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Reactor Oversight Process Enhancement Initiative

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Reactor Oversight Process Enhancement Initiative

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Submitter Information

Name: James Slider

General Comment

See attached file(s).

Attachments

10-07-19_NRC_NEI Comments on ROP Enhancement Initiative

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Submitted Electronically via www.regulations.gov

October 7, 2019

Ms. Annette L. Vietti-Cook
Office of Administration
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

ATTN: Program Management, Announcements and Editing Staff

Subject: Comments on Reactor Oversight Process Enhancement Initiative [84FR38675; August 7, 2019; Docket ID NRC-2019-0155]

Project No: 689

Dear Ms. Vietti-Cook:

The Nuclear Energy Institute¹ (NEI) is pleased to respond to the U.S. Nuclear Regulatory Commission's (NRC) request for public comment on the Reactor Oversight Process (ROP) Enhancement Initiative. The NRC's request for comment asked what areas of the ROP are or are not working well and asked how NRC can improve the ROP in areas currently being reviewed in five ROP Enhancement Phase 2 projects. NEI's response to these questions is summarized below and explained in detail in the attachment to this letter.

As noted in our September 19, 2018, letter on ROP Enhancement,² NEI believes the ROP remains sound. Nevertheless, after more than 19 years of experience with the ROP, it is time for the NRC to review and apply the lessons learned from that experience and enhance the safety focus of the ROP.

¹ The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

² NEI letter from Mr. Bill Pitesa (NEI) to Mr. Ho K. Nieh (NRC), "ROP Enhancement", September 19, 2018, ADAMS ML18262A322.

NEI has participated in 15 public meetings³ on ROP Enhancement over the past year and will participate in future public meetings concerning the five ROP Enhancement Phase 2 projects listed in the subject Federal Register Notice. These meetings have provided opportunities for the public and other external stakeholders to provide input to the NRC.

As discussed in NEI's May 20, 2019, public letter⁴ to the NRC staff, NEI disagrees with some of the staff's recommendations to the Commission as part of the Phase 1 effort. Particularly, in SECY-19-0167,⁵ the NRC staff proposed that "the staff would open a parallel inspection finding for any GTG [greater-than-green] PI [performance indicator], which would then be the Action Matrix input until the appropriate supplemental inspection is successfully completed." Currently, white PIs are closed as soon as the PI has returned to green, which reflects the fact that the performance issue that resulted in the white PI was addressed successfully. The NRC staff believes that its proposed change in practice is warranted because of a purported increasing trend in the average number of days to close out a white PI. However, the basis for this "increasing trend" is questionable, in our view. What the NRC describes as an increasing length of time to close a white PI is confounded by a greater decline in the number of white PI occurrences. Contrary to the NRC's focus on days to close the white PI, the sheer number of white PIs has fallen from 23 occurrences in the 2011–2015 interval chosen by NRC to only five occurrences in the 2016–2019 interval with which the NRC analysis ended. NEI believes this decline in occurrences demonstrates improved performance. Furthermore, five white occurrences do not provide a sufficient basis for the NRC staff to conclude that a change in the practice of closing out GTG PIs is warranted. We would encourage the NRC staff, as the ROP Enhancement effort continues, to rely more consistently on data when defining a problem statement that needs to be addressed by a change in the ROP.

NEI offered comments related to each of the Phase 2 projects in the May 20, 2019, letter. Building on the May 20 comments, the attached comments on the ROP Enhancement Initiative emphasize what NEI sees as additional concerns and opportunities for improvement in the Phase 2 areas.

NEI appreciates the NRC's willingness to consider ways to modernize the ROP and the proposals put forward so far in SECY-18-0113⁶ and SECY-19-0167. Nevertheless, NEI believes the NRC could do much more to enhance the safety focus and efficiency of the ROP. We hope that in Phase 2 the NRC staff recognizes the safety benefit of the proffered modifications and recommends more significant changes for Commission consideration.

³ September 2018–September 2019.

⁴ NEI letter from Dr. Jennifer L. Uhle (NEI) to Mr. Ho. K. Nieh (NRC), "Proposed SECY on ROP Enhancement", May 20, 2019, ADAMS ML19141A143.

