staff's major modeling concerns.

Next Steps: Initial responses to the staff's RAIs are due in August 2010 with final responses due in December 2010. The staff is reevaluating the review schedule for Section 2.4.

- Backfill (Chapter 2) – The applicant has decided not to provide information either on the backfill or on dynamic testing results at this time; rather it is proposing to resolve the issues associated with the use of backfill under Category 1 structures through additional Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC). On May 4, 2010, the staff issued a supplementary RAI which asked for the applicant to submit an ITAAC with acceptance criteria that would allow the staff to make a safety finding.

Next Steps: The RAI response was received on June 3, 2010. The staff plans to close out this issue on schedule.

- Probabilistic Seismic Hazard Analysis (Chapter 2) - The implementation of NRC endorsed expert elicitation methodology in applicant's PSHA for Section 2.5.2 does not appear consistent with guidance. The maximum magnitude update for the Gulf Coastal Source Zone appears to be non-conservative. The staff has issued two rounds of RAIs in this area. Before issuing the second round of RAIs, the staff and the applicant held a public teleconference to ensure that the staff's information needs were clear. As a result of the teleconference, the staff is confident that the information that the applicant intends to submit will address the remaining technical concerns. The RAI response was received on June 10, 2010.

Next Steps: The staff plans to close out this issue on schedule.

- Seismic Analysis (Chapter 3) – The applicant did not have sufficient details in Chapters 3.7 and 3.8 of the application submitted in 2007. This problem was exacerbated by an error in the soil-structure interaction (SSI) computer code (SASSI-ACS); this required the applicant to use an alternate code and resulted in a delay in obtaining the analysis results. On November 19, 2009, the SASSI-2000 analysis for the ultimate heat sink was received. To address many open items, additional RAIs were issued and a public meeting was held on January 19 and 20, 2010, to discuss with the applicant all outstanding issues in Chapters 3.7 and 3.8. Responses to RAIs were received in March 2010. Staff is reviewing these RAI responses and will issue supplemental RAIs to the applicant by mid-June 2010.

Next Steps: The staff will perform a confirmatory analysis of the SSI analysis followed by an audit in August 2010. The audit will also allow the staff to evaluate all outstanding RAI issues. The staff project team is also coordinating with the Geosciences & Geotechnical Engineering Branch of the Office of New Reactors (RGS1) to ensure the resolution of soil properties and ground motion response spectra will not affect the finality of the Chapter 3 review. Based on STP's proposed deliverable schedules and the project's plan, the staff is expecting to issue the Chapter 3.7 and 3.8 SERs with no OIs on schedule.

- Flow-Induced Vibration (Chapter 3) - The review of Chapter 3.9.2 resulted in the issuance of several RAIs requesting information on the impact on the main steam dryer loading resulting from a change in main steam line routing and the potential design change of the safety relief valves. RAIs were also issued requesting information on how the guidance in Revision 3 of RG 1.20 is met. A meeting was held on December 17, 2009, to discuss the missing information in the STP flow-induced vibration program and the valid prototype test reports. The STP team understood the expectation and a team of engineers visited Kashiwazaki Kariwa reactor (K-6) in Japan to collect additional information. This visit resulted in a change in the STP approach and on March 4, 2010, they informed the staff they would become a prototype to address flow induced vibration for reactor vessel internals. The applicant recognized the importance of submitting a Comprehensive Vibration Assessment Program (CVAP) as part of the COL review. A meeting was held on April 20, 2010, for STP to present to the staff the current plan and schedule for submitting the STP Units 3 and 4 CVAP.

Next Steps: The applicant will be conducting a scale model test in late June or early July 2010, followed by the submittal of three reports for staff review between receipt and December 15, 2010. Based on STP's proposed deliverable schedules, the staff is expecting to issue the Chapter 3.9.2 SER with no OIs on schedule.

- Spent Fuel Pool Criticality (Chapter 9) – The applicant has not addressed several COL information items that require performing a criticality analysis because they believe that an existing ITAAC is sufficient. The staff does not consider the ITAAC to encompass this issue. A public meeting was held on March 23, 2010, with STP to discuss plan and schedule. All RAIs have been issued requesting the applicant to address COL license information items associated with the fuel rack design.

Next Step: The applicant is working to complete the criticality analysis by June 2010 and the dynamic load drop analysis by September 2010. Based on STP’s proposed deliverable schedules, the staff is expecting to issue the Chapter 9.1.1/9.1.2 SER with no open items on schedule.

- Environmental Review – The comment period on the DEIS closed on June 9, 2010. The staff is working to resolve submitted public comments. On June 10, 2010, the staff received the highest rating from EPA on DEIS (i.e., lack of objections).

Next Step: Begin revising and preparing the final EIS.

- Issuance of the STP Combined License application (COLA) is dependent on the completion of the ABWR design certification rule amendment. Next Step: The staff is working on the rule in accordance with the schedule presented earlier.

Schedule Status:

Review Completion Dates:

Original: FSER – September 2011
 FEIS – March 2011

Current: FSER – TDB
 FEIS – Same as original

Current Review Phase:

Safety Review – Phase 2

Environmental Review – Phase 3

EPR

PROJECT	FSER	FEIS	Rulemaking	Comments
U.S. EPR	TBD	N/A	TBD	Schedule to be reworked by July based on seismic and structure design analysis rework by the applicant
Calvert Cliffs, Unit 3	July 2012	February 2011		
Bell Bend	August 2012	March 2011		Schedule being revised based on site layout changes.
Nine Mile Point, Unit 3	TBD	TBD		Suspended at the applicant's request.
Callaway, Unit 2	TBD	TBD		Suspended at the applicant's request.

