

Non-Concurrence Process Record for NCP-2013-006

The U.S. Nuclear Regulatory Commission (NRC) strives to establish and maintain an environment that encourages all employees to promptly raise concerns and differing views without fear of reprisal and to promote methods for raising concerns that will enhance a strong safety culture and support the agency's mission.

Individuals are expected to discuss their views and concerns with their immediate supervisors on a regular, ongoing basis. If informal discussions do not resolve concerns, individuals have various mechanisms for expressing and having their concerns and differing views heard and considered by management.

Management Directive MD 10.158, "NRC Non-Concurrence Process," describes the Non-Concurrence Process (NCP). <http://pbadupws.nrc.gov/docs/ML0706/ML070660506.pdf>

The NCP allows employees to document their differing views and concerns early in the decision-making process, have them responded to, and attach them to proposed documents moving through the management approval chain.

NRC Form 757, Non-Concurrence Process is used to document the process.

Section A of the form includes the personal opinions, views, and concerns of an NRC employee.

Section B of the form includes the personal opinions and views of the NRC employee's immediate supervisor.

Section C of the form includes the agency's evaluation of the concerns and the agency's final position and outcome.

NOTE: Content in Sections A and B reflects personal opinions and views and does not represent official factual representation of the issues, nor official rationale for the agency decision. Section C includes the agency's official position on the facts, issues, and rationale for the final decision.

The agency's official position (i.e., the document that was the subject of the non-concurrence) is included in ADAMS Accession Number ML13101A337.

This record has been reviewed prior to public availability.

NRC FORM 757 NRC MD 10.158 (7-2011)		U.S. NUCLEAR REGULATORY COMMISSION	
NON-CONCURRENCE PROCESS		NCP TRACKING NUMBER NCP-2013-06	
SECTION A - TO BE COMPLETED BY NON-CONCURRING INDIVIDUAL			
TITLE OF SUBJECT DOCUMENT Recommendation 8 Regulatory Basis		ADAMS ACCESSION NO. ML13101A324	
DOCUMENT SIGNER Lawrence Kokajko		SIGNER PHONE NO. (301) 415-1282	
TITLE Director, Division of Policy and Rulemaking	ORGANIZATION NRR/DPR		
NAME OF NON-CONCURRING INDIVIDUAL(S) Val Barnes*, George Lapinsky*, Undine Shoop, Sean Peters*		PHONE NO. (301) 415-2063	
TITLE S. Human Factors (HF) Analyst, HF Engineer and Chiefs HFB	ORGANIZATION RES and NRR/DRA		
<input type="checkbox"/> DOCUMENT AUTHOR	<input type="checkbox"/> DOCUMENT CONTRIBUTOR	<input checked="" type="checkbox"/> DOCUMENT REVIEWER	<input type="checkbox"/> ON CONCURRENCE
REASONS FOR NON-CONCURRENCE AND PROPOSED ALTERNATIVES			
<p>Issue 1, Section 3.3, Accident Mitigating Procedures Integration</p> <p>This discussion is incomplete in that it does not adequately address implications for human performance of the lack of integration among these procedures and guidelines. The discussion asserts that personnel may have to rely on multiple procedure/guideline sets during a significant event, that there may be gaps in current procedures and guidelines, and that clear transitions between sets are important. However, having clear transitions between sets is only one aspect of the potential usability issues that should be addressed by an integration strategy. For example, using procedures/guidelines in different formats and at very different levels of detail will increase workload and create opportunities for confusion. In addition, tracking, coordinating and directing the activities of different groups of personnel, who may be concurrently implementing portions of these procedures/guidelines sets as well as others, in geographically dispersed locations, potentially without normal communications capabilities, will also challenge licensee personnel. The potential for conflicts between the information offered in different procedures/guidelines also increases the likelihood of human performance problems. Therefore, we recommend that this paragraph should include mention of these additional issues and state that a goal of requiring that the procedures/guidelines be integrated is to assure they support human performance under anticipated conditions of use.</p> <p>Issue 2, Section 3.3, Command and Control for Severe Accidents and Large Scale Events and Section 4.3, Command and Control</p> <p>We believe that there is an inadequate technical basis to support two assertions in Section 3.3: First, that licensees must designate a single "final" or "ultimate decision-making authority" for severe accidents and beyond design basis conditions and, second, that the designation of this "ultimate decision-making authority" should be standardized between the various reactor technologies.</p> <p>The term, "final/ultimate decision-making authority," is not defined in the document, so the scope of responsibilities to be assigned to this "ultimate decision-making authority" is unclear. The document also does not define the nature of the "ultimate" decisions to be made, which is necessary to permit an evaluation of the need to designate a single "ultimate decision-making authority."</p> <p>Similarly, without a description of these decisions and the nature of this job role, the basis for promoting standardization of the "ultimate decision-making authority" across the industry is unclear. The document states that standardization is desirable because "it would allow for a common understanding that Federal, state and local agencies could use in order to match capabilities and allow for support from other utilities if necessary." If the decisions and job role primarily entail coordinating with external entities, standardization may be feasible. However, if the job role also entails directing the response to a severe or large scale event and making significant operational decisions, including at a multi-unit site with units of different reactor designs, the workload may exceed the capabilities of a single "ultimate decision-maker."</p>			
			<input checked="" type="checkbox"/> CONTINUED IN SECTION D
SIGNATURE  * VAL, GEORGE, + SEAN		date 5/6 + 5/7 Concurred via email	DATE 5/6/13
SEE SECTION E FOR IMPLEMENTATION GUIDANCE			

