

POLICY ISSUE (Information)

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SECY-15-0066

FOR: The Commissioners

FROM: Mark A. Satorius */RA/*
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SUBJECT: CONSTRUCTION REACTOR OVERSIGHT PROCESS
SELF-ASSESSMENT FOR CALENDAR YEAR 2014

PURPOSE:

The purpose of this paper is to present the results of the U.S. Nuclear Regulatory Commission (NRC) staff's calendar year (CY) 2014 self-assessment of the Construction Reactor Oversight Process (cROP). This paper does not address any new commitments.

SUMMARY:

The results of the CY 2014 self-assessment show that implementation of the cROP continued to meet the agency's strategic goals of ensuring safety and security through objective, risk-informed, understandable, and predictable oversight. The cROP also ensured openness and effectiveness in support of the agency's mission and its strategic goals of safety and security. The staff will continue to solicit input from internal and external stakeholders to further improve the cROP.

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BACKGROUND:

The staff performed the CY 2014 self-assessment in accordance with Inspection Manual Chapter (IMC) 2522, "Construction Reactor Oversight Process Self-Assessment Program," dated July 28, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14189A211). The staff has issued three previous cROP self-assessment Commission papers and has briefed the Commission annually on the results after the Agency Action Review Meeting. The Commission has supplied the staff with direction in the form of a staff requirements memorandum (SRM) after these briefings. In SRM-M140603, "Briefing on the Results of the Agency Action Review Meeting (AARM), 9:00 A.M., Tuesday, June 3, 2014 [...]," dated June 16, 2014 (ADAMS Accession No. ML14168A111), the Commission did not identify any new cROP requirements for staff action.

The staff also discussed cROP effectiveness with the Commission during the Briefing on Strategic Programmatic Overview of the New Reactor Business Line on September 10, 2014. In SRM-M140603, "Briefing on Strategic Programmatic Overview of the New Reactor Business Line, 9:30 A.M., Wednesday, September 10, 2014 [...]," dated September 16, 2014 (ADAMS Accession No. ML14259A359), the Commission did not identify any new cROP requirements for staff action.

In SECY-11-0111, "Staff Progress in Resolving Issues Associated with Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC)," dated August 12, 2011 (ADAMS Accession No. ML11174A304), the staff proposed ITAAC and construction experience (ConE) program updates be included in the annual cROP self-assessment report beginning in April 2012. The Commission subsequently approved this proposal. ITAAC and ConE program updates are included in Enclosures 1 and 2, respectively.

DISCUSSION:

To ensure that its cROP self-assessment for CY 2014 was comprehensive and robust, the staff conducted numerous activities and obtained data from many sources, including the cROP performance metrics described in IMC 2522, internal and external stakeholder feedback, and direction and insight that the Commission supplied in recent years. The staff analyzed the data to gauge cROP effectiveness and potential areas for improvement. The scope of the staff's self-assessment included a review of the key cROP program areas (construction inspection program, construction significance determination process (SDP), and construction assessment and enforcement programs), cROP communication activities, independent and focused evaluations, and cROP resources.

cROP Program Evaluations

Staff evaluations were in the three key cROP program areas: the construction inspection program, construction significance determination process (SDP), and construction assessment and enforcement programs.

Construction Inspection Program

NRC inspectors independently verified that the AP1000® licensees constructed new reactors in accordance with the approved design. During 2014, site construction activities primarily involved structural work. Throughout 2014, the staff continued to find quality issues associated with modules supplied by their nuclear vendors. To improve the quality of products received, the licensees developed corrective actions, including increased oversight of their suppliers. In 2015, NRC construction inspectors will remain focused on verifying that the licensees ensure adequate quality of nuclear materials that are received at the construction sites.

The staff continued to make progress in developing inspection guidance for all phases of construction. No outstanding procedure change requests are required to be resolved to support ongoing inspections. Significant accomplishments in 2014 included the issuance of three of the planned preoperational testing inspection procedures.

In September 2014, staff participated in a bilateral exchange with representatives of China's National Nuclear Safety Administration (NNSA) concerning China's reactor commissioning program. The NNSA supplied status updates on China's reactor commissioning program, challenges encountered, and procedure development. The staff reiterated the importance of a direct NNSA point of contact to facilitate cooperative exchanges between the NNSA and the NRC. The NRC delegation toured the Sanmen AP1000® construction site and participated in onsite meetings with Sanmen Nuclear Power Company (SMNPC). SMNPC facilitated detailed discussions on an overview of the Sanmen project, licensing progress, challenges and estimated scheduling details. The next interaction with NNSA is planned for October 2015 in China.

