



UNITED STATES
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February 1, 2019

MEMORANDUM TO: Christopher G. Miller, Director
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

FROM: Michael L. Scott, Director */RA/*
Division of Preparedness and Response
Office of Nuclear Security and Incident Response

SUBJECT: RESULTS OF THE CALENDAR YEAR 2018 REACTOR OVERSIGHT
PROCESS FOCUSED SELF-ASSESSMENT ON THE EMERGENCY
PREPAREDNESS SIGNIFICANCE DETERMINATION PROCESS

SUMMARY:

This paper presents results from the calendar year (CY) 2018 Reactor Oversight Process (ROP) focused self-assessment (FSA) on the Emergency Preparedness (EP) Significance Determination Process (SDP). The FSA Team assessed the EP SDP by reviewing stakeholder comments and Nuclear Regulatory Commission (NRC) Inspector questionnaires, as well as recommendations and suggestions from staff and NEI. In addition, the FSA Team maintained an appreciation for discovering opportunities to transform the processes or paradigms associated with the EP SDP and relevant portions of the ROP. The scope of the EP SDP FSA expanded somewhat when reviewing Stakeholder comments and when the Reactor Oversight Process (ROP) Enhancement Project started during the later stages of this FSA. The overall scope of the FSA was to assess the adequacy of the current program and to provide a fresh look into the program in order to identify potential enhancement opportunities, including those of a transformative nature. In addition, several NEI letters and White Papers were submitted during this FSA time period, which naturally led to the consideration of possible action(s) for future consideration, up to and including, staff recommendations. This FSA Report is a distillation of these comments, suggestions, and recommendations for future consideration.

The overall conclusion was that the EP SDP is adequate. However, there are a number of potential enhancement opportunities available for consideration. These considerations are provided, at a high level, in this report. It is anticipated that these considerations may be chosen for further review, and possible action, as part of the ROP Enhancement Project and may be added to the scope of the ROP Enhancement Project and discussed further in coordination with NRR as part of the project. It is the intention of this FSA to: (1) provide a conclusion of the adequacy of the current EP SDP, and (2) provide any recommendations for consideration (including transformational) as part of the ROP Enhancement Project.

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BACKGROUND:

An annual focused review was added to the ROP self-assessment program as part of the November 23, 2015, revision to Inspection Manual Chapter (IMC) 0307, "Reactor Oversight Process Self-Assessment Program." The focused review delves more deeply into aspects of the ROP that have not recently been reviewed, areas that show indication of weaknesses, or areas for future development. Potential topics for the focused review are discussed between divisional management and presented to senior NRC management at the Agency Action Review Meeting (AARM). During the AARM, senior management chooses a focused review topic to be pursued for that CY. However, a different approach was used for this FSA. Based, in part, on a letter from the Nuclear Energy Institute (NEI), "Recommendations for Improving the Emergency Preparedness Significance Determination Process," dated December 12, 2017, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17354A094), an FSA on the EP SDP was initiated to provide a 'fresh look' into the EP SDP since its inception nearly 20 years ago.

A team consisting of the necessary expertise was assembled. The team developed a review and evaluation plan which is described in the charter. At the conclusion of this FSA, the team developed a summary of results that may be referenced in the annual ROP self-assessment report and presented to senior NRC management during the following AARM.

The charter for the CY 2018 FSA on the EP SDP is in ADAMS under Accession No. ML18149A392 and is maintained in the NRCs internal SharePoint site (NSIR/DPR/POB/Regulatory Inspection & Oversight Team/Focused Self-Assessment: EPSDP). This SharePoint site also contains all the Questionnaire responses and Stakeholder comments. This site is available at this [LINK](#).

DISCUSSION:

The process used to perform this FSA was as follows, per the FSA Charter:

- Review the EP SDP procedures for adequacy.
- Review the SDP guidance to determine if the significance of the finding is appropriate for the public risk caused by the finding.
- Review the guidance provided for each planning standard for adequacy.
- Review issues from other cornerstones for impact on licensee EP Programs.
- Review the EP SDP basis for adequacy.
- Review the EP Inspector training and qualification program for adequacy.
- Review all staff questionnaire results and comments.
- Review all stakeholder comments received in various NEI letters, White Papers, and from several meetings.
- Maintain an appreciation for any potential transformative idea when reviewing all of the above.

As mentioned earlier, the start of the ROP Enhancement Project provided an opportunity for the review of other areas applicable to EP rather than just those applicable to the EP SDP or its inputs. This included staff recommendations for possible transformation as well as consideration of other identified suggestions, from the below references, that may be considered for EP. Note that several of these recommendations for future consideration may have been triggered from an identified recommendation from the references below even though it was not specifically identified to be a consideration for EP. However, it was with this 'fresh look' and 'transformative' approach that possible opportunities for EP may warrant further review as determined by NSIR Management. While the references listed for the ROP

Enhancement Project are accurate at the time of receipt, a working list of the compiled NEI and NRC recommendations and suggestions are being maintained in SharePoint (NRR/DIRS/Other/ROP Enhancement) at this [LINK](#).

Recommendations and suggestions from the following were considered in parallel between the EP SDP FSA and the ROP Enhancement Project; all of the items applicable to EP are in Table 1, "Item Tracking," which lists all enhancements under consideration or already implemented.

