



ASSESSMENT OF THE STAFF'S READINESS TO TRANSITION REGULATORY OVERSIGHT AND LICENSING AS NEW REACTORS PROCEED FROM CONSTRUCTION TO OPERATION

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Executive Summary

The U.S. Nuclear Regulatory Commission (NRC) issued combined licenses (COLs) for Vogtle, Units 3 and 4, on February 10, 2012, and for V. C. Summer, Units 2 and 3, on March 30, 2012. The Office of New Reactors (NRO) was delegated authority for activities related to new nuclear reactor facilities at least until the resolution of all technical and adjudicatory issues associated with the NRC's finding under Title 10 of the *Code of Federal Regulations*, 52.103(g) (10 CFR 52.103(g)). Licensing and oversight authority for new nuclear reactor facilities during their period of operation resides with the Office of Nuclear Reactor Regulation (NRR). The NRC convened the Integrated Transition Working Group (WG) to develop an integrated transition plan that includes all safety and security functions (e.g., licensing and oversight) in order to support effective regulatory programs during transition from construction to operations for those sites with the intent to commence operations during FY 2018 and FY 2019 (i.e., Vogtle Units 3 and 4 and Summer Units 2 and 3). As part of this effort, the WG has identified several options for the transition of lead authority for activities related to new nuclear reactor facilities from NRO to NRR.

The WG is comprised of staff from all major program offices that are involved in the licensing and oversight of new and operating reactors. The WG conducted an extensive review of the new reactor licensing bases and associated regulations to compile a list of requirements that licensees must meet. The WG then reviewed NRC guidance documents, processes and procedures to ensure that regulatory actions were planned to carry out the NRC's mission of protecting the public's health and safety as new reactors proceed from construction to operations. The WG concluded that the NRC has developed processes and procedures to effectively license and oversee current new reactor construction activities. Thus, there are no immediate readiness issues.

The WG identified several noteworthy examples of activities already underway that enable the staff to address the regulatory challenges presented by new reactors including:

- The development of clear and detailed Construction Reactor Oversight Process (cROP) guidance.
- The establishment of an effective program to process preliminary amendment requests and license amendment requests.
- The development of extensive inspection planning processes to ensure that the right inspector is available at the right time to inspect licensee construction activities.
- The establishment of WGs or implementation of other actions to assess and develop recommendations for issues such as the anticipated Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) closure notification surge, initial test program inspection plans, inspector training, and interim operations.
- The use of external stakeholder engagement to address topics of concern as they arise.
- The development and implementation of the Technical Training Center's (TTC) new

AP1000® Simulator Course to enable the qualification of an adequate number of licensed operator examiners to support AP1000 operator licensing examinations.

The report contains a number of readiness issues that require actions to ensure that the NRC is prepared to effectively license and oversee future construction activities and the transition of new reactors to commercial operations. These readiness issues can be grouped into two broad areas: infrastructure issues and implementation issues. Examples of readiness issues in each of these areas include:

- Infrastructure issues
 - completing 10 CFR 52.103(g) finding procedures
 - developing procedures for 10 CFR 52.103(f) petitions, if any are received
 - developing guidance for new reactor oversight during the transition period
 - revising the Reactor Program System (RPS) to include data for reactors licensed under 10 CFR Part 52
- Implementation issues
 - ensuring the availability of qualified project and technical staff for timely disposition of:
 - varied and time-sensitive regulatory approval requests
 - a known approaching surge in ITAAC Closure Notifications (ICNs)
 - preparing a site staffing plan for NRC inspectors

All of the readiness issues and recommendations are presented in Enclosure 1, including the identification of the lead organization. Many of these readiness issues have already been identified by the organization, and actions are underway to address them. The Division of Advanced Reactors and Rulemaking (DARR) will conduct periodic status meetings and track the recommendations in a consolidated readiness report as they are being addressed by the lead organizations. On issuance of this report, the lead organization will develop specific implementation plans and schedules for each of their assigned recommendations and track them in the consolidated readiness report, if these milestones have not already been developed, and will provide a status of the recommendation at the previously mentioned DARR-led meetings. The report also includes activities that are not readiness issues but could present challenges to the staff as construction progresses. These related activities are summarized in Enclosure 2. These activities will also be tracked in the consolidated readiness report to assure the completeness of readiness activities.

As new issues emerge, they will be assessed on a case-by-case basis and appended to the list of recommendations and their resolution included in the periodic status meetings.

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1 BACKGROUND

The U.S. Nuclear Regulatory Commission (NRC) issued combined licenses (COLs) for Vogtle, Units 3 and 4, on February 10, 2012, and for V. C. Summer, Units 2 and 3, on March 30, 2012. Since the issuance of the COLs, the NRC has exercised first-of-a-kind regulatory processes associated with the construction of plants licensed under Part 52, “Licenses, Certifications, and Approvals for Nuclear Power Plants,” of Title 10 of the *Code of Federal Regulations* (10 CFR).

By way of memorandum, “Delegation of Authority to the Director of the Office of New Reactors (NRO),” dated November 16, 2006 [ML062900300],¹ and revised on March 22, 2011 [ML103140191], NRO has been delegated “lead authority for activities related to new nuclear reactor facilities during preliminary pre-application interactions with potential applicants, industry groups, or other stakeholders and will continue as the lead office during the licensing and construction of those facilities. NRO will retain licensing authority for new reactors at least until the resolution of all technical and adjudicatory issues associated with the NRC’s finding that the prescribed inspections, tests, and analyses have been performed and that the prescribed acceptance criteria are met under 10 CFR 52.103(g).”² The 2011 delegation memorandum also provides that “licensing and oversight authority for new nuclear reactor facilities will reside in the Office of Nuclear Reactor Regulation (NRR) during their period of operation.” However, the 2006 delegation memorandum recognized “that there will be a period of transition of licensing authority and regulatory oversight from NRO to NRR as these facilities commence operation,” and in the 2011 memorandum, the staff contemplated a future delegation memorandum to address the NRC organizational roles and responsibilities for licensing and oversight of new nuclear reactor facilities as they commence operation.

The Integrated Transition Working Group (WG) was established to develop an integrated transition plan that includes all safety and security functions (e.g., licensing and oversight) in order to support effective regulatory programs during transition from construction to operations for those sites with the intent to commence operations during FY 2018 and FY 2019 (i.e., Vogtle Units 3 and 4 and Summer Units 2 and 3). The WG is comprised of staff representing organizations that will be affected by the transition of new reactors from construction to operations. The objectives of the WG, stated in the charter [ML13127A319], were to identify roles, responsibilities, and milestones for the transition of regulatory programs as new reactor facilities become operational. The WG reviewed the transition from a holistic point-of-view and focused on both the organizational transition issues and on the overall readiness of the NRC to perform its regulatory responsibilities as new reactors progress from construction through full power operations. The list of WG members—amended from the charter—is provided as Enclosure 3.

The transition of regulatory programs for Watts Bar Unit 2 as construction is completed and operations begin was not within the scope of the WG activities. Likewise, the transition of regulatory programs for fuel facilities currently under construction, such as the Mixed Oxide Fuel Fabrication Facility, was also not within the scope of the WG.

¹ The 13-character designations beginning with “ML” for documents are accession numbers for the cited documents in the NRC’s Agencywide Documents Access and Management System (ADAMS).

² In the July 19, 2013 staff requirements memorandum (SRM) on SECY-13-0033, “Allowing Interim Operation under Title 10 of the Code of Federal Regulations Section 52.103,” the Commission subsequently delegated the 10 CFR 52.103(g) finding to the NRC staff.

2 SCOPE AND METHODOLOGY

The WG started its review with an analysis of the combined license conditions and underlying regulations that are applicable to the COLs. Through this analysis, the WG identified licensee activities that are taken to satisfy the license conditions and underlying regulations. The WG also identified NRC staff activities that are taken during the licensing and oversight of the units that are under construction. These activities were organized by phases identified in the Vogtle and Summer COLs: construction; pre-operational testing; nuclear fuel loading and pre-critical testing; initial criticality and low-power testing; power ascension testing; and maximum power level. The WG then evaluated the staff's readiness to perform its regulatory functions during these phases. The WG recognized the significant amount of preparatory work undertaken or underway to address readiness gaps and did not duplicate the work performed. Rather, the WG acknowledged these efforts in performing its systematic review of staff readiness and, for completeness, attempted to capture actions that are being addressed by other NRC WGs and organizations.

By organizing planned activities by phase, the WG was able to identify the outstanding readiness issues and the correlation to the key milestones to which they have to be addressed. This allowed the WG to identify the issues that were common across multiple phases and conversely those activities that were unique to specific phases.

In Section 3 of this report, a description is provided of the NRC licensing and oversight processes as a new reactor proceeds through the phases from construction to full power operations. Program areas that did not fit readily into licensing and oversight areas are also discussed. Identified readiness issues are listed under each applicable subsection with associated options and recommendations as applicable. In Section 4, the WG summarizes organizational transition recommendations.

3 DISCUSSION

The NRC's regulatory approach is predicated on the premise that the licensee has primary responsibility for the safety of the facility. The staff performs a detailed safety evaluation of the application. Under 10 CFR Part 52, the Commission may issue a COL after conducting a hearing and receiving a report submitted by the Advisory Committee on Reactor Safety (ACRS), if it finds among other things that the applicable standards and requirements of the Atomic Energy Act of 1954, as amended (AEA) and the Commission's regulations have been met and there is reasonable assurance that the facility will be constructed and will operate in conformity with the license, the AEA, and NRC rules and regulations.³ Construction of safety and security-related systems, structures, and components (SSCs) can begin with the issuance of the COL or limited work authorization. The licensee is required to construct the facility in conformity with its license. The NRC performs a sample-based construction inspection program (CIP). The NRC does not perform 100 percent inspection, nor does it directly inspect all license conditions.

The Inspections, Tests, Analyses, and Acceptance Criteria (ITAAC) included in a COL are used to demonstrate that the facility has been constructed and will be operated in conformance with the license, the AEA, and NRC rules and regulations. Licensees are required to notify the NRC that the prescribed inspections, tests, and analyses have been performed and that the

³The list of required findings is provided in 10 CFR 52.97, "Issuance of combined licenses."

prescribed acceptance criteria are met. This is performed through the submittal of ITAAC Closure Notifications (ICNs). The NRC staff verifies that the licensee has successfully completed an ITAAC based on information in ICNs, available NRC inspection results, and, as appropriate, the licensee's ITAAC completion package. Once the NRC makes the 10 CFR 52.103(g) finding that the ITAAC acceptance criteria are met, the operational phase begins. After the 10 CFR 52.103(g) finding, licensees operate the facility in accordance with technical specifications (TS).

The Initial Test Program (ITP) consists of construction, preoperational, and initial startup tests. Construction tests are conducted by the licensee as the plant is being built. Preoperational testing consists of those tests conducted before fuel loading to demonstrate the capability of SSCs to meet their performance requirements to satisfy the design criteria. Preoperational testing for certain SSCs may occur in parallel with construction inspections of other SSCs. Initial startup testing consists of equipment performance tests completed during the fuel-loading, pre-critical, initial criticality, low-power, and power-ascension phases. These tests confirm the design bases and demonstrate that the plant will operate in accordance with the design and that it is capable of responding to anticipated transients and postulated accidents as specified in the final safety analysis report (FSAR).

The WG reviewed NRC plans and guidance documents to ensure that regulatory actions were planned to carry out the NRC's mission of protecting the public health and safety as new reactors proceed from construction through the ITP and into power level operations. The WG's conclusions with regard to staff readiness are provided below in licensing, oversight, and NRC program sections.

3.1 Licensing

The NRC implemented the COL provisions of Part 52 for the first time in the issuance of the Vogtle and Summer COLs. The COLs incorporated by reference Appendix D, "Design Certification Rule [DCR] for the AP1000 Design," to 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," which was published on December 30, 2011, and is based on Revision 19 of the AP1000 Design Control Document (DCD). The COL application reviews were conducted as part of a design-centered review approach (DCRA),⁴ in which the design certification (DC) amendment review was linked with Vogtle as the reference COL application and Summer as a subsequent COL application thereby promoting industry standardization of COL applications referencing a particular design. The DCRA uses, to the maximum extent practicable, a "one issue, one review, one position" strategy to optimize the review effort, the resources needed to perform these reviews, and the review schedules. Specifically, the staff conducts one review for each issue associated with a particular design, reaches a decision on each issue, and, if possible, relies on that decision in reviewing subsequent applications within the design center. During the construction phase, staff decisions on license amendment requests (LARs) can be subsequently addressed during the active COL application reviews. In certain cases, an issue could first be raised by a COL applicant, in which case the regulatory decision could be made during the COL application review phase and then subsequently cited in a LAR in the Vogtle and Summer construction phases.

⁴This approach was introduced in NRC Regulatory Issue Summary 2006-06, "New Reactor Standardization Needed to Support the Design-Centered Licensing Review Approach," dated May 31, 2006 [ML053540251].