NON-CONCURRENCE PROCESS

NCP TRACKING NUMBER

NCP-2013-06

TITLE OF SUBJECT DOCUMENT

Recommendation 8 Regulatory Basis

ADAMS ACCESSION NO.

ML13101A324

SECTION D: CONTINUATION PAGE

CONTINUATION OF SECTION



A

B

C

The discussion of firefighting procedures in the fourth paragraph of Section 3.3 and in the fourth paragraph of Section 4.3 seem to be suggesting that “command and control” is the solution to determining how to proceed when proceduralized firefighting actions are inappropriate during severe accidents and large scale events. If this is an example of the type of decision for which the “ultimate decision-making authority” will be responsible while also interacting with Federal, state and local agencies and other utilities, then, again, it seems that the scope of this job role would be too broad. We recommend that rather than imposing the burden to reconcile conflicting guidance on an “ultimate decision-maker” and “a command and control structure,” that the challenges posed by firefighting should be addressed as part of procedure integration.

Rather than appearing to predetermine that a single decision-maker should be identified in the command and control structures of all licensees and standardized across the industry, we recommend that this section be rewritten to (1) describe the types and scope of the decisions to be made, (2) accommodate the possibility that different individuals may have “ultimate decision-making authority” for different types of decisions in these scenarios, and (3) state that the advisability of standardization will be further evaluated, considering site configurations, the scope and nature of the accident or event, the workload associated with responding to the accident or event and other considerations.

Issue 3, Sections 3.3 and 4.4, Training and Qualification of Key Personnel

We do not agree that there is an adequate technical basis to require that only “key personnel” be trained, because the regulatory basis does not define what is meant by “key personnel” or the process by which these positions would be identified. Section 3.3 is internally inconsistent in that the first paragraph refers to “several key personnel,” whereas the second paragraph refers to “all personnel relied upon to implement the integrated response to severe accidents.” Rather than appearing to predetermine that only “key personnel” should receive training, we recommend that these sections be revised to discuss currently unmet training needs for all response personnel.

In addition, the regulatory basis is incomplete because it does not address the implications for training of the unique conditions under which job tasks may be performed when responding to severe accidents and/or large-scale events. Licensee personnel will likely be required to perform a significant number of manual actions in unfamiliar and adverse conditions, interacting with equipment and tools that may be unfamiliar or may be in unusual ways. Stress levels may be high and personnel may become fatigued. Section C.3.1 of Appendix C to the Interim Staff Guidance for Performing the Integrated Assessment for External Flooding discusses performance shaping factors that may adversely affect human performance in extreme events and Section C.3.1.6 discusses training implications. NUREG-1852 and NUREG-1921 also discuss performance shaping factors and training considerations for fire events. We recommend that these sections include discussion of the impacts on training of these considerations as well.

Issue 4, Section 4.1, Procedure Integration

With respect to the second paragraph of this section, it is incorrect to state that there is a fundamental difference between procedures and guidelines. Both are job aids, intended to provide information to personnel to assist them in decision-making and performing tasks correctly. What differs between EOPs and SAMGs and EDMGs is the manner in which they are intended to be used and the level of detail at which they are written. We recommend deleting this paragraph, not only because it is technically inaccurate, but also because it does not appear to relate to the remainder of the section.

The differences between EOPs and the subject guidelines are important for two reasons. One is that, in general, guidelines which describe possible strategies to evaluate and are presented at a low level of detail, place a greater cognitive burden on the user than more detailed procedures. In the case of severe accidents or large scale events, users’ cognitive resources and capabilities will likely be challenged by large amounts of novel and ambiguous or missing information, potentially adverse environmental conditions, and perhaps other factors, such as fatigue, that can adversely impact human performance. Second, the concurrent use of different types of job aids that are presented at different levels of detail, formatted differently, and are designed to be used differently imposes an additional cognitive burden. For these reasons, it is not clear to us that an “integration strategy” and a command and control structure

SEE SECTION E FOR IMPLEMENTATION GUIDANCE

NON-CONCURRENCE PROCESS

NCP TRACKING NUMBER

NCP-2013-006

TITLE OF SUBJECT DOCUMENT

Recommendation 8 Regulatory Basis

ADAMS ACCESSION NO.