- NEI letter, "NEI Recommendations for NRC's Regulatory Transformation Initiative," dated March 16, 2018 (ADAMS Accession No. ML18180A313), (Reference 1),
- NEI letter, "ROP Enhancement," dated September 19, 2018 (ADAMS Accession No. ML18262A322), (Reference 2),
- NRC memorandum, "List of Recommendations for Reactor Oversight Process Enhancement Submitted to the Transformation Team," (ADAMS Accession No. ML18292A594), (Reference 3),
- EP-related correspondence received and considered in FSA:
 - NEI Email dated July 25, 2018, "Transformative Change to 10 CFR 50.54(q)," (ADAMS Accession No. ML18295A568), (Reference 4),
 - NEI letter, "NEI Whitepaper, Performance Indicators for Adjusting the Frequency of Emergency Preparedness Program Reviews," (ADAMS Accession No. ML18114A049), (Reference 5),
 - NEI letter, "NEI Reactor Oversight Process White Paper: Change to the NEI 99-02 Text for the Drill/Exercise Performance Indicator – Initial Notification Form Accuracy," (ADAMS Accession No. ML18254A348), (Reference 6).

NEI, in Reference 2, stated that the "...ROP remains sound," and that was validated by the results of the EP SDP FSA. A review of the stakeholder comments and questionnaire results depicts a program that has been implemented with success. The guidance was determined to be adequate in evaluating the significance of findings, and a review of the EP findings from the last few years does not indicate that the EP SDP process is inadequate or flawed. However, there were several possible enhancement and transformative opportunities identified for further consideration. These recommendations for future consideration are in Table 1, "Item Tracking." When applicable, a cross-reference to one of the NEI and/or NRC recommendations or suggestions is provided. Note that the reference may not, on the surface, be entirely applicable to EP, but the idea presented may have relevance to EP albeit for a different reason. A more detailed technical basis for each recommendation is provided in Enclosure 1, "Technical Basis."

This FSA only provides items for consideration as part of the ROP Enhancement Project, or as a separate project. This may lead to either an action plan to make the applicable changes, or it may lead to an informed decision that no action is necessary. Regardless, this fresh look into the EP ROP/SDP is timely and appropriate as it aligns with the Agency's goals of transformation if, and when, this transformation improves efficiency and consistency, up to and including possibly reducing unnecessary regulatory burden on the staff and on licensees while maintaining public health and safety.

In order to denote which recommendations are from the EP SDP FSA and which ones are an extension of the EP SDP FSA from a review of the information from the ROP Enhancement Project, each recommendation will have either “EP-SDP” or “EP-ROP,” or both, referenced.

While the conclusion of this FSA is that the EP SDP does work adequately, there are several recommendations for consideration of items that may enhance the EP SDP to make it more risk-informed, consistent, and concise, as well as several transformative ideas that could be considered for development of new paradigms related to several program elements of the EP SDP and/or the EP ROP. These opportunities and ideas have been segregated into four bins:

- Recommended transformative ideas for considerations that may require NRR and NSIR management prioritization and may need Commission approval
- Recommended ideas for consideration that may require NSIR Management prioritization and may need Commission involvement (Management Directive (MD) 8.13)
- Recommended ideas for consideration that may require NSIR Management prioritization and may not need Commission involvement MD 8.13)
- Actions that have been immediately pursued or completed; some of these actions are as a result of performing a fresh look into issues related with Ref. 1 – Item 1B as well as Questionnaire feedback and FSA Team suggestions.

A distillation of the comments, suggestions, and recommendations received or reviewed as part of this FSA is documented in Table 1, “Item Tracking.” All of the recommendations listed will be considered for further review, and possible action, as part of the ROP Enhancement Project. Each of the recommendations listed in Table 1 may be added to the list of items considered as part of the ROP Enhancement Project, and any applicable actions will be documented as part of that process. This may include prioritization of resources as necessary to support the project.

The listed cross-references for Reference 1 and Reference 3 have been incorporated into Enclosure 2, “EP Specific Cross-References – List,” for ease of use.

1.0 Recommended Transformative Ideas for Consideration That May Need Commission Approval

	Action	Applicable Cross-Reference	Tentative Milestones
A	<p>Allow for the consideration of the other Reactor Safety Cornerstones when determining the significance of an EP issue. When considering the exposure to the public from the EP issue, consideration of these other cornerstones may risk-inform the issue.</p>	<p>EP-SDP EP-ROP Ref.1 – Item 3A Ref. 3 – Item 596 Stakeholder Comments Questionnaire Results FSA Team Suggestion</p>	<p>Draft revised IMCs and IPs to NSIR Management 06/2019; to NRR 08/2019</p>
B	<p>Only having issues related to the following planning standards (PS) be able to be GTG: 10 CFR 50.47(b)(2, 4, 5, 8,9, and the offsite part of 10). All of the other PS are capped at Green findings due to their significance to overall public health and safety from a radiological event.</p>	<p>EP-SDP EP-ROP Ref 3 – Item 596 Ref. 3 – Item 153 Questionnaire Results FSA Team Suggestion</p>	<p>Draft revised IMCs and IPs to NSIR Management 06/2019; to NRR 08/2019 Potentially include in SECY Paper 02/2019</p>

