

## Cross-cutting Issue Review Effort

This review group included representatives from each of the regions, the Office of Enforcement, and the Office of Nuclear Reactor Regulation. The review evaluated implementation practices across the four NRC regions with regard to the assignment of cross-cutting aspects to inspection findings, evaluation of cross-cutting aspects in the assessment process, and the identification of substantive cross-cutting issues (SCCIs). The review group performed peer observations of regional inspection debriefs and regional mid-cycle assessments, performed a sample review of inspection reports, solicited feedback from the industry, and assessed historical inspection finding data.

The review determined that the regions are implementing the program in accordance with guidance in Inspection Manual Chapters (IMCs) 0612 and 0305. The review group identified that during the early stages of implementation there were some issues associated with clearly documenting cross-cutting aspects, however, there are indications showing improvement in this area. In addition, recent data is revealing that the differences between the regions on the number of findings with cross-cutting aspects are narrowing which is indicative of improved consistency among the regions. While there were some differences noted in how the regions prepared for and conducted the assessments, the differences were not significant and had no impact on the overall process.

While the results of this effort concluded that the regions are appropriately following the guidance in IMCs 0612 and 0305 and there were no significant issues identified, there were some recommendations to be considered to further enhance the program.

## **Cross-cutting Issue Review Recommendations and Lessons Learned**

Recommendations and lessons learned	Appropriate IMC	Status
CI-1. The regions should be encouraged to consider conducting inspection debriefs which involve both reactor divisions with attendance including staff as well as management.	N/A	Several regions have or are considering expanding their inspection debriefs.
CI-2. Revise IMC 0612 to provide additional guidance and examples for assigning and documenting cross-cutting aspects.	IMC0612	In-progress
CI-3. NRR should continue their process of providing periodic refresher training to staff on IMC 0612 and 0305 as changes are made.	IMC040	No changes needed.
CI-4. Clarify that a cross-cutting theme needs to involve	IMC0305	In-progress

four or more inspection findings with the same cross-cutting aspect (should not look for sub-cross-cutting aspects)		
CI-5. Identified redundancy in the first two criteria for a substantive cross-cutting issue in the problem identification and resolution and human performance cross-cutting areas.	IMC0305	In-progress

Palo Verde NRC Lessons Learned

One of the major ROP safety culture enhancements was an extensive modification to Inspection Procedure 95003. The staff added guidance to the inspection procedure to describe how the NRC will evaluate a licensee's third-party safety culture assessment and how the NRC will perform its own independent assessment of the licensee's safety culture. The NRC issued the revised inspection procedure in October 2006, and it was used for the first time at the Palo Verde site in 2007. As part of the inspection procedure implementation, lessons-learned were identified. The staff is considering changes to the inspection procedure to redefine the primary focus of the NRC safety culture assessment to be determining the adequacy of the licensee's third-party safety culture assessment methodology and implementation. If the staff's review of the licensee's third-party assessment methodology is determined to be adequate, NRC safety culture assessment resources can be better targeted to focus on areas of identified weaknesses.