ML13101A324

SECTION D: CONTINUATION PAGE

CONTINUATION OF SECTION



A



B



C

are sufficient to support acceptable human performance without some modifications to the existing procedure/guidelines sets.

With respect to the first sentence of the third paragraph, the meaning of the phrase, "a complete overhaul of the accident mitigation procedures, with newly developed design basis accidents and a redesigned set of integrated guidance" is unclear. The relationship of performing a "complete overhaul" to Recommendation 8 is not specified and the scope of what was considered is unclear. Does the phrase, "newly developed design basis accidents," encompass re-developing the current set of design basis accidents or adding new ones to the existing design basis? Assuming the latter interpretation is intended, which additional accidents were considered and why? What does "a redesigned set of integrated guidance" encompass? Did this include revising the format, content, level of detail and expectations for use for the guidelines sets and perhaps other procedures that are being developed to be more consistent with these aspects of EOPs, redesigning current EOPs to reflect new and different content and other characteristics, or both, and for what reasons? Does this sentence indicate that the approach being developed by the IAEA was considered? Without more information about what was considered, we cannot concur that an adequate scope of options has been considered or that there is an adequate technical basis for ruling them out.

Also in the third paragraph, we do not agree that modifying or adding to the existing set of EOPs would "sacrifice over 25 years of training, exercises, and operating experience." The value of training on the EOPs exists only as long as the personnel who have received the training remain employed at the site and currently a very large proportion of personnel who have held licenses are retiring. Further, licensees continually modify their EOPs for a variety of reasons, including lessons learned from operating experience, such as the Fukushima Dai-ichi accident. This argument appears to suggest that licensees should discontinue this beneficial practice.

We also do not agree that adding EOPs for additional design basis events necessarily "has the potential to significantly reduce the training and experience provided for the traditional EOPs." This argument holds only if the resources that licensees make available for EOP training are limited to current levels.

We also want to point out that the current EOPs were not in use during the Three Mile Island accident. In fact, deficiencies in the underlying approach and usability of the EOPs that were in use at the time were identified as significant contributors to the accident. And, as a result of that operating experience, EOPs underwent a "complete overhaul."

In summary, we recommend that further options for procedure integration be considered in this rulemaking. We recommend that potential benefits and disadvantages of modifications to the current set of EOPs and current and planned guidelines and procedures be systematically evaluated, to include evaluation of the human performance implications of the options.

Issue 5, Section 4.2, Requirements for SAMGs and Additional Supporting Guidance

We do not agree that the high-level attributes of SAMGs and any additional supporting guidance should be included in guidance rather than in the rule. A simple requirement for licensees to have these guidelines does not assure that they are comprehensive, technically accurate, up-to-date, accessible, and support reliable human performance. As NRC experience with the implementation of EOPs demonstrated, a simple requirement to have procedures without regulatory requirements specifying the objectives they must meet made it difficult to evaluate licensee performance and take enforcement action when necessary. Therefore, based on the lessons learned from when a similar requirement was added we recommend that the rule include the high-level attributes.

Issue 6, Section 4.5, Exercises

We do not agree that classroom training, table-top discussions or full-scale drills or exercises are the only options to evaluate licensee performance. Command and control capability; coordination with Federal, state, and local agencies; deployment of assets; field equipment set-up and operation; simulation of environmental and radiological field conditions; and real-time resource allocation can be simulated separately or in combination with lower-fidelity exercises to demonstrate performance. In addition, it is unlikely that the costs for licensees to validate the effectiveness of their procedure integration strategies, command and control

SEE SECTION E FOR IMPLEMENTATION GUIDANCE

NON-CONCURRENCE PROCESS

NCP TRACKING NUMBER
NCP-2013-006

TITLE OF SUBJECT DOCUMENT
Recommendation 8 Regulatory Basis

ADAMS ACCESSION NO.
ML13101A324

SECTION D: CONTINUATION PAGE

CONTINUATION OF SECTION A B C

structures, and training only with full-scale drills could be justified, because of the need to run the range of scenarios required for validation and the number of iterations needed to check that adjustments are effective. Therefore, we recommend that the regulatory basis be revised to state that full-scale exercises will provide the highest fidelity opportunity to evaluate licensee performance, but that part-task and lower-fidelity simulations provide additional opportunities.

The regulatory basis is also incomplete, in that it does not discuss options for requirements for the frequency of drills and exercises. We recommend that the regulatory basis be revised to address options for establishing required frequencies and their advantages and disadvantages.

Issue 7, Appendix C, Preliminary Proposed Rule Language

Add a definition of "integrated strategy," because the text is not interpretable without one.

Add a definition of "command and control strategy," because the text is not interpretable without one.

Eliminate the requirement for a single position with "ultimate decision-making authority," as a requirement for a single position is premature.

