

POLICY ISSUE

(Information)

June 15, 2012

SECY-12-0084

FOR: The Commissioners

FROM: Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

SUBJECT: STATUS REPORT ON POWER UPRATES

PURPOSE:

This information paper summarizes the power uprate program accomplishments and challenges since the last update in SECY-11-0071, "Status Report on Power Uprates," dated May 25, 2011. This paper does not address any new commitments or resource implications.

BACKGROUND:

The staff provides the Commission with an annual update of significant power uprate activities, in accordance with the Staff Requirements Memorandum (SRM) dated February 8, 2002, entitled "Briefing on Status of Nuclear Reactor Safety" (SRM-M020129).

DISCUSSION:

The staff continues to ensure that the goal of protection of public health and safety remains paramount throughout its power uprate license application reviews and is not compromised in order to meet the associated timeliness and resource performance goals. Since the last update, the U.S. Nuclear Regulatory Commission (NRC) staff has approved power uprates for four plants. The staff is currently reviewing 17 power uprates. Over the next five years, the staff expects that licensees will submit an additional 15 power uprate applications. The enclosed status report provides detailed information on the power uprates approved since May 25, 2011; applications under review; applications expected in the future; accomplishments; program assessment and enhancement opportunities.

CONTACT: Nicholas J. DiFrancesco, NRR/DORL
(301) 415-1115

The staff has continued to encounter challenges in meeting the 12-month review goal for extended power uprates (EPUs) and 6-month review goal for measurement uncertainty recaptures (MURs). The staff exceeded the 12-month review goal for Nine Mile Point, Unit 2, EPU by 16 months primarily because of delays in receiving the licensee's supplement adopting a revised steam dryer analysis. The staff exceeded the 6-month review goal for the Shearon Harris, Unit 1, MUR by five months because of competing staff priorities and time needed to resolve staff comments to ensure safety evaluation quality. The staff exceeded the 12-month review goal for the Turkey Point, Units 2 and 3, EPUs by three months because of a concern relating to significant peak cladding temperature error contained within the emergency core cooling system (ECCS) evaluation model. This concern was related to fuel thermal conductivity degradation which required a revision to the ECCS evaluation model late in the review. Other review delays are mainly due to technical and/or programmatic challenges. These challenges are addressed in the enclosed report.

In spring 2012, the staff assessed various aspects of the program to understand existing programmatic challenges with completing reviews within the existing timeliness goals. The staff identified opportunities to enhance the program and is considering additional changes for the future. Budgeted resource estimates and performance goals also have been revised to allow for more effective and efficient use of existing staff resources.

The continuing goal is for the staff to conduct timely power uprate reviews of appropriate scope and depth for each of the technical areas, while ensuring that safety is maintained.

COORDINATION:

The Office of the General Counsel reviewed this report and has no legal objection.

/RA/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Enclosure:
Power Uprate Program Status Report

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OFFICE	DORL/LPL3-2/PM	DORL/LPL3-2/LA	TECH ED*	NRR/DE/EMCB	NRR/DSS/SCVB*
NAME	NDiFrancesco	SRohrer	CHsu	MMurphy	RDennig
DATE	06/11/12	06/11 /12	06/08/12	05/21/12	05/15/12
OFFICE	OGC (NLO)	NRR/DORL/LPL3-2/BC	NRR/DORL/D	NRR/D	
NAME	BHarris	JZimmerman	MEvans	ELeeds	
DATE	06/07/12	06/12/12	06/13/12	06/15/12	

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Power Uprate Program Status Report June 2012

Power uprates are categorized based on the magnitude of the thermal power increase and the methods used to achieve the increase. Measurement uncertainty recapture (MUR) power uprates result in power-level increases of less than 2 percent and are achieved by implementing enhanced techniques for calculating reactor power. Stretch power uprates (SPUs) typically result in power-level increases of up to 7 percent and generally do not involve major plant modifications. Extended power uprates (EPUs) result in greater power-level increases than SPUs and usually require significant modifications to major plant equipment. The U.S. Nuclear Regulatory Commission (NRC) has approved EPUs for thermal power increases as high as 20 percent.