U.S. EPR DESIGN CERTIFICATION APPLICATION

General Information:

Design: U.S. Evolutionary Power Reactor (U.S. EPR)
 Application Type: Design Certification (DC)
 Location: NA
 Docket Date: February 25, 2008

Project Schedule Risks:

- AREVA submitted a multi-node containment model after the single-node model was found to be non-conservative. AREVA submitted a technical report containing the multi-node containment analysis and associated FSAR changes on December 18, 2009. The staff has recently been informed that the sub-compartment analysis that was scheduled to be submitted on May 5, 2010, will be delayed to August 2010.

Next Step: The staff is currently examining the schedule impact on the SER delivery date based on the sub-compartment analysis submission delays.

- On May 13, 2010, staff communicated to AREVA that the review of digital instrumentation and control (Digital I&C) design with respect to communication independence and Diversity and Defense-in-Depth was complete and that the NRC staff could not approve this aspect of

the design because AREVA had not provided sufficient information. On June 17, 2010, the staff provided AREVA further detail on the major issue of data communication and clarified its expectation for a June 25, 2010, public meeting. Staff met with AREVA on June 25, 2010, to discuss U.S. EPR Digital I&C design issues. The staff described underlying challenges in reviewing the design due to the complexity of the architecture as well as AREVA's application of the general design criteria related to independence. The staff identified that some of the design did not meet the regulations, nor had AREVA's docketed materials sufficiently justify its alternatives. AREVA presented a mix of proposed design changes intended to reduce design complexity and amplified its bases in other areas of concern for consideration. The staff stated that AREVA was moving in a positive direction regarding many of the proposed design changes, but stated that for areas where the data communication design was not being changed, the staff did not see how the design would meet NRC regulations. AREVA committed to send the NRC a letter by July 2, 2010, outlining its schedule to provide the staff with the U.S. EPR Digital I&C design changes.

Next Steps: Impacts to overall review schedule will be evaluated after a path forward has been identified.

- Resolution of Generic Safety Issue (GSI)-191, "Assessment of Debris Accumulation on Pressurized-Water Reactor (PWR) Sump Performance" - The analysis and testing supporting the adequacy of the sump design does not adequately address key technical topics that affect the safety evaluation of U.S. EPR FSAR Sections 6.2.2 and 15.6.5. AREVA submitted Revision 1 to the GSI-191 technical report on May 19, 2010, one month later than planned. AREVA's submission delay represented a 1-month shift in the submission of information critical to the safety evaluation of Chapters 6 and 15. In addition, the submission of Revision 1 is incomplete and contains no information on the evaluation of downstream in-vessel effects. Further, AREVA provided documentation of the planned path forward for downstream effects in a June 2010 audit.

Next Step: A public meeting with AREVA is scheduled for July 7, 2010, to discuss a path forward for additional testing on sump performance and downstream effects, and the submission of further revisions to the GSI-191 technical report. The staff will reevaluate the review schedule following this public meeting.

- During the final stage of the Phase 2 review, the applicant submitted a technical report containing a design change to the new and spent fuel storage rack. The design change requires a complete review of Section 9.1.1 of the FSAR. The additional review scope has resulted in making Chapter 9 a near critical path for review.

Next Step: The NRC staff is reevaluating the Phase 2 schedule and will issue a schedule letter by the end of July 2010.

- AREVA has changed the analytical methodology being used to complete the seismic and structural design. The NRC staff conducted an audit of EPR DC FSAR Sections 3.7 and 3.8, seismic and structural design, during April 26, 2010, through April 30, 2010. The audit identified a significant number of problems with the modeling and reanalysis that the applicant performed. A path forward was identified for approximately 40 items where analyses and calculations will need to be redone in order to resolve NRC technical concerns with the design. As a follow-up to this audit, a public meeting was conducted on June 9, 2010, to discuss AREVA's new schedule for completion of this reanalysis work, and for finalizing the associated RAI responses. The majority of the technical information needed to

establish the licensing basis in order to complete the staff's Phase 2 review will be provided in December 2010, and January 2011. The current review schedule was based on getting this information by June 30, 2010. As a result of this 6-month delay, the published milestone for completing Phase 2 will be significantly impacted.

Next Step: A schedule revision letter will be issued by the end of July 2010.

- The staff plans to complete the DC rulemaking using a streamlined process outlined in SECY-09-0018. This streamlined process has not yet been tested on any DC rules. The process has the following associated risks for which the staff may have little or no control over:
 - Potential for significant number of and/or complex public comments
 - Potential for public request for PI/SUNSI/SGL to inform comments
 - Timeliness of OMB approval of information collections
 - Timeliness of OFR approval of incorporation by reference
 - Potential for ACRS request to review final rule
 - Timeliness of Commission review
 - Timeliness of parallel interoffice concurrence

Schedule Status: Safety Review

Review Completion Date:

Original: FSER - May 2011

Current: FSER – December 2011

Current Review Phase: Safety Review

Phase 2 - Development of SER with OIs

Phase 3 - ACRS review of SER with OIs

Phase 4 - Advanced SER with No OIs

CALVERT CLIFFS COMBINED LICENSE APPLICATION

General Information:

Design: U.S. Evolutionary Power Reactor (U.S. EPR)

Application Type: Reference Combined License (RCOL)

Location: Lusby, MD

Docket Date: January 25, 2008 (Part 1), and June 3, 2008 (Part 2)

Project Schedule Risks:

- Electricite de France has purchased 49.99 percent of the Constellation Nuclear Energy Group. This impacts the financial review of the COLA. By its letter of January 8, 2010, Calvert Cliffs Nuclear Project, LLC and UniStar Nuclear Operating Services, LLC (UniStar), the applicant, have provided the revised COLA content pertaining to the organization and financial information. The NRC staff's RAIs were issued on April 21, 2010, to obtain additional information. The response date for these RAIs has been revised by the applicant twice already, the latest being July 7, 2010. The Phase 2 completion date of

January 3, 2011, provides assurance that sufficient time is available to complete the SER on schedule without impacting milestones.

Next Steps: The staff will evaluate the applicant's responses to the RAIs and determine if the applicant has sufficiently addressed the staff's concerns before issuing a safety evaluation with OIs to close Phase 2.