	Action	Applicable Cross-Reference	Tentative Milestones
C	<p>Make the following PS's the only ones that require a formal 10 CFR 50.54(q) change review and subsequent requirement for NRC prior approval: 10 CFR 50.47(b)(2, 4, 5, 8, 9, and the offsite part of 10). All of the other PS are of lower risk and may be able to be changed as needed by a licensee without requiring NRC prior approval. Adherence to the regulations is expected at all times and should be evaluated as part of the EP Baseline Inspection program.</p>	<p>EP-ROP Ref. 1 – Item 4B Ref. 3 – Item 596 Ref. 3 – Item 627 Ref. 4</p>	<p>Draft revised IMCs and IPs to NSIR Management 06/2019; to NSIR 08/2019 Potentially include in SECY Paper 02/2019</p> <p><u>Follow-up Rulemaking</u></p> <p>Draft revised documents to NSIR Management: 11/2019 Draft revised documents to NRR: 2/2020 Potentially include in SECY Paper 02/19</p>

**Table 1
Item Tracking**

C. Miller

2.0 Recommended Ideas for Consideration That Need to be Provided to the Commission for Information (MD 8.13)

	Action	Applicable Cross-Reference	Tentative Milestones
A	Eliminate EP from Problem Identification and Resolution (P&IR) Inspections and only have it in the EP Baseline Inspection Program. EP is a specialty program in that it is not normally in use and thus requires a specific level of expertise in order to readily evaluate P&IR effectiveness. Operations, maintenance, engineering, radiation protection, and security are all programs that are in constant use and therefore programmatic issues typically become readily apparent. EP is typically only implemented a few times annually; while EP is in a constant state of preparedness, it is not constantly being implemented.	EP-ROP Ref.1 – Item 2B.4 Ref. 3 – Item 78	Draft revised IMCs and IPs to NSIR Management 06/2019; to NRR 08/2019 Potentially include in SECY Paper 02/19
B	Eliminate the Alert and Notification System (ANS) Performance Indicator (PI) as it is not very indicative of EP readiness and effective maintenance of EP equipment. The availability of the Integrated Public Alert and Warning System (IPAWS) also may make this PI unnecessary and easily evaluated as part of a comprehensive EP baseline inspection program. Replace this PI with one for emergency response facility (ERF) readiness. ERF readiness is an integral part of an effective EP program as these facilities need to be ready when called upon.	EP-ROP Ref. 3 – Item 587 FSA Team Suggestion	Draft revised IMCs and IPs to NSIR Management 06/2019; to NRR 08/19 Potentially include in SECY Paper 02/2019
C	Use the ROP Program as an acceptable approach to justify a 24-month 10 CFR 50.54(t) EP Audit periodicity. The regulation already allows for a 24-month audit cycle if certain aspects of an EP Program are monitored by PIs. With the creation of a new PI, the ROP Program may suffice to allow for this audit frequency. Note that this may be considered a Transformative Idea requiring specific Commission approval. Additional PIs would be developed to support this goal (e.g., emergency response facility (ERF) readiness, etc.). In addition, this may require that the licensee’s auditing organization monitor the interactions between the licensee and offsite response organizations (OROs) annually during integrated drills or exercises to ensure that the coordination between the licensee and OROs is adequate. Any PIs developed would thus decrease the baseline inspection hours needed to evaluate that specific element. For example, a new PI for ERF readiness would lead to a reduction in the inspection hours needed to evaluate ERF readiness as the PI will suffice.	EP-ROP Ref. 3 – Item 587 Ref. 5 FSA Team Suggestion	Draft revised IMCs and IPs to NSIR Management 06/19; to NRR 08/2019 Potentially include in SECY Paper 02/2019

3.0 Recommended Ideas for Consideration That Do Not Need Commission Involvement (MD 8.13)

	Action	Applicable Cross-Reference	Tentative Milestones
A	<p>Consolidate the various procedures related to the EP SDP to improve functionality and ease of use. IMC 0609 and IMC 0612, and possibly the NRC Enforcement Policy, have opportunities for enhancement and potential consolidation. Also, possibly consider providing EP specific guidance for dispositioning EP issues that are minor or less than minor as sometimes this distinction takes more time to determine than the issue warrants.</p>	<p>EP-SDP EP-ROP Ref. 3 – Item 231, Bullet 2 Ref. 3 – Item 203 Stakeholder Comments Questionnaire Results FSA Team Suggestion</p>	<p>Revise applicable IMCs and IPs. Draft revised documents to NSIR Management: 06/2019 Draft revised documents to NRR: 08/2019</p>
B	<p>Provide more information to better risk-inform the SDP, particularly for the following areas:</p> <ul style="list-style-type: none"> • Emergency Action Levels (EALs) • Fission Barrier Matrix • Radiation Monitoring Instrumentation • Dose Assessment 	<p>EP-SDP EP-ROP Ref. 3 – Item 231, Bullet 2 Stakeholder Comments Questionnaire Results FSA Team Suggestion</p>	<p>Revise applicable IMCs and IPs. Draft revised documents to NSIR Management: 06/2019 Draft revised documents to NRR: 08/2019</p>
C	<p>Create a better method of tracking actual hours charged to EP ROP/SDP. Also enhance the process so that staff hours used to support ROP and SDP issues is appropriately charged and tracked to the correct CAC for the specific inspection activity and licensee.</p>	<p>EP-ROP Ref.1 - Item 1B Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion</p>	<p>To be determined.</p>