Eliminate reference to "Technical Support Center," as it is premature to limit the training requirement only to personnel in the TSC.

Eliminate the 8-year frequency for drills or exercises or develop a basis for this frequency.

Add preliminary proposed rule text for the SAMG and supporting procedures/guidance requirement which includes their required high-level attributes.

Issue 8, Overall Approach for Developing an Integrated Strategy

The staff uses SRP Chapter 18 in conjunction with Chapter 13, to review human performance projects that include the development of procedures, training, staffing, instrumentation. The SRP refers the reviewer to NUREG-0711 for detailed guidance. The staff should include reference to NUREG-0711 in the Regulatory Basis or should describe the high level criteria that the staff expects to use to judge the effectiveness of the program used by industry to develop and implement the integration of EOPs, SAMGs, and EDMGs. For example, this quote from NUREG-0711 could suffice as an example of how the industry could approach development of their "integrated strategy":

"The methodology of the NRC's HFE review uses a top-down approach for conducting an NRC safety evaluation, so that the significance of individual topics is seen in relationship to the high level goal of plant safety. Top-down signifies an approach starting at the highest conceptual levels with the plant's high-level mission goals and works down to details by dividing them into the functions necessary to achieve the goals. Functions are allocated to human and system resources and are separated into tasks. The subsequent analysis of personnel tasks identifies the alarms, displays, controls and task support needs required for performing the task. Tasks are arranged into jobs and assigned to staff positions. Each position is evaluated to verify the workload is acceptable. The alarms, displays, controls and task support needs are design inputs for developing the human system interfaces (HSIs), procedures, and training. The detailed design of the HSI, procedures, and training is the "bottom" of the top-down process. The HFE safety evaluation is broad-based and includes normal and emergency operations, maintenance, tests, inspections, and surveillance work."

The industry should be using this or a similar method now to develop an integrated strategy for dealing with severe accidents, and in the future when further enhancements such as computer-aided response, or remote operation are considered.

SEE SECTION E FOR IMPLEMENTATION GUIDANCE

NON-CONCURRENCE PROCESS

NCP TRACKING NUMBER
NCP-2013-06

TITLE OF SUBJECT DOCUMENT
Recommendation 8 Regulatory Basis

ADAMS ACCESSION NO.
ML13101A324

SECTION B - TO BE COMPLETED BY NON-CONCURRING INDIVIDUAL'S SUPERVISOR

NAME
Joseph Giitter

TITLE
Director, Division of Risk Assessment

PHONE NO.
(301) 415-2884

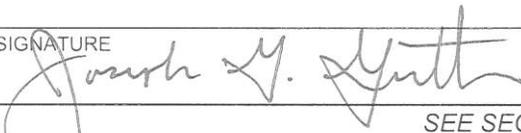
ORGANIZATION
NRR

COMMENTS FOR THE NCP REVIEWER TO CONSIDER

I support Undine, George, Val, and Sean in submitting a non-concurrence on the Regulatory Basis for NTTF Recommendation 8. I believe the non-concurrence process is an effective means of communicating differences of opinion or, as in this case, to ensure their views are fully considered. We have requested (and received) an extension (until 10/04/3013) that will allow ample time for Undine, Val, and Sean to work with the working group (of which George is already a member) to strengthen the regulatory basis for NTTF Recommendation 8.

CONTINUED IN SECTION D

SIGNATURE



DATE

6/4/13

SEE SECTION E FOR IMPLEMENTATION GUIDANCE

NON-CONCURRENCE PROCESS

NCP TRACKING NUMBER
NCP-2013-006

TITLE OF SUBJECT DOCUMENT
Recommendation 8 Regulatory Basis

ADAMS ACCESSION NO.
ML13101A324

SECTION B - TO BE COMPLETED BY NON-CONCURRING INDIVIDUAL'S SUPERVISOR

NAME
Doug Coe

TITLE
Deputy Director, Division of Risk Analysis

PHONE NO.
(301) 251-7914

ORGANIZATION
RES

COMMENTS FOR THE NCP REVIEWER TO CONSIDER

I support Val Barnes and Sean Peters of my staff, and other NRR and NRO staff as applicable, in NCP-2013-006 on the Regulatory Basis for NTTF Recommendation 8. This reflects general RES/DRA management support for the non-concurrence process as an effective means of clarifying and communicating differences of opinion, ensuring all views are fully considered, and documenting the rationale for our decisions. This is not intended as advocacy for any particular technical position or viewpoint.

I understand that NRR has received an extension (until 10/04/2013) that should allow adequate time for the non-concurring individuals to work with the designated working group to strengthen the regulatory basis for NTTF Recommendation 8 and potentially to resolve the issues giving rise to this non-concurrence.

The Director, RES/DRA, and I are available to assist in the resolution of these issues if possible and as appropriate.