- UniStar's package containing the seismic information required for the review of FSAR Section 3.7 was submitted on December 29, 2009.

Next Step: This new submittal is currently in review and the staff plans to issue additional RAIs on the supplementary package by end of June 2010. Draft RAIs pertaining to staff's review of FSAR Section 3.7 were issued to the applicant on June 16, 2010. A clarification phone call to discuss these RAIs is scheduled for July 12, 2010. A public meeting to discuss the status of this section is planned for July 2010. Additional inputs and audits are planned for September and November 2010. The schedule for Phase 2 completion by February 2, 2011, provides some assurance that sufficient time is available to complete the SER on schedule without impacting milestones. However, the COLA review schedule for this section may get impacted if the DC schedule for completing the seismic analysis is delayed.

- U.S. EPR chapter schedules for Chapters 3, 7, 15, and 18 had been adversely impacted during review and are expected to have a cascading effect to the Calvert Cliffs Unit 3 schedules for the corresponding chapters.

Next Steps: After U.S. EPR schedule impact is established, Calvert Cliffs Unit 3 schedules for these chapters will be reviewed for adjustment.

- Environmental Review – The staff issued the DEIS on April 16, 2010. The DEIS public meeting was held on May 25, 2010, in Solomons, MD. The DEIS comment period ends on July 9, 2010.

Next steps: Begin work on binning and responding to comments received on the DEIS.

Schedule Status:

Review Completion Dates:

Original: SER – August 2011	Current: SER – July 2012
DEIS – February 2009	DEIS – April 2010
FEIS – April 2010	FEIS – February 2011

Current Review Phase:

Safety Review – Phase 1 – Development of preliminary SER and RAIs and Phase 2 - Development of SER with OIs.

Environmental Review – Phase 3 – Receive public comments on DEIS and prepare responses.

Nine Mile Point 3 Combined License Application

General Information:

Design: U.S. Evolutionary Power Reactor (U.S. EPR)
Application Type: Subsequent Combined License (SCOL)
Location: Oswego, NY
Docket Date: December 12, 2008

Status:

On December 1, 2009, UniStar Nuclear Energy (UNE) submitted a letter (located in the Agencywide Documents Access and Management System (ADAMS) Accession Number ML093430638) requesting that the NRC temporarily suspend the Nine Mile Point Unit 3 Nuclear Power Plant (NMP3NPP) COLA review, including any supporting reviews by external agencies, until further notice. UNE informed the NRC that its decision to request the suspension was because NMP3NPP was not selected for a Federal loan guarantee.

Next Step: The staff prepared a response letter to UNE, dated March 26, 2010 (ADAMS Accession Number ML100620759) informing UNE of NRC's plans to discontinue all activities on the NMP3NPP COLA review in an orderly manner, and preserve the work that has been accomplished.

PPL Bell Bend Combined License Application

General Information:

Design: U.S. Evolutionary Power Reactor (U.S. EPR)
Application Type: Subsequent Combined License (SCOL)
Location: Luzerne County, PA
Docket Date: December 19, 2008

Project Schedule Risks

The applicant submitted the following information:

- Based on lessons learned from Calvert Cliffs, the applicant has conducted a new alternative site selection process. Two new alternate sites have been identified that required additional audit and evaluation. NRC staff conducted an audit of additional sites in June 2010.

Next Step: NRC staff is to complete the evaluation of the additional sites.

- The applicant proposed site layout changes that reduce impacts to "Exceptional Value" wetlands to satisfy USACE needs for the Clean Water Act Section 404 permit. These wetland avoidance issues for Bell Bend require the applicant to move the power block to avoid the currently impacted wetlands. Several technical areas will be receiving revised information to address the power block move. The updated submittal schedule was received from the applicant on May 7, 2010. The staff will need to revisit large portions of geology, seismic design and hydrology reviews with the revised submittals.

Next Step: Complete development of the new project schedule based on the applicant's submittal.

- Susquehanna River Basin Commission (SRBC) issues permits for water withdrawal from Susquehanna River. SRBC has communicated its position to the applicant that it does not intend to approve water withdrawal during low flow periods unless there is low flow augmentation (water storage). Impact could be significant depending upon applicant's decision on water storage. The EIS needs to evaluate impacts of proposed water storage and alternatives (flood abandoned mines, build reservoir, etc.) The applicant is developing its options and communicating with the SRBC. Bell Bend PPL indicated that information may not be available for several months.

Next Step: The staff is waiting for the applicant to submit its water withdrawal analysis.

- U.S. EPR chapter schedules for Chapters 3, 7, 15, and 18 had been adversely impacted during review and will force a cascading effect to the Bell Bend schedules for the corresponding chapters.

Next Steps: Readjustment of the Bell Bend chapter schedules will occur once the exact movement of the U.S. EPR schedule is known.

Schedule Status: Environmental Review

Final EIS Issue Date: August 2011 (under review)

Schedule Status: Safety Review

FSER Completion Date: March 21, 2012 (under review)

Current Review Phase: The project is currently in Phase A – Preliminary SER with RAIs.

US-APWR

PROJECT	FSER	FEIS	Rulemaking
US-APWR	TBD	N/A	TBD
Comanche Peak, Units 3 and 4	TBD	May 2011	N/A
North Anna Unit 3	TBD	TBD	N/A

US-APWR STANDARD DESIGN CERTIFICATION

General Information:

Design: U.S. Advanced Pressurized Water Reactor (U.S.-APWR)
Application Type: Design Certification
Location: NA
Docket Date: February 29, 2008

Project Schedule Risks

- Mitsubishi (MHI) made structural changes to its design which required performing a new seismic analysis. Also, MHI changed the soil-structure interaction (SSI) seismic analysis methodology for all safety-related structures from a 'soil-spring' approach to a finite element approach. This new analysis is complete and is based on revised input parameters, such as ground motion time histories, finite element models and damping values that are different from the current Design Control Document (DCD). The results of this seismic re-analysis impact the design of all structures, piping, equipment, and components. MHI has submitted the new methodology, seismic parameters, and seismic re-analysis technical reports and they are under review. RAIs have been issued on the new methodology report. This task is the new critical path for Phase 2.