3.1.1 Regulatory Approvals Including License Amendments, Exemptions, and Relief Requests

Changes to a facility's licensing basis that references a certified design must be conducted in accordance with 10 CFR 52.98(c), which refers to the certified design change process for items within the scope of the certified design and the change processes in 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," for items outside the scope of the certified design. Changes might involve the following regulatory approvals: license amendments (with or without exemptions), stand-alone exemptions from NRC regulations, and requests for relief from, or alternatives, to Code requirements incorporated by reference in 10 CFR 50.55a. When departures from the certified design require prior NRC approval, departures are requested by the licensee using the LAR process in 10 CFR 50.90, "Application for Amendment of License, Construction Permit, or Early Site Permit." The Part 52 LAR process follows NRR's Office Instruction (OI) LIC-101, "License Amendment Review Procedures," but requires a significant amount of resource flexibility because of the dynamic licensee construction schedule. NRC coordination with the licensee establishes a need date for when the LAR is requested to be completed for the construction of a specific SSC. As provided by 10 CFR 50.91(a), a license amendment will not be issued sooner than 30 days following the publication of a notice in the *Federal Register*, which may be made either biweekly (NRR process) or individually in the *Federal Register*.⁵ Exemption requests are required in conjunction with the LAR for all Tier 1⁶ changes and are announced with individual notices. Similarly, topical report review requests may be submitted by Westinghouse. The regulatory approval of these reports is necessary to support some of the licensing requests.

For changes during construction, both Vogtle and Summer have conditions in their licenses that allow use of the Preliminary Amendment Request (PAR) process. The PAR process allows the licensee to proceed with construction in accordance with the LAR at its own risk in advance of a final decision on a LAR, if a PAR is submitted and the staff issues a notice of "no objection." This new process is described in draft Interim Staff Guidance (ISG) COL-ISG-025, "Interim Staff Guidance on Changes during Construction." The PAR process can be used after the issuance of the COL until the 10 CFR 52.103(g) finding. A PAR can be submitted before, at the same time as, or after the LAR is submitted. If the NRC does not approve the LAR, the licensee is required to bring the plant back to its licensing basis.

Construction status meetings using a two month look-ahead are held with both Vogtle and Summer licensees every other week to forecast priorities. The NRO project managers (PMs) use these meetings to better understand and prepare for upcoming technical resource needs in order to address the changing construction priorities. The licensee request for PARs is determined on a much shorter timeframe but still requires an LAR to be accepted for detailed technical review before moving forward. Since issuance of the COLs to Vogtle and Summer, the NRC has issued 23 LARs to Vogtle and 16 LARs to Summer. The current licensing action inventory has requests for 31 LARs of varying complexity and priority depending on the construction schedule. The technical disciplines associated with the review of the LARs depend on the progression of plant construction; initially, the disciplines have been those concerned with concrete and structural issues. Future LARs will be more system-focused.

⁵ The Staff has determined that the current construction needs do not meet the threshold of an emergency situation or exigent circumstances under 10 CFR 50.91(a)(5) and (6).

⁶ For the AP1000, Appendix D to 10 CFR Part 52 defines Tier 1 as the portion of the design-related information contained in the generic DCD that is approved and certified by Appendix D.

When a regulatory approval is completed, efficiencies are gained within the design center because other AP1000 licensees or COL applicants may cite the completed action. This reduces the staff's turnaround time for review; however, there is no requirement that other licensees or applicants rely on these precedents. In certain cases, the staff's decisions are made during a related design-centered COL application review and may be subsequently relied on as the technical rationale for a requested regulatory approval from a licensee.

Enterprise Project Management (EPM), while used to track LARs, is not relied on to the same degree as when it was used to track COL and DC application reviews. The benefits of using EPM are not realized because of the licensees' requested short turnaround for most of the LARs. NRR uses a more simplified approach for scheduling resources, reflective of the complexity of the work.

READINESS ISSUES

Readiness Issue (RI)-01: License amendments and exemption requests often require very short review time by the staff to avoid impacting the construction schedule.

- Recommendation RI-01A: NRO should continue to leverage the two month look-ahead for the construction projects to project potential technical expertise needs, with the basic understanding that NRO will need to maintain its broad technical capabilities to evaluate and complete requested regulatory approvals.
- Recommendation RI-01B: NRO should continue to leverage decisions, as well as relevant construction experience, for applicability to the various licensing actions within the design center (e.g., to both active COLs and COL applications).

RI-02: EPM may not be the most effective method of tracking regulatory approvals.

- Recommendation RI-02: Reevaluate the tracking of short-turnaround LARs to determine the best method to plan, track, and monitor these activities. For the longer term, there is a need to assess the compatibility of NRO's LAR tracking mechanisms with NRR's approach for scheduling resources.

3.1.2 Internal Process Guidance

NRO generally has relied on NRR OIs for implementing its licensing processes. In certain cases, NRO has either issued its own OIs or annotated how to use the NRR OI within its PMs handbook. Most of the NRR OIs predate the creation of NRO or do not acknowledge the Part 52 licensing process. Since the Vogtle and Summer COLs incorporated-by-reference the DCR for AP1000, the licensing basis incorporates the DCR change process and Tier 1, Tier 2, and Tier 2* information designations. This process and these designations are not addressed in NRR OIs.

READINESS ISSUE

RI-03: NRR licensing OIs typically do not address nuances unique to the Part 52 licensing process.

- Recommendation RI-03: Before the transition of a COL licensee to licensing support

provided by NRR, the NRR OIs should be updated to include nuances unique to the Part 52 licensing process (e.g., Tier 1, Tier 2, and Tier 2* designations discussed in the DCR). The Division of Advanced Reactors and Rulemaking (DARR) will work with the staff from the Division of New Reactor Licensing (DNRL) and the Division of Operating Reactor Licensing (DORL) in NRR to either update the current guidance or provide supplemental guidance.

3.1.3 Environmental Compliance

The COLs state that the NRC has found that issuance of the licenses is in accordance with Subpart A, “National Environmental Policy Act—Regulations Implementing Section 102(2),” of 10 CFR Part 51, “Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions,” and that all applicable requirements have been met. License conditions for the protection of the environment would be set forth in the environmental protection plan appended to the license. A related general condition on the license is contained in 10 CFR 50.54(aa), which states that the license is subject to all conditions imposed by sections 401(a)(2) and 401(d) of the Federal Water Pollution Control Act, as amended (33 U.S.C.A. 1341(a)(2) and (d)).

Further, as part of the COL application review process, the NRC prepares an Environmental Impact Statement (EIS). An appendix to the EIS lists all environment-related authorizations, permits, and certifications potentially required by Federal, State, regional, local, and affected Native American Tribal agencies related to the COL. The NRC does not verify that all license conditions have been satisfied and that all environmental conditions, including those imposed by sections 401(a)(2) and 401(d) of the Federal Water Pollution Control Act, are being maintained. The WG emphasizes that it is the licensee’s responsibility to ensure that all environmental license conditions, including those imposed by sections 401(a)(2) and 401(d) of the Federal Water Pollution Control Act, are met and/or maintained as necessary before fuel load and commencement of operation.

No readiness issues were identified in this area.

3.1.4 Transition Review Process for 10 CFR 52.103(f) or 10 CFR 2.206 Petitions

10 CFR 2.206, “Requests for Action Under This Subpart,” permits any person to file a petition to request that the Commission take enforcement-related action to modify, suspend, or revoke a license or to take other appropriate action. The petition must be submitted in writing and provide the grounds for taking the proposed action.

Specific to a COL is the process established by 10 CFR 52.103(f). In accordance with 10 CFR 52.103(f), a petition to modify the terms and conditions of the COL will be processed as a request for action in accordance with 10 CFR 2.206. Such petitions must be submitted to the Secretary of the Commission, and before the licensed activity allegedly affected by the petition (fuel loading, low-power testing, etc.) commences, the Commission shall determine whether any immediate action is required. If the petition is granted, an appropriate order will be issued. Fuel loading and operation under the COL will not be affected by the granting of the petition unless the order is made immediately effective.

The 10 CFR 52.103(f) process was established by the NRC as part of the original promulgation of Part 52 in 1989 (54 FR 15372). This provision was originally in 10 CFR 52.103(b)(2)(ii) before being moved to 10 CFR 52.103(f). In the statement of considerations for the 1989 rule (54 FR 15383), the Commission said, “Under § 52.103(b)(2)(ii), the NRC staff will review the

§ 2.206 petition and make appropriate recommendations to the Commission concerning the petition. The Commission itself will issue a decision granting or denying the petition in whole or in part.” The contemplation in 1989 was that the Commission itself would make the ultimate decision on the 52.103(f) petition, as well as the “immediate action” determination, and this has not changed subsequent to the 1989 rule.

READINESS ISSUE

RI-04: Currently, NRO relies on NRR’s guidance for addressing 10 CFR 2.206 petitions. However, the process by which the NRC reviews 10 CFR 2.206 petitions does not contain all of the aspects of the 52.103(f) process.

- Recommendation RI-04: Develop guidance for those aspects of the 10 CFR 52.103(f) process that are not currently part of the 10 CFR 2.206 process, such as interactions between the staff and the Commission, and the immediate action determination required by 10 CFR 52.103(f). Additional consideration should be given to whether action on 10 CFR 52.103(f) petitions should be delegated to the staff in a way similar to the Commission’s delegation of the 10 CFR 52.103(g) finding to the staff.

3.2 Construction Reactor Oversight Process (cROP) and Transition to the Reactor Oversight Process (ROP)

The Construction Reactor Oversight Process (cROP) consists of the CIP, the Construction Assessment Program, and the Construction Enforcement Program. Several additional programs/processes interact with the cROP, including the ITAAC Closure Verification Process; the Vendor Inspection Program; the NRC Allegation Program; and the Construction Experience Program (ConE). The WG reviewed each of these programs to determine if any revisions were necessary to support the transition of the cROP to the ROP.

3.2.1 Construction Inspection Program (CIP)

The CIP is described in Inspection Manual Chapter (IMC) 2506, “Construction Reactor Oversight Process General Guidance and Basis Document.” The overall objectives of the CIP are (1) to provide a sufficient basis to support the NRC’s 10 CFR 52.103(g) finding that the acceptance criteria in a COL are met and (2) to develop confidence in the licensee’s programmatic controls. Thus, the baseline CIP consists of ITAAC inspections and construction and operational program inspections.

3.2.1.1 ITAAC Inspections

Successful completion of the ITAAC is the responsibility of the licensee. The NRC implements a sample-based inspection program of ITAAC-related activities in accordance with IMC 2503, “Construction Inspection Program: Inspections of Inspections, Tests, Analyses and Acceptance Criteria (ITAAC) Related Work,” to verify independently that the licensee successfully carries out construction activities and identifies and corrects deficiencies which might have an impact on the ITAAC or other construction activities. The selection of the ITAAC for each design to receive direct inspection is based on a prioritization process used to determine overall inspection value. The results of the ITAAC inspections will inform the NRC’s 10 CFR 52.103(g) finding. After the NRC has made the 10 CFR 52.103(g) finding, the ITAAC do not, by virtue of their inclusion in the COL, constitute regulatory requirements either for the licensee or for

renewal of the license. Except for the specific ITAAC for which the Commission has granted a hearing under paragraph 10 CFR 52.103(a), all ITAAC expire upon final Commission action in the proceeding.

If an ITAAC hearing is granted, the 10 CFR 52.103(g) finding can be made before the completion of the ITAAC hearing in support of interim operation. 10 CFR 52.103(h) provides that the ITAAC cease to be requirements after the 52.103(g) finding, meaning that operation is not constrained by the ITAAC and ITAAC maintenance requirements do not apply. However, ITAAC that are the subject of an ongoing hearing do not “expire” at this point because the 10 CFR 52.103(g) finding on the contested acceptance criteria is subject to the results of the hearing and any appellate review. Thus, it is possible, albeit unlikely, that an ITAAC might be reopened after the 10 CFR 52.103(g) finding because of the hearing process. Given this, any ITAAC-related inspections after the 10 CFR 52.103(g) finding would only result from a contested hearing and are likely to be rare and limited in scope.

No readiness issues were identified in this area.

3.2.1.2 Construction and Operational Program Inspections

NRC inspection activities for plants licensed under 10 CFR Part 52 also involve inspection of the construction and operational programs used by the licensee and their contractors to control their processes. Construction and Operational program inspections are conducted in accordance with the guidance in IMC 2504, “Construction Inspection Program - Inspection of Construction and Operational Programs.” Construction program inspections confirm that an adequate level of quality in construction products is provided. Operational program inspections verify that operational programs are consistent with their description in the FSAR. The scope and content of the construction and operational programs were reviewed by the technical staff during the COL application review process and approved when the COL was issued.