Power Uprates Approved Since May 2011

Power uprates approved since May 25, 2011, have added 1,257 megawatts thermal (MWt) or approximately 415 megawatts electric (MWe) to the Nation's electric generating capacity. This brings the total number of power uprates approved since 1977 to 143, resulting in a combined increase of about 19,320 MWt (6,440 MWe) to the Nation's electric generating capacity. Table 1 provides information on the power uprates approved since May 25, 2011.

Table 1 - Power Uprates Approved Since May 25, 2011

No.	Plant	% Uprate	MWt	Application Date	Acceptance Date	Approval Date	Type
1	Nine Mile Point 2	15	521	05/27/2009	09/02/2009	12/22/2011	EPU
2	Shearon Harris 1	1.6	48	04/28/2011	07/01/2011	05/30/2012	MUR
3	Turkey Point 3*	15	344	10/21/2010	03/11/2011	06/15/2012	EPU
4	Turkey Point 4*	15	344	10/21/2010	03/11/2011	06/15/2012	EPU
		Total	1,257				

* Turkey Point's EPU application included a 1.7% MUR.

The staff has continued to encounter challenges in meeting the 12-month review goal for EPUs and 6-month review goal for MURs.¹ The staff exceeded the 12-month review goal for Nine Mile Point, Unit 2, EPU by 16 months because of delays with the submittal of the licensee's revised steam dryer analysis, which used the latest Continuum Dynamics revision to the acoustic circuit model version 4.1 to resolve staff technical concerns. The staff exceeded the 6-month review goal for the Shearon Harris, Unit 1, MUR by five months because of competing staff priorities and time needed to resolve staff comments to ensure safety evaluation quality. The staff exceeded the 12-month review goal for the Turkey Point, Units 2 and 3, EPUs by three months due to a concern relating to significant peak cladding temperature error contained within the emergency core cooling system (ECCS) evaluation model. This concern was related to fuel

¹ These goals do not include the duration of the staff's acceptance review, which the staff conducts upon receipt of the initial application.

thermal conductivity degradation which required a revision to the ECCS evaluation model late in the review. The licensee's subsequent analysis demonstrated acceptable performance against the Title 10 of the *Code of Federal Regulations* (10 CFR) 50.46, "Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Nuclear Power Reactors," acceptance criteria.

Power Uprate Applications Currently Under Staff Review

As illustrated in Table 2, power uprates currently under review could add an additional 3,742 MWt or approximately 1,247 MWe to the Nation's electric generating capacity, if approved.

Table 2 - Power Uprate Applications Under Staff Review

No.	Plant	% Uprate	MWt	Application Date	Projected Completion Date	Type
1	Browns Ferry 2	14.3	494	06/25/2004	To be determined	EPU
2	Browns Ferry 3	14.3	494	06/25/2004	To be determined	EPU
3	Browns Ferry 1	14.3	494	06/28/2004	To be determined	EPU
4	Monticello	12.9	229	11/05/2008	To be determined	EPU
5	Grand Gulf 1	13.1	510	09/08/2010	July 2012	EPU
6	St. Lucie 1*	11.9	320	11/22/2010	2nd Quarter 2012	EPU
7	St. Lucie 2*	11.9	320	02/25/2011	3rd Quarter 2012	EPU
8	Crystal River 3	15.5	405	06/15/2011	June 2013	EPU
9	Braidwood 1	1.6	58.4	06/23/2011	December 2012	MUR
10	Braidwood 2	1.6	58.4	06/23/2011	December 2012	MUR
11	Byron 1	1.6	58.4	06/23/2011	December 2012	MUR
12	Byron 2	1.6	58.4	06/23/2011	December 2012	MUR
13	Oconee 1	1.6	42	09/20/2011	To be determined	MUR
14	Oconee 2	1.6	42	09/20/2011	To be determined	MUR
15	Oconee 3	1.6	42	09/20/2011	To be determined	MUR
16	McGuire 1	1.7	58	03/05/2012	October 2012	MUR
17	McGuire 2	1.7	58	03/05/2012	October 2012	MUR
	Total MWt		3,742			

* St. Lucie's EPU applications each include a 1.7% MUR.