Construction Significance Determination Process

Guidance for using the construction significance determination process is in Inspection Manual Chapter (IMC) 2519, "Construction Significance Determination Process." All issued construction findings were audited using the guidance in IMC 2519 and its appendices. The findings included adequate detail to enable an independent auditor to trace through the available documentation and reach the same significance color characterization. In addition, it was determined during the independent review that the significance of all issued findings was appropriately characterized and that all established timeliness goals were met. In 2014, no revisions were carried out for the construction significance determination process, and the construction significance determination process has no pending updates. The staff will continue to monitor significance determination process implementation and consider improvements as necessary.

Construction Performance Assessment and Enforcement Programs

The staff implementation of the construction assessment program ensures that the NRC and licensees take appropriate actions to address performance issues commensurate with the issues' safety significance. The staff has not deviated from the guidance in the construction action matrix. Vogtle Units 3 and 4, and Virgil C. Summer Units 2 and 3, remained in the Licensee Response column of the construction action matrix in CY 2014.

On October 9, 2014, the NRC published a proposed revision to the Enforcement Policy for a 45-day comment period (*Federal Register* Notice 79 FR 61107). The proposed revision is available at ADAMS Accession No. ML14283A451. In this policy revision, the staff plans to incorporate the guidance contained in Enforcement Guidance Memorandum (EGM) 11-006, "Enforcement Actions Related to the Construction Reactor Oversight Process," dated December 21, 2011 (ADAMS Accession No. ML11354A092). This EGM authorizes the staff to disposition construction enforcement actions in a similar manner to its practice for operating reactors, consistent with the enforcement description in SECY-10-0140, "Options for Revising the Construction Reactor Oversight Process Assessment Program," dated October 26, 2010 (ADAMS Accession No. ML102500499), and the Commission's direction in SRM-SECY-10-0140, dated March 21, 2011 (ADAMS Accession No. ML110800557). The proposed Enforcement Policy revision will be offered to the Commission in a Notation Vote paper in CY 2015.

The staff issued NUREG-2165, "Safety Culture Common Language," in January 2014 to formally document the safety culture common language for all NRC programs. NUREG-2165 is based on the common language that was agreed to during a January 2013 public workshop and was documented in the enclosure to the workshop summary (ADAMS Accession No. ML13031A343). Subsequently, the staff incorporated the safety culture common language in guidance documents for reactors under construction.

cROP Communications and Performance Metrics

The staff supplied external stakeholders the following methods to access to cROP information that allowed them to offer feedback. The annual public end-of-cycle performance assessment meetings were conducted near Vogtle Units 3 and 4, and Virgil C. Summer Units 2 and 3. During the meetings, the staff responded to several questions from members of the public. The cROP public web page was modified to include a readily accessible feedback link that allows stakeholders to offer direct feedback to the staff by selecting a link that generates an e-mail to the cROP team. The staff continued to meet publicly each quarter with external stakeholders. In addition, senior Region II and Office of New Reactors (NRO) management visited the two construction sites quarterly, during which topics of mutual interest were discussed with senior licensee and other consortium management.

The staff supplied internal stakeholders opportunities to offer input on cROP effectiveness through an internal survey, the internal feedback process, periodic meetings, and telephone conferences. Results of the internal survey show that the staff generally believes that findings can be assigned the proper safety significance in accordance with established guidance. However, the staff said the minor and more-than-minor significance guidance could be revised based on experience at the sites that are under construction. In 2015, NRO and Region II staff will coordinate on enhancing the minor and more-than-minor significance guidance for a more consistent implementation.

The staff met established criteria for all 11 cROP performance metrics as defined in Appendix A, "cROP Self-Assessment Metrics," to IMC 2522, dated November 30, 2012 (ADAMS Accession No. ML12289A041). As discussed below, the staff plans to explore more objective performance metrics to better assess cROP implementation.