CONTINUED IN SECTION D

SIGNATURE
Doug Concurred via Email

DATE
6/4/13

SEE SECTION E FOR IMPLEMENTATION GUIDANCE

NON-CONCURRENCE PROCESS

NCP TRACKING NUMBER

NCP-2013-006

TITLE OF SUBJECT DOCUMENT
Recommendation 8 Regulatory Basis

ADAMS ACCESSION NO
ML13101A324

SECTION C - TO BE COMPLETED BY DOCUMENT SPONSOR

NAME
Ho NIEH

TITLE
DIRECTOR, NRR/DIRS

ORGANIZATION
NRR

PHONE NO
301 415 1004

SUMMARY OF ISSUES

SEE ATTACHED

ACTIONS TAKEN TO ADDRESS NON CONCURRENCE

SEE ATTACHED

SIGNATURE - DOCUMENT SPONSOR

ORGANIZATION
NRR

TITLE
DIRECTOR, NRR/DIRS

DATE
08/28/2013

SIGNATURE - NCP REVIEWER

ORGANIZATION
NRR

TITLE
Director, NRR/DPR

DATE
30 Sept 2013

NCP OUTCOME*

Non-Concurring Individual CONCURS NON CONCURS WITHDRAWS NON-CONCURRENCE (i.e. discontinues process)

AVAILABILITY OF NCP FORM

Non-Concurring Individual WANTS NCP FORM PUBLIC WANTS NCP FORM NON-PUBLIC

CONTINUED IN SECTION D

SEE SECTION E FOR IMPLEMENTATION GUIDANCE

*3 employees concurred and 1 employee continued to non-concur

NCP-2013-06 SECTION C – SUMMARY OF ISSUES

Issue 1 is related to section 3.3 of the document, specifically regarding integration of procedures. The non-concurring individuals raised a concern that the regulatory basis does not specifically mention that human performance issues need to be addressed as part of formulating the strategy for procedure integration. The non-concurring individuals believe that requirements are needed for how to develop procedures, a definition of procedures and guidelines, and a requirement regarding how other requirements such as display and control interfaces, training, and command and control will be coordinated with each other and with the procedures that direct operator action.

Issue 2 is related to sections 3.3 and 4.3 regarding command and control, in particular the notion of an “ultimate decision maker.” The regulatory basis does not define the term “ultimate decision maker,” nor provide a specific description of all related job duties for this individual. A concern was also raised that this individual could become overloaded if faced with both coordinating with external entities and making operational decisions for on-site accident management. A specific comment was also made relative to including firefighting as part of the procedure integration portion of the rulemaking.

Issue 3 is related to sections 3.3 and 4.4 concerning training and qualification of key personnel. The commenters note that “key personnel” for accident management is not explicitly defined in the regulatory basis, and may imply a more narrow scope for training. The non-concurring individuals suggest that training be required for all response personnel. Additionally, the non-concurring individuals suggest considering such issues as personnel stress levels, fatigue, performance shaping factors and training considerations for large-scale or severe accident events.

Issue 4 is related to section 4.1, specifically regarding procedure integration. The non-concurring individuals believe that the bases for EOPs should be preserved but that licensees should go through a thorough systematic analytical process to identify how procedures and guidelines should be revised. The non-concurring individuals believe that a top-down approach should be applied, where the goals and functions to be achieved are identified first and then the existing procedures and guidelines that contain instructions/guidance for achieving the goals/functions are evaluated. Any gaps, conflicts, human performance challenges, compatibility with the command and control structure implied in the procedures/guidelines, etc., should be identified so as to determine whether improving transitions is sufficient or whether something more/different should be done to better assure success.

Issue 5 is related to section 4.2 regarding NRC approval of SAMGs and other supporting guidelines. The non-concurring individuals would prefer to have rule language containing required attributes of these guidelines rather than leave it to regulatory guidance documents, with the goal of improving the NRC’s ability to monitor licensee performance and take enforcement action when necessary.

Issue 6 is related to section 4.5, regarding exercises, specifically that full-scale exercises may not be a cost effective and practical means to develop and evaluate licensee proficiency. The non-concurring individuals feel that certain aspects of response can be addressed with separate

NCP-2013-06 SECTION C – SUMMARY OF ISSUES

simulations or lower-fidelity exercises. They also believe that the regulatory basis does not adequately address frequency requirements for drills and exercises.

Issue 7 is related to recommendations for the preliminary rule language contained in Appendix C of the regulatory basis in response to Issues 1-6 above. The non-concurring individuals provided suggested changes to the preliminary rule language for consideration.

Issue 8 is a general comment that SRP chapter 18 in conjunction with chapter 13 be used to develop the approach to an integrated strategy for accident management. The non-concurring individuals feel that reference to NUREG-0711 should be made in the regulatory basis to highlight human factors considerations.