Delayed Ongoing Reviews

The Browns Ferry, Units 1, 2, and 3, and Monticello EPU reviews have been delayed primarily because of staff concerns and licensee delays with providing revised steam dryer analyses and analyses that take credit for containment accident pressure (CAP). General discussion of these issues appear in the following "Technical Challenges" section of this report.

The staff plans to resume the CAP portion of the Browns Ferry, Units 1, 2, and 3, and Monticello EPU reviews. With respect to the Browns Ferry EPU review, the licensee informed the staff in a September 15, 2011, public meeting that it intends to submit a supplement addressing CAP credit once Boiling Water Reactor Owners' Group (BWROG) guidance is finalized. Similarly, the licensee for Monticello informed the staff in an April 3, 2012, public meeting that it will submit a supplement addressing CAP in September 2012, that is consistent with Option 1 from SECY 11-0014, "Use of Containment Accident Pressure in Analyzing Emergency Core Cooling System Pump Performance in Postulated Accidents." At the time of submission, the staff will resume the CAP portion of these applications.

Regarding the steam dryer portion of the delayed EPU reviews, the Monticello steam dryer was replaced in spring 2011. Monticello provided a supplemental response dated January 13, 2012, containing updated technical data and analyses that support steam dryer operations under EPU conditions. The response partially addressed open staff requests for additional information (RAIs) and audit action items from July 8, 2011. The staff plans to resume review of the Monticello steam dryer analysis following receipt of the outstanding steam dryer technical analyses and the CAP analysis supplements.

The licensee for Browns Ferry, Units 1, 2, and 3, plans to replace the steam dryers following NRC approval of their EPU amendment request. The licensee informed the staff in a September 15, 2011, public meeting that it intends to provide replacement steam dryer analyses in spring 2014. At that time, the staff will resume the steam dryer portion of the Browns Ferry EPU review.

The Grand Gulf, Unit 1, EPU review has been delayed primarily to resolve concerns with the licensee's steam dryer analyses. The staff identified concerns with the licensee's application of the plant based load evaluation methodology for determining the steam dryer loading. The staff also identified concerns with structural finite element modeling. Subsequently, the licensee revised the methodology and modeling. The staff completed its safety review of the steam dryer analyses and presented the results to the Advisory Committee on Reactor Safeguards (ACRS) subcommittee on May 24, 2012, and ACRS full committee on June 6, 2012.

The St. Lucie, Unit 1, EPU review was delayed primarily to resolve staff and ACRS concerns associated with fuel thermal conductivity degradation in safety analysis models. Additional delays in staff's review resulted from the licensee requiring seven months to provide RAI responses revising stress analyses for modifications to structures, systems, and components.

The Crystal River, Unit 3, EPU review was scheduled for a one to two year review depending on the development of repair plans for the containment by the licensee. The application includes crediting a new safety-related fast cooldown system to assist ECCS performance during a small-break loss-of-coolant accident.

The Braidwood, Units 1 and 2, and Byron Unit Nos. 1 and 2, MUR reviews were scheduled for a one year review with completion in June 2012. The one year schedule was established because of the beyond-MUR review scope requests revising steam generator tube rupture (SGTR) and margin to overfill (MTO) analyses, and the use of subchannel analysis code with updated departure from nucleate boiling correlations. Subsequently, the licensee informed the NRC that the power operated relief valve flow rates assumed in the SGTR MTO analysis were

non-conservative. The NRC plans to resume the SGTR MTO review upon receipt of the revised evaluation from the licensee, currently scheduled for submittal in August 2012.

Expected Power Uprate Applications

Table 3 estimates future power uprate applications based on a survey of all licensees conducted in December 2011.