Next Step: NRC will issue RAIs on the seismic reanalysis report by the end of July 2010.

- The computer codes used by MHI for performing the loss-of-coolant accident (LOCA) and non-LOCA analysis have not been approved by the NRC. Staff is currently performing necessary computer code reviews in support of the LOCA and non-LOCA Topical Reports and Chapter 15, "Transient and Accident Analyses." Recently, new code modifications have been implemented by MHI, causing an increase in staff's review scope. A new review schedule has been finalized and the timely completion of the computer code analysis is critical to the staff's safety review schedule.

Next Steps: MHI submitted revised topical and technical reports in June 2010. Staff has completed the confirmatory calculations, issued draft RAIs, and is preparing the safety evaluation per the specific schedule for this review.

- MHI developed a sump strainer design head loss test plan, addressing new issues with debris settlement. The US-APWR sump strainer design head loss testing schedule included the final test plan in June 2010, the conduct of the head loss testing in June 2010, and submission of the testing results to NRC in August 2010. The adequacy and timely completion of the upcoming analysis and testing of the US-APWR sump strainer design is critical to the staff's safety review schedule. NRC discussed the head loss test plan at a June 8, 2010, public meeting and observed the strainer head loss testing during the week of June 14-17, 2010.

Next Steps: NRC staff will review the test results report when submitted by MHI in August 2010.

- MHI will conduct departure from nucleate boiling thermal-hydraulic testing of the reactor fuel in the fall of 2010. The results will be submitted in a report to the NRC by March 2011. The adequacy and timely completion of MHI thermal-hydraulic testing of the reactor fuel core is also critical to the staff's safety review schedule.

Next Steps: Staff will observe the testing and review the results report.

- The staff plans to complete the DC rulemaking using a streamlined process outlined in SECY-09-0018. This streamlined process has not yet been tested on any DC rules. The process has the following associated risks for which the staff may have little or no control over:

- Potential for significant number of and/or complex public comments
- Potential for public request for PI/SUNSI/SGL to inform comments
- Timeliness of OMB approval of information collections
- Timeliness of OFR approval of incorporation by reference
- Potential for ACRS request to review final rule
- Timeliness of Commission review
- Timeliness of parallel interoffice concurrence

Schedule Status: Safety Review

Phase 6 FSER Completion Date:

Original: FSER – September 2011
 Current: FSER – September 2011

Current Review Phase: The Project is currently in Phase 2–SER with OIs.

COMANCHE PEAK NUCLEAR POWER PLANT COMBINED LICENSE APPLICATION

General Information:

Design: U.S. Advanced Pressurized Water Reactor (US-APWR)
 Application Type: Reference Combined License (RCOL)
 Location: Somervell County, TX
 Docket Date: December 2, 2008

Project Schedule Issues:

- In Chapter 3 of the US-APWR DCD, MHI made structural changes to its design, which required performing a new seismic analysis. By letter dated April 28, 2010, the NRC staff informed MHI of the schedule change to the DCD. Because this schedule change for the DCD impacted the schedule for the RCOL, the NRC staff issued a letter on May 28, 2010, that informed Luminant Generation Company LLC (Luminant) of the change to Phases 2 and 3 for the RCOL schedule.

Next Steps: NRC will issue RAIs and prepare the safety evaluation in accordance with the Phase 2 schedule for Chapter 3.

- The NRC staff has revised the RCOL schedule based on the changes to Chapters 4, 6, 7, 15, and 18 of the DCD review schedule. These changes to the DCD review schedule impacted the Phases 2 and 3 schedule for the RCOL. By letter dated April 28, 2010, the NRC staff informed MHI of the schedule change to the DCD. Subsequently, on May 28, 2010, the NRC staff issued a letter to Luminant informing them of the change to Phases 2 and 3 for the RCOL review schedule.

Next Steps: The NRC staff will issue RAIs and prepare the safety evaluation in accordance with the Phase 2 review schedule for these chapters.

- During the review of Luminant's responses to the NRC staff's RAIs for FSAR Section 2.5 "Geology, Seismology, and Geotechnical Engineering," Section 2.5.2, the NRC staff identified errors and omissions in the applicant's Probabilistic Seismic Hazards Analyses (PSHA) calculations. The applicant has updated the PSHA calculations. The NRC staff is reviewing the updates and already has identified inadequate RAI responses. In addition, the applicant was requested to conduct sensitivity analyses for its site response calculations to demonstrate the simplified site model is realistic. NRC staff conducted a second site audit of Section 2.5.2 on April 7 and 8, 2010. The NRC staff issued RAIs on June 9, 2010.

Next Steps: Luminant is scheduled to provide its response to these RAIs by August 27, 2010.

- The NRC staff has determined that the applicant did not provide sufficient information in Part 1, "Administrative and Financial Information." Specifically, the applicant did not address the formation of Comanche Peak Nuclear Power Company (CPNPC), formerly Nuclear Project Company LLC, a newly formed entity formed to construct and operate Comanche Peak Nuclear Power Plant, Units 3 and 4 (CPNPP Units 3 and 4); provide a negotiation action plan for Mitsubishi Heavy Industries, Ltd. (MHI) 12 percent ownership of CPNPC; provide all of the information stated in 10 CFR 50.33(a)-(d) for all MHI entities (e.g., subsidiaries) that will be involved directly or indirectly in the licensing action for CPNPP Units 3 and 4 due to the formation of the joint venture with Luminant and MHI; discuss the conditions and terms of Luminant's plan to obtain debt financing; provide the financial cost of the facility in the format as referenced in Appendix C to 10 CFR Part 50 and sources of construction funding; and provide a statement describing the bases from which the construction cost estimates for CPNPP Units 3 and 4 are derived. On August 31, 2009, and January 27, 2010, Luminant provided its responses to the NRC staff's RAIs. The NRC staff issued follow-up RAIs on March 9, 2010, and discussed these RAIs during a

May 18, 2010, proprietary meeting. Luminant provided its response to these RAIs on June 11, 2010.