## Palo Verde Lessons Learned Recommendations

Recommendation	Appropriate IMC	Status
<p>PV-1. Consideration should be given to considering all 13 safety culture components during implementation of the baseline program. Additional criteria should be established for when to consider a cross-cutting theme for the safety culture components of accountability, continuous learning environment, organizational change management, and safety policies.</p>	<p>IMC 0305</p>	<p>In progress, working to incorporate the other safety culture components as cross-cutting components.</p>
<p>PV-2. Consider revising IMCs 0305 and 0612 to allow inspectors to assign multiple cross-cutting aspects for each safety culture related cause associated with a performance deficiency. If the result is an increase in the number of cross-cutting aspects, then MC 0305 should be revised to raise the criteria to satisfy the requirements for a substantive cross-cutting issue. In addition, for sites with multiple units, consideration should be given to raising the criteria to satisfy the requirements for a substantive cross-cutting issue.</p>	<p>IMC 0612 IMC 0305</p>	<p><u>Not</u> adopting this recommendation, Reinforcing existing flexibility to only assign multiple cross-cutting aspects for unusual or complex issues.</p>
<p>PV-3. Cross-cutting safety culture issues challenge the ability of the NRC to reach accurate risk informed decisions and provide an appropriate level of regulatory oversight. Consideration should be given to evaluating and developing more assertive NRC actions (such as a direct input to the ROP action matrix) for repetitive or certain types of multiple substantive cross-cutting issues.</p>	<p>IMC 0305</p>	<p>In-progress, working to slightly modify NRC regulatory responses to a repetitive substantive cross-cutting issue. No changes proposed to the ROP Action Matrix inputs.</p>
<p>PV-4. Consideration should be given to providing additional guidance in IMC 0609 on the acceptable methods to be used to assess the additional risk impact of findings with underlying causes that are associated with the safety culture components.</p>	<p>IMC 0609 IMC 0305 IP95003</p>	<p>In-progress, working on amplifying the guidance.</p>
<p>PV-5. Consideration should be given to adding specific guidance in IP 95003 that describes the acceptable method to be used to perform the cumulative risk assessment.</p>	<p>IP 95003</p>	<p>In-progress working on amplifying the guidance.</p>
<p>PV-6. Consideration should be given to revising IP 95003 to include an allowance to validate the results of the licensee's root cause investigation in lieu of the NRC performing a separate root cause investigation. The NRC's completion of this activity should only occur if the licensee's investigation is determined to be incomplete.</p>	<p>IP 95003</p>	<p>In-progress.</p>

PV-7. Consideration should be given to describing root cause analysis tools other than MORT that could be used to complete the collective review of the root causes. Additionally, it may be necessary to add a root cause specialist to the team to complete the review.	IP 95003	In-progress.
PV-8. The NRC should consider partnering with industry in an effort to develop a standardized safety culture assessment process and tools, including a survey.	IMC 0305 IP95003	Considering this item.
PV-9. Until an industry/NRC accepted standard is developed, the NRC should perform an independent detailed analysis of the survey tool and analytical techniques when evaluating a licensee's safety culture assessment.	IP 95003	In-progress, intend to retain elements to validate licensee safety culture assessment methods.
PV-10. Consider revising IP 95003 to provide the flexibility to initiate a variety of inspection responses consistent with the performance deficiencies at a particular facility. This should include an evaluation of the existing IP 95003 boundary conditions.	IP 95003	In-progress, working to provide flexibility for site situations.
PV-11. Consider revising IP 95003 to include an assessment of outage activities.	IP 95003	In progress, plan to amplify outage coverage and sensitivity of the outage inspection burden on licensee.
PV-12. Consider revising IP 95003 to treat the activity as a fact finding to understand the depth and breadth of performance concerns. This includes the potential for greater use of unresolved items.	IP 95003	In-progress, working to amend inspection approach.
PV-13. Consideration should be given to establishing and assessing precursors as part of the baseline inspection program. These precursors should be assessed as part of the IMC 0305 assessment process.	IMC 0305	In-progress, looking at correlation of safety culture components with qualitative precursors.
PV-14. Consideration should be given to developing innovative methods to assess the effectiveness of inspection program implementation.	IMC 0307	Under consideration.
PV-15. Consideration should be given to permanently changing the resident inspector staffing requirements at three unit sites to ensure an appropriate level of oversight is maintained. (For a 3 Unit Site: 1 - Senior Resident Inspector, 3 - Resident Inspectors)	IMC 0102	Under consideration.