Construction programs involve quality assurance (QA) and other activities, including 10 CFR 50.55(e) programs for reporting defects and noncompliances during construction; the fitness for duty program; ITAAC management; and preoperational testing. In addition to inspecting the licensee’s construction programs, the NRC will inspect the development and programmatic aspects of the initial startup testing program and operational programs.

Required operational programs are listed in Chapter 13 of the FSAR and are fully described⁷ in the COL application. Certain operational programs are subject to a license condition with implementation milestones. The majority of operational programs listed in Appendix B, “Inspection of Operational Programs,” to IMC 2504, “Construction Inspection Program - Inspection of Construction and Operational Programs,” will be developed, implemented, and inspected before the NRC’s 10 CFR 52.103(g) finding.

After the 10 CFR 52.103(g) finding, IMCs 2503 and 2504 are no longer applicable. The inspection program after the 10 CFR 52.103(g) finding is conducted pursuant to IMC 2514, “Light Water Reactor Inspection Program - Startup Testing Phase.” Currently, IMC 2514 does not contain guidance for the conduct of ITAAC and operational program inspections.

⁷ In this context, “fully described” indicates that the program is clearly and sufficiently described in terms of the scope and level of detail to allow a reasonable assurance finding of acceptability (SRP Section 13.4).

Exhibits 3 and 4 of IMC 2506 identify the organization that has the lead inspection responsibility for each program area. In SECY-06-0114, the staff stated that it intends to inform the Commission of the status of those operational programs before the anticipated date for loading fuel. The results of these operational program inspections will provide the basis for informing the Commission of the status of those programs before the anticipated date for loading fuel.

READINESS ISSUES

RI-05: While inspection guidance documents have been developed and issued for all ongoing construction activities, several documents for the future inspection of construction and testing activities have yet to be issued (although it is anticipated that the unissued documents will not be needed for several more years).

- Recommendation RI-05: Ensure that procedure development and issuance continues to be tracked until all required procedures for the future inspection of construction and testing activities have been issued.

RI-06: IMCs 2503 and 2504 are not applicable after the 10 CFR 52.103(g) finding has been made. However, as described in Section 3.2.1.1, if ITAAC are the subject of an ongoing hearing, inspections of activities covered in these IMCs might be required after the 10 CFR 52.103(g) finding. In addition, some required operational programs, such as those associated with start-up testing, might not be fully implemented before the 10 CFR 52.103(g) finding.

- Recommendation RI-06: Modify or replace IMC 2514 to (1) refer to contents of relevant inspection procedures (IPs) listed in IMC 2503 in case ITAAC hearing-related issues extend beyond the 10 CFR 52.103(g) finding and ensure that IMC 2514 contains necessary guidance for different scenarios that might be encountered (ITAAC hearings, etc.); and (2) refer to relevant IPs listed in IMC 2504 for operational program inspections that may be conducted after the 10 CFR 52.103(g) finding.

3.2.1.3 Initial Test Program Inspections

For new reactors, specific pre-operational tests that are associated with targeted ITAAC will be inspected under IMC 2503. The inspection of the licensee's preoperational test program will be conducted under the inspection procedures listed in IMC 2504, while the startup testing phase will be inspected under IMC 2514.

The ITP WG for new reactors was responsible for developing NRC inspection guidance related to the ITP. The ITP WG developed inspection procedures which contain guidance for the preoperational and startup testing inspection programs and will provide training on this program. IMC 2514, which contains program guidance for the startup testing phase, was not within the scope of the ITP WG activities.

READINESS ISSUES

RI-07: While the new reactor initial test program inspection procedures have been fully developed and issued, IMC 2514, "Light Water Reactor Inspection Program Startup Testing Phase," does not match the newly developed ITP inspection procedures.

- Recommendation RI-07: IMC 2514 should be revised and reissued or replaced to support the new reactors startup testing inspection program. Interactions between NRO and NRR are necessary in order to ensure that appropriate guidance is established for new reactors. This should be informed by the implementation of IMC 2514 during Watts Bar Unit 2 startup testing.

3.2.1.4 Emergency Preparedness Inspections

An emergency preparedness (EP) exercise will be conducted before the 10 CFR 52.103(g) finding. The EP exercise must contain both onsite and offsite components in the scenario to adequately evaluate the program. As provided by Section IV.F of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, the exercise can occur any time within a 2-year window before the scheduled fuel load date. If the reactor is the first operating reactor on the site, the exercise must be a full participation exercise. If there is already an operating reactor at the site, the exercise can be either a full or partial participation exercise. If the exercise is conducted more than one year before the scheduled date for initial loading of fuel, an exercise which tests the licensee's onsite emergency plans must be conducted within one year before the scheduled date for initial loading of fuel. The scenario for any exercise needs to be submitted to the NRC 60 days before use in an exercise. Following the exercise, the Federal Emergency Management Agency (FEMA) will provide the NRC with an Interim Finding Report associated with the exercise. In accordance with 10 CFR 50.54(gg) and the ITAAC, if there are any offsite exercise deficiencies as a result of the exercise, the licensee will need to work with offsite agencies to have these deficiencies corrected before going above 5 percent power.

Exercise schedules are coordinated in advance by a multi-year process involving stakeholders on a regional basis. Through the NRC and FEMA Steering Committee, which normally meets on a quarterly basis, the respective agencies are kept informed of proposed exercise schedules and any changes to these schedules.

Licensees are required to complete several EP license conditions before the scheduled fuel load date. Typically this will include submitting a fully developed set of emergency action levels (EALs). Additionally, there are typically three analyses that the licensee will need to complete: (1) a shift staffing analysis (required by Section IV.A of Appendix E, to 10 CFR Part 50); (2) an analysis of the communication capabilities; and (3) the staffing of emergency response positions following a beyond-design-basis multi-unit event.

Licensees are required to review and update as necessary their evacuation-time estimate (ETE) 365 days before fuel load and submit it to the NRC 180 days before using it to form protective action recommendations in accordance with Section IV.4 of Appendix E to 10 CFR Part 50.

Additionally, according to Section VI.4.d of Appendix E to 10 CFR Part 50, the licensee is required to develop and implement the emergency response data system (ERDS) before escalation to full power.

According to Section IV.D.4 of Appendix E to 10 CFR Part 50, the alert and notification system design report (or siren system) must be submitted to FEMA for review and approval, if one has not previously been approved for the site.

According to Section V of Appendix E to 10 CFR Part 50, the emergency plan implementing procedures (EPIPs) are required to be developed and submitted at least 180 days before fuel loading.

Any changes to the emergency plan resulting from the analyses conducted, the ETE update, or the finalizing of the EALs, must be implemented. If the reactor is located on a multi-unit site, and the licensee chooses to integrate the respective emergency plans into one site-wide emergency plan, an update of the plans must be made and implemented. Existing regulatory processes govern any changes made to the emergency plans.

While no readiness issues were identified in the emergency-preparedness area, the WG notes that milestones for the implementation of the emergency-preparedness program are listed in the COL and FSAR. Close coordination between the Office of Nuclear Security and Incident Response (NSIR), the Region II construction organization, and the host region will be necessary to track and ensure that required inspections are conducted as the emergency-preparedness program elements are implemented at licensee facilities. In addition, management should ensure that appropriate inspection resources are provided for emergency-preparedness inspections.

3.2.1.5 Security Inspections

Inspections to review security-related ITAAC are conducted under IMC 2503 and guidance for these inspections is provided in the inspection procedures listed in Appendix A, "IMC 2503 Inspection Procedures," to IMC 2503. These inspections are primarily led by qualified construction inspectors and supplemented by security experts.

Inspections to review security construction and operational programs are conducted in accordance with IMC 2504. Findings associated with security construction and operational programs will be assigned to the cROP security cornerstone. These inspections are primarily conducted by specialist inspectors from the host region.

Licensee security construction programs are required to include (1) a construction fitness-for-duty program and (2) controls to properly handle safeguards materials. Licensee security operational programs must meet the requirements 10 CFR Part 73, "Physical Protection of Plants and Materials."

While no readiness issues were identified in the security inspection area, the WG notes that milestones for the implementation of the security operational program are listed in the COL or FSAR. This includes satisfying the requirements of Section VI, paragraph C.3(c), of Appendix B to 10 CFR Part 73, which state that the licensee shall conduct tactical response drills and force-on-force exercises in accordance with Commission-approved security plans, licensee protective strategy, and implementing procedures. Close coordination between NSIR, the Region II construction organization, and the host region will be necessary to track and ensure that required inspections are conducted as the operational security program elements are implemented at licensee facilities. It should be noted that the triennial Force-on-Force exercise conducted by the NRC will be scheduled after the 10 CFR 52.103(g) finding.

3.2.1.6 Operator Licensing Examinations and Requalification

Technical training for inspectors and licensed operator examiners has been developed for the AP1000, and several classroom sessions have been administered by the Technical Training

Center (TTC). The NRC AP1000 simulator project was completed on November 22, 2013, which will ensure that an adequate number of TTC, NRO, and region-based licensed operator examiners are qualified to support AP1000 operator license exams at the Vogtle and Summer nuclear power plant sites. Simulator training will be the follow-up to the two-week classroom courses completed by regional, TTC, and NRO staff at the TTC in 2012 and 2013. The remaining examiner and inspection personnel who completed the two-week classroom portion of the training attended the simulator portion of the course starting in January 2014 and training was completed in March 2014.

After completion of initial license examinations, the NRC evaluates licensed operator performance during the conduct of: facility-administered requalification examinations required by 10 CFR 55.59, "Requalification"; other examinations; and facility training exercises, as well as during selected evolutions conducted in the actual plant/main control room.

Jointly--NRC and industry--developed examinations are scheduled to be administered at Vogtle and Summer simultaneously in May and November 2015; September 2016; July 2017; and March 2018. Simulator examinations are also scheduled for May and November 2015; September 2016; July 2017; and March 2018. With no change in the scheduled fuel load date, simulator delays will reduce the time available to license operators prior to fuel load. This issue is a licensee readiness issue, not an NRC readiness issue.

No NRC operator licensing readiness issues were identified.

3.2.2 Performance Assessment and Transitioning to Reactor Oversight Process Inspections

The NRC's operating reactor inspection program is described in IMC 2515, "Light-Water Reactor Inspection Program-Operations Phase." The operating reactor inspection program consists of baseline inspections, supplemental inspections, and special and infrequently performed inspections. During ROP development, the Office of Nuclear Regulatory Research (RES) developed risk information matrices (RIMs) to help in the development of the inspectable areas, frequency, sample sizes, and hours. The RIMs were developed for most PWRs and BWRs at the time based on the Individual Plant Examination (IPE), IPE External Events (IPEEE), and risk achievement worth (RAW). Risk information matrices have not been developed for AP1000s to select inspectable areas, frequency, sample sizes, and hours. In addition, the ROP baseline inspection procedures have not been reviewed for applicability to AP1000s.

Under the cROP, the NRC's significance determination process is implemented in accordance with IMC 2519, "Construction Significance Determination Process," which is used to characterize the significance of findings within the six cornerstones of safety at reactors under construction. Under the ROP, the NRC's significance determination process is implemented in accordance with IMC 0609, "Significance Determination Process," which is used to characterize the significance of findings within the seven cornerstones of safety at operating reactors.

As stated in SECY-13-0137, "Recommendations for Risk-Informing the Reactor Oversight Process for New Reactors," baseline risk estimates for most new reactor designs, including estimates of the risk of both internally and externally initiated events, are expected to be lower than those for a design similar to that of the current fleet, potentially by an order of magnitude or more. The lower risk values raised questions about how to apply acceptance guidelines for changes to the licensing basis and regulatory response in the ROP. In SECY-13-0137 the staff

recommended the development of an integrated risk-informed approach for evaluating the safety significance of inspection findings for new reactor designs using qualitative measures to supplement the risk evaluations. In the corresponding Staff Requirements Memorandum (SRM), the Commission disapproved this recommendation and directed the staff to enhance the significance determination process (SDP) by developing a structured qualitative assessment for events or conditions that are not evaluated in the supporting plant risk models.

The NRC's construction assessment program is implemented in accordance with IMC 2505, "Periodic Assessment of Construction Inspection Program Results." The NRC's operating reactor assessment program is implemented in accordance with IMC 0305, "Operating Reactor Assessment Program." In implementing the assessment programs, the NRC evaluates the inspection history of selected activities and programs, enforcement history, allegations, and safety culture to arrive at an integrated assessment of licensee performance. The NRC determines the appropriate agency response to performance issues using the guidance provided in the respective action matrix. The NRC's assessment of licensee performance and associated responses are then communicated to the public. Follow-up agency actions, as applicable, are conducted to ensure that the corrective actions designed to address performance weaknesses were effective.

For plants licensed under Part 52, current guidance states that the transition from the cROP to the ROP will occur at the 10 CFR 52.103(g) finding. There may be findings identified prior to the 10 CFR 52.103(g) finding that would be best screened using the ROP SDP. Likewise, there may be findings identified subsequent to the 10 CFR 52.103(g) finding that would be best screened using the cROP SDP.