Next Steps: The NRC staff is evaluating Luminant's response.

Schedule Status:

Review Completion Dates:

Original: FSER – December 2011
Current: FSER – December 2011
Original: FFEIS – January 2011
Current: FEIS – May 2011

Current Review Phase: Safety Review – Phase 2 – Development of SER with OIs.
Environmental Review – Phase 2 – DEIS

NORTH ANNA 3 COMBINED LICENSE APPLICATION

General Information:

Design: U.S. Advanced Pressurized Water Reactor (US-APWR)
Application Type: Subsequent Combined License (SCOL)
Location: Mineral, VA
Docket Date: January 28, 2008

Project Schedule Risks:

- Technology reassessment

The applicant publicly announced its decision to switch from ESBWR to US-APWR technology. On June 28, 2010, Dominion submitted to the NRC its revised application to reference the US-APWR design. The NRC document processing center is performing its ADAMS pre-flight check on the submission. When it is entered in ADAMS, the staff will perform a SUNSI review. The staff is also determining the scope of the initial evaluation of the revised application to ensure that sufficient information is provided for the staff's timely review of the revised application.

Next Step: Declare the revised application in ADAMS and perform a SUNSI review. Determine the scope of the staff's initial evaluation. North Anna application status will be tracked in the US-APWR design center in future reports.

Schedule Status:

- Revised application referencing US-APWR has been submitted. The staff has already begun the early evaluation of the revised application.

ESP

PROJECT	FSER	FEIS	Rulemaking
Victoria	TBD	TBD	TBD
PSEG	TBD	TBD	TBD

VICTORIA COUNTY STATION EARLY SITE PERMIT APPLICATION

General Information:

Design: Plant parameter envelope approach
(No design specified at this time.)
Application Type: Early Site Permit (ESP)

Location: Victoria, TX

Docket Date: N/A

Review Completion Date: June 7, 2010

Project Risks:

None

Schedule Status:

The staff informed Exelon that the Victoria ESP application was accepted and docketed in a letter dated June 8, 2010. The staff is developing a review schedule; the technical review is planned to begin in October 2010.

Current Phase Completion Date: Acceptance Review Completed on June 7, 2010.
Current Critical Path and Near Critical Path Task(s): N/A

PSEG EARLY SITE PERMIT APPLICATION

General Information:

Design: Plant parameter envelope approach
(No design specified at this time.)

Application Type: Early Site Permit (ESP)

Location: PSEG Site (same as Salem and Hope Creek Generating Stations site) Salem County, NJ

Docket Date: N/A

Review Completion Date: Application was submitted on May 25, 2010.
Staff acceptance review is underway. Acceptance review docketing letter with *Federal Register* Notice is expected by August 5, 2010.

Project Risks:

TBD

Schedule Status:

TBD

Other Licensing Activities

Expected New Applications identified during the Third Quarter FY2010:

- None

DC Renewal:

Regarding DC renewals, the NRC received letters from GE-Hitachi Nuclear Energy and Toshiba Corporation notifying the NRC of their intent to submit renewal applications later in 2010 for the ABWR DC. GE-Hitachi Nuclear Energy informed the NRC that it plans on submitting its application mid 2010 (calendar year) and Toshiba Corporation informed the NRC that it plans on submitting its application the fourth quarter of 2010 (calendar year). The ABWR DC rule in 10 CFR Part 52, Appendix A was issued May 12, 1997, and is effective for a period of 15 years.

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>.

Regulatory Infrastructure

Licensing Activities:

Application Review Process:

The NRC staff continues to perform activities to enhance the effectiveness and efficiency of the review processes for new reactor applications. These activities include updating key guidance documents for NRC activities and application preparation, developing strategies and work products for optimizing the review of applications received, developing a construction inspection program for new construction activities, and continuing activities in the pre-application and DC review processes.

Issue Management:

Several of the issues currently under evaluation are:

- Standardized approach to license conditions,
- Review of construction impacts on existing units,
- Standards for technical qualification reviews, and
- DC amendment and renewal processes and standards.

Guidance Activities:

Regulatory Guides (RGs)

The Office of Nuclear Regulatory Research (RES) program to update RGs is summarized on the RES Web site. The Web site also identifies those RGs for which the Office of New Reactors (NRO) is the lead office for preparing the update.

Interim Staff Guidance (ISGs)

ISGs serve as an interim measure to provide guidance to NRC staff during their licensing reviews. They also serve as an important reference for applicants and licensees to help them understand staff expectations. The information contained in ISGs is incorporated into other permanent NRC documents, such as regulatory guides and standard review plans, when they are periodically updated.

ISGs issued by NRO are available to the public on the [NRC Web site](#). ISGs issued in the third quarter of FY2010 are described below.

Standard Review Plan (SRP)

NUREG-0800, "Standard Review Plan (SRP) for the Review of Safety Analysis Reports for Nuclear Power Plants," is the primary review document for the NRC staff to review and evaluate proposed licensing actions for nuclear power plants (NPP). It contains guidelines to ensure that staff evaluations lead to clear and defensible findings that demonstrate that the health and safety of the public will be maintained.

The SRP contains approximately 250 sections covering the entire scope of an NPP. Updating of the SRP and other associated guidance documents are critical to ensuring that staff evaluations reflect the latest information and knowledge related to safe operation of NPPs. The comprehensive SRP Review and Update Program occurs on a 4-year cycle to review all sections of the SRP to determine which sections require an update and to budget and schedule the resources necessary to perform the updates. During the third quarter of FY2010, the staff continued to prepare plans to perform the next periodic update to the SRP in FY2012.