⁵ SECY-19-0067, "Recommendations for Enhancing the Reactor Oversight Process", June 28, 2019, ADAMS ML19070A050.

⁶ SECY-18-0113, "Recommendations for Modifying the Reactor Oversight Process Engineering Inspections", November 13, 2018, ADAMS ML18144A567.

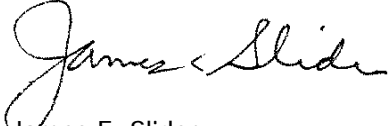
Ms. Annette Vietti-Cook

October 7, 2019

Page 3

If you have any questions, please contact me at jes@nei.org or (202) 739-8015.

Sincerely,

A handwritten signature in black ink that reads "James E. Slider". The signature is written in a cursive, flowing style.

James E. Slider

c: Mr. Christopher G. Miller
Mr. Russell Gibbs

Comments on Reactor Oversight Process Enhancement Initiative

Introduction

This attachment provides responses of the Nuclear Energy Institute⁷ (NEI) to the NRC's request for public comments on the Reactor Oversight Process (ROP) Enhancement Initiative. The NRC's request for comment, published in the Federal Register on August 7, 2019, indicated:

"The NRC is soliciting public comment on these⁸ long-term ROP enhancement efforts, the broad range of ROP topics described in SECY-19-0067, and any other areas of the ROP that the staff should consider under this initiative. Specifically, the NRC staff is seeking public comment on the following questions:

- 1. What areas of the ROP are working well?*
- 2. What areas of the ROP are not working well?*
- 3. How can the NRC improve the ROP in the following areas: the problem identification and resolution inspection program, the cross-cutting issues process, radiation protection inspections, ISFSI inspections, and the SDP?"*

Our responses to these three questions and additional comments on the ROP Enhancement Initiative are provided below.

1. What areas of the ROP are working well?

NEI Response: As noted in our September 19, 2018, letter on ROP Enhancement,⁹ NEI believes the ROP remains sound. Nevertheless, after more than 19 years of experience with the ROP, it is time for the NRC to review and apply the lessons learned from that experience and enhance the safety focus of the ROP. The ROP Enhancement project has provided the impetus for that review.

In particular, as discussed in NEI's May 20, 2019, publicly available letter¹⁰ to the NRC staff, NEI disagrees with some of the NRC staff's recommendations to the Commission as part of the Phase 1 effort. In SECY-19-0167¹¹, the NRC staff proposed that, "the staff would open a parallel inspection finding for any GTG [greater-than-green] PI [performance indicator], which would then be the Action Matrix input until the appropriate supplemental inspection is successfully completed." Currently, white PIs are closed as soon as the PI has returned to green, which reflects the fact that the performance

⁷ The Nuclear Energy Institute (NEI) is responsible for establishing unified policy on behalf of its members relating to matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include entities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect and engineering firms, fuel cycle facilities, nuclear materials licensees, and other organizations involved in the nuclear energy industry.

⁸ The long-term recommendations to which this refers were identified elsewhere in the FRN as: "The problem identification and resolution inspection program, the cross-cutting issues process, radiation protection inspection procedures, ISFSI inspections, and the SDP, particularly for the emergency preparedness cornerstone."

⁹ NEI letter from Mr. Bill Pitesa (NEI) to Mr. Ho K. Nieh (NRC), "ROP Enhancement", September 19, 2018, ADAMS ML18262A322.

¹⁰ NEI letter from Dr. Jennifer L. Uhle (NEI) to Mr. Ho. K. Nieh (NRC), "Proposed SECY on ROP Enhancement", May 20, 2019, ADAMS ML19141A143.

¹¹ SECY-19-0067, "Recommendations for Enhancing the Reactor Oversight Process", June 28, 2019, ADAMS ML19070A050.

issue that resulted in the white PI was addressed successfully. We believe that this process is logical and works well. The NRC staff believes that its proposed change in practice is warranted because of a purported increasing trend in the average number of days to close out a white PI. However, NEI believes that the reduction in the number of white PIs falling from 23 occurrences over the 2011–2015 interval to only five occurrences over the 2016–2019 interval demonstrates improved performance. Furthermore, five white PI occurrences are not a sufficient basis for the NRC staff to conclude that a change in the practice of closing out GTG PIs is warranted. We encourage the NRC staff, as the ROP Enhancement effort continues, to rely more consistently on data when defining a problem statement that needs to be addressed by changes in the ROP.