Independent and Focused Evaluations

A working group was formed to develop an overall integrated strategy and plan to support an effective transition of new reactors from construction to operations. The working group's efforts and recommended program enhancements are contained in the report, "Assessment of the Staff's Readiness to Transition Regulatory Oversight and Licensing as New Reactors Proceed from Construction to Operation," dated September 9, 2014 (ADAMS Accession No. ML14031A386). Although the working group concluded no immediate transition readiness issues existed, the members identified 21 longer term readiness issues, along with recommendations. In 2015, the staff has begun to implement action plans to address the transition readiness issues.

In COMSECY-14-0030, "Proposed Suspension of the Reactor Oversight Process Self-Assessment for Calendar Year 2014," dated August 5, 2014 (ADAMS Accession No. ML14168A532), the staff requested Commission approval to suspend the annual self-assessment of the reactor oversight process (ROP) for CY 2014. In SRM-COMSECY-14-0030, "Proposed Suspension of the Reactor Oversight Process Self-Assessment for Calendar Year 2014," dated September 19, 2014 (ADAMS Accession No. ML14262A078), the Commission approved this request. The staff is evaluating potential improvements to the ROP self-assessment program and exploring more objective performance metrics to better assess a mature oversight program. The staff plans to evaluate changes made to the ROP self-assessment program and will make appropriate modifications to the cROP self-assessment program for use during the CY 2015 cROP self-assessment. The staff will also make appropriate changes to the cROP based on other actions that are developed to address recommendations and suggestions for further ROP improvements identified during the independent ROP assessments conducted by the Government Accountability Office, the NRC Office of the Inspector General, and a Commission-directed internal independent review.

The Office of the Inspector General started an audit of the cROP in late 2014. The staff plans to address recommendations that are included in the final report.

cROP RESOURCES:

At the end of CY 2014, 48 full-time equivalents (FTEs) assigned to Region II were qualified construction inspectors. Two more employees were undergoing construction inspector qualifications. Construction resident inspector (CRI) staffing is largely based on the amount and type of safety-related activities occurring on site. During CY 2014, the NRC assigned one senior CRI and three CRIs to Vogtle Units 3 and 4, and also to Virgil C. Summer Units 2 and 3. Additional inspectors were dispatched to the sites on a temporary basis to perform specialty inspections and to augment the permanent resident staff. NRC inspection effort remained essentially the same in CY 2014 as compared with CY 2013, and was appropriate for the pace of construction activity. The staff's direct inspection effort will increase over the next several years as the sites increase safety-related mechanical and electrical construction and start the preoperational testing phase. Enclosure 3, "Construction Reactor Oversight Process Resources," further outlines cROP resources.

CONCLUSION:

The self-assessment results for CY 2014 show that the cROP supplied effective oversight by meeting program goals and achieving intended outcomes. The cROP was objective, risk-informed, understandable, and predictable. The cROP also ensured openness and effectiveness in support of the agency's mission and its strategic goals of safety and security. During CY 2014, the staff continued to find opportunities to strengthen program effectiveness and implementation. The staff recognizes the value of continuous improvement and, therefore, will continue to consider stakeholder feedback in its efforts to apply lessons-learned and improve various aspects of the cROP.

RESOURCES:

There are no resource implications for fiscal year (FY) 2015. The overall resources for staff's direct inspection effort in support of the Oversight Product Line will need to increase as construction inspection activities increase for Vogtle Units 3 and 4 and V.C. Summer Units 2 and 3.

Resource needs will be developed as part of the FY 2017 Planning, Budgeting, and Performance Management process.

COORDINATION:

This paper has been coordinated with the Office of the General Counsel, which has no legal objection. The Office of the Chief Financial Officer has reviewed this paper for resource implications and has no objections.

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Enclosures:

1. Staff Progress in Resolving Issues
Associated with ITAAC
2. Construction Experience Update
3. Construction Reactor Oversight
Process Resources

Staff Progress in Resolving Issues Associated with Inspections, Tests, Analyses, and Acceptance Criteria

The U.S. Nuclear Regulatory Commission (NRC) staff continues to carry out and refine the processes and guidance developed for inspections, tests, analyses, and acceptance criteria (ITAAC) closure. Since the last ITAAC update in SECY-14-0049, "Construction Reactor Oversight Process Self-Assessment for Calendar Year 2013," dated April 24, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14064A139), the staff facilitated 10 public meetings to discuss the development of ITAAC hearing procedures, the implementation of ITAAC lessons learned, and other construction inspection program topics. Members of the public, industry representatives, and other external stakeholders routinely participated in these public meetings.