NCP-2013-06 SECTION C – ACTIONS TAKEN TO ADDRESS NON-CONCURRENCE

On June 18, 2013, I met with the non-concurring individuals to understand the issues in their non-concurrence. During the meeting, I informed the non-concurring individuals that after reading their non-concurrence, I agreed with some of their issues and disagreed with others. I offered to consider any modest changes to the regulatory basis that they would suggest in order to address their concerns. I also informed the non-concurring individuals that I believed many of their issues could be addressed and discussed during the next stages of the rulemaking process and that I felt that many of their issues did not need to be resolved at such an early stage of the rulemaking process.

In addition, during the June 18, 2013 meeting, the non-concurring individuals informed me that they felt the Recommendation 8 rulemaking working group did not want to hear about their issues and that the member representing their viewpoints was often “voted” down. Based on this feedback, I sought additional insights on how the working group functioned from some other members of the working group and concluded that there was not a hostile work environment. Notwithstanding, I discussed with the NRR/DIRS/IOLB branch chief and the rulemaking project manager that the working group should work to ensure that all viewpoints are heard and that if issues are raised they should promptly work with the appropriate staff to seek resolution.

On August 21, 2013, the non-concurring individuals and the non-concurring individual from NCP-2013-005 provided me with their suggested changes to the regulatory basis document. I have reviewed their suggested changes and have recommended some revisions to the regulatory basis document based on their insights to provide for improved clarity and context. However, I did not find it appropriate to adopt their suggested changes where major sections of the regulatory basis were re-written. My rationale for not accepting these major re-writes is two-fold. First, the regulatory basis document has undergone significant internal and external review, including the JLD Steering Committee, an ACRS subcommittee, and industry and public comments via meetings and also a Federal Register Notice. As such, I believe the regulatory basis document has been well-vetted and provides an appropriate basis to continue with the rulemaking process. Second, I maintain that many of the issues raised by the non-concurring individuals can be addressed and discussed during the next stages of the rulemaking process. Therefore, I have provided the NRR/DIRS/IOLB branch chief and the rulemaking project manager with the entire set of suggested changes from the non-concurring individuals of NCP-2013-006 and NCP-2013-005 so that the working group can review and consider their comments during the next stages of the rulemaking process.

I have provided a revised regulatory basis document for review that includes my recommended changes based on the issues raised by the non-concurring individuals. The following sections provide my detailed response to the specific issues raised in NCP-2013-006.

Issue 1: The non-concurring individuals raise valid points regarding appropriate standards and requirements for procedural development aimed at ensuring the set of integrated procedures/guidelines would be properly validated to support the objectives of this rulemaking. I believe that specific means to address these considerations could be identified during the development of implementation guidance for the proposed rule rather than at this early stage. The regulatory basis merely highlights a potential vulnerability that may exist with the current set

NCP-2013-06 SECTION C – ACTIONS TAKEN TO ADDRESS NON-CONCURRENCE

of accident management procedures and guidelines and sets a high level goal of ensuring they support a coherent and comprehensive response to extreme conditions. By highlighting this area, the regulatory basis is the foundation for development of an optimal approach to achieve this goal. It is not necessary that these requirements be established at this stage. Instead, as stated in the regulatory basis, it is appropriate to work with industry and public stakeholders in developing a guidance document accompanying the proposed rule identifying the high level attributes that should be met by the integrated set of procedures.

The human factors considerations, including validation methods, are certainly areas that would be factored in the development of implementation guidance that could be endorsed by the NRC. In addition, some work on procedure development, particularly in regard to the industry's "FLEX" approach, has begun in response to NRC orders and are backed by Interim Staff Guidance (ISG) accompanying the order. It is appropriate to factor lessons learned from implementation of these procedures into the integrated set of procedures addressed by NTF Recommendation 8. That said, I recommend additional wording to section 3.3 under "Accident Mitigating Procedures Integration" to highlight the importance of human performance issues so they can be addressed during the proposed rule phase. Also, I recommend that consideration of human factors should be added to section 4.1 of the regulatory basis to highlight the importance of this area.