2. What areas of the ROP are not working well?

NEI Response: NEI believes the ROP should be modernized and made more safety focused and efficient. In the spirit of continuous learning and improvement, NEI's September 19, 2018, letter offered 27 recommendations to enhance key features of the ROP for that purpose.

Through the course of the past year, the NRC has considered the NEI recommendations and discussed them at 15 public meetings.¹² The staff judged some of the 27 NEI recommendations as justified and worthwhile and included them in proposed changes presented to the Commission in SECY-19-0067 for its consideration.

NEI appreciates the NRC's willingness to modernize the ROP, but believes the NRC staff has not taken full advantage of this opportunity to enhance the safety focus and efficiency of the ROP. We hope that in Phase 2 of the ROP Enhancement effort the staff more thoroughly recognizes the safety benefit of the proffered modifications and recommends more significant changes to the Commission for its consideration.

3. How can the NRC improve the ROP in the following areas: The problem identification and resolution inspection program, the cross-cutting issues process, radiation protection inspections, ISFSI inspections, and the SDP?

NEI Response: As part of ROP Enhancement Phase 2, the NRC has projects focused on the five areas of the ROP mentioned in Question 3. NEI has participated in 15 public meetings to date, and will continue to participate in public meetings concerning the NRC's plans for and progress on these projects. NEI offered comments related to each of these topics in a publicly available letter dated May 20, 2019.¹³ The remarks below emphasize what NEI sees as additional concerns and opportunities for improvement in these areas.

¹² September 2018–September, 2019.

¹³ NEI letter from Dr. Jennifer L. Uhle (NEI) to Mr. Ho. K. Nieh (NRC), "Proposed SECY on ROP Enhancement", May 20, 2019, ADAMS ML19141A143.

Ways to Improve the Problem Identification and Resolution (PI&R) Inspection Program

In August, 2019, the NRC established a team to review the PI&R inspection program.¹⁴ In remarks at recent public meetings, the NRC staff has invited industry and public comments on the PI&R review project. NEI is still developing its formal response to that invitation. NEI recognizes that an effective PI&R program is important to meeting the NRC's overall safety mission on which the ROP is based.¹⁵ Similarly, industry sees its PI&R programs as foundational to licensee performance, as well as regulatory compliance (i.e., fundamental to managing enterprise risk). For this reason, the industry strives to maintain PI&R program performance beyond that required for regulatory compliance and strives for continuous improvement in PI&R performance.

In pursuit of performance exceeding regulatory compliance, the industry voluntarily subjects its PI&R programs to scrutiny by an independent third party. Through a variety of means, this organization monitors and evaluates the effectiveness of the industry's PI&R programs and communicates the results to plant and industry leadership. This independent perspective on PI&R program performance is based on this organization's mission to promote excellence - the highest levels of safety and reliability. The current review of PI&R inspections should consider the extent to which the industry is committed to ensuring the robustness of its PI&R performance. Where there are synergies that could streamline the NRC's PI&R inspection, the NRC should leverage those that are consistent with the NRC's Principles of Good Regulation.¹⁶

Another area of the PI&R inspection program that warrants review is the NRC's inconsistent and pervasive use of the term "root cause" in regulatory documents. In IP 71152, the term "root cause" is used five times, apparently to connote the cause which, if corrected, would prevent recurrence of the performance problem.¹⁷ In IP 95001, the term "root cause" is used 63 times in a variety of ways.¹⁸ Some instances appear to mean the specific, highly structured, resource-intensive discipline (i.e., root cause analysis) applied by the licensee to solve its most significant problems. Other instances appear to mean the understanding of how to prevent a problem from recurring, no matter how rigorous or informal the process by which that understanding is achieved. The NRC's inconsistent use of the term has contributed to confusion about NRC's expectations of the licensees' application of causal analysis and its connection to the correction of significant conditions adverse to quality. In the September 25, 2019, ROP public meeting, the staff acknowledged this problem and the confusion it has sown. The staff described as enormous the challenge of going through the relevant NRC documents to correct the many disparate uses of "root cause". No matter the enormity of the challenge, we think correcting this problem is of utmost importance.

