ROP Enhancement: In Scope Staff Recommendations

SDP Infrastructure

Recommendations	Description	Status
336	Eliminate the use of the post-Performance Deficiency (PD) reevaluation risk assessment to save both licensee and NRC resources, and drive quicker decisions and provide a better assessment of actual licensee performance. Or, at a minimum, use an average of pre-PD risk and post-PD risk to determine significance; however this does not produce nearly as much resource savings for the licensees or agency.	Closed – No Action
840	Eliminate the Use of SPAR Models - The NRC should rely on more realistic licensee models to determine the significance of any deficiencies. The Standardized Plant Analysis Risk (SPAR) models should be phased out. Instead, assumptions associated with the representation of a performance deficiency should be determined and discussed with the licensee prior to conducting the analysis.	Closed – No Action
619	Yellow risk would get more significant Detailed Risk Evaluation and actions on the action matrix.	Closed – No Action
621	Use deterministic or simpler significance determination process models for those items that are initially scoped to be less than yellow risk.	Closed – No Action

Assessment

Recommendation	Description	Status
278	Expand credit for self-identification - incentive for stronger audit programs.	Closed - Credit Other Activities
430	Apply risk insights to determine if low-significance findings would result in meaningful improvements to safety. The Significance Determination Process determines safety significance of more serious findings. A similar approach could be used to determine if correction of a finding that screens to a low significance (green) would have an appreciable impact improving safety. If not, the finding would not be required to	Closed - Credit Other Activities

	be issued or would be an alternate path to be considered "minor".	
618	Do more to emphasize the low to moderate risk of white findings and have less hours spent on this range of risk. Limit any detailed risk evaluation for events where scoping review shows risk will be less than SE- 6. Do not accept additional input on risk significance for those items scoping runs show to be less than 5 E -6 after 120 days from initial finding (emphasizes best available information).	Closed - Credit Other Activities
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.	Closed - Credit Other Activities
153	Review the Reactor Oversight Process (ROP) to remove white findings and make it less detailed.	Closed – No Action
231	Streamlined Regulatory Oversight A. Recognize sustained high regulatory performance through reduced regulatory oversight (e.g., fee reduction or inspection less than baseline). B. Revamp inspection procedures to emphasize risk and less licensing/design basis approach. C. Simplify the "no violation" or low risk violation report (e.g., transition to materials Form 591 inspection report formats). D. Reduce columns in Reactor Oversight Process Action Matrix.	Closed – No Action
250	The Reactor Oversight Process (ROP) was designed to be a performance based and risk- informed process - incorporating both qualitative and quantitative inputs for a more integrated and robust regulatory outcome. However, the Significance Determination Process (SDP) for the Initiating Events, Mitigating Systems and Barrier Integrity cornerstones uses numerical thresholds with little to no	Closed – No Action

	consideration for other qualitative information pertinent to the performance deficiency. Therefore, the SDP needs a transformation to move the pendulum away from risk- based to risk-informed solutions factoring in performance attributes (e.g., is the problem corrected, was the problem licensee identified, were there multiple opportunities to identify the problem, etc.), as is appropriate.	
337	Change the categorization to only escalated (Greater than GREEN) and non-escalated (GREEN or minor), this will eliminate a significant amount of resources spent by both the licensees and the agency on determining various levels that do not directly add value to our mission. Moreover, since the GREEN and minor violations have no impact on action matrix, combine them. Further consideration could be giving to possibly re-establish the Greater to GREEN threshold to a slightly high Significance Determination Process value.	Closed – No Action
339	Only consider Performance Deficiencies (PD) that occurred in the last three years for input to the action matrix. This will focus our resources on current licensees' performance. Older PDs still need to be corrected by the licensees as required by Appendix B, and our follow up could be similar to the current Notice of Violation process, i.e., the licensees' provide a written response with NRC in-office reviews. Also, licensee-identified violations and findings that are Greater than GREEN, are also not subject to action matrix input and follow the established Notice of Violation approach. Both of these changes should be great incentives to the licensees. As additional incentive for the licensees to proactively identify issues, add a weighting factor to the risk assessment for all NRC-identified findings that do not screen to GREEN, in other words, those findings that require a detailed risk assessment. Because, if the NRC identified the PD, the licensee	Closed – No Action