ITAAC Closure Notifications

Through the end of calendar year 2014, Southern Nuclear Operating Co. submitted 20 ITAAC closure notifications (ICNs) for Vogtle Electric Generating Plant, Units 3 and 4. South Carolina Electric and Gas Co. submitted 18 ICNs for Virgil C. Summer, Units 2 and 3. The staff has completed its review of these ICNs. The staff anticipates a marked increase in ICN submittals over the next year as licensees complete more ITAAC at the Vogtle and Virgil C. Summer new plant construction sites.

Interim Operations and ITAAC Hearing Procedures

The staff submitted SECY-13-0033, "Allowing Interim Operation Under Title 10 of the *Code of Federal Regulations* Section 52.103," to the Commission on April 4, 2013 (ADAMS Accession No. ML12289A928), and the associated staff requirements memorandum (SRM) was issued on July 19, 2013 (ADAMS Accession No. ML13200A115). The SECY informed the Commission of issues associated with interim operation while ITAAC hearings were pending. In the SRM, the Commission approved the staff's recommendation that the Commission delegate the NRC's finding under Title 10 of the Code of Federal Regulations, 52.103(g) (10 CFR 52.103(g)) to the staff. Since the issuance of SECY-13-0033 and the associated SRM, the staff, the Office of the General Counsel, and the Office of Commission Appellate Adjudication have formed an ITAAC Hearing Procedures Working Group that developed procedures and templates for use in the hearing process. In April 2014, the draft procedures were published in the *Federal Register* for public comment. Public meetings in May and September of 2014 discussed issues related to the procedures, and final comments were collected by October 2014. The staff transmitted the draft final procedures to the Commission in a SECY notation vote paper dated January 20, 2015.

ITAAC Process Development Documentation

The staff continues to develop an Office of New Reactors office instruction on the determination process to support 10 CFR 52.103. This instruction will guide the review of the licensee's ITAAC completion to support the staff in making the finding in accordance with Section 52.103(g) that all acceptance criteria are met. In addition, the instruction will guide the staff's conclusion on the 52.103(g) finding for interim operation under 10 CFR 52.103(c). The

staff is also developing a template for an Information SECY paper to the Commission informing them that the staff is ready to make the 52.103(g) finding. The staff's efforts in this area have been coordinated with activities to develop ITAAC hearing procedures to ensure that both processes are complementary and consistent.

Office of the Inspector General Audit Report

The Office of the Inspector General (OIG) completed an audit of the staff's ITAAC process and made 10 recommendations in a report dated July 12, 2012 (ADAMS Accession No. ML12194A434). As stated in the OIG status memorandum issued to staff on April 2, 2015 (ADAMS Accession No. ML15092A818), 9 of the 10 recommendations have been closed. The remaining recommendation, which OIG considers to be resolved, involves the development of a change management process to address future change in the ITAAC process. The staff will revise its change management procedure to address OIG comments and will provide a status update to the OIG before the requested August 31, 2015, due date.

Construction Experience Update

During 2014, the Operating Experience (OpE) and Construction Experience (ConE) Center of Expertise continued to collect, evaluate, and communicate OpE and ConE information. The Office of New Reactors ConE staff reviewed and evaluated operational events and new reactor construction issues for applicability to domestic reactor designs, the new reactor licensing process, and the vendor and construction inspection programs. The ConE staff also developed written products to communicate lessons learned from the design, construction, and operation of commercial nuclear reactors.

In 2014, the ConE staff published five Information Notices on topics related to safety culture, inadequate analysis and functional testing of electrical penetrations, equipment qualification of safety related components, crane and heavy lift issues, and the potential for fires resulting from unanalyzed electrical circuit failures. The ConE staff also coordinated with the Office of Nuclear Reactor Regulation OpE team to address five issues for resolution, which require more evaluation by U.S. Nuclear Regulatory Commission (NRC) technical staff.

