

**RulemakingComments Resource**

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**From:** Tosatto, Lauren A. [tosattla@westinghouse.com]  
**Sent:** Thursday, February 21, 2013 12:55 PM  
**To:** Beall, Robert; RulemakingComments Resource  
**Cc:** Stringfellow, N. Jack (SouthernCo); Rowley, Jonathan  
**Subject:** PWROG Comments on the Onsite Emergency Response Capabilities Draft Regulatory Basis  
**Attachments:** OG-13-55.pdf

Mr. Beall,

Please find attached Pressurized Water Reactor Owners Group comments on *Docket ID NRC-2012-0031; 10 CFR Parts 50 & 52, Onsite Emergency Response Capabilities; Draft Regulatory Basis (78 Fed. Reg. 1154)*.

A hard copy is also being mailed for your records.

Please do not hesitate to contact myself or Jack Stringfellow with any questions.

Regards,  
Lauren

**Lauren A. Tosatto**

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**OFFICE OF THE SECRETARY  
RULEMAKINGS AND  
ADJUDICATIONS STAFF**

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Program Management Office  
1000 Westinghouse Drive, Suite 380  
Cranberry Township, Pennsylvania 16066

February 21, 2013

Project Number 694

OG-13-55

Ms. Annette L. Vietti-Cook  
Secretary  
U.S. Nuclear Regulatory Commission  
11555 Rockville Pike  
Rockville, MD 20852  
Attn: Rulemakings and Adjudications Staff

**Subject:** Docket ID NRC–2012–0031; 10 CFR Parts 50 & 52, Onsite Emergency Response Capabilities; Draft Regulatory Basis (*78 Fed. Reg. 1154*) (PA-SC-0933R1)

**Reference:** (1) Docket ID NRC–2012–0031; 10 CFR Parts 50 & 52, Onsite Emergency Response Capabilities; Draft Regulatory Basis (*78 Fed. Reg. 1154*)  
(2) Letter OG-12-241, PWROG comments on Onsite Emergency Response Capabilities; Advanced Notice of Proposed Rulemaking, dated June 18, 2012  
(3) Nuclear Energy Institute (NEI) Submittal Letter, dated February 2013

Dear Ms. Vietti-Cook:

The Pressurized Water Reactors Owners Group (PWROG) submits the following comments on the subject draft regulatory basis document regarding onsite emergency response capabilities (Reference 1). The PWROG has decades of experience on this subject, and has established substantial capability for severe accident mitigation, as well as its integration with the overall emergency response structure. The PWROG letter of June 18, 2012 responded to an Advance Notice of Proposed Rulemaking (ANPR) regarding this subject (Reference 2). We welcome the opportunity to provide comments on this draft regulatory basis document.

The PWROG was a contributor to the comments submitted by the Nuclear Energy Institute (NEI) on this subject and completely endorses those comments (Reference 3).

The PWROG believes that Option 1: “New Accident Mitigating Procedures Rulemaking with Amendments to Training and Exercise Requirements,” which is recommended by the NRC staff, is the most appropriate vehicle to provide regulatory oversight of this important area. We believe that high level rule language, with accompanying regulatory guidance that endorses industry developed implementation guidance, provides the most effective promulgation of these regulatory requirements. The PWROG believes that this guidance can be the basis for the NRC’s regulatory guidance for oversight of this area.

The PWROG is committed to working with the other key industry organizations to develop the necessary industry guidance that will provide a basis for consistent licensee implementation of enhanced and integrated, onsite emergency response capabilities. The three previous PWR Owners Groups that now make up the current PWROG were instrumental in developing the severe accident management implementation guidance described in NUMARC 92-01, Revision 1, "Severe Accident Closure Guidelines." Section 5.2 of that document details the various elements of a severe accident management program that should be implemented by each licensee. Licensees subsequently submitted a letter to the NRC committing to develop a severe accident management program according to the guidance in NEI 92-01.

The generic severe accident management guidelines developed by the three PWR Owners Groups were integrated with the other accident management programs existing at that time, and included consideration of training, staffing, exercises, and command and control. In addition, the development of Extensive Damage Mitigation Guidance (EDMG) described in NEI 06-12 in response to the NRC Security Order of 2002 and the ongoing development of FLEX Guidance described in NEI 12-06, in response to the NRC post Fukushima Order EA-12-049, include all of the appropriate elements of an accident management program that are described in the subject draft regulatory basis. Finally, the enhanced PWR Severe Accident Management Guidance currently being developed by the PWROG will provide the integration with other accident management programs as envisioned by the NRC. This experience and commitment by the PWROG will assure that the industry guidance developed for endorsement by the NRC is an effective safety enhancement for licensees.

The PWROG is concerned that certain aspects of the envisioned rulemaking as described in the draft regulatory basis could be counter-productive in that increases in scope for some existing programs are not risk-informed and may actually decrease overall safety. Examples of this include the increased licensed operator training requirements, increased scope of severe accident drills and exercises, and full-scope simulator modeling of severe accident scenarios.

Other comments on the draft regulatory basis are provided in the attachment to this letter.