When the baseline ROP was developed for the Generation II reactors in the late 1990s, Generation II plants had over 20 years of operating experience, which led to the consideration that industry performance was "mature" and could be assessed by performance indicators (PIs). The ROP inspection program includes PIs supported by operating experience. Some elements and features of the new AP1000s will not have any operating experience in the United States of America (USA), which should be a consideration during the first several operating cycles of the new reactors and for the use of PIs. In SECY-13-0137, the staff recommended the development of appropriate PIs and thresholds for new reactors, specifically those PIs in the Initiating Events and Mitigating Systems cornerstones, or the development of additional inspection guidance to address identified shortfalls to ensure that all cornerstone objectives are adequately met. In the corresponding SRM, the Commission approved this recommendation.

READINESS ISSUES

RI-08: The current guidance provides that the transition from the cROP to the ROP will occur at the 10 CFR 52.103(g) finding. There may be findings identified prior to the 10 CFR 52.103(g) finding that would be best screened using the ROP SDP. Likewise, there may be findings identified subsequent to the 10 CFR 52.103(g) finding that would be best screened using the cROP SDP.

- Recommendation RI-08: Consider modifying the cROP to allow the use of the ROP SDP screening tools for findings that are associated with operational programs that have been implemented and, if unidentified, the condition could have persisted during plant operation. In addition, consider modifying the ROP to allow the use of the cROP SDP for findings that are associated with the development of operational programs that may occur after the 52.103(g) finding. Also, provide appropriate guidance for the assignment

of findings to a cornerstone in the oversight process that is in effect at the time of the identification of the findings.

RI-09: The new AP1000s will not have any operating experience in the USA, which should be a consideration during the first several operating cycles of the new reactors and for the use of PIs. In addition, certain PIs (e.g., mitigating systems performance index) might not be applicable to new reactors.

- Recommendation RI-09A: Continue to track the implementation of Commission direction in the SRM to SECY-13-0137, “Recommendations for Risk-Informing the Reactor Oversight Process for New Reactors,” dated December 17, 2013 (ML13263A351) regarding the evaluation of current PIs.
- Recommendation RI-09B: Determine when PIs become relevant (i.e., number of operating hours/quarters, etc.).

RI-10: The lower risk values raised questions about how to apply acceptance guidelines for changes to the licensing basis and regulatory response in the ROP.

- Recommendation RI-10: Continue to track the implementation of Commission direction in the SRM to SECY-13-0137, dated December 17, 2013 [ML13263A339] regarding the operating reactor SDP.

RI-11: The existing ROP baseline inspection procedures might not be entirely applicable to new reactors. During ROP development, RES developed risk information matrices (RIMs) to help in the development of the inspectable areas, frequency, sample sizes, and hours. The RIMs were developed for most PWRs and BWRs at the time based on the Individual Plant Examination (IPE), IPE External Events (IPEEE) and RAW.

- Recommendation RI-11A: Revisit Appendices I, “Basis Documents for Inspectable Areas”; II, “Cornerstone Charts”; and III, “Risk Information Matrices,” to Attachment 3, “NRC Nuclear Power Reactor Baseline Inspection Program,” to SECY-99-007. Determine whether NRC should develop a RIM for AP1000 to select inspectable areas, frequency, sample sizes, and hours. Determine whether NRC needs to reconstruct the cornerstone charts (i.e., inspectable areas and attributes) for AP1000 reactors. Use the risk models for the AP1000s to identify the risk importance of SSCs.
- Recommendation RI-11B: Perform a review of ROP baseline inspection procedures to determine whether existing inspection procedures and other guidance documents are practical and adequate for new reactors.

3.2.3 Enforcement

Enforcement Guidance Memorandum (EGM) 11-006, “Enforcement Actions Related to the Construction Reactor Oversight Process,” authorizes the staff to disposition enforcement actions during the cROP in a manner similar to the way it does for operating reactors. The staff will use the guidance in this EGM and the NRC Enforcement Manual to determine the significance or severity level of violations of NRC requirements. Once an ROP cornerstone can be monitored under the ROP, enforcement actions for issues identified in that cornerstone will

be dispositioned using the guidance for operating reactors in the Enforcement Policy and Enforcement Manual.

It is noted that the current Enforcement Policy revision does not include the guidance in EGM 11-006; however, EGM 11-006 will remain in place until the Enforcement Policy revision is issued. The progress of guidance being developed to be included in the next Enforcement Policy revision will continue to be tracked. The revision to the Enforcement Policy is anticipated to be issued by the end of Calendar Year 2014.

No readiness issues in the Enforcement area were identified.

3.2.4 Allegations and Investigations

The NRC's allegations program is described in Management Directive (MD) 8.8, "Management of Allegations." The processing of allegations received by or assigned to the regions is coordinated by the respective region's Enforcement and Investigations Coordination Staff. Each region has developed and issued OIs or procedures to implement the requirements of MD 8.8. The processing of allegations received by or assigned to Headquarters (HQ) staff is coordinated by the Allegations Center of Expertise (COE), which provides a centralized location for administering an effective program to manage allegations. Details on the purpose, organization, and responsibilities of the Allegations COE are provided in the COE's charter (ML12045A102).

While no readiness issues were identified with allegation program guidance documents that could affect the transition of new reactors from constructions to operations, the WG anticipates that a large number of late-filed allegations might be received before the 10 CFR 52.103(g) finding. The Allegations COE and NRO staff should be prepared to disposition late-filed allegations while the 10 CFR 52.103(g) finding is being made. Guidance for dispositioning late-filed allegations is provided in MD 8.8 and the Allegation Manual.

3.2.5 Inspection Planning and Scheduling

Region II has responsibility for developing an inspection plan for each unit under construction. This process is accomplished through the development and maintenance of a baseline inspection program schedule. The baseline inspection program schedule contains entries for all targeted ITAAC inspections and the required construction and operational program inspections. The baseline inspection program schedule will continue to be tracked and updated as necessary to ensure alignment with the construction activities at the site.

NRO technical support for the cROP is included in the inspection planning process. The cROP resource effort includes the estimate for this technical support. In addition, the Technical Assistance Request process has been developed and implemented for unplanned support from either Region II or headquarters to address specific technical issues that might arise.

No inspection planning and scheduling readiness issues were identified.

3.2.6 Vendor Inspection Program

The vendor inspection program (VIP) is implemented by NRO vendor inspectors at vendor facilities that are located offsite. Routine and reactive inspections are conducted to verify that the vendor QA programs are implemented and comply with the applicable regulatory requirements of 10 CFR Part 21, "Reporting of Defects and Noncompliance," and Appendix B,

“Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants,” to 10 CFR Part 50. These inspections do not relieve the licensee of its obligation to provide oversight of its vendors. For ITAAC-related activities, guidance has been provided in IMC 2506 that gives regional inspectors the opportunity to accompany vendor inspectors on vendor inspections.

Although no vendor-inspection readiness issues were identified, guidance addressing the processing and tracking of findings that may affect an ITAAC identified during vendor inspections has recently been developed and issued in a revision to IMC 2507. This process will continue to be tracked to ensure that these findings are monitored and closed in a timely manner and that adequate communications between vendor inspectors, Region II inspectors, and licensees are occurring in this area.

3.3 Other Programs and Activities

The WG reviewed staff readiness for the transition from construction to operations of new reactors in additional areas that did not readily align with licensing programs and the cROP. These areas include ITAAC closure notifications; the 10 CFR 52.103(g) finding; the ITAAC hearing process; rulemaking; guidance development; NRC incident response; information technology support; and operating and construction experience programs.

3.3.1 ITAAC Closure Notifications

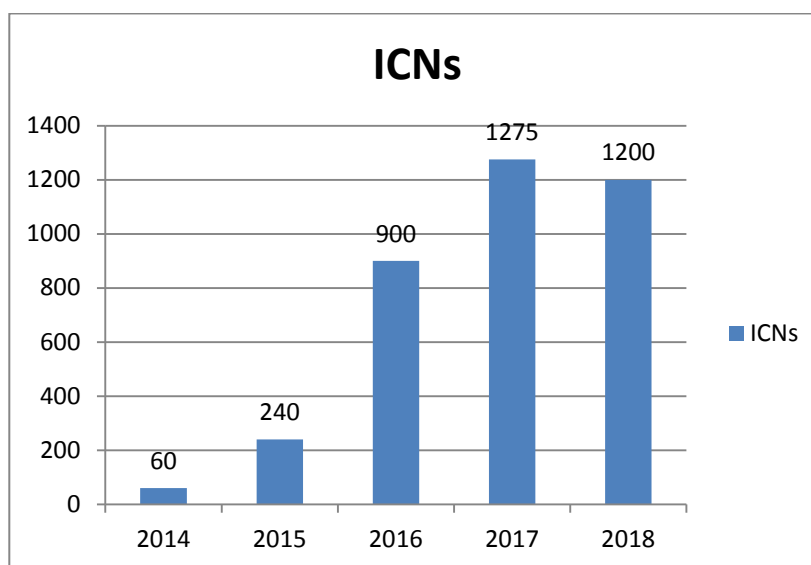
After the COL is issued, Section 185b of the AEA, requires the NRC to ensure that the prescribed inspections, tests, and analyses (ITA) are performed and to find, before operation of the facility, that the prescribed acceptance criteria are met. 10 CFR 52.99(c)(1) requires a licensee to notify the NRC that its prescribed ITA have been performed and that its prescribed acceptance criteria are met. This is completed through the submittal of ICNs. As required by 10 CFR 52.99(e), the NRC ensures that the prescribed ITA for all COL ITAAC are performed (which is accomplished through ICN verification) and to periodically publish in the Federal Register the staff’s determination of their successful completion.⁸

The NRC staff will verify that the licensee has successfully completed ITAAC based on information in ICNs, available NRC inspection results, and, as appropriate, the licensee’s ITAAC completion package. The NRC has accepted the template and examples that are included in Nuclear Energy Institute (NEI) 08-01, “Industry Guideline for the ITAAC Closure Process Under 10 CFR Part 52,” which the NRC endorsed in Regulatory Guide (RG) 1.215, “Guidance for ITAAC Closure under 10 CFR Part 52.” The NRC has issued NRO-REG-103, “Inspections, Tests, Analyses, and Acceptance Criteria Closure Verification Process,” to address reviewing ICNs.

A significant number of ITAAC will be completed near the end of construction. The ITAAC completion surge that occurs late in the project is significant and requires special attention. Overall, the surge is based on the construction sequence, and cannot be significantly reduced. The ITAAC completions are, however, schedule-dependent. The current projections are represented below in Figure 3-1. Section 3.3.7, “Information Technology Support,” discusses the software used to support the ICN verification process.

⁸ These periodic determinations throughout construction, which may be revisited because of subsequent events such as ITAAC post-closure notifications, are distinct from the 52.103(g) finding made at the end of construction.

Figure 3-1 Projected ICNs by Calendar Year



The staff has and will continue to interact with licensees and NEI to project the anticipated number of ICNs that will be received over specific periods of time. The budget and resources will be adjusted as necessary to ensure that all ICNs will be processed in a timely manner.

RI-12: The staff anticipates a surge in ICNs towards the end of the plant construction period.

- Recommendation RI-12: We currently anticipate that the increasing ICN verification workload can be handled by resources within NRO. However, a staffing analysis considering the anticipated ICN verification workload will continue to be periodically updated and the results input to the budget formulation process so that adequate licensing and technical resources are requested in the budget process and will be available to complete ICN verification reviews commensurate with the anticipated number of submittals during the later stages of construction.

3.3.2 10 CFR 52.103(g) Finding and Interim Operation

Operation of the facility cannot begin until the NRC finds that the acceptance criteria for all ITAAC are met as required by 10 CFR 52.103(g). Once that 10 CFR 52.103(g) finding is made, the licensee may proceed to the operational phase, which includes initial fuel loading. The staff is currently developing procedures for the 10 CFR 52.103(g) finding process and related staff actions.

There is an opportunity for a hearing on conformance with the acceptance criteria, and the *Federal Register* notice of intended operation announcing this hearing opportunity must be published at least 180 days before scheduled initial fuel load. If a hearing request is granted, the Commission shall allow interim operation if it determines that there will be reasonable assurance of adequate protection of the public health and safety during an interim period of operation. However, to comply with 10 CFR 52.103(g), the NRC must also find that all of the acceptance criteria are met before allowing interim operation.

In SECY-13-0033, “Allowing Interim Operation under Title 10 of the *Code of Federal Regulations* Section 52.103,” dated April 4, 2013 [ML12289A928], the staff requested that the Commission delegate to the staff the making of the 10 CFR 52.103(g) finding for all ITAAC, irrespective of the pendency of any hearing. In the associated SRM, dated July 19, 2013 [ML13200A115], the Commission approved this request. The revision of the Delegation memo, will continue to be tracked as discussed in readiness issue, RI-18 and recommendation RI-18b.