PV-16. Consideration should be given to providing additional guidance to supervisory and management personnel for the conduct of management site visits at facilities where only a few findings have been identified.	IMC 0102	Under consideration.
PV-17. Consideration should be given to adding one FTE per region to focus on initial and continuing training needs of the inspection staff.	IMC 0102	Under consideration.
PV-18. Consider revising IP 95003 to require implementation of the EP attachment and having an EP inspector from another regional office perform the attachment.	IP 95003	Under consideration.
PV-19. Consideration should be given to evaluating the implementation of the EP baseline inspection program.	IP 95003	Under consideration.
<p>PV-20. IP 95003 boundary conditions (1, 3, and 5) should be reevaluated. For condition 1 consider adding flexibility to allow the NRC to oversee independent inspections performed by a third-party. Review consistency with having an independent third-party assess the licensee's safety culture.</p> <p>For condition 3 consider a revision to increase the flexibility of the procedure by allowing the use of unresolved items and a separate follow-up inspection to resolve the technical concerns (defer significance determination process evaluation).</p> <p>For condition 5 consider a revision to increase the flexibility of the procedure by considering the implementation of portions of the inspection procedure before the licensee has completed their third party safety culture assessment and root cause evaluation in order to promptly assess the depth and breadth of potential problem areas. Additionally, consider a revision to allow for periodic NRC assessments during the performance of the licensee's root cause analysis and third-party safety culture assessment.</p>	IP 95003	In-progress.

<p>PV-21. IP 95003-02, Inspection Requirements, indicates that if the IP 95001 and IP 95002 supplemental inspections have not been performed, then the IP 95003 should include an assessment of the licensee's evaluation of those issues. A revision should be made to note that the licensee's evaluation of the IP 95001 and 95002 issues may not be complete at the time of the IP 95003 inspection. If so, the review of these issues should be included in the Confirmatory Action Letter.</p>	<p>IP 95003</p>	<p>In-progress.</p>
<p>PV-22. Almost all of the inspection requirements in IP 95003 are performed as part of the baseline inspection program. However, IP 95003 indicates that a duplication of inspection efforts should not occur. A revision should be made to delete a statement in IP 95003 to prevent duplication of other inspection efforts.</p>	<p>IP 95003</p>	<p>In-progress.</p>
<p>PV-23. To more efficiently integrate safety culture and inspection results, it may be more appropriate to embed some safety culture components in the key attributes. The additional safety culture component assessments should focus on those areas where implementation of the inspection program yields limited results. For example, most problem identification and resolution aspects can be evaluated using traditional inspection program techniques. Therefore, limited safety culture assessment interviews and focus groups are needed to assess this area.</p>	<p>IP 95003</p>	<p>In-progress.</p>
<p>PV-24. The requirements and guidance in section 02.07 for conducting the safety culture portion of IP 95003 should be re-evaluated. If the NRC determines that the licensee's third-party assessment was appropriate, then there should be no need to conduct an independent assessment of all 13 safety culture components. The NRC's assessment should determine which, if any, of the 13 components have not been adequately addressed by the third-party assessment and which, if any, of the components are not likely to be addressed by the IP 95003 key attributes. The NRC should then implement safety culture assessment activities to address the remaining components that are expected to have insufficient data to meet the objectives.</p>	<p>IP 95003</p>	<p>In-progress.</p>

<p>PV-25. Re-evaluate sections 02.07 and 02.08 to only include the specific inspection requirements. All other items should be moved to the guidance section.</p>	<p>IP 95003</p>	<p>In-progress.</p>
<p>PV-26. Section 95003-03 for just-in-time training should be better designed to meet the needs of the inspection teams. The training should include, in part, performance issues at the facility, root cause refresher training, administrative issues, and the conduct of the inspection.</p>	<p>IP 95003</p>	<p>In-progress.</p>
<p>PV-27. Regarding team staffing, a qualification program for safety culture assessors should be institutionalized in a manual chapter. Each region should be expected to maintain a cadre of Level 2 safety culture assessors that are capable of implementing most of the IP 95003 inspection requirements. Validation of third-party safety culture assessment tools and methods requires an additional skill set, and can be performed by headquarters personnel or contractors. These skills may not be needed in every case if the NRC and industry develop and implement a standardized safety culture assessment tool and process.</p>	<p>IMC TBD</p>	<p>Under consideration.</p>
<p>PV-28. At a minimum, a senior reactor analyst should be required to participate in the final onsite inspection week in order to collect all of the data needed to perform a collective risk assessment of the performance deficiencies and assist in collecting the data necessary to evaluate potentially significant inspection findings. The most desirable option would be to have a senior reactor analyst lead one of the sub-groups and perform the analyst functions as a collateral responsibility.</p>	<p>IP 95003</p>	<p>Under consideration.</p>