Some SRP updates must be updated in shorter timeframes than those supported by the review and update program. To support its developmental work in the area of digital instrumentation and control, the staff issued one proposed SRP updates for public comment in the third quarter of FY2010:

Rulemaking Activities

Aircraft Impact Assessment Rulemaking

The final rulemaking on aircraft impact assessments (AIA) was published in the *Federal Register* on June 12, 2009 (74 FR 28111), and became effective on July 13, 2009. The rule at 10 CFR 50.150 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 requires applicants to use realistic analyses to identify and incorporate design features and functional capabilities to show, with reduced use of operator actions, that either the reactor core remains cooled or the containment remains intact, and either spent fuel cooling or spent fuel pool integrity is maintained. The staff is in the process of evaluating industry guidance on the methodology for performing aircraft impact assessments for new plant designs. Information to comply with the AIA rule has been submitted for all design centers currently under NRC review and NRC staff review of the submittals is in progress.

On December 1, 2009, staff from NRO, RES and representatives from Nuclear Energy Institute (NEI) met with the ACRS Safeguards & Security Subcommittee to discuss the draft final version of the guidance. The staff and NEI met with the ACRS Full Committee on February 4, 2010. On February 18, 2010, the ACRS issued a letter recommending that the final guidance (RG 1.217) be issued after revision to incorporate additional information recommended by the Committee. The staff is in the process of incorporating the ACRS comments into the final guidance.

Part 21 Rulemaking

The staff has identified several areas within Part 21, which could be enhanced through rulemaking. NRO is collaborating with NRR, the Office of Federal and State Materials and Environmental Management Program (FSME), the Office of Nuclear Material Safety and Safeguards, and the Office of the General Counsel to collect all areas to be considered for the rulemaking and develop the regulatory basis for this rulemaking. NRO has added this rulemaking to the Common Prioritization of Rulemaking chart in order to plan funding for this effort to begin in FY2012.

Access Authorization and Physical Protection Requirements for Nuclear Power Plant Construction

NRO is preparing a proposed rulemaking to add provisions that would apply during the reactor construction phase. The new provisions would require (1) physical protection measures; (2) access authorization controls; (3) physical inspections; (4) performance of high-quality security sweeps; and (5) lockdown measures and procedures for securing the security- and safety-related structures, systems, and components before entering the operational phase. The staff held a public workshop on March 31, 2010, to discuss the draft proposed rule text and is considering the feedback in the proposed rule. The proposed rule is scheduled to be delivered to the Commission in October 2010.

Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) Maintenance Rulemaking

NRO is developing a proposed rulemaking to amend the regulations related to verification of NPP construction activities through ITAAC under a combined license. Specifically, the staff is proposing new provisions that apply after a licensee has completed an ITAAC and submitted an

ITAAC closure letter. The new provisions would require (1) licensee reporting of new information materially altering the basis for determining that a prescribed inspection, test, or analysis was performed as required, or that a prescribed acceptance criterion is met; (2) licensee documentation of the basis for all ITAAC notifications; and (3) licensee notification of completion of all ITAAC activities. The staff publicly released draft proposed rule text on February 26, 2010, and held a public workshop to discuss the draft proposed rule on March 5, 2010. The proposed rule is scheduled to be delivered to the Commission in August 2010.

The NRC staff received Revision 4 to NEI 08-01 for 10 CFR Part 52 applicants and licensees on requirements for ITAAC closure process in January 2010. The revised industry guideline was edited to add critical sections of ITAAC maintenance. The ITAAC maintenance period covers the time from when the licensee submits an ITAAC closure letter to the time the Commission authorizes the facility to operate. NRC staff is currently reviewing the document. After staff is satisfied with the industry guideline's revision, staff plans to issue the draft revision of RG 1.215 that endorses the industry guide by the end of this summer. The issuance of the draft regulatory guide revision will coincide with the publishing of the draft rule update to 10 CFR 52.99. The draft rule will update the rule language to include ITAAC maintenance and new reporting requirements.

DC Rulemaking Streamlining

A potential scheduling issue that has been introduced by the concurrent reviews of DC applications and related COLAs relates to the need to complete the DC rulemaking prior to the issuance of a 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. 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.

SECY-09-0018 was issued on January 30, 2009, and details the staff's streamlining effort. With the implementation of the various improvements, the staff believes that the DC rulemakings can be completed in about 1 year and can be timed to minimize possible delays in the COL licensing process. The staff is currently implementing the identified improvements. The staff has drafted templates for DC proposed rules and discussed them in a public workshop on March 4, 2010.

Interoffice Rulemaking Contract

NRO is collaborating with NRR and FSME in issuing a single rulemaking support contract, thus negating duplicate efforts to issue individual contracts. Each lead office, and possibly other support offices, would be able to write task orders against the contract. A working group was established and has drafted a request for procurement action (RFP). Concurrence on the RFP package is ongoing with a target to send the package to the Chairman for approval in July 2010.

DC with Multiple Vendors

NRO has been discussing plans for addressing industry activities related to the ABWR DC. There are currently two parties who have stated their intention to submit renewals for the ABWR DC in early FY2011. In addition, South Texas Project submitted a request to amend the ABWR DC to comply with the AIA rule in June 2009. The staff is completing its technical review of this application. The staff expects to address issues associated with how it will treat the South Texas Project amendment, if granted, in the Office of the Secretary (SECY) paper transmitting the proposed rulemaking on the amendment to the Commission. In addition, the staff will address issues associated with how it intends to treat multiple requests to renew the ABWR certification in a subsequent communication to the Commission.