	Action	Applicable Cross-Reference	Tentative Milestones
D	Develop a process for evaluating all potential findings that may be greater than Green (GTG) with all Regions and NRC HQ staff prior to issuance. We need to ensure that all findings are consistently understood and consistently implemented.	EP-SDP EP-ROP Ref.1 - Item 1B Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion	Revise applicable IMCs and IPs. Draft revised documents to NSIR Management: 06/2019 Draft revised documents to NRR: 08/2019
E	Create a better method of sorting EP findings so that EP Inspectors can readily find them according to the particular issue of concern. Suggest sorting by planning standards, 10 CFR 50.54(q), and 10 CFR 50.54(t). Use similar sorting criteria for EP Issues Tracking, the dedicated EP Inspector Email account, and the annual Operating Experience (OE) Report.	EP-SDP EP-ROP Ref.1 – Item 1B Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion	RRPS revision request to NRR: 10/2019
F	Develop and/or enhance guidance related to the staff's evaluation of EP elements in NUREG-0800, Ch. 13.3, "Emergency Planning." This Standard Review Plan would then be a useful source of how to evaluate and inspect the various elements of an EP Program.	EP-ROP Ref.1 – Item 1B Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion	Draft revision completed by 12/2019.
G	Add guidance to the Health Physics (HP) ROP/SDP for evaluating the licensee's Meteorology System, and Self-Contained Breathing Apparatus (SCBA)/Respiratory Protection Program, in order to preclude inspection overlaps; consider removal from the EP Inspection Program.	EP-ROP Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion	Revise applicable IMCs and IPs. Draft revised documents to NSIR Management: 10/2019 Draft revised documents to NRR: 12/2019

	Action	Applicable Cross-Reference	Tentative Milestones
H	Revise the Drill and Exercise (DEP) PI guidance to properly document what parts of the licensee’s notification to the OROs is to be considered part of the DEP-PI and what parts can be evaluated and dispositioned as part of the overall EP inspection.	EP-ROP Ref. 3 – Item 587 Ref. 6	Revise applicable IMCs and IPs. Draft revised documents to NSIR Management: 06/2019 Draft revised documents to NRR: 08/2019
I	Enhance the guidance for how issues related to 10 CFR 50.54(q) are adequately risk-informed, particularly for issues of low significance. Clarify the guidance in this area to ensure staff resources are not spent more on low significance issues just because it is difficult to understand the guidance.	EP-ROP Ref. 3 – Item 231, Bullet 2 Stakeholder Comments Questionnaire Results FSA Team Suggestion	Revise applicable IMCs and IPs. Draft revised documents to NSIR Management: 06/2019 Draft revised documents to NRR: 08/2019
J	Revise many of the examples given in the EP SDP to minimize consideration of findings that are GTG for issues that do not impact public health and safety from a radiological event. Risk-informing these examples would assist in better risk-informing any EP Issues or findings.	EP-SDP EP-ROP Ref. 3 – Item 153 Stakeholder Comments Questionnaire Results FSA Team Suggestion	Revise applicable IMCs and IPs. Draft revised documents to NSIR Management: 06/2019 Draft revised documents to NRR: 08/2019

4.0 Actions That Have Been Immediately Pursued or Completed

	Action	Applicable Cross-References	Tentative Milestones
A	<p>Provide a means to capture issues, their resolution, and any relevant discussion points between NRC staff, at NRC Headquarters (HQ) and NRC Regions. The interaction among NRC staff has been excellent (e.g., annual counterpart meetings and monthly EP counterpart calls), but no method of capturing these interactions existed, and no consistent means of sharing these interactions between the four (4) Regions existed. As a result, the staff had no way to maintain a knowledge management (KM) reservoir that was readily available to all staff and may have led to inconsistent understanding of EP issues and a loss of very useful information. In order to be more consistent, we should consider improving EP Inspector training to better establish a common starting point, for Regional EP Inspectors and HQ staff that support the Inspection process (ROP and SDP). We should capture, for KM purposes, the interactions and discussions between the Region and HQ EP staff so that the other Regions can benefit. We should try and be more efficient in planning resource needs for future Regional EP inspection support. And we should annually provide an Operating Experience (OE) report to the Regional EP Inspectors providing a summary of issues identified, how they were dispositioned, and any lessons learned.</p> <p>NSIR Ticket 18-0440 has been created to evaluate the effectiveness of the action(s) taken (4.A.1 – 4.A.5) and to adjust as appropriate. Consider feedback from Regional EP Inspectors, HQ POB staff, and appropriate management in this action.</p>		
A.1	<p>Have already created an Outlook E-mail account that can be used to capture all NRC Staff interactions where issues are discussed and explained. This account is available to all EP Inspectors and may be used to capture issue identification and resolution, primarily for those issues that do not result in a finding, but are important for understanding applicable EP Program requirements.</p>	<p>EP-SDP EP-ROP Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion</p>	<p>COMPLETED</p>
A.2	<p>Have already developed tools within the NRC SharePoint site to allow for Regional issue tracking and resource coordination. Regional EP issues are documented and tracked, and are discussed at each monthly EP Counterpart Call (EPCC).</p>	<p>EP-SDP EP-ROP Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion</p>	<p>COMPLETED</p>