Table 3 - Projected Future Power Uprate Applications

Fiscal Year	Power Uprates Expected	MUR Power Uprates	SPUs	EPUs	MWt	MWe
2012	5	1	0	4	1814	605
2013	6	6	0	0	302	101
2014	0	0	0	0	0	0
2015	3	1	0	2	930	310
2016	1	0	0	1	435	145
TOTAL	15	8	0	7	3481	1160

Accomplishments Since May 25, 2011

The NRC staff accomplishments since May 25, 2011, are as follows:

- Approved four plant-specific power uprates, specifically, one MUR power uprate (Shearon Harris, Unit 1) and three EPUs (Turkey Point, Units 3 and 4, and Nine Mile Point, Unit 2).
- Presented safety review results on the St. Lucie, Unit 1, and Grand Gulf, Unit 1, EPU applications to the ACRS Subcommittee on Power Uprates and the ACRS Full Committee.
- Conducted public meetings with Monticello and the Pressurized Water Reactor Owners Group (PWROG) supporting resolution of the CAP credit concern.
- Evaluated revisions to the power uprate review duration performance goals and resource budget model to improve power uprate staffing plans and schedule execution.
- Issued acceptance letters for the EPU applications for St. Lucie, Unit 2, and Crystal River, Unit 3.
- Conducted pre-application public meetings with LaSalle, Units 1 and 2, on a proposed 12.5 percent EPU and Peach Bottom, Units 2 and 3, on a proposed 12.4 percent EPU.

Program Assessment

In January 2012, the lead responsibility for program management and oversight of the Office of Nuclear Reactor Regulation (NRR) Power Uprate Program was transferred from the Division of Policy and Rulemaking to the Division of Operating Reactor Licensing. This transfer was done to better align the program lead responsibility with the individual licensing project management responsibility for power uprate reviews.

As part of the transfer, the staff assessed various aspects of the program to understand its current state. The assessment covered several aspects of the program including (1) resources budgeted and actual expenditures, (2) historic review timeliness and schedules, (3) staff requests for additional information, (4) supplemental responses from licensees, (5) safety evaluation documentation, and (6) resolution of long-standing technical issues specific to power uprate reviews. The assessment reconfirmed the existing technical challenges and identified some historical programmatic challenges, and opportunities for enhancement to the power uprate program.

Technical Challenges

Power uprate applications, dependent on the facility and type of uprate request, must consider the resolution of technical issues related to CAP credit and adverse flow effects on structures, systems, and components. Given the importance and complexity of power uprate reviews, careful consideration of sequencing of non-power uprate licensing applications is necessary to avoid the unintentional introduction of technical complexities into power uprate application reviews and the potential for subsequent impacts to outage-related activities. The progress made by the staff and stakeholders is discussed below.

Update on Containment Accident Pressure Credit

EPU result in an increase in the temperature of the sump water (in pressurized-water reactors) and suppression pool water (in boiling-water reactors [BWRs]) during certain postulated accidents or abnormal events. This could affect the performance of the ECCS pumps taking suction from these water sources. In some cases, licensees have included CAP in their safety analyses to demonstrate acceptable performance of the ECCS pumps. The ACRS recommended changes to this practice by letter to the Executive Director for Operations dated March 18, 2009.

On June 25, 2010, staff requirements memorandum (SRM) M100609B, "Meeting with the Advisory Committee on Reactor Safeguards," was issued. It directed that the staff's forthcoming paper on CAP should discuss where the staff aligns or disagrees with the ACRS regarding CAP credit, including use of risk information, defense-in-depth implications, and need to assess the practicality of hardware changes to eliminate the need for CAP credit.