Loss of Large Areas

The final rulemaking on Power Reactor Security Requirements was published in the *Federal Register* on March 27, 2009, and became effective on May 26, 2009. The rulemaking was the primary vehicle to codify the requirements imposed on operating reactors by Orders issued after September 11, 2001. Regarding the changes to 10 CFR 50.54(hh)(2) and 52.80(d), the NRO staff held discussions with NEI and Design-Centered Working Groups (DCWGs) 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 Measure Orders for operating plants; and 10 CFR 50.54(hh)(2) in the final security rulemaking). The staff developed DC/COL-ISG-016, "Compliance with 10 CFR 50.54(hh)(2) and 10 CFR 52.80(d) Loss of Large Areas of the Plant due to Explosions or Fires from a Beyond-Design Basis Event," to endorse NEI 06-12, Revision 3. The final DC/COL-ISG-016 was revised in consideration of industry comments received and was presented to the ACRS on April 8, 2010 and issued on June 9, 2010.

Cyber Security

The security rulemaking included a new provision for cyber security, 10 CFR 73.54, "Protection of Digital Computer and Communication Systems and Networks." In January 2010, the NRC published RG 5.71, "Cyber Security Programs for Nuclear Facilities," which provides implementation guidance to applicants and licensees on an acceptable method for satisfying the requirements of 10 CFR 73.54. It is publicly available in ADAMS (Accession No. ML090340159). With regard to RG 5.71, a draft of the associated guidance document (DG-5022) was issued for public comment and a meeting was held on July 18, 2008 (Note: DG-5022 was later designated RG 5.71, "Cyber Security Programs for Nuclear Facilities"). The NRC staff briefed the ACRS Digital I&C Systems Subcommittee in October 2009, and the ACRS Full Committee in November 2009 on the draft final RG 5.71. The ACRS concluded that the RG should be issued to support compliance with 10 CFR 73.54 and provided recommendations regarding future work related to cyber security. The Office of Nuclear Security and Incident Response staff held discussions with NEI and DCWGs digital instrumentation and control (I&C) representatives on NEI 08-09 Rev. 6, "Cyber Security Plan Template" (ML101180437) which, on May 5, 2010, the NRC staff concluded would be acceptable for use by licensees to comply with the requirements of 10 CFR 73.54 with the exception of the definition of "cyber attack" (ML101190371).

Construction Inspection Activities

Construction is underway and NRC has begun executing construction inspection activities associated with the Vogtle limited work authorization (LWA). Infrastructure is in place to support FY2010 inspection activities to verify quality construction. On March 8, 2010, safety-related construction officially began at Vogtle Unit 3 with the start of engineered backfill operations authorized under the LWA. Safety-related activities have also begun on Unit 4. NRC Region II construction inspectors were present to view the initial activities and to begin the first on-site ITAAC inspection, and Region II has selected the construction Senior Resident Inspector and Resident Inspector for Vogtle and plans to open the resident office in the summer of 2010. Region II has inspected portions of the quality assurance program in accordance with inspection procedure 35007, associated with all LWA activities that had been completed at the time of the inspection. No significant issues were identified during this inspection. The IMC 2505 assessment process will start on July 1, 2010, and will cover the period between July 1, 2010, and January 1, 2011. The next construction milestone – backfill reaches the bottom of the Nuclear Island – should occur in late August or early September.

The NRC staff continues to refine concepts for ITAAC closure, and maintenance of closed ITAAC. The NRC staff conducted numerous public meetings within the past year to provide a forum for stakeholders to participate in and comment on NRC staff proposals for ITAAC closure, ITAAC maintenance, and other construction inspection program issues. One outcome from these meetings was the issuance of RG 1.215, "Guidance for ITAAC Closure under 10 CFR Part 52," in October 2009. The NRC staff continues to meet with stakeholders and plans to complete a draft Revision 1 of this RG to include guidance on ITAAC maintenance and other issues by the end of 2010. The staff is preparing two Commission papers which it plans to complete by August 2010. One is an annual update paper on progress involving ITAAC-related issues, and the other is a paper discussing proposed rule language for ITAAC maintenance and supplemental reporting requirements. The staff has also made progress on a revision to Regulatory Information Summary (RIS) 2008-05, "Lessons Learned to Improve Inspections, Tests, Analyses and Acceptance Criteria Submittals," and related to this, held a training session for NRO technical staff.

The Design Acceptance Criteria (DAC) working group was formed in November 2009, to respond to a STP request for review of digital I&C DAC products related to the STP Units 3 and 4 design. Efforts have been focused on development of a viable DAC inspection process that was partially demonstrated in a test case (pilot) scenario for STP during the second quarter of FY2010. Elements include development of a process framework in parallel with development of DAC inspection procedures (digital I&C documents have priority, but piping and human factors strategies are also being developed). To date, the process framework has been developed and vetted. Inspection procedure development is on-going. Concurrent with current efforts, an Integration Plan is being developed that will expand the working group charter beyond the pilot effort, incorporate elements of the STP initiative into a generic DAC inspection methodology, and set the stage for revisions to RG 1.215.

The construction reactor oversight process (cROP) working group was formed in December 2009 to respond to Commission direction to develop construction assessment program options for Commission consideration. Development efforts have been focused on the inclusion in the cROP of objective elements such as construction program performance indicators and significance determination processes analogous to those used in the reactor oversight process. To date, the working group has developed a regulatory framework, including strategic performance areas and cornerstones, including objectives, attributes, and areas to measure. The working group will continue to meet periodically with stakeholders during

Category II and III public meetings to solicit their input and will develop a SECY paper with assessment program options for Commission consideration by October 2010.

On June 17, 2010, the Office of New Reactors hosted the second NRC Workshop on Vendor Oversight for New Reactor Construction at the New Orleans Marriott in New Orleans, LA. The workshop was widely attended and included discussions on such issues as vendor oversight for new reactors; the ASME nuclear survey process; the NRC enforcement policy as it applies to vendors; counterfeit, fraudulent or suspect items, and vendor insights on third party oversight. The workshop was attended by about 550 persons, representing companies and organizations from 11 countries. They included 233 vendors, 3 industry groups, 10 government regulatory agencies, and 45 foreign and domestic utilities/including NRC license applicants (for DC, COLs, and fuel cycle facility licenses). Additionally, the NRC staff conducted two vendor inspections, five quality assurance implementation inspections, and a pilot AIA inspection.