	Action	Applicable Cross-References	Tentative Milestones
A.3	Have already developed a process to review all EP Inspection findings and issues, evaluate any lessons-learned, and document these lessons-learned in a report made available to staff and the public on a periodic basis, (suggest an annual report). There is no current method to capture this information such that others can benefit from the information (KM and OE).	EP-SDP EP-ROP Ref.1 – Item 1B Ref. 3 – Item 185 Questionnaire Results FSA Team Suggestion	COMPLETED. The OE report will be generated at the end of each FY.
A.4	Have already enhanced resource scheduling and planning between the Regions and NRC HQ by revising the EP Calendar in SharePoint. It has been revised to capture all Regional EP exercises and inspections, as well as national EP meetings or events.	EP-SDP EP-ROP Ref.1 – Item 1B Questionnaire Results FSA Team Suggestion	COMPLETED
A.5	Have already scheduled annual regional and HQ staff meetings to discuss issues of significance to EP, up to and including KM.	EP-SDP EP-ROP Ref.1 – Item 1B Questionnaire Results FSA Team Suggestion	COMPLETED
B	The effectiveness of NRC HQ staff to support Regional EP inspection issues or concerns would be enhanced if the staff was qualified in accordance with IMC 1245. The staff has already started the process to complete this qualification.	EP-SDP EP-ROP Ref.1 - Item 1B Questionnaire Results FSA Team Suggestion	COMPLETED. Two of the staff are qualified, the remaining staff member will be qualified in 2019.

	Action	Applicable Cross-References	Tentative Milestones
B.1	<p>The effectiveness of the present method(s) for qualifying EP Inspectors can be enhanced by using a systematic approach to training development, and thus lead to a more defined and appropriate training program. Staff has begun this project and anticipate completion during CY2019.</p> <p>This also necessitates a fresh look into existing EP training courses (H107, H203, etc.).</p> <p>Revise procedure IMC 1245, "Qualification Program for New and Operating Reactor Programs," to provide systematic approach to training pending completion of the EP Inspector Training Program development project.</p>	<p>EP-SDP EP-ROP Ref.1 - Item 1B Questionnaire Results FSA Team Suggestion</p>	<p><u>Revise existing EP training courses.</u></p> <p>Input to NSIR Management: 8/2019.</p> <p>Input to NRR: 9/2019.</p> <p><u>Revise EP inspector qualification IMC 1245.</u></p> <p>Input to NSIR Management: 9/2019.</p> <p>Input to NRR: 11/2019.</p>

SUBJECT: RESULTS OF THE CALENDAR YEAR 2018 REACTOR OVERSIGHT PROCESS
 SELF-ASSESSMENT FOCUSED REVIEW ON THE EMERGENCY
 PREPAREDNESS SIGNIFICANCE DETERMINATION PROCESS
 Dated: NOVEMBER XX, 2018

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**Enclosure 1
Technical Basis**

1.0 Recommended Transformative Ideas That May Require NRR and NSIR Management Prioritization and May Need Commission Approval	
Recommendations	Basis
1.A	<p>A change in paradigm may be warranted for determining the significance of EP issues. Consider that there are numerous barriers and programs that serve to prevent, or mitigate, the consequences to the public from a radiological event. In order to better risk-inform EP issues, it may be reasonable to allow for the consideration of the adequacy of the other reactor safety cornerstones during the evaluation of public risk during the exposure period where the EP issue was in effect.</p>
1.B	<p>Consider a change in paradigm that only those planning standards that have direct consequences to public health and safety should have consideration for any finding that is GTG. It may also be prudent, however, to also consider those planning standards that have direct consequences on the ability of a licensee to effectively implement the emergency plan. The following planning standards (and corresponding requirements of Appendix E to 10 CFR 50) may be the only ones that have any significance GTG:</p> <p style="padding-left: 40px;">10 CFR 50.47(b)(2): Emergency response organization staffing adequacy has a direct impact on the licensee's ability to effectively implement the emergency plan.</p> <p style="padding-left: 40px;">10 CFR 50.47(b)(4): This is a RSPS as EALs have a direct impact on public health and safety as the ECL declared have certain automatic actions that have significant public impact and thus must be accurate and timely.</p> <p style="padding-left: 40px;">10 CFR 50.47(b)(5): This is a RSPS as timely and accurate notification to the OROs have a direct impact on public health and safety.</p> <p style="padding-left: 40px;">10 CFR 50.47(b)(8): ERFs readiness and availability have a direct impact on the licensee's ability to effectively implement the emergency plan.</p> <p style="padding-left: 40px;">10 CFR 50.47(b)(9): This is a RSPS as accurate dose assessments have a direct impact on the ECL and thus on public health and safety.</p> <p style="padding-left: 40px;">10 CFR 50.47(b)(10): This is a RSPS as the ability of a licensee to provide timely and accurate PARs to OROs has a direct impact on public health and safety.</p>
1.C	<p>Similar to 4.B, a change in paradigm may be warranted to allow licensees to make changes to their emergency plans without consideration of NRC prior approval for changes that are not directly related to public health and safety or directly related to emergency plan implementation. Consider only requiring changes related to the planning standards referenced in 1.B to need to be evaluated in accordance with 10 CFR 50.54(q); all other changes related to the other planning standards can be at the discretion of the licensee but should get looked at during the EP ROP Inspection to ensure compliance with the applicable regulation.</p>