In response to SRM M100609B, the staff provided Commission paper SECY-11-0014, "Use of Containment Accident Pressure in Analyzing Emergency Core Cooling System and Containment Heat Removal System Pump Performance in Postulated Accidents" on January 31, 2011. The staff provided two options to resolve the policy issues. In response to SECY-11-0014, SRM-SECY-11-0014 was issued on March 15, 2011. The SRM approved the

staff's recommended Option 1 and directed the staff to conduct CAP reviews consistent with the current practice of accepting CAP credit while also implementing new staff deterministic guidance. The staff guidance was developed based on ACRS recommendations to quantify uncertainty and margins in net positive suction head calculations. The Commission also directed the staff to ensure that the defense-in-depth philosophy is interpreted and implemented consistently in Regulatory Guide 1.174, "An Approach for Using Probabilistic Risk Assessment in Risk-Informed Decisions on Plant-Specific Changes to the Licensing Basis," and other staff guidance. The staff is therefore proceeding with Option 1 and plans to resume the CAP portion of the delayed EPU reviews.

The staff over the past year has continued to engage stakeholders on the draft guidance by soliciting input prior to finalizing guidance. In letters dated April 5, 2011, to Monticello and May 15, 2011, to Browns Ferry, the licensees were informed that the staff was prepared to resume the reviews of their EPU applications. These applications had been delayed pending the resolution of the CAP credit policy issues. In a September 15, 2011, meeting, Browns Ferry informed the staff of its intent to submit a supplement addressing CAP credit once BWROG guidance is finalized. In an April 3, 2012, meeting, Monticello informed the staff of its intent to submit an EPU CAP supplement to the NRC in September 2012, based on the draft guidance and Boiling Water Reactor Owners' Group efforts completed. In a teleconference on April 10, 2012, the staff provided clarifications requested by the PWROG on the draft guidance and solicited their input in finalizing the guidance.

On October 13, 2011, ACRS in its initial review of the NRC near-term task force report on Fukushima, recommended that licensing actions requiring the granting of CAP credit should be suspended until the implications of post-Fukushima containment pressure control measures are understood. The staff believes that there is no clear nexus between the CAP issue and Fukushima, but it will continue to evaluate the lessons learned from the Fukushima accident and will seek Commission guidance if any insights gained necessitate a change in previous Commission direction on the use of CAP.

Update on Adverse Flow Effects

Steam flow velocities at nuclear power plants increase under power uprate conditions. Operating experience has shown that as the higher velocity main steam line flow passes over branch lines, it can create an acoustic resonance in the steam lines that can vary greatly from one plant to another, depending on the routing of the main steam lines and the steam dryer vintage and geometry. The acoustic resonance can create pressure waves that strike the steam dryer in BWRs with significant force. This force could cause the stresses in the steam dryer to exceed the material fatigue limits, which may result in steam dryer cracking. The acoustic resonance also can cause excessive vibration that may damage steamline and feedwater line components, such as relief valves and piping. To address this issue, BWR applicants for EPUs have provided complex steam dryer analyses to demonstrate the structural integrity of the steam dryers at uprated power levels.

These plant-specific reviews have remained challenging and contributed to the delays in the EPU reviews for several BWR plants (e.g., Grand Gulf, Nine Mile Point, and Monticello). The delays are typically caused by licensees introducing new refinements into analytical methods not used in previous EPU applications, the NRC identifying new issues with licensees' analytical

models, licensees needing to make steam dryer modifications to address analysis issues, and lack of adequate plant measurement data needed for the steam dryer analyses.

Two independent industry topical reports have been submitted to the NRC for review and approval. These reports present two independent integrated evaluation approaches and acceptance criteria for steam dryers. The Electric Power Research Institute resubmitted BWRVIP-194, "Methodologies for Demonstrating Steam Dryer Integrity for Power Uprate," on December 18, 2008. By letter dated September 8, 2011, EPRI provided supplemental information for BWRVIP-194 which is currently under staff review. General Electric [GE] Hitachi Nuclear Energy submitted NEDC-33436P, "GEH Boiling Water Reactor Steam Dryer - Plant Based Load Evaluation," on November 7, 2008. The NRC staff review of NEDC-33436P has been suspended at GE's request to support ongoing plant-specific EPU analyses.