We look forward to continued involvement in the public process regarding this important rulemaking. If you have any questions regarding these comments, please contact me at (205.992.7037; [njstring@southernco.com](mailto:njstring@southernco.com)).

Sincerely,



N. Jack Stringfellow, Chairman  
PWR Owners Group

NJS:rfn

**Attachment:** PWROG Comments on NRC Regulatory Basis pertaining to Onsite Emergency Response Capabilities

cc: PWROG Executive Management Group      D. Olinski, Westinghouse  
PWROG Management Committee      J. Gresham, Westinghouse  
PWROG PMO      B. Schomaker, Areva  
PWROG Steering Committee      J. Rowley, US NRC  
PWROG Licensing Subcommittee      R. Beall, US NRC  
PWROG Risk Management Subcommittee      B. Bradley, NEI  
PWROG Procedures Subcommittee      R. Lutz, Westinghouse  
T. Book Areva

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**General Comments:**

1. The Pressurized Water Reactor Owners Group (PWROG) is supportive, subject to comments and clarifications discussed below, of the level of specificity of the proposed rule included as Appendix C to the Regulatory Basis. The PWROG welcomes the opportunity to develop industry guidance for the integration of onsite emergency response capabilities. We believe that the lessons learned during the development of the generic industry guidance for the implementation of diverse and flexible coping strategies in response to NRC Order EA-12-049, as documented in NEI 12-06, will be valuable in this respect. The PWROG expects that a similar comprehensive industry guidance document can be developed for this issue. The PWROG anticipates working with other industry organizations to develop such guidance and to take the necessary steps to gain NRC endorsement of the industry product as an acceptable basis for developing plant specific guidance that meets the proposed regulatory requirements.

The PWROG would also like to note that an expanded integration of onsite emergency response capabilities may require re-visiting some of the existing onsite emergency response requirements and policies. For example, the minimum response time for call-out to the Technical Support Center could be phased according to the required assessment functions, as opposed to the current one-size-fits-all approach. The industry guidance would provide a viable means of identifying those issues and proposing alternatives.

2. Notwithstanding the above support for the proposed rule and industry guidance, the PWROG believes that the NRC Regulatory Basis underestimates the costs of implementing the provisions of the proposed regulation. Several examples are provided below:
  - a. The recommended changes to the knowledge and abilities (K&A) catalog for reactor operators will have significant impact on operator training programs and examination requirements. The impact on the examination bank development alone will be significant, not to mention all the additional training to ensure the knowledge and abilities items are adequately addressed.
  - b. Emergency procedures for operation in modes not covered by Emergency Operating Procedures (EOPs).

Overall, it is not clear that the additional cost and burden associated with some of the prescriptive requirements is commensurate with the benefits to be gained. We believe that it is prudent to establish and maintain a consistent level of capability to address *severe* accident mitigation, including interfaces with other onsite emergency response capabilities. However, the use of risk insights, with due consideration to credible uncertainties, could provide more cost effective recommendations. That is, the balance between severe accident mitigation and severe accident prevention has changed with the inception of new requirements for a flexible and diverse coping capability to maintain core cooling.

3. In numerous statements, the NRC's Regulatory Basis uses the term "EDMG" for all the guidance developed from NEI 06-12 for Section B.5.b of the 2002 Security Order. As defined in NEI 06-12, "EDMG" is only the operator initial response procedure to a B.5.b event to re-establish command and control. All the other B.5.b type guidance are NOT called "EDMG", but were developed as plant specific commitments to help deal with this event (they do not have a generic name) and typically maintained by each licensee as a guideline in the Technical Support Center and/or Main Control Room. Some licensees may have used the term "EDMG" for all such B.5.b TSC support guidance, but that is not the correct term from NEI 06-12.

In the future, generic support guidelines that may be referenced from any procedure/guideline set (such as Severe Accident Management Guidelines (SAMG), Emergency Operating Procedures (EOP), Abnormal Operating Procedures (AOP), and sometimes from Extensive Damage Mitigation

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Guidelines (EDMG) or B.5.b guidance) should be called Flex Support Guidelines (FSGs). NEI 12-06 shows this new procedure hierarchy. The PWROG believes that this is an important key for “integration” of onsite emergency response capabilities.

4. The PWROG maintains that operator training should remain focused on maintaining, or re-establishing, core cooling that prevents the onset of core damage. Once in severe accident space, the operator tasks should be focused on those areas in which their traditional training permits them to assist the engineering support functions in the Technical Support Center to develop effective strategies to mitigate the consequence of the event. As such, there is no need to expand operator knowledge and abilities (including training and exercises) for severe accidents. The additional knowledge and abilities should be limited to responsibilities in interfacing with the engineering support staff and implementation of recommended strategies. As a clarification, the PWROG believes that additional training for licensed operators to act in roles within the TSC is appropriate but should be conducted in a manner consistent with the training programs for other TSC personnel and not as part of the training program conducted to comply with 10 CFR 55 requirements.