**Enclosure 1
Technical Basis**

2.0 Recommended Actions That May Require NSIR Management Prioritization and May Need Commission Involvement (MD 8.13)	
Recommendations	Basis
2.A	<p>EP is a unique program in that it encompasses aspects of all the other programs, yet is not practiced as often. Operations, maintenance, engineering, radiation protection, and security are in use 24/7; EP is only in use a few times annually unless for a real event. Performance issues for these other programs may become readily apparent as part of normal business, EP does not (typically). As a result, EP requires a certain level of expertise in order to properly discern P&IR issues. While EP is in a constant state of preparedness, performance deficiencies typically become evident during performance. Consider only performing EP P&IR as part of the EP Inspection Program to ensure that EP trained inspectors perform the P&IR inspection.</p>
2.B	<p>The PI associated with ANS is being viewed as adding limited value in measuring EP Program effectiveness. The availability of ANS has been significantly high for many years. The elimination of this PI and reliance on the EP Inspection Program to evaluate ANS performance may be reasonable. In addition, with the advent of IPAWS, this PI may not add value to the ROP.</p>
2.C	<p>NEI submitted a White Paper for the NRC to consider a certain subset of new PIs, outside of the ROP (NEI 99-02) generated PIs, to allow licensees to use a 24-month cycle for 10 CFR 50.54(t) audits. This is based, in part, upon language in the regulation footer where suggested PIs are listed. The ROP Program was developed and implemented after the regulation was established. The advent of the ROP Program developed a more risk-informed process that, in part, uses several PIs to provide for a more descriptive depiction of overall EP Program health.</p> <p>With the creation of an ROP PI to monitor ERF availability, coupled with the DEP-PI and emergency response organization (ERO) PI, the overall ROP Program, once revised, may serve to allow licensees to use a 24-month 10 CFR 50.54(t) audit cycle. However, a method of auditing ORO satisfaction with Radiological EP is difficult to track with a PI and should be addressed to allow this audit frequency.</p> <p>Consider adding guidance in the ROP Program whereby the licensee's auditing organization (typically Quality Assurance (QA)) may shadow EP evaluators in the Emergency Operations Facility (EOF) and the Joint Information Center/System (JIC/JIS) for integrated drills that exercise offsite response coordination at the Site Area Emergency (SAE) and General Emergency (GE) (with associated PARs) emergency classification levels (ECLs). Any issues discovered during this should be documented and tracked in a licensee's corrective action program and reviewed during the EP P&IR inspection. This may suffice to allow a licensee to use the 24-month audit frequency. Note that not every integrated drill should require QA auditing in the EOF and the JIC/JIS; once every calendar year may suffice.</p> <p>Note that the ROP is still a voluntary effort, therefore licensee's that do not follow the ROP program (as revised) must follow the regulation for the 12-month audit frequency.</p>

**Enclosure 1
Technical Basis**

3.0 Recommended Actions That May Require NSIR Management Prioritization and May Not Need Commission Involvement (MD 8.13)	
Recommendations	Basis
3.A	Over time the relevant procedures for the EP SDP, and ROP, including the Technical Basis have become difficult to locate and somewhat redundant. Consider consolidating these procedures and ensure that any and all ambiguity is removed, particularly those for the EP SDP.
3.B	Consider revising the guidance related to EALs, dose assessment, PARs, and radiation monitoring instrumentation to ensure that they are properly risk informed. There may be a gap in this area that can be resolved effectively by clarifying that the radiation risk to the public is the primary concern.
3.C	The ability to capture and track actual hours used for EP Inspection efforts is difficult, particularly for historical purposes. Consider working with NRR to develop/enhance our ability to obtain this information so that we can maintain an overall awareness of how the ROP Program is being implemented from a resource perspective, and so that the staff can periodically evaluate discrepancies.
3.D	Consider developing a process whereby any potential findings that GTG are discussed by all Regions and HQ prior to issuance of the finding or starting the process for SERP. This allows for a more informal discussion among EP peers. The applicable Region may remain responsible for the issue, but alignment should be the expectation.
3.E	The sorting criteria presently used in the Replacement Reactor Program System (RRPS) is not consistent and is therefore difficult to use for any consistent evaluation of the records. Consider developing a method where the Regional Inspectors can choose from a static list of sorting criteria for findings. Consider using the planning standards, 10 CFR 50.54(q), and 10 CFR 50.54(t) as this should provide a more reliable data retrieval method.
3.F	Consider revising the EP SRP to enhance guidance for the review of EP elements of a licensee's EP Program. The SRP can be significantly improved upon by enhancing the guidance for power reactor emergency plans.
3.G	Consider adding guidance to the Health Physics (HP) ROP/SDP for evaluating the licensee's Meteorology System, and Self-Contained Breathing Apparatus (SCBA)/Respiratory Protection Program, in order to preclude inspection overlaps; and consider removal from EP. This is an area where we could consider eliminating a potential area of overlap between the EP and RP Inspection Programs.
3.H	NEI submitted a White Paper to address what information, on the Notification forms used by licensees, should be tracked with the DEP PI and what issues can be tracked as part of overall drill performance. Consider providing more guidance in the guidance document, and in the SDP, to document what sort of information is applicable to the DEP-PI. In addition, provide more guidance related to risk-informing the significance determination based on the impact the issue may have on ORO protective action decision making.
3.I	Findings related to emergency plan maintenance, and implementation effectiveness, in accordance with 10 CFR 50.54(q) have historically been