READINESS ISSUE

RI-13: The NRC will be implementing the provisions of 10 CFR 52.103(g) for the first time for Vogtle, Units 3 and 4, and V. C. Summer, Units 2 and 3, to transition from construction to operation. The staff has been developing procedures outlining the 10 CFR 52.103(g) finding process and related staff actions, but these procedures are not yet complete.

- Recommendation RI-13: Ensure that procedure development and issuance continues to be tracked under the SRM until all required procedures for the 10 CFR 52.103(g) finding process and related staff actions have been issued.

3.3.3 ITAAC Hearing Process

The ITAAC hearing process is set forth in the AEA and NRC regulations. At least 180 days before the scheduled initial loading of fuel, the NRC must issue a notice of intended operation providing an opportunity to request a hearing within 60 days on whether the facility as constructed complies, or on completion will comply, with the acceptance criteria in the COL. The Commission has a stated goal of issuing the notice of intended operation at least 210 days before scheduled fuel load, and the NRC may try to issue this notice somewhat earlier than 210 days if possible. A petitioner filing a hearing request, in addition to satisfying the NRC’s usual hearing request requirements on standing and contention admissibility, must also show under 10 CFR 52.103(b), *prima facie*, that: (1) one or more of the acceptance criteria have not been, or will not be, met; and (2) the specific operational consequences of nonconformance identified by the petitioner would be contrary to providing reasonable assurance of adequate protection of the public health and safety. Pursuant to 10 CFR 2.309(i), the licensee and the NRC staff may file answers to hearing requests; these answers are required to be filed within 25 days. No replies to answers are permitted.

If a hearing request is granted, the AEA allows the NRC to determine, at its discretion, the appropriate hearing procedures (e.g., informal or formal adjudicatory), but the NRC must state the reasons for the hearing procedures it imposes. In addition, after granting a hearing request, the Commission shall determine, after considering the petitioners’ *prima facie* showing and any answers thereto, whether during a period of interim operation, there will be reasonable assurance of adequate protection of the public health and safety. If the Commission determines that there is such reasonable assurance, it shall allow interim operation. Interim operation is that time during which the plant is operating pending the completion of activities associated with an ITAAC hearing. Finally, the AEA provides that the Commission shall, to the maximum possible extent, render a decision on issues raised by the hearing request within 180 days of the notice of intended operation or the scheduled date for initial fuel load, whichever is later.

In reviewing the ITAAC hearing process, the WG noted that there were inquiries related to whether there could be segmented ITAAC hearings. These inquiries were dispositioned as not being a credible approach for various reasons. Stakeholders noted that findings made in very early hearings on closed ITAAC might become stale if subsequent events called into question

whether the ITAAC remain closed, and resources spent in early litigation on those ITAAC would then have been wasted. Subsequently, the NRC promulgated the ITAAC maintenance rule because of concerns that once-closed ITAAC might be reopened. Further, it is now known that a very large number of ITAAC will not be closed until the last year before scheduled fuel load, so there would not appear to be a substantial benefit from holding segmented hearings on closed ITAAC. Lastly, the NRC staff is unwilling to devote the resources necessary to support what would essentially be constant hearings.

In the July 2013 SRM for SECY-13-0033, the Commission directed the NRC staff, the Office of the General Counsel (OGC), and the Office of Commission Appellate Adjudication (OCAA) to develop options for ITAAC hearing formats for Commission review and approval. The Commission further directed that the ITAAC hearing procedures be developed, deliberated on, and resolved within the next 12 to 18 months. A cross-office WG is in the process of developing the ITAAC hearing procedures, and the current due date for a SECY paper to the Commission is January 20, 2015.

READINESS ISSUES

RI-14: The ITAAC hearing process procedures are not yet complete.

- Recommendation RI-14A: The staff, OGC and OCAA will continue to develop internal implementation processes to be approved soon after the ITAAC hearing procedures are finalized (e.g., within 6 months).
- Recommendation RI-14B: Training on the ITAAC hearing process should be developed and provided to affected staff (principally DNRL and DCIP) between 24 months and 18 months before scheduled fuel load.
- Recommendation RI-14C: The detailed transition plan should identify NRO as the lead technical office during the ITAAC hearing process, but NRR should be kept informed of any actions resulting from the hearing process. To the extent that possible actions resulting from the ITAAC hearing process are decided or implemented during a period in which NRR is the lead office for the plant, NRO will need to coordinate with NRR on the implementation of these actions.

3.3.4 Rulemaking

Rulemaking is described as developing and amending regulations that licensees must meet to obtain or retain a license or certificate to use nuclear materials or construct or operate a nuclear facility. This falls within the regulations and guidance component of the NRC regulatory process. With respect to the transition from construction to operation, NRO and NRR, as well as other offices, have their own rulemaking organizations managing those rulemakings specific to their missions. Future rulemakings, such as DC renewals, would be handled by the cognizant office at the time of the rulemakings and are not considered a transition issue.

No readiness issues were identified related to rulemaking.

3.3.5 Guidance Development

Guidance development involves developing and revising guidance documents (such as RGs and standard review plans) to aid licensees in meeting safety requirements. With respect to the aforementioned types of guidance, NRO maintains the lead role in the maintenance of the “Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR [Light Water Reactor] Edition” (NUREG-0800). RES manages the development of regulatory guidance; however, the development of, and concurrence on, individual RGs goes through the relevant technical branches within NRR, NRO, and NSIR (for power reactors). The development and maintenance of the Inspection Manual is a responsibility shared by offices based on the scope of its procedures—NRR and NRO share this role for power reactors. The development of the elements of the CIP was discussed above.

There are no unique guidance development readiness issues. However, lessons learned from the new reactor licensing process should be incorporated into the appropriate guidance documents (e.g., the standard review plan (SRP, NUREG-0800) and RG 1.206, “Combined License Applications for Nuclear Power Plants”). An example is experience gained in the staff evaluation of the applicants’ approach to satisfying 10 CFR Part 30, “Rules of General Applicability to Domestic Licensing of Byproduct Material”; Part 40, “Domestic Licensing of Source Material”; and Part 70, “Domestic Licensing of Special Nuclear Material,” as well as the physical security ITAAC. Guidance updates are also necessary to address new rule requirements such as 10 CFR 73.58, “Safety/Security Interface Requirements for Nuclear Power Reactors,” and 10 CFR Part 37, “Physical Protection of Category 1 and Category 2 Quantities of Radioactive Material.” The WG recognizes the importance of ensuring the technical consistency of guidance documents, especially as the plants transition to operation in ways consistent with the findings in the Part 52 Lessons Learned reports.

3.3.6 NRC Incident Response

Licensees are required to report significant incidents to the NRC Operations Center as outlined in various sections of 10 CFR, including 10 CFR 50.72. Certain reportable incidents activate the Incident Response Plan and initiate a response by the NRC according to NUREG-0728, “NRC Incident Response Plan.” The notification and communications process provides information about the incident, which is independently assessed by NRC personnel in a timely manner.

The Headquarters Operations Center (HOC) is staffed around the clock, mainly to receive safety and security incident notifications and to communicate related information to NRC management and other stakeholders. The HOC is staffed with a Headquarters Operations Officer (HOO) and, as appropriate to the threat condition level, a Headquarters Emergency Response Officer (HERO). Regional Incident Response Centers (IRCs) are not staffed around the clock, but the regions maintain connectivity with the licensees through the full-time resident inspectors at each site. Additionally, each region keeps a regional duty officer on call, thus establishing around-the-clock connection with the HOC, the regions, and the Commission staff.

The staff’s assessment activities rely on information-technology solutions to predict radiological consequences to the public and the environment. Data are forwarded from licensees to be processed by NRC staff at the IRCs. Information regarding a facility’s critical parameters is provided electronically and by voice communications. For example, the ERDS is capable of displaying selected real-time safety system data at the HOC and regional IRCs from a nuclear power reactor plant.

The agency maintains essential equipment to support NRC incident response operations and maintains dependable and multiple backup systems for telecommunications, information technology, and facility support. When required, HOC functions can be transferred to an alternate site for continuity of operations (COOP). The regional offices designated as the NRC's alternate incident response site under the COOP will have additional trained response staff, equipment capabilities, enhanced telecommunications, and computer systems.

Experienced personnel are selected from throughout the agency, with the approval of their Office Directors, to become members of the NRC Incident Response Program Organization. It is desirable but not necessary that individuals serve in areas that draw on their expertise or experience.

READINESS ISSUES

RI-15: Limited staff training for incident responders has occurred for the AP1000 design.

- Recommendation RI-15: NRC should continue training on the AP1000 design to ensure the staff is adequately trained for AP1000 incident response activities. Evaluate existing incident response training programs and, as needed, develop AP1000 training and qualification programs similar to those that have been developed for other diverse reactor designs for HOO/HERO and staff responders, including regional and COOP responders. Ensure HQ and Regional IRC contain site specific information needed to respond to an event

RI-16: The AP1000 ERDS data sets and associated screens are not completed.

- Recommendation RI-16: Continue to track the development of ERDS data sets and associated screens.

3.3.7 Information Technology Support

To support the CIP, a computer-based application called the Construction Inspection Program Information Management System (CIPIMS) has been developed. CIPIMS is a management tool used to document, organize, and track information collected during inspections.

A computer-based application called the Verification of ITAAC Closure, Evaluation, and Status (VOICES) was developed to support the ICN verification process. VOICES is capable of managing the workflows of high volumes of ICNs by multiple reviewers.

The Reactor Program System (RPS) is a work planning and staff resource management system that provides NRR, NRO, NSIR, and the regional staff with power reactor inspection and work planning, scheduling, and reporting capabilities. RPS is used by NRR and the regions as the primary tool to plan and schedule work assignments and inspection activities, as well as to record inspection findings. RPS supports the NRC's operating reactor inspection and licensing programs, and is used to schedule inspection activities at power reactors, decommissioning reactors, fuel facilities, and independent spent fuel facilities. Currently, many reports available in RPS do not have an option to select Part 52 dockets and/or NRO resource expenditures.

READINESS ISSUES

RI-17: Currently, many reports available in RPS do not have an option to select Part 52 docket and/or NRO resource expenditures.

- Recommendation RI-17: Fully incorporate Vogtle Units 3 and 4 and Summer Units 2 and 3 into all RPS modules and reports during the RPS Replacement Project.

3.3.8 Operating Experience and Construction Experience Programs

The primary objective of the regulatory operating experience (OpE) program is to collect, evaluate, communicate, and apply OpE information to support the agency goal of ensuring safety. This has been well established for operating reactors. Before 2009, the construction experience was collected and evaluated in the OpE program. In 2009, NRO implemented the New Reactor Construction Experience Program.

The staff memorandum, “Centers of Expertise for Allegations, Operating Experience/Construction Experience, Electrical Engineering, and Vendor Inspection” (ML12031A191), issued March 28, 2012, to the Office of the Executive Director for Operations, describes OpE/ConE under one functional area and directs the creation of a COE for each function area. The OpE/ConE COE is led by NRR and supported by staff in both NRO and NRR. Offices will continue to focus on knowledge sharing and coordination to systematically collect, screen, evaluate, and communicate domestic and international reactor operating and construction experience, and to apply lessons learned.

To be consistent with this staff memorandum, NRR and NRO have recently issued the joint OI and established a COE (see Revision 3 of LIC-401 [NRR] / Revision 2 of REG-112 [NRO], issued May 23, 2013, [ML12192A058]).

NRC also participates in international cooperation activities through several programs including the Nuclear Energy Agency’s Multinational Design Evaluation Program (MDEP) and bilateral cooperation with China. The goals of these interactions are cooperation in design reviews and convergence of regulatory practices and codes and standards.

While the WG did not identify any readiness issues in this area, the WG recommends that the NRC continue to track and use relevant construction experience gained from international activities including MDEP and AP1000 construction and testing activities in China and other new reactor construction projects to inform new reactor licensing and oversight activities.

4 ORGANIZATIONAL TRANSITION

The WG reviewed NRO, NRR, NSIR, and regional organizational readiness for the transition of new reactors from construction to operation.

4.1 NRO and NRR Organizational Readiness

Section 203 of the Energy Reorganization Act of 1974, as amended, specifies that the Director of NRR shall be delegated the “principal” licensing and regulatory functions involving reactor facilities. In the following excerpt from SECY-06-0144, the staff focused on the word “principal” in its rationale to establish NRO:

Section 203 of the Energy Reorganization Act specifies that the Director of NRR shall be delegated the “principal” licensing regulation functions involving reactor facilities. The proposed reorganization is consistent with this directive because some 1500 licensing actions, programmatic oversight of operating reactors, and enforcement will remain under NRR and can reasonably be considered “principal” licensing functions. Although the initial licensing to be performed by NRO constitutes a significant volume of work, the actual numbers of licensing actions are small and the spectrum of actual regulatory functions assigned to NRO is far less. Therefore, the Commission has sufficient flexibility under the Energy Reorganization Act to transfer the initial licensing function (including signature authority) for reactors to the Office of New Reactors.