Bundling of Non-Power Uprate Licensing Requests

Licensees have used power uprate requests as an opportunity to include (i.e., bundle) non-power uprate related requests not directly associated with the power uprate review. Many of these requests could have been submitted separately by the licensee and reviewed by the NRC. The staff believes that these non-power uprate requests could be better sequenced around power uprate reviews to facilitate timely NRC review with available resources. Their inclusion introduces significant project risk in the timing and acceptability of power uprate applications. Facility changes which are needed to support plant modification for routine outage related changes or to resolve current licensing issues should be developed independent of the power uprate application and sequenced accordingly, consistent with NRC regulations, guidance, and with consultation of the assigned NRR operating reactor project manager.

Two recent examples of licensee bundling are the Byron and Braidwood (B&B) MUR and the St. Lucie EPU. In the B&B MUR, the licensee's June 2011, submittal, included a request to modify departure from nucleate boiling ratio (DNBR) correlations. This request improved fuel design flexibility and was not directly required for operation at the MUR increased thermal power. The licensee utilized the revised DNBR correlations in analysis for their fuel design calculations and subsequently purchased new fuel for the upcoming fall 2012 refueling outages, prior to NRC approving the plant-specific use of additional DNBR correlations. In May 2012, the staff was informed by the licensee that SGTR MTO analysis would have to be supplemented to correct non-conservative assumptions. As a result, staff approval of the MUR application with DNBR correlation changes is now targeted for completion after the fall 2012 refueling outages for Byron, Unit No. 1, and Braidwood, Unit 2. The licensee is currently evaluating options to separate out the staff's DNBR review from the MUR review or to perform reanalysis utilizing the currently licensed DNBR correlations. At the time of St. Lucie's EPU submittal, the licensee had not resolved a station blackout coping analysis concern identified during a 2007 Component Design Bases Inspection. This resulted in the withdrawal of the St. Lucie EPU application until the concern was evaluated by the licensee, and when resubmitted for review in November 2010, it added complexity to the application. Licensees are encouraged to fully disposition significant current licensing and design basis corrective actions prior to submitting power uprate requests for NRC review for technical areas within power uprate review scope.

Licensees have included other significant requests that should not be included in power uprate applications (e.g., digital instrumentation and control upgrades, use of alternate source term,

auxiliary feedwater modifications, and revisions to various analyses, high-energy line break, spent fuel pool criticality, other significant noncompliance or current licensing basis issues, and SGTR).

Bundling impacts staff reviews and resources since beyond-scope requests require the development of custom review schedules and safety evaluations. The performance goals continue to be predicated on licensees' submittals being consistent with established guidelines. On occasion, the staff has accommodated unrelated requests within the normal power uprate review schedule. However, in most cases, bundling causes review duration delays that are significantly longer than would otherwise be the case.

Programmatic Challenges

The staff evaluated various aspects of the program to understand programmatic challenges. These challenges include: budget resources for current review schedules, limited availability of expertise in key technical areas to simultaneously review multiple applications, expectation for staff review documentation, and, most importantly, the agency's safety mission priorities.

Staff Mission Priorities

NRR continues to focus staff resources to ensure timely resolution of emergent safety concerns (e.g., effects resulting from nuclear fuel thermal conductivity degradation), support to Fukushima lessons learned activities, and to ensure safe plant operation (e.g., response to earthquake near North Anna in fall 2011). Although power uprate reviews are high priority licensing actions, they are appropriately balanced against these other safety activities.

Resources and Schedules

Power uprate reviews require significant resources. Most recently, in March 2011, the staff re-evaluated the budget model for each of the three types of power uprate application reviews and concluded that additional resources were required. Beginning in fiscal year 2012, the budgeted resources for power uprate application reviews were modified. Staff review hours for MUR, SPU, and EPU applications were increased to 1,200, 3,500, and 7,500 hours, respectively. The prior resource estimates for staff review hours were 1,000, 1,840, and 5,040 hours, respectively. However, the timeliness goals for the staff's review of MUR, SPU, and EPU applications remained unchanged. The timeliness goal for MUR, SPU, and EPU application reviews is 6, 9, and 12 months, respectively.