**Enclosure 1
Technical Basis**

	<p>difficult to consistently evaluate significance. Sometimes the findings use traditional enforcement (TE) and sometimes the ROP. Should enhance the guidance to: (1) make it clearer when TE should be considered, (2) provide more guidance related to risk-informing the significance when using the ROP, and (3) provide significantly more guidance to help evaluating the significance of issues related to emergency plan implementation effectiveness rather than emergency plan change management. Only issues that cause the ROP program to be ineffective should be considered for TE. Any other potential issues should be evaluated in accordance with the revised EP SDP.</p>
3.J	<p>There are many examples given in the EP SDP that do not adequately risk-inform the process and thus lead to a GTG finding when the risk to the public may not warrant a GTG finding. Provide more information to properly risk-inform the process, up to and including reducing the significance of some examples. Examples of areas that should have more information provided are the Fission Barrier Matrix for EALs, dose assessments, PARs, and radiation monitoring instrumentation issues and their relationship with the Radiation Protection (RP) Inspection Program.</p>

**Enclosure 1
Technical Basis**

4.0 Actions That Have Been Immediately Pursued or Completed	
Recommendations	Basis
4.A., 4.A.1 – 4.A.5	<p>The knowledge management of this information has been based upon staff memory. In addition, no formalized process provided a reliable method for sharing this KM information with the other Regions. The creation of a dedicated email account and SharePoint resources provide useful tools for this effort.</p> <p>Developed a real-time listing of on-going EP issues provides a tool for Regional EP Inspectors, HQ staff, and applicable supervision to maintain an awareness of open issues. This listing also captures closed issues for KM purposes.</p> <p>Resource scheduling had typically been relatively cumbersome between Regions and HQ. The development of the resource calendar provides a method to better coordinate resources when needed.</p> <p>Capturing lessons-learned from EP issues discovered during the FY in the form of an OE Report will better inform EP Inspectors of issues to look for, and how they were resolved.</p>
4.B, 4.B.1	<p>The qualification of HQ staff assigned to support the EP Inspection Program will be better served by being qualified as an EP Inspector. This may allow for HQ staff to fill-in for Regional staff if needed to support licensee activities.</p> <p>There may be an opportunity to use a systematic approach to training to provide a fresh look into the training program for EP Inspectors. There are many areas where additional advanced training may be developed and made part of the formal program. These areas include, but are not limited to: EALs, dose assessment, PARs, shift staffing, radiation monitoring instrumentation, SDP, etc. Performing a systematic approach to this training development may properly evaluate the training needs, and properly document the basis.</p> <p>Pending completion of the EP Inspector Program training development project, revise the relevant qualification cards as necessary.</p>

Enclosure 2
EP Specific Items - List

Reference – Item	Wording from ROP Enhancement Project SharePoint Site
Reference 1 – Item 1B	Revise EP Inspections: Review emergency preparedness inspections to apply lessons learned from the Engineering Inspections Working Group to streamline them (following the stakeholder engagement process employed with engineering inspections); include credit for self-assessments.
Reference 1 – Item 2B.4	Revise IP 71152 to be Reactive: Change IP 71152, Problem Identification and Resolution, to an inspector follow-up or reactive procedure and remove it from the baseline inspection program. In just about every direct inspection, the focus is first on the corrective action program. Each inspector makes assessments of the ability of the plant to find and fix its problems; hence to focus a team on solely PI&R is redundant to almost every inspection. The cross-cutting program monitors for trends in PI&R shortfalls.
Reference 1 – Item 3A	<p>Revise EP SDP: Revise the EP SDP to consider the site's performance in the Cornerstones of Initiating Events, Mitigating Systems, and Barrier Integrity. If performance in all three Cornerstones is clear of open White inputs, then defense-in-depth (DID) is robust and the safety significance of the EP performance deficiency is less than would otherwise be the case.</p> <p>The EP SDP should be constructed to consider licensee performance in the ROP cornerstones associated with other elements of reactor safety Defense-in-Depth (DID). This approach would risk-inform EP SDP outcomes with contemporaneous, site-specific information relevant to the maintenance of other reactor safety DID barriers for protection of public health and safety.</p>
Reference 1 – Item 4B	Establish Means of Resolving Very Low-Risk Licensing Basis Concerns: NRC should establish a process for resolving very low-risk licensing basis concerns. Ideally, the process should be developed through a collaborative effort between an NRC Working Group and corresponding NEI task force. This effort should work with concepts introduced in SECY-18- 0060 relative to changes in the 10CFR 50.59 process. The process would be used for adjudication of 1) licensing basis challenges and 2) adding clarity to the licensing basis to exclude challenges to the licensing basis over interpretations of the licensing basis by inspectors. In this process, there should be an option for the licensee to perform a licensing basis change or clarification, rather than invest extensive resources in the contesting process, backfit process, or other regulatory issue resolution method.
Reference 3 – Item 78	Make frequency of Problem Identification & Resolution (PIR) Team Inspections performance based by using Big Data to better target inspection resources. This can be accomplished by moving PIR Team Inspections conducted under Inspection Procedure (IP) 71152 into the Reactor Oversight Process (ROP) from a biennial frequency to a "as needed/performance based." Specifically, a PIR Team Inspection would be triggered when a 1) cross cutting theme (first occurrence) is identified; or 2) a Greater-Than-Green Finding in which a PIR cross- cutting aspect is identified. Inspection historically not achieved the desired results as predicted by the ROP. Overall, results have not justified the level of effort. This has been expressed by industry and many within the NRC. Reduction in this area can be supported by the other inspections done in reviewing licensee's Corrective Action Program (CAP). Each IP in the ROP has a requirement to review CAP. IP 71152 also requires annual samples be performed (i.e. mini Team Inspection basically conducted by 1 person/sample), and semiannual trend review which involves an in-depth review typically done by residents (but can be done by regional inspectors if Team inspection frequency changes to allow for greater focus). This proposal would allow for better scheduling/planning so that the teams can get the right people for the job and not just who is available. It would also encourage the regions to work together to create diverse teams made up of inspectors from not just a single a region since inspection would be "infrequent."