Issue 2: The non-concurring individuals raise questions as to the definition of the "ultimate decision-maker." I agree, in part, with their views on this matter. As it stands, the regulatory basis identifies the need to develop requirements for the individual who will have the final decision-making authority during beyond design basis and severe accident management. I believe there is a need to initiate the discussion of how this individual would be identified, trained and qualified. The term "ultimate decision maker" is a generic term used regularly by government organizations and businesses and is sufficiently self-explanatory for the purposes of the regulatory basis. Furthermore, the role, as defined by the term "ultimate decision-maker," will be better defined as the proposed rule is developed. The non-concurring individuals further raise concerns that, during an extreme event, there would be too many decisions to be made for one person to be identified as the "ultimate decision maker." Fukushima lessons learned show that a designated final decision making authority is an essential aspect of a plant's command and control organization. The definition of the responsibilities, training and qualifications for this position should be worked out through the proposed rule process. I believe that there can be no question as to who has the final decision authority to direct taking actions such as venting containment and seawater injection during a severe accident. The ACRS subcommittee review of the draft regulatory basis emphasized the need for this final decision making authority and I agree that the development of requirements for this role is an essential aspect of this rulemaking effort. That is not to say that the "ultimate decision maker" will exercise this authority to make every decision that is made by plant staff during an extreme accident, nor do I believe that the regulatory basis document suggests that there should be one person making every decision. Rather, there should be one person with "ultimate decision making authority," and I believe that this term is adequately defined for this stage in the rulemaking process. I recommend adding clarifying language related to command and control and decision-making to section 3.3, bulleted item 3, and to section 4.3 regarding fleet-level decision making. During development of the proposed rule, additional input from stakeholders will be obtained to inform

NCP-2013-06 SECTION C – ACTIONS TAKEN TO ADDRESS NON-CONCURRENCE

resolution of these issues, including an effective approach for dealing with conflicts between procedures (e.g., firefighting procedures as discussed in sections 3.3 and 4.1 of the regulatory basis).

Issue 3: I agree with the views of the non-concurring individuals on this issue. The regulatory basis identifies the need to establish training needs for “key personnel” in the area of beyond design basis and severe accident management. The term “key personnel” is left intentionally general at this point in the process, as it has yet to be determined which personnel will be identified for additional training requirements. I believe that term used by the non-concurring individuals of “all response personnel” goes no further to specifically identify the personnel who will require additional training. The systems approach to training (SAT) is an effective methodology for identifying additional training requirements, and this is a position agreed to by the non-concurring individuals’ representative on the NTTF Recommendation 8 working group. SAT requirements already exist for a large variety of plant staff in 10 CFR 50.120, and the new training objectives in the area of beyond design basis and severe accidents should be added to these training programs through their SAT-based processes. This should be made clear during the development of the proposed rule and corresponding guidance document. There are, however, no SAT requirements in some other areas, such as for the engineers and decision-makers in the Technical Support Center. The term “key personnel” is used to highlight the need for this additional SAT requirement, and is left open at this stage in anticipation of further discussion with external stakeholders as to what additional personnel will require training. Further, the non-concurring individuals suggest considering such issues as personnel stress levels, fatigue and performance shaping factors, and training for large-scale or severe accident events. While these considerations may be important aspects to consider when developing additional training and exercise requirements, the regulatory basis should remain a high-level discussion and not include a full discussion of all of the potential changes to a plant’s training objectives. However, I recommend adding a discussion to section 4.4 to highlight training needs for other licensee personnel that may have a role in accident management so this topic may be further developed during the proposed rule phase.

Issue #4: I do not agree with the views of the non-concurring individuals on this issue. The discussion of the fundamental difference between procedures and guidelines was added to the regulatory basis after industry representatives requested that this designation be made within the regulatory basis. Therefore, I recommend that this discussion not be deleted. The discussion was added in consultation with the human factors representative on the NTTF Recommendation 8 working group, as well as by several former SROs and former industry training instructors who have been thoroughly trained on the implementation of EOPs and SAMGs. I believe that the fundamental difference between EOPs and SAMGs is sufficiently described. The non-concurring individuals go on to single out other phrases from their context in section 4.1 and ask for further clarification on these statements. In general, I believe that this section sufficiently explains that in the judgment of the NTTF Recommendation 8 working group, an effort to discard the current EOPs and redesign a new approach to accident management should not be undertaken. It is the opinion of the vast majority of the working group that the EOP composition be maintained, with the exception of developing adequate transitions to the SAMGs and FLEX guidelines, in order to preserve the years of training and operating

NCP-2013-06 SECTION C – ACTIONS TAKEN TO ADDRESS NON-CONCURRENCE

experience gained by the industry in the implementation of the EOPs. Certainly, if there are any specific changes to the content of the EOPs as a result of lessons learned from Fukushima, it would be expected that the industry make these changes, however an overhaul of the entire approach is not warranted and is potentially counterproductive to safety. This opinion is shared by the industry owner's groups, and the remaining offices who have concurred on the regulatory basis as it currently stands.

The non-concurring individuals further state that there would be an impact on EOP training only if "the resources that licensees make available for EOP training are limited to current levels." The intent of this statement in the regulatory basis is not to place a constraint on the amount of training that may be required to effectively meet the objective of the rulemaking. Rather, the intent is to acknowledge the significant challenges posed by the addition of training requirements, given the organization of plant operations departments into crews and the limited number of training time available to each crew given operational considerations and management of fatigue rule requirements. In particular, the statement in the regulatory basis recognizes the potential for over training on very low probability beyond design basis events at the expense of maintaining proficiency in responding to more likely events involving the EOPs. Simply adding training instructors and operators does not alleviate this issue. More specific to the individual, there is a limit to the amount of knowledge that an operator can be expected to retain. These factors will need to be addressed as the proposed rule and implementing guidance are developed. Further, the non-concurring individuals' statement seems to suggest that there should be no consideration given to the extent of additional resources that are required to meet additional training requirements. This approach will make the regulatory analysis justification for backfitting any new training requirements an almost certain impossibility.