In the SRM on SECY-06-0144, the Commission agreed with the recommendations in the SECY. In the memorandum “Delegation of Authority to the Director of the Office of New Reactors,” dated November 16, 2006, and revised on March 22, 2011 [ML103140191], NRO was delegated lead authority for activities related to new nuclear reactor facilities during pre-application interactions with potential applicants, industry groups, or other stakeholders and to continue as the lead office during the licensing and construction of those facilities. NRO retains licensing authority at least until the resolution of technical and adjudicatory issues associated with the NRC’s 10 CFR 52.103(g) finding. The revised 2011 memorandum also provides that “licensing and oversight authority for new nuclear reactor facilities will reside in NRR during their period of operation,” but as anticipated in the 2006 memorandum, there will be a period of transition of licensing authority and regulatory oversight from NRO to NRR as new reactor facilities commence operation. The WG notes that the revised 2011 memorandum states that a “future delegation memorandum will address the NRC organizational roles and responsibilities for licensing and oversight of new nuclear reactor facilities as they commence operation.”

The WG considers the future delegation memorandum to be just one of many actions that need to occur to facilitate an effective and efficient transition of regulatory responsibility from NRO to NRR as the new facilities commence operation. It is clear that the transition will require clear lines of responsibility; extensive coordination; and a transfer of knowledge of technical, design-specific information and administrative Part 52-specific nuances from NRO to NRR. Further, there will be a transition of responsibility, points of contact, as well as processes and procedures. The WG did some preliminary assessment of specific activities and organizations, but acknowledges this assessment was performed at a high level and detailed planning needs to occur.

READINESS ISSUE

RI-18: There is not yet a detailed integrated transition plan that addresses among other things, step-by-step transition of responsibilities, internal and external communication plan, roll over of IT and support processes, as well as knowledge transfer – technical, design-specific information and administrative, Part 52-specific nuances.

- Recommendation RI-18A: NRO and NRR should develop a detailed integrated transition implementation plan to include all organizational aspects of the transition. The plan should include the HQ organizational strategy for transition, taking into consideration the recommendations of the WG, to ensure that oversight, licensing, and technical support for new reactors is provided in the most efficient and effective manner.

This plan should also be input into the budget formulation process when considering appropriate projects and technical staff for the transition plans for Vogtle and Summer. A detailed communication plan should be developed to support the integrated transition plan.

- Recommendation RI-18B: The staff should revise the 2011 delegation memo to address the NRC organizational roles and responsibilities for licensing and oversight of new nuclear reactor facilities as they commence operation. The delegation memo should include the Commission's delegation of authority to staff for the making of the 10 CFR 52.103(g) acceptance criteria finding.

In conducting its review, the WG separately considered the transition of inspection, assessment, and enforcement (oversight); licensing (projects); and technical support for new reactors.

4.1.1 Inspection, Assessment, and Enforcement (Oversight)

The current thinking as documented in applicable guidance documents is for program office responsibilities for new reactor inspection, enforcement, and assessment to transfer from NRO to NRR at the 10 CFR 52.103(g) finding. Given that the cROP will end and the ROP will be implemented, ITAAC no longer are legal requirements, and TS will be implemented at the § 52.103(g) finding, this is a logical time for the agency to transition oversight from its construction to its operations organizations. Therefore, the WG recommends that the agency proceed with the new reactor oversight transition as planned.

Under this scenario, the lead organization would provide oversight for inspection, assessment, and enforcement of the new reactors with support from the other organization as necessary.

The WG notes that leading up to the § 52.103(g) finding, NRO DCIP will be heavily involved with the ICN review process.

4.1.2 Project Staff

As mentioned above, the revised 2011 delegation memorandum provides that "licensing and oversight authority for new nuclear reactor facilities will reside in NRR during their period of operation," but as anticipated in the 2006 memorandum, there will be a period of transition of licensing authority and regulatory oversight from NRO to NRR as new reactor facilities commence operation. Given that NRR still retains "principal" licensing and regulatory functions under the Energy Reorganization Act even with new reactor functions assigned to NRO through the construction period, licensing authority for new reactors could legally remain with NRO for a certain period of time after a positive § 52.103(g) finding, consistent with the Energy Reorganization Act. Further, the WG operated under the following assumptions.

- NRO will remain an independent office in the foreseeable future. NRO will maintain its current organization or a similar structure with projects, technical, and oversight divisions.
- Within the AP1000 design center,
 - The Vogtle and Summer units will be transitioning from construction to operation at roughly the same time. For Vogtle Unit 3 and Summer Unit 2, fuel load is scheduled for 2017 and commercial operation is scheduled for 2018. For Vogtle

Unit 4 and Summer Unit 3, fuel load is scheduled for 2018 and commercial operation is scheduled for 2019.

- Two of the active AP1000 COL application reviews (i.e., William States Lee III Units 1 and 2 and Levy County Units 1 and 2) are scheduled to be completed before the first 10 CFR 52.103(g) finding for the units under construction.
- The FSER for the remaining active AP1000 COL application, Turkey Point, is scheduled to be completed in October 2016.

The WG considered the following factors in exploring the optimal time for transition:

Resources

In the projects arena, which involves the exercise of licensing and other regulatory approval functions, the transition does not involve a significant impact on resources—there are currently three qualified senior PMs dedicated to Summer and Vogtle, as well as supervisory and administrative assistance. NRR will need one licensing branch to be cognizant of the AP1000 COLs (facilitated by geographical proximity) and their design-specific and regulatory nuances (e.g., Part 52 nuances (referenced certified design, design centers, change process, passive technology, etc.)).

Standardization

There is inherent benefit to keeping the first four licensed AP1000 units together. In the DCRA approach, the staff conducts one review for each issue associated with a particular design, reaches a decision on each issue, and, if possible, relies on that decision in reviewing subsequent applications. Therefore, one decision is likely to be used to support all four units. Keeping licensing within NRO would ensure consistency and appropriate prioritization and would minimize potential transition issues until some time after commercial operation occurs. In addition, it would facilitate the application of project-specific decisions to the COL application reviews, if underway, and standardization. The culmination of changes could form the technical basis for a future proposed rulemaking on the AP1000 DCR.

There is also an advantage to keeping together the COL application reviews and COL holders of the same standard design because it is likely that changes will affect both the applicants and the license holders. For example, the condensate return to In-containment Refueling Water Storage Tank (IRWST) AP1000 design change and license amendment requests (LARs) that are approved for Vogtle and Summer will also be requested for Levy, Lee, and Turkey Point. Therefore, keeping all of the AP1000 projects together until they have all completed the licensing process (10 CFR 52.103(g) finding) would be ideal from a licensing action coordination point-of-view. Otherwise, close coordination and good communication between the branches in NRO and NRR must be ensured to maintain consistency across offices regarding new issues with the AP1000 design or with the applications, either under review or approved, that reference the AP1000 design.

The benefits discussed above will have to be balanced against the benefits of simpler and clearer lines-of-responsibility associated with a transfer of all inspection and licensing activities at the time of the § 52.103(g) finding. These considerations should be addressed in response to Recommendations RI-18A and RI-18B above.

Prioritization

Consistent with the underlying premise of establishing NRO, time sensitive licensing actions could be afforded heightened priority and access to technical expertise, without compromise to the case work of the operating fleet of reactors.

Procedural Considerations

NRO contains the technical knowledge and Part 52-nuance specific expertise. This experience will be necessary in the conduct of time sensitive licensing actions. Further, preparation for each of the 10 CFR 52.103(g) findings will require expertise in the procedural aspects associated with the potential ITAAC hearing. In the event of a contested hearing, the staff familiar with the hearing contentions would reside in NRO.

The WG considered the above and recommends that after the first unit receives a positive 10 CFR 52.103(g) finding, a phased transition begin with NRR projects staff shadowing⁹ the NRO projects staff. This phased transition should continue until the fourth unit receives its positive 52.103(g) finding. Once the last 52.103(g) finding is made, full transition of all AP1000 units to NRR should occur. All active COL application reviews are expected to be complete, and the issued COLs are not expected to have definitive construction plans.

In performing this review, the WG noted that there are differences in the NRO and NRR PM qualification programs. These differences could introduce some challenges in NRR PMs being able to disposition certain licensing action requests.

READINESS ISSUE

RI-19: The WG's anticipated transition of AP1000 units from NRO to NRR oversight needs further discussion among Agency senior managers to gain full alignment and clarity of responsibilities for licensing and operational oversight. Additionally, the NRR and NRO PM qualification programs do not completely align with each other.

- Recommendation RI-19A: The Directors of NRO, NRR, and NSIR, and the Administrator of RII need to discuss the WG anticipated transition of AP1000 units from NRO to NRR and reach formal agreement on the transition approach, and to provide clarity of responsibilities for licensing and operational oversight.
- Recommendation RI-19B: The NRR and NRO PM qualification programs should be reviewed for consistency. NRO and NRR should supplement their PM qualification program with features specific to Parts 50 and 52, as appropriate.

4.1.3 Technical Staff

The technical staff within NRO have accrued knowledge of the AP1000 design and licensing basis over the broad range of design and operational issues. In certain technical areas, NRR and NRO have developed COEs—and in certain cases such as in the Electrical Engineering COE, NRR provides technical reviews. In other areas, staff has been matrixed or detailed to support reviews in specialized areas. In addition, NSIR reviews security and matters related to emergency planning. The continuity of this knowledge would facilitate licensing oversight during

⁹Shadowing activities includes the following: NRR PMs working with NRO PMs as the NRO PMs process licensing requests, etc.

the transition to operation as well as ensure consistency in regulatory decisionmaking because the oversight and licensing potentially straddle the two offices.

The WG does not have a specific recommendation on the transition of the technical staff or the technical review function as any transition will be influenced by external factors. Rather the WG emphasizes the availability of technical expertise to support new reactor licensing and technical consistency between offices.

READINESS ISSUE

RI-20: The transition of the licensing oversight of Vogtle and Summer to NRR can introduce technical availability and consistency issues.

- Recommendation RI-20A: NRR and NRO technical divisions should assess potential options for ensuring technical consistency and timely reviews and licensing oversight for Vogtle and Summer licensees as well as other new reactor projects. These options should include expanding the COE concept to additional areas, or matrixing or detailing staff to support licensing reviews.
- Recommendation RI-20B: NRR should supplement its technical staff qualification program with features specific to 10 CFR Part 52.

4.1.4 Other Regulatory Processes

Unless otherwise noted in Section 3, the WG does not consider the organizational transition of other regulatory processes as part of this paper. Functions such as rulemaking and OpE/ConE can be implemented independently of the transition of these four units.

4.2 NSIR Organizational Readiness

NSIR's oversight role is different from that of NRO and NRR in that NSIR retains oversight of security and emergency-preparedness programs as new reactors transition from construction to operation. Oversight roles can be transitioned within the affected divisions as new reactors transition from construction to operations. Therefore, the WG did not identify any NSIR organizational readiness issues. The roles of the affected divisions are discussed below.

4.2.1 Division of Security Policy (DSP)

As each new reactor transitions from construction to operation, the licensee's security plans will be revised to address any changes. The revised security plans will be reviewed as part of DSP's Operating Reactor Review process which determines if the licensee's changes result in a decrease in safeguards effectiveness.

4.2.2 Division of Security Operations (DSO)

As each new reactor transitions from the construction phase to the implementation of the security plans, DSO will coordinate inspection activities for its security-program elements based on the milestones outlined in Chapter 13 of the Vogtle and Summer FSARs. This transition might be NSIR's most challenging organizational issue because the security milestones listed in Chapter 13 of the FSAR are high-level program items. Many of the intermediate

security-program element milestones are based on the licensee's construction schedule. These intermediate security-program elements require staff inspections as part of meeting the higher-level program milestones listed in Chapter 13 of the Vogtle and Summer FSARs. The licensee's communication of its construction schedule to the NRC will become a critical element in scheduling the intermediate security-program elements.

4.2.3 Division of Preparedness and Response

As new reactors transition from the construction phase to the implementation of the Emergency Plans, the Inspection and Regulatory Improvement Branch (IRIB) will coordinate inspection activities for the emergency-preparedness program elements based on the milestones outlined in Table 13.4-201 of the Vogtle and Summer FSARs.

As each new reactor progresses from construction to operation, the licensee's emergency plan may be revised to address any changes in accordance with 10 CFR 50.54(q). The Operating Reactor Licensing and Outreach Branch will support either NRO's Division of New Reactor Licensing (DNRL) or NRR's Division of Operating Reactor Licensing (DORL) in performing the technical review of an emergency plan or of emergency action level scheme changes required to be submitted for prior NRC approval depending on the timeframe of the request.

4.3 Regional Organizational Readiness

The estimate of construction direct inspection effort for new reactors is 35,000 hours per unit over the life of the construction project. A combined effort by the Region II construction inspection staff, the headquarters vendor inspection staff, the NRO technical staff, and host region inspection staff will be needed to ensure adequate inspection of construction and construction-related activities.