The ConE staff coordinated several activities related to agencywide efforts to address counterfeit, fraudulent, and suspect items (CFSI). The staff submitted SECY 15-0003, "Staff Activities Related to Counterfeit, Fraudulent, and Suspect Items," to the Commission on January 8, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14240A629) to update the Commission on the status of ongoing staff actions related to CFSI. The ConE staff also led the development of draft Regulatory Issue Summary (RIS), "Oversight of Counterfeit, Fraudulent, and Suspect Items in the Nuclear Industry," (ADAMS Accession No. ML14192B407) to heighten awareness of existing NRC regulations and how they apply to CFSI. The draft RIS was published for public comment in 2014 and is expected to be completed in 2015.

The ConE staff also supported the agency's international partnerships by exchanging information and sharing lessons learned within the Nuclear Energy Agency's International ConE database. In 2014, the ConE staff shared 20 construction-related issues identified through NRC inspections and licensee event reporting in the United States.

Construction Reactor Oversight Process (cROP) Resources

The initial direct inspection effort estimate is 35,000 hours per unit over the course of the construction project. This number includes 15,000 hours for inspections, tests, analyses, and acceptance criteria (ITAAC)-related inspections; 10,000 hours for construction and operational program inspections; 5,000 hours for reactive inspections above the baseline program in response to licensee performance issues, allegations, and nonperformance issues/events; and 5,000 hours for technical support for construction inspection. These have always been stated as average values, with initial units likely to require more inspection than subsequent units.

Table 1 summarizes the U.S. Nuclear Regulatory Commission (NRC) staff resources expended at the four AP1000[®] units under construction, in hours, for the Construction Reactor Oversight Process during the past four calendar year (CY) inspection cycles. Tables 2 through 5 reflect direct inspection hours expended by calendar year for Virgil C. Summer Unit 2, Virgil C. Summer Unit 3, Vogtle Unit 3, and Vogtle Unit 4 respectively. NRC inspection effort remained essentially the same in CY 2014 as compared with CY 2013. Through CY 2014, 20 percent to 23 percent of the estimated direct inspection hours were expended at Virgil C. Summer Unit 2 and Vogtle Unit 3, and approximately 7 percent of the estimated direct inspection hours were expended at Virgil C. Summer Unit 3 and Vogtle Unit 4. As anticipated, the majority of the ITAAC direct inspection hours to date were for ITAAC that have not yet been completed by the respective licensees. Through CY 2014, actual ITAAC inspection hours have been at or slightly above the estimated hours identified in the construction inspection planning and scheduling process. However, given the relatively early stages of construction and the relatively small population of ITAAC inspections that have been completed, no definitive conclusion can be reached regarding expended resources versus the estimated resource expenditures for ITAAC inspections.

ITAAC inspections have been heavily influenced by two issues. The first issue is inspector identified deficiencies in the design for reinforcing steel in seismic class 1 structures. The second issue is deficiencies identified by the licensees and the inspectors in structural modules and items received from suppliers and vendors. Performance in both of these areas has shown improvement with time, and fewer hours are being devoted to them.

The preponderance of ITAAC will be closed near the end of construction; however, the Region is performing as much inspection as possible early in the process so as to minimize both the inspection resource demand peak and to facilitate timely ITAAC closure. The percentage of ITAAC related direct inspection hours expended is fairly consistent with the percentage of "Smart Plans" completed. Smart Plans are the detailed inspection plans used to translate the general inspection guidance in the Inspection Procedures into plant-specific activities. Tracking Smart Plan completion provides the best available method for assessing progress in implementing the required cROP inspections. Through CY 2014, approximately 15 percent of Smart Plans were complete at Virgil C. Summer Unit 2 and Vogtle Unit 3; approximately 8 percent were complete at Virgil C. Summer Unit 3; and approximately 9 percent were complete at Vogtle Unit 4.

One item identified during this year's cROP self-assessment is that direct inspection charges for allegation follow-up at the two sites are very low in proportion to the number of allegations received. The Office of New Reactors staff is working with Region II staff to ensure direct inspection allegation follow-up charges are being accurately tracked.

The staff's overall direct inspection effort will increase over the next several years as the units proceed through construction and into the preoperational testing phase. The staff will continue to monitor direct inspection hours and will appropriately adjust its overall direct construction inspection hour estimate of 35,000 up or down, as applicable, as plant construction proceeds.