¹⁴ NRC memorandum from Christopher G. Miller to Thomas R. Hipschman, "Approval of Charter for Comprehensive Review of the Problem Identification and Resolution Inspection", August 12, 2019, ADAMS ML19212A017.

¹⁵ NRC SECY-99-007, "Recommendations for Reactor Oversight Process Improvements", January 8, 1999, ADAMS ML992740074, page 10.

¹⁶ The NRC's Principles of Good Regulation are Independence, Openness, Efficiency, Clarity, and Reliability, and discussed on the NRC web site at the following URL: <https://www.nrc.gov/about-nrc/values.html#principles>.

¹⁷ NRC Inspection Procedure IP 71152, "Problem Identification and Resolution", Issued February 26, 2015, ADAMS ML14316A042.

¹⁸ NRC Inspection Procedure IP 95001, "Supplemental Inspection Response to Action Matrix Column 2 Inputs", effective August 24, 2016, ADAMS ML15223B348.

Ways to Improve the Cross-Cutting Issues Process

What Unique Value Do CCIs Add? - An NRC effectiveness evaluation of changes made to the cross-cutting issues program in 2015 is in progress.¹⁹ The discussions with industry and information exchanged over the last few years leading up to the 2015 changes in the CCI program remain relevant to the current effectiveness evaluation project. In 2015, NEI recommended that the NRC eliminate the cross-cutting issues program, saying in part, "We see no evidence that the SCCI [Substantive Cross-Cutting Issue] process is adding unique insights about safety culture or providing unique value as a regulatory tool that justifies continuing it in its present form or in the revised form proposed by the staff."²⁰ In our view, this remains true today. We believe the CCI Effectiveness Evaluation team should challenge itself to determine the unique value CCIs contribute as a regulatory tool and to compare that value to the resources expended by NRC and the industry to carry out the CCI program.

Current Thresholds Mitigated CCI Burden - At the September 25, 2019, ROP public meeting, our feedback²¹ to the CCI Effectiveness Evaluation Team acknowledged that the 2015 program changes addressed a significant impact of the pre-2015 thresholds for declaring a SCCI. Because of the low numerical thresholds for the NRC to declare an SCCI, licensees were driven to set their internal monitoring thresholds even lower, possibly as low as two cross-cutting occurrences. This low trigger meant that licensees would expend unnecessary effort looking for connections between two occurrences that might have nothing in common rather than focus this effort on matters of greater safety significance. The change in thresholds made in 2015 allows more time for data to accumulate to a point at which it is more likely the licensee can draw meaningful insights and formulate effective corrective actions. If the CCI Effectiveness Evaluation Team recommends lowering the present thresholds, we would be very concerned that this would lead to the same unnecessarily burdensome problems experienced before 2015, diverting licensees' attention away from more safety significant matters.

Effectiveness - The present CCI Effectiveness Evaluation faces the same fundamental challenge as did the 2014 evaluation of the SCCI program.²² That challenge is answering the question: "For what use are we judging the effectiveness of this program?" To say that a tool is "effective", the evaluator must have in mind a use for that tool. For the current CCI Effectiveness Evaluation to produce meaningful results, the team must specify the purpose of CCIs that is to be the basis for measuring effectiveness. As the 2014 SCCI evaluation noted poignantly, "It is very difficult to prove that licensee corrective actions resulting from identification of an SCCI prevented more significant performance issues, especially for those licensees whose performance was steady before and after an SCCI was identified. Therefore, the staff cannot say definitively that the SCCI process is either effective or ineffective."²³ We do not see anything in the present CCI program that would invalidate the staff's previous conclusion.

¹⁹ See "Charter for Effectiveness Review of the Cross-Cutting Issues Program", Unsigned NRC document approved by C. Miller on July 9, 2019, ADAMS ML19179A105.

