

**POLICY ISSUE**  
**NOTATION VOTE**

**RESPONSE SHEET**

**TO:** Brooke P. Clark, Secretary  
**FROM:** Commissioner Caputo  
**SUBJECT:** SECY-22-0087: Recommendation for Problem Identification and Resolution Team Inspection Frequency

Approved  X  Disapproved  X  Abstain       Not Participating      

**COMMENTS:** Below       Attached  X  None      

**Entered in STAR**

Yes      

No      

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**Signature**

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**Date**

Commissioner Caputo's comments on SECY-22-0087, "Recommendation for Problem Identification and Resolution Team Inspection Frequency"

As we strive to become a modern, risk-informed regulator, the agency will continue to be presented with a range of opportunities to change or to stay the course. One path offers innovation, the other the reassurance of the status quo. SECY 22-0087 presents an opportunity to embrace a small change to ensure regulatory activities are consistent with degree of risk reduction achieved and that, of the two effective options, we choose to minimize the use of resources.

The Nuclear Energy Institute's report, "The Nexus Between Safety and Operational Performance in the Nuclear Industry,"<sup>1</sup> describes the industry's safety improvement over the last 20 years based in part on a review of the NRC's Reactor Oversight Process' Performance indicators and the Institute of Nuclear Power Operations performance indicators. The report states that the industry's performance was at "all-time high" with improvement in every NRC and INPO performance indicator over the last 20 years. The report also states that "A broad spectrum of risk-informed approaches has been shown to improve safety and improve operational focus." This is based on a steady decrease in the industry's average core damage frequency risk driven by risk-informed initiatives, plant performance improvement, and plant enhancements.

The NRC acknowledged as much in our report for the Convention on Nuclear Safety in 2019, stating "Current agency oversight programs and licensing activities remain effective as shown by decreasing trends in the occurrence rate of all precursors and integrated Accident Sequence Precursor index."<sup>2</sup> That report also stated that "licensee risk management initiatives are effective in maintaining a flat or decreasing risk profile for the industry."<sup>3</sup> More recent data shows that these conclusions remain valid.<sup>4</sup>

These conclusions are based on analysis of the NRC's operational experience including nearly 20 years of Reactor Oversight Process (ROP) implementation. SECY-19-0067, "Recommendations for Enhancing the Reactor Oversight Process," resulted from a transformation initiative to examine that experience and identify targeted enhancements to make the ROP more risk-informed and performance-based. In SECY-19-0067, the staff analyzed the ROP and recommended to the Commission, amongst other items, the reduction in the frequency of the Problem Identification and Resolution (PI&R) team inspections. The staff at that time noted the following:

The recommended changes [including the reduction in frequency of the biennial PI&R inspection] are aligned with improving NRC performance as it pertains to the Principles of Good Regulation of efficiency and reliability, and are consistent with Commission policy in SRM-SECY-98-144, "White Paper on Risk-Informed and Performance-Based Regulation," dated March 1, 1999 (ADAMS Accession No. ML003753601), which states a performance-based regulatory approach is

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<sup>1</sup> NEI 20-04; March 2020.

<sup>2</sup> NUREG-1650, "The United States of America Eighth National Report for the Convention on Nuclear Safety," Revision 7, October 2019, p. 60.

<sup>3</sup> *Id.*

<sup>4</sup> "U.S. Nuclear Regulatory Commission Accident Sequence Precursor (ASP) Program 2021 Annual Report," June 2022, Agencywide Documents Access and Management System (ADAMS) Accession No. ML22151A163.

one that establishes performance and results as the primary basis for regulatory decision-making.<sup>5</sup>

Upon completion of a comprehensive review of the PI&R, the team conducting that review reported the following:

The team's comprehensive review of the inspection objectives and data did not produce data that supports or refutes shifting the team inspection from biennial to triennial. That is, reducing the periodicity of the team inspection increases the risk of missing a significant issue between inspections. Moreover, the team did not produce data that contradicts the conclusion made in SECY-19-0067, Recommendations for Enhancing the Reactor Oversight Process, that states, 'The staff has concluded that there are a sufficient number of touchpoints throughout the annual inspection cycle that assess the health of the licensee's CAP performance to justify changing to a triennial frequency now to reduce redundancies and improve efficiency for evaluating [corrective action programs] CAPs.'<sup>6</sup>

On August 5, 2021, the Commission approved the staff's request to withdraw SECY-19-0067 based up an assertion that "new information and additional staff activities are relevant and were not considered in developing the bases for several of the recommendations in [SECY-18-0113 and 19-0067]."<sup>7</sup>

Following the withdrawal of SECY-19-0067, the staff provided a different recommendation in SECY-22-0087, to maintain the frequency of the PI&R team inspection at biennial. This recommendation was made without a rigorous technical basis or a clear safety benefit, and despite the incremental reduction in regulatory burden offered by the alternative. The staff supports this reversed recommendation with the following observation:

Maintaining the team inspection at biennial while the staff incorporates other selected PIRWG recommended enhancements to the PI&R inspection procedure provides a prudent approach to implement those recommendations first in order to assess any impacts to the effectiveness of the PI&R inspection program before considering additional changes, such as changes to the inspection frequency.