In this regard, the PWROG notes that the Regulatory Basis contains conflicting remarks concerning operator training that would not accomplish the intended focus on training of licensed operators:

- a. At page 10, it is stated that “the NRC has identified a goal of this rulemaking effort to be ensuring that a licensee’s ability to implement EOPs is not adversely affected by the new requirements. Requiring an addition to a plant’s design basis, and therefore an expansion of the current scope for the EOPs and licensed operator qualifications, has the potential to reduce the training and experience provided for the traditional EOPs.” and “Although the NRC has determined that new threats should be addressed, the NRC has also decided that the primary focus of a licensee’s onsite emergency response capability should remain on the current set of EOPs.”
  - b. At page 12, it is stated that “The NRC has determined that the focus of the training programs should continue to be on developing the knowledge and abilities of licensed operators to implement the EOPs.
  - c. In Appendix C, the NRC has proposed changes to the requirements for licensed operators at 10 CFR 55.41, 55.43 and 55.45 that would increase the burden for licensed operators.
5. The development of an integrated onsite emergency response capability needs to avoid undue focus on particular potential scenarios which may have unintended consequences organizationally in that it could take away from a symptom-based perspective. In creating the integrated onsite emergency response capabilities, the feasibility of incorporating risk insights that are value-added across all Emergency Response Organization (ERO) functions should be explored.

### Specific Comments on Regulatory Basis Document

#### 6. Page 10:

*“In addition to EOPs, SAMGs, EDMGs, and associated support procedures, licensees should analyze their procedures for emergencies when plant conditions are in the shutdown and cooled-down modes of operation where EOPs no longer apply to ensure that procedures for these situations fit into the integrated accident mitigation strategy. Industry owners groups should consider development of technical guidelines for emergencies in these modes of operation.”*

While the generic FSGs and the new generic Severe Accident Management Guidelines being developed by the PWROG in response to the Fukushima lessons learned will consider all modes of operation, the generic PWROG EOPs and AOPs have only limited consideration of plant operating

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states below Modes 1 and 2. Any new regulatory requirement to develop and maintain such generic guidance to achieve consistency amongst all PWR licensees would be a significant and costly undertaking that is not currently reflected in the NRC's Regulatory Basis.

**7. Page 13**

*"Licensees' plant reference simulators should be further developed to simulate a severe accident by simulating the response of accident monitoring instrumentation during severe accidents."*

This is a substantial upgrade to the current simulator capabilities and is not necessary to exercise severe accident management guidelines. Experience by licensees has validated that transition to table top exercises for both the control room staff and the engineering staff in the Technical Support Center can provide the necessary venue to validate the effectiveness of their training and their ability to work together as a severe accident team.

**8. Page 14**

*"2. Amendment to 10 CFR 50.120 to include requirements for training of key personnel relied upon to implement accident mitigating procedures."*

The PWROG believes that while training commensurate with responsibilities in severe accident management is essential to maintaining the necessary knowledge and abilities, the training should not be part of accredited programs.

**9. Page 13**

*"Several aspects of a licensee's response to a severe accident condition would require a full-scale drill or exercise to evaluate. These aspects include: command and control capability; coordination with Federal, state, and local agencies; deployment of assets; field equipment setup and operation; effective simulation of environmental and radiological field conditions; and real-time resource allocation."*

The PWROG believes that while a full-scale drill or exercise could provide insights into the effectiveness of a licensee's accident management program, these attributes can also be effectively simulated in focused drills of exercises that test specific parts of the accident management program. Allowance for alternatives to full-scale drills should be maintained in any rulemaking. This also prevents foreclosure of new and innovative methods of exercising all of the attributes of accident management.

**10. Page 9**

*"Current exercise requirements of 10 CFR Part 50, Appendix E, do not require licensees to conduct drills or exercises that would necessitate the implementation of all accident mitigating procedures in an integrated manner. In order to validate the adequacy of procedures, evaluate key personnel in their accident mitigation roles, and determine the overall effectiveness of a licensee's onsite emergency response capabilities, the NRC needs to develop additional exercise requirements to test these capabilities on a periodic basis."*

The PWROG believes that the emergency drills and exercises required by 10 CFR 50 Appendix E and those to ensure that onsite emergency response capabilities are maintained need to be kept as separate entities. As a result of attempts to integrate Emergency Plan (EP) drills with onsite accident management drills by some licensees, it is observed that these do not provide valid feedback regarding the onsite emergency response capabilities because of the differing objectives and time scales of the two entities. The NRC should acknowledge the dangers of combining these two objectives into a single drill or exercise.

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**11. Page 11**

*“The NRC did not approve EDMGs on a plant-by-plant basis and similarly does not intend to require prior approval of SAMGs and supporting guidelines by requiring individual licensees to submit their revised procedures to the NRC. Any final rule developed through this process will be accompanied with supporting guidance that will outline the high level attributes that the accident mitigation procedures should be designed to achieve. The NRC will have the option to perform follow-on inspections to determine the effectiveness of overall accident mitigation strategies developed by individual licensees.”*

The PWROG strongly supports the NRC intention of carrying out their regulatory oversight role through follow-on inspections of the overall effectiveness of accident management programs. The PWROG believes that performance-based inspections that rely on observing training or drills and exercises is the most effective use of industry and regulatory resources for very low probability events while still assuring that accident management capabilities are maintained.