Table 1 - Actual Construction Inspection Program Direct Inspection Hours at AP1000® Units During Calendar Years 2011 - 2014 (Hours)					
Inspection Activity	Hour Estimate Per Plant	Virgil C. Summer U2	Virgil C. Summer U3	Vogtle U3	Vogtle U4
ITAAC direct Inspections	15000	3293	690	3347	921
Program direct inspections	10000	3089	1541	3676	1390
Reactive and Allegation Inspections	5000	0	0	51	0
Headquarters Technical Staff Inspection Support*	5000	747	260	824	268
TOTAL	35000	7129	2491	7898	2579
* Headquarters Technical Staff Inspection Support has been tracked only via a TAC number that is not linked to a specific docket. Therefore, it is not possible to distinguish the hours expended on each unit in this area. The total hours have been pro-rated based on inspection hours expended at the four units under construction. Through CY 2014, the following percentage of estimated hours has been expended: Virgil C. Summer Unit 2: 20 percent; Virgil C. Summer Unit 3: 7 percent; Vogtle Unit 3: 23 percent; and Vogtle Unit 4: 7 percent.					

Table 2 - Actual Construction Inspection Program Direct Inspection Hours at Virgil C. Summer Unit 2 During Calendar Years 2011 - 2014						
Inspection Activity	Hour Estimate Per Plant	2011	2012	2013	2014	Total
ITAAC direct Inspections	15000	0	636	1269	1388	3293
Program direct inspections	10000	98	1169	1035	787	3089
Reactive and Allegation Inspections	5000	0	0	0	0	0
Headquarters Technical Staff Inspection Support*	5000	13	292	228	214	747
TOTAL	35000	111	2097	2532	2389	7129
Total direct inspection and HQs technical support hours expended at Virgil C. Summer Unit 2 were slightly lower in CY 2014 as compared to CY 2013. Approximately 20 percent of the total estimated hours have been expended at Virgil C. Summer Unit 2 through the end of CY 2014.						

Table 3 - Actual Construction Inspection Program Direct Inspection Hours at Virgil C. Summer Unit 3 During Calendar Years 2011 - 2014

Inspection Activity	Hour Estimate Per Plant	2011	2012	2013	2014	Total
ITAAC direct Inspections	15000	0	18	313	359	690
Program direct inspections	10000	105	550	597	289	1541
Reactive and Allegation Inspections	5000	0	0	0	0	0
Headquarters Technical Staff Inspection Support*	5000	14	92	90	64	260
TOTAL	35000	119	660	1000	712	2491

Total direct inspection and HQs technical support hours expended at Virgil C. Summer Unit 3 were lower in CY 2014 as compared to CY 2013. Approximately 7 percent of the total estimated hours have been expended at Virgil C. Unit 3 through the end of CY 2014.

Table 4 - Actual Construction Inspection Program Direct Inspection Hours at Vogtle Unit 3 During Calendar Years 2011 - 2014

Inspection Activity	Hour Estimate Per Plant	2011	2012	2013	2014	Total
ITAAC direct Inspections	15000	7	739	1049	1552	3347
Program direct inspections	10000	135	1187	1324	1031	3676
Reactive and Allegation Inspections	5000	0	0	39	12	51
Headquarters Technical Staff Inspection Support*	5000	19	311	239	256	824
TOTAL	35000	161	2237	2651	2850	7898

Total direct inspection and HQs technical support hours expended at Vogtle Unit 3 were slightly higher in CY 2014 as compared to CY 2013. Approximately 23 percent of the total estimated hours have been expended at Vogtle Unit 3 through the end of CY 2014.

Table 5 - Actual Construction Inspection Program Direct Inspection
Hours at Vogtle Unit 4 During Calendar Years 2011 - 2014

Inspection Activity	Hour Estimate Per Plant	2011	2012	2013	2014	Total
ITAAC direct Inspections	15000	0	229	301	391	921
Program direct inspections	10000	26	391	572	401	1390
Reactive and Allegation Inspections	5000	0	0	0	0	0
Headquarters Technical Staff Inspection Support*	5000	3	100	86	78	268
TOTAL	35000	29	721	960	870	2579

Total direct inspection and HQs technical support hours expended at Vogtle Unit 4 were slightly lower in CY 2014 as compared to CY 2013. Approximately 7 percent of the total estimated hours have been expended at Vogtle Unit 4 through the end of CY 2014.