In summary, it is the opinion of the vast majority of the NTTF Recommendation 8 working group, and various industry groups that an extensive amount of time spent on training for a Fukushima level event would impact the training and therefore the expertise of operators in the implementation of the EOPs. This effect must be avoided by 1) averting any ambition to radically overhaul the current structure of the accident management procedures and 2) properly measuring the amount of training required for operators and other plant staff. These issues will be considered during the development of implementing guidance for rule language related to training. To clarify this matter, I recommend additional language in section 4.1 of the regulatory basis to highlight the current thinking on expansion of EOPs into what is now the beyond design basis realm and the resultant impact on training for more probable within design basis events. I also recommend that consideration of human factors be added to section 4.1 of the regulatory basis to highlight the importance of this area.

Issue 5: I do not agree with the views of the non-concurring individuals on this issue. The non-concurring individuals suggest that the attributes for SAMG programs should be included in the rule language for NTTF Recommendation 8 and not left to the corresponding guidance document. It is important to remember that NTTF Recommendation 8 encourages the industry owners' groups to take the lead in developing the new technical guidelines for SAMGs. The intent of the NTTF Recommendation 8 working group is to allow the industry to develop the

NCP-2013-06 SECTION C – ACTIONS TAKEN TO ADDRESS NON-CONCURRENCE

revised generic SAMGs using the lessons learned from Fukushima and the results of experiments and testing since the original guidelines were developed. The NRC is still in the process of determining the best method for endorsing the generic SAMGs, where appropriate, as an acceptable method for adhering to a new accident management procedure rule. It is anticipated that a regulatory guide could be used to both endorse the owners' groups generic guidelines and establish a series of high-level attributes that a set of integrated accident management procedures and guidelines should be designed to accomplish. If a licensee subscribes to this method for adhering to the rule, then they are responsible for developing SAMGs that adequately adhere to the owners' groups' standards. This methodology is used for the inspection and enforcement of a wide variety of NRC regulations, and therefore has been determined to be acceptable by the working group. I recommend that no changes be made to the regulatory basis as a result of the review of Issue #5.

Issue #6: I agree with the non-concurring individuals regarding exercises and drills. During the concurrence period for the regulatory basis, comments were received from NSIR and a member of the JLD steering committee that expressed concern that too much emphasis was being placed on "full-scale" exercises as being the only method to fully ensure licensee capability. The document authors agreed with this concern and acknowledge that full-scale exercises, while effective, are not the only way to achieve and monitor proficiency. Originally, the emphasis on full-scale exercises was stressed to ensure that some degree of practical demonstration be conducted, in contrast to exclusive use of table top exercises/discussions. The authors recognize that while full-scale drills certainly would provide performance based, integrated, real-time insights, there are many opportunities to practice and evaluate individual aspects of on-site accident management in other settings (such as part task simulations and walk throughs). Accordingly, the regulatory basis language related to exercises in sections 4.5 and 6.2 has already been revised to reflect these practices. Additionally, the periodicity is no longer specified in the regulatory basis, but will be established as part of the rule implementation guidance in a later phase of this rulemaking activity. I believe that the changes made in response to these comments and those from NSIR and the JLD Steering Committee are sufficient to address Issue #6.

Issue #7: The non-concurring individuals list a series of changes to the wording of the preliminary rule language listed in Appendix C of the regulatory basis. Changes to the "Technical Support Center" and the "8-year" periodicity have already been made as a result of the standard concurrence process used by other offices and divisions. I believe that the changes made in response to comments from NSIR and the JLD Steering Committee are sufficient to address Issue #7. I believe that no additional clarification is necessary to this high-level, preliminary rule language. The NTTF 8 working group is currently developing proposed rule language which will address many of these issues. With input from stakeholders, it is anticipated that clarifying definitions can be included in the rule language or in implementing guidance (such as a Regulatory Guide) as appropriate.

Issue #8: The non-concurring individuals suggest the use of NUREG-0711 in the regulatory basis to discuss human performance aspects of accident management procedures. I believe that human performance is a very important element of this rulemaking effort and that insights

NCP-2013-06 SECTION C – ACTIONS TAKEN TO ADDRESS NON-CONCURRENCE

from NUREG-0711 should be considered when developing the proposed rule and its associated guidance. I recommend that no changes be made to the regulatory basis as a result of the review of Issue #8, but rather that these items be fully considered during development of the proposed rule.