Power uprate reviews are resource intensive for technical disciplines in NRR. The number of current power uprate applications and the significant overlap of Fukushima lessons learned activities have periodically constrained the same groups of technical experts. Currently, the staff is simultaneously reviewing eight plant-specific EPU applications. This has resulted in resource and schedule constraints associated with aligning staff and supporting subsequent meetings with ACRS. The staff has largely overcome these challenges by prioritizing EPU reviews, when possible, to support licensees' implementation schedules. Furthermore, recruiting new staff in these technical areas has been challenging given the limited number of qualified applicants and the time required to develop the necessary regulatory skills required.

Resources for application reviews and programmatic enhancements continue to be assessed and adjusted during the annual budget process.

Documentation of Staff Review

Openness is an important objective in the NRC's Strategic Plan and helps to maintain and enhance the public's confidence and build trust in the agency as a good regulator. An important element of openness is transparency which promotes accountability by providing the public with information about the NRC's activities. More specifically, this means that public stakeholders must have timely access to clear and understandable information about the NRC's role, processes, activities, and decision-making.

In concert with meeting our openness objective and a recommendation in the Office of Inspector General's, "Audit of NRC's Power Uprate Program" (March 2008), improvements in the documentation of the staff's safety review associated with power uprate applications was addressed. A new internal office instruction, LIC-112, "Power Uprate Process" (February 17, 2009), was developed, which among other things focused on enhancements to improve the written quality and level of detail in the staff's safety evaluations. Although appropriately justified and supported by positive feedback from ACRS members, the emphasis on quality and level of detail has increased the time and effort associated with performing and documenting the staff's review. The corresponding increase in the level of effort was not initially considered with the issuance of LIC-112, but was ultimately addressed in 2011 when the staff increased the required resources to perform a power uprate review.

Opportunities for Enhancement

The staff has begun a series of enhancements to the power uprate program. These include enhancing operational reporting to management, improved communication of lessons learned, enhancements to meetings with internal stakeholders, and revisions to the staff resource models for reviews. Additional enhancements are also being evaluated to include (1) the review standard (RS)-001, "Review Standard for Extended Power Uprates," (2) safety evaluation templates, (3) revisions to the review schedule templates, and (4) procedures associated with the power uprate process. The staff will continue to work with internal and external stakeholders to identify areas to enhance the effectiveness and efficiency of the program.

Revision to Program Performance Goals

The staff continues to ensure that the goal of protection of public health and safety remains paramount throughout its power uprate license application reviews and is not compromised in order to meet the associated timeliness and resource performance goals. To that end, the staff believes the review timeliness goals should be lengthened for approved MUR, SPU, and EPU power uprate applications from application acceptance to 9, 12, and 18 months, respectively. The new timeliness goals will be applied to review schedules for applications submitted after June 2012. Review schedules for uprate applications currently under review will not change.

A revision to the timeliness goals was prudent considering the technical and programmatic challenges outlined in this paper. The increased time will provide staff the necessary flexibility

to manage concurrent power uprate reviews, resolve unexpected or emerging technical issues identified during reviews, discrepancies identified in applications, and disposition of unrelated requests included in power uprate applications. In addition, it will provide the flexibility to manage program challenges with increased staff hours required for each review, expectations for documenting staff decisions and availability of key technical expertise working on higher priority activities. Furthermore, the staff believes that the changes to the timeliness goals and planned program enhancements will improve the overall stability, consistency, and predictability of power uprate reviews.

Power uprate application reviews remain a high priority. However, the staff will always maintain its strong safety focus and commitment to higher priorities associated with operating nuclear power reactors, most notably, Fukushima lessons-learned activities and emergent safety issues, and the changes further demonstrate this.

The staff will continue to evaluate the appropriateness of power uprate performance goals and explore enhancements to the power uprate program annually through interactions with internal and external stakeholders.