The staff makes a valid point that delaying the reduction in PI&R team inspections could allow for a greater ability to evaluate the effectiveness improvements to that inspection program that would accrue from other changes being implemented. However, the staff has not suggested that those other changes would alter its conclusion in SECY-19-0067 that:

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<sup>5</sup> SECY-19-0067, page 15, first bullet of Pros for Option 1a, incorporated by reference at page 16, first bullet of Pros for Option 1b. The single difference between Option 1a and Option 1b was whether a comprehensive review of the PI&R inspection would be performed prior to the revision in the frequency of the team inspection from biennial to triennial.

<sup>6</sup> "Team Report of the Reactor Oversight Comprehensive Review of the Problem Identification and Resolution Inspection Program," Enclosure 1 to "Comprehensive Review of the Reactor Oversight Process Problem Identification and Resolution Inspection Program," Memo from C.G. Miller to H.K. Nieh, November 12, 2020, Agencywide Documents Access and Management System (ADAMS) Accession No. ML20247J602, p. 5.

<sup>7</sup> "Staff Requirements – SECY-18-0113 - Recommendations for Modifying the Reactor Oversight Process Engineering Inspection and SECY-19-0067 - Recommendations for Enhancing the Reactor Oversight Process," ML21217A284.

[The change in PI&R team inspection frequency to triennial] is aligned with the efficiency Principle of Good Regulation because it reduces the frequency of the inspection and still allows inspectors to make a timely assessment of the licensee's implementation of the CAP. There are the many 'touchpoints' for inspectors to evaluate the health of the licensee's CAP. For example, daily, semi-annual, and annual reviews would continue; inspectors would continue to ensure that licensees are entering issues into the CAP and that those issues are being corrected.<sup>8</sup>

The touchpoints discussed in SECY-19-0067 include regular plant tours in which inspectors "ensure that identified material condition deficiencies are captured in the licensee's PI&R program,"<sup>9</sup> the identification of cross-cutting aspects for inspection findings,<sup>10</sup> the semiannual trend review,<sup>11</sup> and the Annual inspection.<sup>12</sup> Problem identification and resolution is specifically called out in other inspection procedures.<sup>13</sup> This is not an area that will lack attention due to a change in the frequency of the team inspection to three years. It is also not surprising because of the nature of PI&R.

From a practical perspective, the PI&R team inspections do not identify problems at a licensed facility; this is clear from the inspection objectives.<sup>14</sup> Instead, they are one step removed from the problems themselves, at a minimum. In contrast, the resident inspectors' daily reviews are often in the context of issues identified within the plant. In my meetings with resident inspectors during plant visits, they routinely discuss the licensee's corrective actions in the following context: Has the issue been previously identified in the CAP? If so, what action was taken and why was that action insufficient to prevent recurrence?

In this way, the resident inspectors' daily reviews are prompt and inherently risk informed. In addition, inspectors have specific guidance that they "should consider P&IR insights when selecting baseline inspection samples and may follow-up on PI&R issues as a part of a baseline inspection procedure's PI&R review."<sup>15</sup> Inspectors can follow up "to ensure that corrective actions commensurate with the significance of the issues have been identified and implemented by the licensee"<sup>16</sup> (emphasis added). Procedures direct resident inspectors to spend 10-15% of their time on baseline inspections accomplishing PI&R reviews.<sup>17</sup>

In addition to the daily reviews, there are also semi-annual reviews of CAP aspects such as issue tracking databases, licensee audits, and self-assessments to look for trends that "might

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<sup>8</sup> SECY-19-0067, p. 16.

<sup>9</sup> Inspection Manual Chapter 2515, Appendix D, "Plant Status," Section 06.04, "Plant Tours," November 7, 2022, ML22251A314. This Inspection Manual guidance was removed from Inspection Procedure 71152 and placed in this appendix as a daily review of PI&R items as a result of the comprehensive review of the PI&R program on December 14, 2021.

<sup>10</sup> Inspection Manual Chapter 0612, "Issue Screening," Appendix B, "Issue Screening Directions," August 8, 2022, ML22019A175, citing the listing of aspects in Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas," February 25, 2019, ML19011A360.

<sup>11</sup> Inspection Procedure (IP) 71152, "Problem Identification and Resolution," December 14, 2021, ML21281A181, Section 03.02, "Semiannual Trend Review."

<sup>12</sup> *Id.*, Section 03.03, "Annual Follow-up of Selected Issues."

<sup>13</sup> See, e.g., IP 71111, Attachment 12, "Maintenance Effectiveness," March 31, 2021, ML21040A148.

<sup>14</sup> IP 71152, Section 71152-01, "Inspection Objectives."

<sup>15</sup> *Id.*, Section 03.01, "Baseline PI&R Review."

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*, Sample Requirements Table on page 1.

indicate the existence of a more significant safety issue<sup>18</sup> (emphasis added). These reviews include repetitive or closely related issues identified outside of the CAP, including repetitive maintenance lists, self-assessments, or corrective action backlogs.