²⁰ Letter from James Slider (NEI) to Scott Morris (NRC), "NRC Working Group Recommendations to Revise the Substantive Cross-Cutting Issue Process", January 13, 2015, ADAMS ML15015A187.

²¹ The NEI ROP Task Force briefing is available in ADAMS under accession number ML19266A601.

²² NRC Memorandum from Daniel J. Merzke to Ho K. Nieh, "Effectiveness Review of Substantive Cross-Cutting Issues", April 23, 2014, ADAMS ML14099A171.

²³ Op. cit., page 4, item 2.

Relation to Outlier Concern - Note that in the quoted statement above, the implied purpose of an SCCI is to “prevent more significant performance issues.” This sounds like what the NRC has lately labeled their “outlier concern”, i.e., a concern about plants that NRC perceives as at risk of falling below Action Matrix Column 1 performance. As we noted in our May 20, 2019, letter,²⁴ we believe the ROP offers all the tools the NRC needs to address plants the NRC perceives to be outliers in Column 1, even without the CCI program. If the present CCI Effectiveness Evaluation concludes otherwise, the evaluation team should be expected to show there is a logical and statistically meaningful relationship between CCIs and objective measures of licensee performance. Such a showing should be considered *sine qua non* for NRC to continue using CCIs as if they are a predictive indicator of licensee performance.

Ways to Improve Radiation Protection Inspections

NEI offered its perspectives on the need for a holistic review of NRC’s radiation protection inspection programs in various public meetings over the past year.²⁵ NEI’s views on radiation protection inspections was reiterated in the May 20, 2019, letter. Although the NRC’s present review of radiation protection inspections has been labeled an ROP Enhancement Phase 2 project, the NRC staff has also described this review as merely a routine, biennial review of radiation protection inspection procedures. In contrast, NEI recommended the NRC perform a more comprehensive, holistic review of the radiation protection inspection program in light of industry’s sustained trend of extremely low occupational and public exposures, as discussed in NEI’s letters of September 19, 2018 and May 20, 2019, and a publicly available email dated September 10, 2019 (available in ADAMS under accession number ML1925E540).

Ways to Improve Independent Spent Fuel Storage Installations (ISFSI) Inspections

NEI’s recommendations for improving ISFSI inspections were discussed in the May 20, 2019, letter. In recent public meetings, the NRC staff has reported that its recommendations for improving ISFSI inspections should be released to the public in the next two months. NEI has asked for the staff’s recommendations to be shared with the public as soon as practical as we expect to provide additional comments.

Ways to Improve the Significance Determination Process

Though it is generally working well, the SDP should build on the years of experience gained through the ROP and be made more risk-informed and efficient. The assessment process, particularly the Action Matrix, can also be improved as a decision-making framework and tool for communicating with stakeholders. NEI offered recommendations to enhance both aspects in the September 19, 2018, letter and the May 20, 2019, letter.

²⁴ Letter from Jennifer Uhle (NEI) to Ho K. Nieh (NRC), “Proposed SECY on ROP Enhancement”, May 20, 2019, ADAMS ML19141A143, Attachment, page 9.

²⁵ See, for example, a December 14, 2018 public meeting to discuss radiation protection aspects of ROP Enhancement. Details available at the following URL: <https://www.nrc.gov/pmns/mtg?do=details&Code=20181275>. Industry presentation available in ADAMS at ML18352A984. See also NRC Memorandum from Micheal Smith to Kevin Hsueh, “Summary of Nuclear Regulatory Commission Public Meeting on May 30, 2019 to Discuss the Update of Inspection Procedure 71124, ‘Radiation Safety – Public and Occupational’”, ADAMS ML19161A339.

Conclusions

The ROP Enhancement project has looked for opportunities to make the ROP more efficient, more safety focused, and more effective. NEI believes the initial results of the project, i.e., the staff's recommendations in SECY-19-0067, are a good but not sufficient first step.

The NRC actively sought stakeholder input throughout the ROP Enhancement project, and NEI appreciates that SECY-19-0067 reflects some of this feedback. Nevertheless, NEI does not agree with all of the staff's recommendations, as explained in NEI's May 20, 2019, letter, and looks forward to further public discussions on the ROP Enhancement effort.