	could have identified it, and therefore the licensee's failure to identify the PD is indications of poor licensee's performance.	
340	Revise the action matrix to eliminate the cornerstone concept and have the columns escalated based solely on the number of findings regardless of the cornerstone. Specifically: Column 1 zero escalated finding/performance indicators (PIs); Column 2 one escalated finding/PIs - Inspection Procedure (IP) 95001; Column 3 two escalated findings/PIs - IP 95002; Column 4 three escalated findings/PIs- IP 95003; and Column 5 four or more escalated findings/PIs Manual Chapter 0350.	Closed – No Action
839	Eliminate White Findings - Findings should be focused on risk significant issues. For example, the white ROP threshold should be eliminated so that only green, yellow and red findings are issued. This will eliminate a very large amount of low-value work by the NRC and the licensees in evaluating low-risk white issues. A common unintended consequence of a white finding is the significant expenditure of NRC and industry resources that do not result in a corresponding safety benefit.	Closed – No Action
842	I suggest modifying the Significance Determination Process so that Green and White are combined into Green. The color scheme would then be Green, Yellow and Red. For the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones, Green would then be anything below a delta Core Damage Frequency (GDF) of 1E-5 or delta Large Early Release Frequency of 1E-6. RG 1.174 could support this change given that a delta GDF below 1E-5 is generally considered to be low risk.	Closed – No Action

ROP Inspection

Recommendation	Description	Status

203	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.	Open – Accepted
266	For Existing Facilities, consider regulation changes to use risk management, safety system performance, and licensee safety culture to establish baseline inspection activity level. In this way licensees will be rewarded for taking actions that reduce risk, improve safety system performance and establish a positive safety culture. For example, using accident tolerant fuel, digital I&C and big data could significantly reduce risk and improve safety system performance. Likewise a positive safety culture significantly reduces human performance errors that lead to events.	Open – Accepted
428	Reduce large team inspections by targeting areas based on plant risk and	Open – Accepted

	performance. A) Current process consists of numerous inspections covering broad areas and programs. (e.g., Design Basis Assurance, Fire Protection, Heat Sink, etc.) This approach utilizes a large number of inspector hours and even larger site resources. Findings from these inspections are largely due to documentation or analytical gaps that rarely impact or improve safety. B) Reduce inspections by focusing on risk significant areas and areas where plant performance warrants increased oversight. Plant-specific Probabilistic Risk Assessments could be used to select systems for inspections. Long-term scheduling could use tiered approach, covering higher risk systems first. NRC Performance Indicators for system availability/reliability could be utilized to determine additional focus areas.	
622	Acknowledging improvements in safety and risk, lower required inspection resources to complete Reactor Oversight Process inspections annually to include resident inspectors.	Open – Accepted
624	Reduce requirement of Resident Inspector coverage at each site (currently staffed with no more than 3 day gap).	Open – Accepted
583	Reactor Oversight Process- reduce the frequency for some inspections and increase the flexibility to adjust inspection frequencies.	Open – Accepted

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 NR C. 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 semi annual 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."	Open – Partially Accepted
231	Streamlined Regulatory Oversight A. Recognize sustained high regulatory performance through reduced regulatory	Open – Partially Accepted

	oversight (e.g., fee reduction or inspection less than baseline). B. Revamp inspection procedures to emphasize risk and less licensing/design basis approach. C. Simplify the "no violation" or low risk violation report (e.g., transition to materials Form 591 inspection report formats). D. Reduce columns in Reactor Oversight Process Action Matrix.	
617	Create more incentive to fix existing issues. Less emphasis on inspection of white issues: perhaps a 12 hour 95001 inspection.	Open – Partially Accepted
186	The design basis of nuclear plants is largely static and does not change over time. Over the history of the reactor oversight process, design basis inspections (e.g., Design Bases Assurance Inspection (DBAI) and formerly Component Design Basis Inspection (CDBI)) rarely generate any inspection findings which are greater-than-green. Stop inspecting the design basis of the nuclear plants. The engineering inspections are high impact to our licensees and provide low value. Some of the extra resources that are freed up by the reallocation could be placed on inspections of 10 CFR 50.59 where licensees are changing the design basis, and further risk-information could be brought to bear on selecting worthwhile samples.	Closed - Credit Other Activities
613	We are looking at all engineering inspection procedures, carry this effort on to look at operations, maintenance, security, etc.	Closed - Credit Other Activities
143	For the Reactor Oversight Process, stop documenting any findings or violations below the white threshold, with very few exceptions that may be determined upon further study (e.g., willful, impeding the regulatory process, or ones where licensees disagree and will not place in the Corrective Action Program). The idea would be to rely on existing corrective actions programs to address such low safety significant issues in the same manner that we rely on the	Closed – No Action

	programs to address minor issues; i.e., as long as licensees agree with the issues, they would enter them into their corrective action programs for prioritization and correction.	
197	Eliminate discussion of green findings in inspection reports; particularly if the finding does not carry with it a cross-cutting aspect or include a violation of regulatory requirements. This would save significant time and resources in documenting issues that are of only very low safety significance.	Closed – No Action

MSPI

Recommendation	Description	Status
171	Enhance the Reactor Oversight Program (ROP) to establish performance indicator(s) where the licensee's probabilistic risk assessment risk metrics are monitored to identify trends for determining oversight that is efficient and effective for risk-informed operations.	Accept and credit other recommendations
587	Reactor oversight process - reevaluate the performance indicators.	Accept and credit other recommendations