Annually, inspectors perform “an in-depth review of selected issues to ensure that the licensee has planned and/or implemented corrective actions commensurate with the significance of the identified issues”<sup>19</sup> (emphasis added). Those selected issues should be “representative of multiple cornerstones of safety” and may include a “follow-up on emerging or existing cross-cutting themes to develop insights into the licensee’s progress.”<sup>20</sup>

For the team inspection, the procedure begins by directing inspectors to “use risk insights to select issues that have been processed through the licensee’s PI&R program since the last ... team inspection”<sup>21</sup> (emphasis added). Given that the daily, semiannual, and annual inspections also use risk insights to focus on safety significant issues, the team inspection, by definition, would result in reviewing prior reviews of the licensee’s review of issues via its corrective action program and self-assessments among other tools. However, the team inspection must include some issues with a scope expanded to at least five years. This longer-term review scope is a beneficial differentiator of the team inspection from the other PI&R inspections.

The importance of a longer-term review scope was highlighted in the staff’s Davis-Besse Reactor Vessel Head Degradation Lessons-Learned Task Force Report (Davis-Besse Report).<sup>22</sup> The Davis-Besse Report included two pertinent recommendations. The first of these was that the staff “should revise the overall PI&R inspection approach such that issues similar to those experienced at [Davis-Besse] are reviewed and assessed. The NRC should enhance the guidance for these inspections to prescribe the format of information that is screened when determining which specific problems will be reviewed.”<sup>23</sup> The second recommendation was that the staff “should revise its inspection guidance to provide for the longer-term follow-up of issues that have not progressed to a finding.”<sup>24</sup> These recommendations were acted upon by the staff updating the Inspection Manual to provide more guidance on routine reviews while expanding the scope of review of selected items in the team inspection to at least five years. It is clear that the staff has long known that the breadth of inspection of a licensee’s CAP is best accomplished on a continuous basis, as is done now, but the scope of inspection of its health has to cover a longer span of time – at least five years. A triennial team inspection would provide an appropriate framework for the team inspections because it reduces the overlap of the five-year issue reviews.

Because the staff has analyzed both the biennial and triennial team inspection frequency and found that either would provide sufficient oversight of licensee performance in the area of problem inspection and resolution, our Principle of Good Regulation of Efficiency dictates that the option which minimizes the use of resources should be adopted. Additionally, the staff found

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<sup>18</sup> *Id.*, Section 03.02, “Semiannual Trend Review.” Note that these items were added to the scope of the semiannual trend review in the December 14, 2021, revision of IP 71152; they were formerly inspected during the team inspections as hinted at in the limitation of the performance attribute in Section 02.02.k to team inspections only.

<sup>19</sup> *Id.*, Section 03.03, “Annual Follow-up of Selected Issues.”

<sup>20</sup> *Id.*

<sup>21</sup> *Id.*, Section 03.04.

<sup>22</sup> “Degradation of the Davis-Besse Nuclear Power Station Reactor Pressure Vessel Head Lessons-Learned Report,” September 30, 2002, ML022760172.

<sup>23</sup> *Id.*, p. 75.

<sup>24</sup> *Id.*

in its Be riskSMART<sup>25</sup> assessment that the likelihood of the primary consequence of concern, an impact on timeliness of identifying poor PI&R performance by a licensee with a three-year team inspection frequency, is low.

I agree with Commissioner Wright that changing the team inspection frequency to triennial is consistent with the Principle of Good Regulation on Efficiency. His discussion of the history of the PI&R team inspection highlights the tension between the frequent touches a licensee's CAP receives under the ROP and the team inspection. The change in frequency from annual to biennial in the early days of the ROP was driven by the experience of the staff accomplishing the team inspections. The insight they provided was that it would take 2 or 3 years to have sufficient data to measure a licensee's corrective action effectiveness and doing so would be an efficient use of resources.

PI&R daily, semi-annual, and annual inspections are each risk-informed, focusing on safety significant issues. Prior to when the Team inspection is conducted, NRC inspectors have already reviewed the licensee's review of issues multiple times on a daily, semiannual, and annual basis. While the staff states that the Team inspection is "a holistic assessment of the effectiveness of the licensee's PI&R program," the reality is that the components of the team inspection have been reviewed within other PI&R or baseline inspections. Changing the team inspection frequency to triennial would recognize the value of these other PI&R inspections and improve the focus of the team inspection on examining long-term trends, i.e., five years as recommended by the Davis Besse Lessons Learned Task Force. It would also recognize the fact that the majority of PI&R findings come from the other PI&R inspections and align the team inspection level of effort with the overall trends of decreased PI&R findings.

Since there was no rigorous technical basis provided for reversing the staff's original recommendation in SECY-19-0067, I conclude that a triennial PI&R team inspection remains justified, would be as effective as a biennial inspection, and would reduce the regulatory burden in alignment with our principles. I therefore approve changing the frequency of the PI&R team inspection to triennial.

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<sup>25</sup> NUREG/KM-0016, "Be riskSMART: Guidance for Integrating Risk Insights into NRC Decisions," March 2021, ML21071A238.