Enclosure 2
EP Specific Items - List

Reference – Item	Wording from ROP Enhancement Project SharePoint Site
Reference 3 – Item 153	Review the Reactor Oversight Process (ROP) to remove white findings and make it less detailed.
Reference 3 – Item 185	<p>A large repository of knowledge exists with regard to "high risk" events and conditions in the US nuclear industry that has been untapped. From inception of the Reactor Oversight Process until 2016, there were 11,615 green findings and 343 greater-than-green findings, but for the most part we do not know what insights these findings are telling us because our inspection/assessment efforts are focused on dispositioning the individual finding/violation. Suggested Solution: A meta- analysis was performed in 2016 by risk analysts from Region 2 and the Office of Nuclear Regulatory Regulation, Division of Risk Assessment, however it was limited in scope and was focused on the Significance Determination Process (SDP) Streamlining effort. A more in-depth meta-analysis including the types of findings, with statistical analysis of trends using "big data techniques" would yield insights that could inform the direction of our inspection and assessment efforts. For example:</p> <ul style="list-style-type: none"> • The agency could significantly re-vamp the assessment of deterministic cornerstones particularly where the agency has been untimely (>300 days to process a violation) or where the finding was of 'low value' and did not have a nexus to public health/safety (e.g., unattended security containers, slightly elevated radiation levels on a shipping container, etc. resulting in 'White' violations). • Existing regulations that are not providing value to public health & safety and the environment, or where they are addressed by other regulations could be eliminated. • Decreasing trends in the industry or with individual licensees could be detected before they significantly affect public health & safety could be detected.
Reference 3 – Item 203	<p>An overall consideration of reducing or combining inspection procedures (IP). One particular area of consideration is the Radiation Protection or Health Physics (HP) inspection program. However, other similar areas of multiple IPs for a given focus area could also be adjusted, for example emergency preparedness, security, 50.59, fire protection, etc.. One example, rather than having separate eight (8) IPs in HP, we can effectively combine key focus areas of inspection into possibly only four (4) IPs. One IP focusing only during refuel outages effectively inspecting key areas of Rad Protection during refueling, outages, maintenance, Rad equipment, etc.. This would only be needed during outages which could be every 18 or 24 months based on the licensees refuel cycle. Other key focus areas as effluent, transportation, radwaste, etc., could also be combined and intervals extended. We continue to perform same inspection efforts over and over again on an annual or other periodic bases (biennial, triannual), potentially looking at the same thing, the overall program, repeatedly. If a program was evaluated for several years and it was determined to be satisfactory, why continue to do the same thing over and over again.</p>
Reference 3 – Item 231, Bullet 2	<p>Streamlined Regulatory Oversight</p> <ul style="list-style-type: none"> • Recognize sustained high regulatory performance through reduced regulatory oversight (e.g., fee reduction or inspection less than baseline). • Revamp inspection procedures to emphasize risk and less licensing/design basis approach. • Simplify the "no violation" or low risk violation report (e.g., transition to materials Form 591 inspection report formats). • Reduce columns in Reactor Oversight Process Action Matrix.
Reference 3 – Item 278	Expand credit for self-identification - incentive for stronger audit programs.
Reference 3 – Item 587	Reactor oversight process - reevaluate the performance indicators.

Enclosure 2
EP Specific Items - List

Reference – Item	Wording from ROP Enhancement Project SharePoint Site
Reference 3 – Item 596	Look at the rector oversight process (ROP) for transformation.
Reference 3 – Item 627	We have to stop spending any significant resources on items of very low significance (Green and minor issues), including minimal to no documentation, no evaluation of minor or more than minor, no cross cutting except for safety culture issues, no Green findings without violations. We spend way too many valuable resources on these items now.