IMC 2506 contains overall CIP guidance. Appendix A, "Construction Inspection Program Guidance," to IMC 2506 contains construction inspector policy guidance. This guidance includes the planned staffing for the CIP at a new reactor through the startup testing program. Construction resident inspector office (RIO) staffing will require adjustments based on site construction activities. The construction RIO will be augmented by specialists from the Region II Division of Construction Inspection (DCI) or Division of Construction Projects (DCP) throughout plant construction. Extensive inspection planning is conducted to ensure that the right person, with the right expertise, is available at the right time to ensure that the construction baseline inspection program is completed for each unit. As pre-operational testing begins, the operations resident inspectors will be assigned to the site to work with the construction resident inspectors and eventually will take leadership of the inspection program. Once the 10 CFR 52.103(g) finding is made and the plant transitions from construction to startup testing and then to full-power operations, the construction RIO will wind down and the operations RIO will assume lead inspection responsibility for that unit.

Implementation of program guidance for new reactor inspection, enforcement, and assessment is planned to be turned over from the Region II construction organization (DRAC, DCP, DCI) to the Region II operations organization (DRAO, DRP, DRS) at the 10 CFR 52.103(g) decision.

A comprehensive regional new reactor staffing and budget plan, taking into consideration the recommendations in the Region II Resource Management Strategic Initiative (RMSI), has not been agreed upon by NRR, NRO, NSIR and Region II. No official guidance has been developed to describe how operating new reactors will be considered with regard to resident

inspector office staffing and other issues such as 4-unit sites, sites with unique budget models, 2-unit sites with units of different designs, etc. It is the WG's recommendation that the AP1000s, once operating, be treated as separate 2 unit sites, independent of existing units, for purposes of budgeting and staffing.

It is noted that a WG has been established to move the construction inspector qualification program in IMC 1252 to an appendix to IMC 1245, "Qualification Program for Operating Reactor Programs." This effort is intended to align the construction inspection qualification program with the operating fleet inspector qualification program. Recommendations from this WG should be evaluated and actions developed for implementation as necessary.

The Region II RMSI has two major implementing strategies associated with the "transition to operations" effort:

- (1) Workload Projection, Critical Skills Identification, and Resource Management
- (2) Development of Talent to Create Our Future Workforce

The first implementing strategy involves projecting the workload in Region II, identifying the skills needed to execute the work, and developing an integrated resource management strategy (hiring and staffing) to ensure that the right people are available to get the job done. The second strategy involves individual development planning and workforce planning (i.e., training, qualification and development).

This effort primarily serves as a tool for Region II's further development and informs the respective program offices' transition plans.

READINESS ISSUES

RI-21: A comprehensive regional new reactor staffing and budget plan, taking into consideration the recommendations in the Region II RMSI, has not been agreed upon by NRR, NRO, NSIR and Region II. No official guidance has been developed to describe how operating new reactors will be considered with regard to resident inspector office staffing and other issues such as 4-unit sites, sites with unique budget models, 2-unit sites with units of different designs, etc.).

- Recommendation RI-21: An integrated new reactor construction and operations staffing plan should be developed and agreed on between Region II, NRO, NRR, and NSIR and input into the budget development process to ensure that adequate regional staffing and funding exists in the appropriate business lines from plant construction through full-power operations. It is the WG's recommendation that the AP1000s, once operating, be treated as separate 2-unit sites, independent of existing units, for purposes of budgeting and staffing.

5 CONCLUSION

The WG identified a number of readiness issues that require actions to ensure that the NRC is prepared to effectively license and oversee future construction activities and the transition of new reactors to commercial operations. All of the readiness issues and recommendations are presented in Enclosure 1, including the identification of the lead organization. Many of these

readiness issues have already been identified by the organization and actions are underway to address them. On issuance of this report, the cognizant Divisions will develop specific implementation plans and schedules for each of the recommendations and track them in the consolidated readiness report, if these plans and schedules have not been developed, and will report out regularly on implementation. In certain areas, the WG did not identify readiness issues, but referred to other WGs and readiness activities. These other activities are summarized in Enclosure 2. DARR will conduct periodic status meetings and track the recommendations in a consolidated Readiness Report as they are being addressed by the lead organizations.

ENCLOSURE 1- LIST OF READINESS ISSUES AND RECOMMENDATIONS

Readiness Issue (RI)-01: License amendments and exemption requests often require very short review time by the staff to avoid impacting the construction schedule.

- Recommendation RI-01A: NRO should continue to leverage the two month look-ahead for the construction projects to project potential technical expertise needs, with the basic understanding that NRO will need to maintain its broad technical capabilities to evaluate and complete requested regulatory approvals.

Lead Organization: NRO/DNRL

- Recommendation RI-01B: NRO should continue to leverage decisions, as well as relevant construction experience, for applicability to the various licensing actions within the design center (e.g., to both active COLs and COL applications).

Lead Organization: NRO/DNRL

RI-02: EPM may not be the most effective method of tracking regulatory approvals.

- Recommendation RI-02: Reevaluate the tracking of short-turnaround LARs to determine the best method to plan, track, and monitor these activities. For the longer term, there is a need to assess the compatibility of NRO's LAR tracking mechanisms with NRR's approach for scheduling resources.

Lead Organization: NRO/DNRL

Supporting Organization: NRO EPM Champions Forum, NRR/DORL

RI-03: NRR licensing OIs typically do not address nuances unique to the Part 52 licensing process.

- Recommendation RI-03: Before the transition of a COL licensee to licensing support provided by NRR, the NRR OIs should be updated to include nuances unique to the Part 52 licensing process (e.g., Tier 1, Tier 2, and Tier 2* designations discussed in the DCR). The Division of Advances Reactors and Rulemaking (DARR) will work with the staff from Division of New Reactor Licensing (DNRL) and the Division of Operating Reactor Licensing (DORL) in NRR to either update the current guidance or provide supplemental guidance.

Lead Organizations: NRO/DNRL and NRR/DORL

RI-04: Currently, NRO relies on NRR's guidance for addressing 10 CFR 2.206 petitions. However, the process by which the NRC reviews 10 CFR 2.206 petitions does not contain all of the aspects of the 52.103(f) process.

- Recommendation RI-04: Develop guidance for those aspects of the 10 CFR 52.103(f) process that are not currently part of the 10 CFR 2.206 process, such as interactions between the staff and the Commission, and the immediate action determination required

by 10 CFR 52.103(f). Additional consideration should be given to whether action on 10 CFR 52.103(f) petitions should be delegated to the staff in a way similar to the Commission's delegation of the 10 CFR 52.103(g) finding to the staff.

Lead Organization: NRO/DNRL

Support Organization: NRR/DPR

RI-05: While inspection guidance documents have been developed and issued for all ongoing construction activities, several documents for the future inspection of construction and testing activities have yet to be issued (although it is anticipated that the unissued documents will not be needed for several more years).

- Recommendation RI-05: Ensure that procedure development and issuance continues to be tracked until all required procedures for the future inspection of construction and testing activities have been issued.

Lead Organization: NRO/Division of Construction Inspection and Operational Programs (DCIP)

RI-06: IMCs 2503 and 2504 are not applicable after the 10 CFR 52.103(g) finding has been made. However, as described in Section 3.2.1.1, if ITAAC are the subject of an ongoing hearing, inspections of activities covered in these IMCs might be required after the 10 CFR 52.103(g) finding. In addition, some required operational programs, such as those associated with start-up testing, might not be fully implemented before the 10 CFR 52.103(g) finding.

- Recommendation RI-06: Modify or replace IMC 2514 to (1) refer to contents of relevant inspection procedures (IPs) listed in IMC 2503 in case ITAAC hearing-related issues extend beyond the 10 CFR 52.103(g) finding and ensure that IMC 2514 contains necessary guidance for different scenarios that may be encountered (ITAAC hearings, etc.); and (2) refer to relevant IPs listed in IMC 2504 for operational program inspections that may be conducted after the 10 CFR 52.103(g) finding.

Lead Organization: NRR/Division of Inspection and Regional Support (DIRS)

Support Organization: NRO/DCIP

RI-07: While the new reactor initial test program inspection procedures have been fully developed and issued, IMC 2514, "Light Water Reactor Inspection Program Startup Testing Phase," does not match the newly developed ITP inspection procedures.

- Recommendation RI-07: IMC 2514 should be revised and reissued or replace to support the new reactors startup testing inspection program. Interactions between NRO and NRR are necessary in order to ensure that appropriate guidance is established for new reactors. This should be informed by the implementation of IMC 2514 during Watts Bar Unit 2 startup testing.

Lead Organizations: NRO/DCIP; NRR DIRS

RI-08: The current guidance provides that the transition from the cROP to the ROP will occur at the 10 CFR 52.103(g) finding. There may be findings identified prior to the 10 CFR 52.103(g) finding that would be best screened using the ROP SDP. Likewise, there may be findings identified subsequent to the 10 CFR 52.103(g) finding that would be best screened using the cROP SDP.

- Recommendation RI-08: Consider modifying the cROP to allow the use of the ROP SDP screening tools for findings that are associated with operational programs that have been implemented and, if unidentified, the condition could have persisted during plant operation. In addition, consider modifying the ROP to allow the use of the cROP SDP for findings that are associated with the development of operational programs that may occur after the 52.103(g) finding. Also, provide appropriate guidance for the assignment of findings to a cornerstone in the oversight process that is in effect at the time of the identification of the findings.

Lead Organizations: NRO/DCIP; NRR/DIRS

RI-09: The new AP1000s will not have any operating experience in the USA, which should be a consideration during the first several operating cycles of the new reactors and for the use of PIs. In addition, certain PIs (e.g., mitigating systems performance index) might not be applicable to new reactors.

- Recommendation RI-09A: Continue to track the implementation of Commission direction in the SRM to SECY-13-0137, "Recommendations for Risk-Informing the Reactor Oversight Process for New Reactors," dated December 17, 2013 (ML13263A351) regarding the evaluation of current PIs.
- Recommendation RI-09B: Determine when PIs become relevant (i.e., number of operating hours/quarters, etc.).

Lead Organization: NRR/DIRS

Support Organizations: NRO/DCIP, NRO/DSRA, Region II

RI-10: The lower risk values raised questions about how to apply acceptance guidelines for changes to the licensing basis and regulatory response in the ROP.

- Recommendation RI-10: Continue to track the implementation of Commission direction in the SRM to SECY-13-0137, dated December 17, 2013 [ML13263A339] regarding the operating reactor SDP.

Lead Organization: NRR/DIRS

Support Organizations: NRO/DCIP, NRO/DSRA, Region II

RI-11: The existing ROP baseline inspection procedures might not be entirely applicable to new reactors. During ROP development, RES developed risk information matrices (RIMs) to help in the development of the inspectable areas, frequency, sample sizes, and hours. The RIMs were developed for most PWRs and BWRs at the time based on the Individual Plant Examination (IPE), IPE External Events (IPEEE) and RAW.

- Recommendation RI-11A: Revisit Appendices I, “Basis Documents for Inspectable Areas”; II, “Cornerstone Charts”; and III, “Risk Information Matrices,” to Attachment 3, “NRC Nuclear Power Reactor Baseline Inspection Program,” to SECY-99-007. Determine whether NRC should develop a RIM for AP1000 to select inspectable areas, frequency, sample sizes, and hours. Determine whether NRC needs to reconstruct the cornerstone charts (i.e., inspectable areas and attributes) for AP1000 reactors. Use the risk models for the AP1000s to identify the risk importance of SSCs.
- Recommendation RI-11B: Perform a review of ROP baseline inspection procedures to determine whether existing inspection procedures and other guidance documents are practical and adequate for new reactors.

Lead Organization: NRR/DIRS

Support Organizations: NRO/DCIP, NRO/DSRA, Region II

RI-12: The staff anticipates a surge in ICNs towards the end of the plant construction period.

- Recommendation RI-12: We currently anticipate that the increasing ICN verification workload can be handled by resources within NRO. However, a staffing analysis considering the anticipated ICN verification workload will continue to be periodically updated and the results input to the budget formulation process so that adequate licensing and technical resources are requested in the budget process and will be available to complete ICN verification reviews commensurate with the anticipated number of submittals during the later stages of construction.

Lead Organization: NRO/DCIP

Support Organization: Region II

RI-13: The NRC will be implementing the provisions of 10 CFR 52.103(g) for the first time for Vogtle, Units 3 and 4, and V. C. Summer, Units 2 and 3, to transition from construction to operation. The staff has been developing procedures outlining the 10 CFR 52.103(g) finding process and related staff actions, but these procedures are not yet complete.

- Recommendation RI-13: Ensure that procedure development and issuance continues to be tracked until under the SRM all required procedures for the 10 CFR 52.103(g) finding process and related staff actions have been issued.

Lead Organization: NRO/DCIP

Support Organization: NRO/DARR and DNRL

RI-14: The ITAAC hearing process procedures are not yet complete.