Advanced Reactors

Domestic Activities

The Advanced Reactor Program (ARP) is currently working with the U.S. Department of Energy (DOE) to coordinate various research and preapplication activities related to the Next Generation Nuclear Plant (NGNP) program. In addition, the ARP is preparing for the review of applications related to integral pressurized water reactors (iPWRs).

The NGNP program remains one of the primary focus areas of the ARP as the NRC staff develops the necessary infrastructure to license gas-cooled reactors consistent with the joint NRC/DOE NGNP licensing strategy. Phase 1 of the NGNP program is currently underway and is comprised of research and development, conceptual design, and development of licensing requirements.

The NRC staff continues to focus on identifying and resolving policy and key technical issues, developing guidance, and participating in preapplication interactions related to various advanced reactor technologies and designs. With design review applications related to iPWRs expected as early as 2012, the NRC staff is increasing its activities and interactions related to these designs and is actively working with several iPWR vendors in preparation for their applications. Focusing the attention of the NRC staff on the NGNP program and on iPWRs continues 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 NRC 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 identifying reasonable resolution paths for these issues; and
- identifying technical skills necessary to review these designs and, as appropriate, hiring staff and contractors who possess the requisite knowledge, skills and abilities.

The NRC staff has developed and is executing a procurement strategy that relies on the expertise in advanced reactor designs provided by the DOE laboratories. The staff is relying on the DOE laboratories for support in the resolution of generic policy and technical issues,

development of guidance documents for both the NRC staff and industry, and preapplication reviews of topical reports and white papers submitted by potential suppliers. The NRC staff is developing its longer term contracting strategy that will likely involve commercial contractors and the review of actual design and licensing applications.

The NRC staff developed a policy paper, SECY-10-0034, "Potential Policy, Licensing, and Key Technical Issues for Small Modular Nuclear Reactor Designs," to keep the Commission informed of the potential issues that may require Commission consideration. The NRC staff has developed and is implementing resolution plans for the potential policy and key technical issues, on a schedule consistent with industry plans to submit licensing applications. For example, the staff is actively engaged on the following policy issues related to small modular reactors (SMRs):

- License Structure for Multi-Module Facilities
- Manufacturing License Requirements for Future Reactors
- Use of PRA in the Licensing Process
- Appropriate Source Term, Dose Calculations, and Siting
- Appropriate Requirements for Operator Staffing for Small or Multi-Module Facilities
- Security and Safeguards Requirements
- Offsite Emergency Planning Requirements
- NRC Annual Fees
- Insurance and Liability Requirements
- Decommissioning Funding Requirements

The staff will inform the Commission and other stakeholders of its activities and progress on resolving these issues. These proposed resolutions of policy issues will be submitted in future papers and will support the NGNP and other SMR review activities. In addition, the staff will inform the Commission in a timely manner of additional issues when they are identified.

The NRC staff issued RIS 2010-03 on February 26, 2010, requesting advanced reactor suppliers to provide information on potential preapplication and application submittals. The table below provides a summary of the responses received, but is not a complete representation of potential applications expected by the NRC. Some of the responses provided to the NRC were submitted as proprietary information and, therefore, are not included in the table below.

Reactor	Application Type	Projected Application Schedule
NGNP	COL	FY2013
GE-Hitachi PRISM	COL Prototype / Manufacturing License	FY2012
B&W mPower Design	DC	FY2013
NuScale	DC	FY2012

The NRC staff has received several topical reports and white papers from potential suppliers, and has developed schedules and identified resources to support the review of these documents. Based on the responses to RIS 2010-03, the staff expects to receive several preapplication submittals from potential suppliers before the end of the fiscal year. The staff also expects white papers to become available from the American Nuclear Society (ANS) on

issues facing advanced reactor designs. In addition, the NRC staff has established routine periodic meetings with the SMR community (coordinated by NEI) to discuss issues associated with advanced reactor designs.

As directed in the staff requirements memorandum related to SECY-09-0064, "Regulation of Fusion-Based Power Generation Devices." The NRC staff is not pursuing licensing or infrastructure development for fusion-based energy devices until commercial deployment of the technology is more predictable by way of successful testing.

International Activities

NRC is continuing to use international experience and lessons-learned to assure safe design both domestically and internationally. All of the new reactor designs under review in the U.S. are also under review, being coordinated or in operation in other countries.

The NRC is one of the 10 members of the Multinational Design Evaluation Program (MDEP). MDEP currently consists of five working groups with the two design working groups, U.S. EPR and AP1000 having several sub working groups. The working groups meet twice a year. Summaries of the meeting results can be found on the NRO web site. NRO technical staff and management participated in the following MDEP meetings during this period: U.S. EPR Radiation Protection working group; Vendor Inspection Cooperation working group; U.S. EPR Project and Digital I&C working groups; Codes and Standards working group; Digital I&C working group; and the MDEP Steering Technical Committee.

Additionally, NRO provided relevant presentations to the Committee on Nuclear Regulatory Activities' Working Groups on Operating Experience and Inspection Practices; presented at an ANS meeting in Korea; and observed and audited the GSI-191 downstream effects testing as performed by Mitsubishi Heavy Industries in support of the US-APWR design control document review in Japan.

NRO hosted two assignees from the Chinese Regulator, National Nuclear Safety Administration of China (NNSA), and one from the German technical organization, GRS, during the period. Additionally, NRO completed a construction inspection exchange with China as part of the cooperation with NNSA in the area of construction inspection.

Funding

Committed and Obligated Funding

The following tables reflect the FY2010 third quarter committed and obligated funding:

NRO CASE WORK ONLY

FY2010 Funding	3rd Quarter
Commitments	\$10,335,413
Obligations	\$10,235,104

NRO- ALL (NON-PROGRAM MANAGEMENT, POLICY AND ANALYSIS MANAGED WORK)

FY2010 Funding	3rd Quarter
Commitments	\$11,890,340
Obligations	\$11,790,031