- Recommendation RI-14A: The staff, OGC, and OCAA will continue to develop internal implementation processes to be approved soon after the ITAAC hearing procedures are finalized (e.g., within 6 months).

- Recommendation RI-14B: Training on the ITAAC hearing process should be developed and provided to affected staff (principally DNRL and DCIP) between 24 months and 18 months before scheduled fuel load.
- Recommendation RI-14C: The detailed transition plan should identify NRO as the lead technical office during the ITAAC hearing process, but NRR should be kept informed of any actions resulting from the hearing process. To the extent that possible actions resulting from the ITAAC hearing process are decided or implemented during a period in which NRR is the lead office for the plant, NRO will need to coordinate with NRR on the implementation of these actions.

Lead Organization: NRO/DNRL

RI-15: Limited staff training for incident responders has occurred for the AP1000 design.

- Recommendation RI-15: NRC should continue training on the AP1000 design to ensure the staff is adequately trained for AP1000 incident response activities. Evaluate existing incident response training programs and, as needed, develop AP1000 training and qualification programs similar to those that have been developed for other diverse reactor designs for HOO/HERO and staff responders, including regional and COOP responders. Ensure HQ and Regional IRCs contain site specific information needed to respond to an event

Lead Organization: NSIR/ Division of Preparedness and Response (DPR)
Support Organizations: Region I, II, III, and IV

RI-16: The AP1000 ERDS data sets and associated screens are not completed.

- Recommendation RI-16: Continue to track the development of ERDS data sets and associated screens.

Lead Organization: NSIR/DPR

RI-17: Currently, many reports available in RPS do not have an option to select Part 52 docket and/or NRO resource expenditures.

- Recommendation RI-17: Fully incorporate Vogtle Units 3 and 4 and Summer Units 2 and 3 into all RPS modules and reports during the RPS Replacement Project.

Lead Organization: NRR/DIRS
Support Organizations: NRO/DCIP, Region II

RI-18: There is not yet a detailed integrated transition plan that addresses among other things, step-by-step transition of responsibilities, internal and external communication plan, roll over of IT and support processes, as well as knowledge transfer – technical, design-specific information and administrative, Part 52-specific nuances.

- Recommendation RI-18A: NRO and NRR should develop a detailed integrated transition implementation plan to include all organizational aspects of the transition. The plan should include the HQ organizational strategy for transition, taking into consideration the recommendations of the WG, to ensure that oversight, licensing, and technical support for new reactors is provided in the most efficient and effective manner. This plan should also be input into the budget formulation process when considering appropriate projects and technical staff for the transition plans for Vogtle and Summer. A detailed communication plan should be developed to support the integrated transition plan.

Lead Organizations: NRO/DARR and NRR/DORL

Support Organizations: NRR--DIRS/DE/DSS/DRA/DPR, NRO--DNRL/DCIP/DE/DSRA/DSEA, and Region II

- Recommendation RI 18B: The staff should revise the 2011 delegation memo to address the NRC organizational roles and responsibilities for licensing and oversight of new nuclear reactor facilities as they commence operation. The delegation memo should include the Commission's delegation of authority to staff for the making of the 10 CFR 52.103(g) acceptance criteria finding.

Lead Organizations: NRO/DARR

Support Organizations: NRR/DORL/DIRS

RI-19: The WG's anticipated transition of AP1000 units from NRO to NRR oversight needs further discussion among Agency senior managers to gain full alignment and clarity of responsibilities for licensing and operational oversight. Additionally, the NRR and NRO PM qualification programs do not completely align with each other.

- Recommendation RI-19A: The Directors of NRO, NRR, and NSIR, and the Administrator of RII need to discuss the WG's anticipated transition of AP1000 units from NRO to NRR and reach formal agreement on the transition approach, and to provide clarity of responsibilities for licensing and operational oversight.
- Recommendation RI-19B: The NRR and NRO PM qualification programs should be reviewed for consistency. NRO and NRR should supplement their PM qualification program with features specific to Parts 50 and 52, as appropriate.

Lead Organizations: NRO/DNRL and NRR/DORL

Support Organizations: Technical Qualifications WG under NRO's Human Capital Forum

RI-20: The transition of the licensing oversight of Vogtle and Summer to NRR can introduce technical availability and consistency issues.

- Recommendation RI-20A: NRR and NRO technical divisions should assess potential options for ensuring technical consistency and timely reviews and licensing oversight for

Vogtle and Summer licensees as well as other new reactor projects. These options should include expanding the COE concept to additional areas, or matrixing or detailing staff to support licensing reviews.

Lead Organization: NRO and NRR Deputy Office Directors to identify candidate technical branches and/or divisions; NRO and NRR Human Capital lead for expanding COE

- Recommendation RI-20B: NRR should supplement its technical staff qualification program with features specific to 10 CFR Part 52.

Lead Organization: NRO and NRR Deputy Office Directors to identify candidate technical branches and/or divisions; NRO and NRR Human Capital lead

RI-21: A comprehensive regional new reactor staffing and budget plan, taking into consideration the recommendations in the Region II RMSI, has not been agreed upon by NRR, NRO, NSIR and Region II. No official guidance has been developed to describe how operating new reactors will be considered with regard to resident inspector office staffing and other issues such as 4-unit sites, sites with unique budget models, 2-unit sites with units of different designs, etc.).

- Recommendation RI-21: An integrated new reactor construction and operations staffing plan should be developed and agreed on between Region II, NRO, NRR, and NSIR and input into the budget development process to ensure that adequate regional staffing and funding exists in the appropriate business lines from plant construction through full-power operations. It is the WG's recommendation that the AP1000s, once operating, be treated as separate 2 unit sites, independent of existing units, for purposes of budgeting and staffing.

Lead Organizations: NRO/DCIP, NRR/DIRS, NSIR/Division of Security Operations (DSO), and NSIR/DPR

Support Organizations: Region II

ENCLOSURE 2 - LIST OF RELATED ACTIVITIES

1 Environmental Compliance

The WG emphasizes that it's the licensee's responsibility to ensure that all conditions imposed by sections 401(a)(2) and 401(d) of the Federal Water Pollution Control Act are met and/or maintained before fuel load and commencement of operation. See Section 3.1.3.

2 Emergency-Preparedness Inspections

The WG notes that milestones for the implementation of the emergency-preparedness program are listed in the COL and FSAR. Close coordination between NSIR, the Region II construction organization, and the host region will be necessary to track and ensure that required inspections are conducted as the emergency-preparedness program elements are implemented at licensee facilities. In addition, management should ensure that appropriate inspection resources are provided for emergency-preparedness inspections. See Section 3.2.1.4.

3 Security Inspections

The WG notes that milestones for the implementation of the security operational program are listed in the COL or FSAR. Close coordination between NSIR, the Region II construction organization, and the host region will be necessary to track and ensure that required inspections are conducted as the operational security program elements are implemented at licensee facilities. In addition, management should ensure that appropriate funding is provided for operational security inspections in future budget allocations. See Section 3.2.1.5.

4 Allegations and Investigations

The WG anticipates that a large number of late-filed allegations might be received before the 10 CFR 52.103(g) finding. The staff should be prepared to disposition late-filed allegations while the 10 CFR 52.103(g) finding is being made. See Section 3.2.4.

5 Vendor Inspection Program

The WG notes that guidance addressing the processing and tracking of ITAAC findings identified during vendor inspections has recently been developed and issued in a revision to IMC 2507. This process should be closely monitored to ensure that ITAAC findings identified by vendor inspectors are tracked and closed in a timely manner and that adequate communications between vendor inspectors, Region II inspectors, and licensees are occurring in this area. See Section 3.2.6.

6 Operating Experience and Construction Experience Programs

The WG recommends that the NRC continue to track and use relevant construction experience gained from international activities including MDEP and AP1000 construction and testing activities in China and other new reactor construction projects to inform new reactor licensing and oversight activities. See Section 3.3.8.

ENCLOSURE 3 - LIST OF WORKING GROUP MEMBERS—AMENDED FROM CHARTER

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ENCLOSURE 4 - LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AEA	Atomic Energy Act
CFR	Code of Federal Regulations
CIP	Construction Inspection Program
CIPIMS	Construction Inspection Program Information Management System
COE	COE
COL	Combined License
ConE	Construction Experience Program
COOP	Continuity of Operations
CPB	Construction Projects Branch
cROP	Construction Reactor Oversight Process
DARR	Division of Advanced Reactors and Rulemaking
DC	Design Certification
DCD	Design Control Document
DCI	Division of Construction Inspection
DCIP	Division of Construction Inspection and Operational Programs
DCP	Division of Construction Projects
DCR	Design Certification Rule
DCRA	Design-Centered Review Approach
DIRS	Division of Inspection and Regional Support
DNRL	Division of New Reactor Licensing
DORL	Division of Operating Reactor Licensing
DSO	Division of Security Operations
DSP	Division of Security Policy
EALs	Emergency Action Levels
EGM	Enforcement Guidance Memorandum
EIS	Environmental Impact Statement
EP	Emergency Preparedness
EPM	Enterprise Project Management
ERDS	Emergency Response Data System
ETE	Evacuation Time Estimate
FEMA	Federal Emergency Management Agency
FSAR	Final Safety Analysis Report
HERO	Headquarters Emergency Response Officer
HOC	Headquarters Operations Center
HOO	Headquarters Operations Officer
HQ	Headquarters
ICN	ITAAC Closure Notification
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPE	Individual Plant Examination
IPEEE	Individual Plant Examination External Events
IRC	Incident Response Center
IRIB	Inspection and Regulatory Improvement Branch
ISG	Interim Staff Guidance
ITA	Inspections, Tests, and Analyses
ITAAC	Inspections, Tests, Analyses, and Acceptance Criteria
ITP	Initial Test Program

LAR	License Amendment Request
LWR	Light Water Reactor
MD	Management Directive
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NRO	Office of New Reactors
NRR	Office of Nuclear Reactor Regulation
NSIR	Office of Nuclear Security and Incident Response
OCAA	Office of Commission Appellate Adjudication
OGC	Office of the General Counsel
OI	Office Instruction
OpE	Operating Experience
PAR	Preliminary Amendment Request
PI	Performance Indicators
PM	Project Manager
QA	Quality Assurance
RAW	Risk Achievement Worth
RES	Office of Nuclear Regulatory Research
RG	Regulatory Guide
RI	Readiness Issues
RII	Region II
RIM	Risk information matrices
RIO	Resident Inspector Office
RMSI	Resource Management Strategic Initiative
ROP	Reactor Oversight Process
RPS	Reactor Programs System
SDP	Significance Determination Process
SRM	Staff Requirements Memorandum
SRP	Standard Review Plan
SSCs	Structures, Systems and Components
TI	Temporary Instructions
TS	Technical Specifications
TTC	Technical Training Center
USA	United States of America
VIP	Vendor Inspection Program
VOICES	Verification of ITAAC Closure, Evaluation and Status
WG	Working Group

ENCLOSURE 5 - REFERENCES

1. U.S. Nuclear Regulatory Commission, "Delegation of Authority to the Director of the Office of New Reactors," November 17, 2006 [ML062900300].
2. U.S. Nuclear Regulatory Commission, "EDATS: NRO-2011-0001 - 1/xx11 -, EDO, Delegation of Authority to the Director of the Office of New Reactors - Memo to M. Johnson, NRO and E. Leeds, NRR, from R. W. Borchardt," March 22, 2011 [ML103140191].
3. U.S. Nuclear Regulatory Commission, "Integrated Transition Working Group Charter," June 14, 2013 [ML13127A319].
4. U.S. Nuclear Regulatory Commission, "NRC Regulatory Issue Summary 2006-006: New Reactor Standardization Expectations Needed to Support the Design-Centered Licensing Review Approach," May 31, 2006 [ML053540251].
5. U.S. Nuclear Regulatory Commission, "SECY-13-0137 Recommendations for Risk-Informing The Reactor Oversight Process for New Reactors," December 17, 2013 [ML13263A351].
6. U.S. Nuclear Regulatory Commission, "Allegations Center of Expertise Charter," [ML12045A102].
7. U.S. Nuclear Regulatory Commission, "SECY-13-0033 - Allowing Interim Operation Under Title 10 of the Code of Federal Regulations Section 52.103," April 4, 2013 [ML12289A928].
8. U.S. Nuclear Regulatory Commission, "SRM-SECY-13-0033 - Allowing Interim Operation Under Title 10 of the Code of Federal Regulations Section 52.103," July 19, 2013 [ML13200A115].
9. U.S. Nuclear Regulatory Commission, "Centers of Expertise for Allegations, Operating Experience/Construction, Electrical Engineering, and Vendor Inspection," March 28, 2012 [ML12031A191].
10. U.S. Nuclear Regulatory Commission, "LIC-401, Rev. 3 (NRR)/REG-112, Rev. 2 (NRO), "NRR- NRO Reactor Operating Experience Program," May 23, 2013 [ML12192A058].