

Review of Inspection Data in PIM
(4/9/07)

1. Performed a review of PIM data for approximately 230 ROP findings issued between July 1, 2006 and the end of January 2007. Did not include security findings.
2. Still seeing just about 2/3 of the findings have cross-cutting aspects. Number of findings with a Human Performance cross-cutting aspect has increased slightly to about 40%; and the number with PI&R cross-cutting aspect has dropped to slightly above 20% (SCWE is 0%).
3. Bar chart depicts the number of findings and their associated cross-cutting aspect. Handout of IMC-0305 excerpt shows cross-cutting aspect numbers in blue (redline is new cross-cutting aspect designation in IMC-0305 for clarity of communication and PIM entry).
4. The cross-cutting aspect for failure to follow procedures (11) had the highest number of findings. The licensee (and the inspector) should be asking one more question as part of their apparent/root cause analysis - Why wasn't the procedure followed?
5. The cross-cutting aspects fell into three groupings. The three cross-cutting aspects associated with the highest number of inspection findings are:
 - aspect 11: licensee communicates expectations about procedural compliance and personnel follow procedures
 - aspect 15: Licensee thoroughly evaluates problems
 - aspect 6: Complete and up to date documentation

The next highest grouping of three cross-cutting aspects:

- aspect 13: Licensee has a low threshold for identifying problems
- aspect 10: Licensee communicates human error prevention techniques
- aspect 16: licensee takes appropriate corrective action in a timely manner

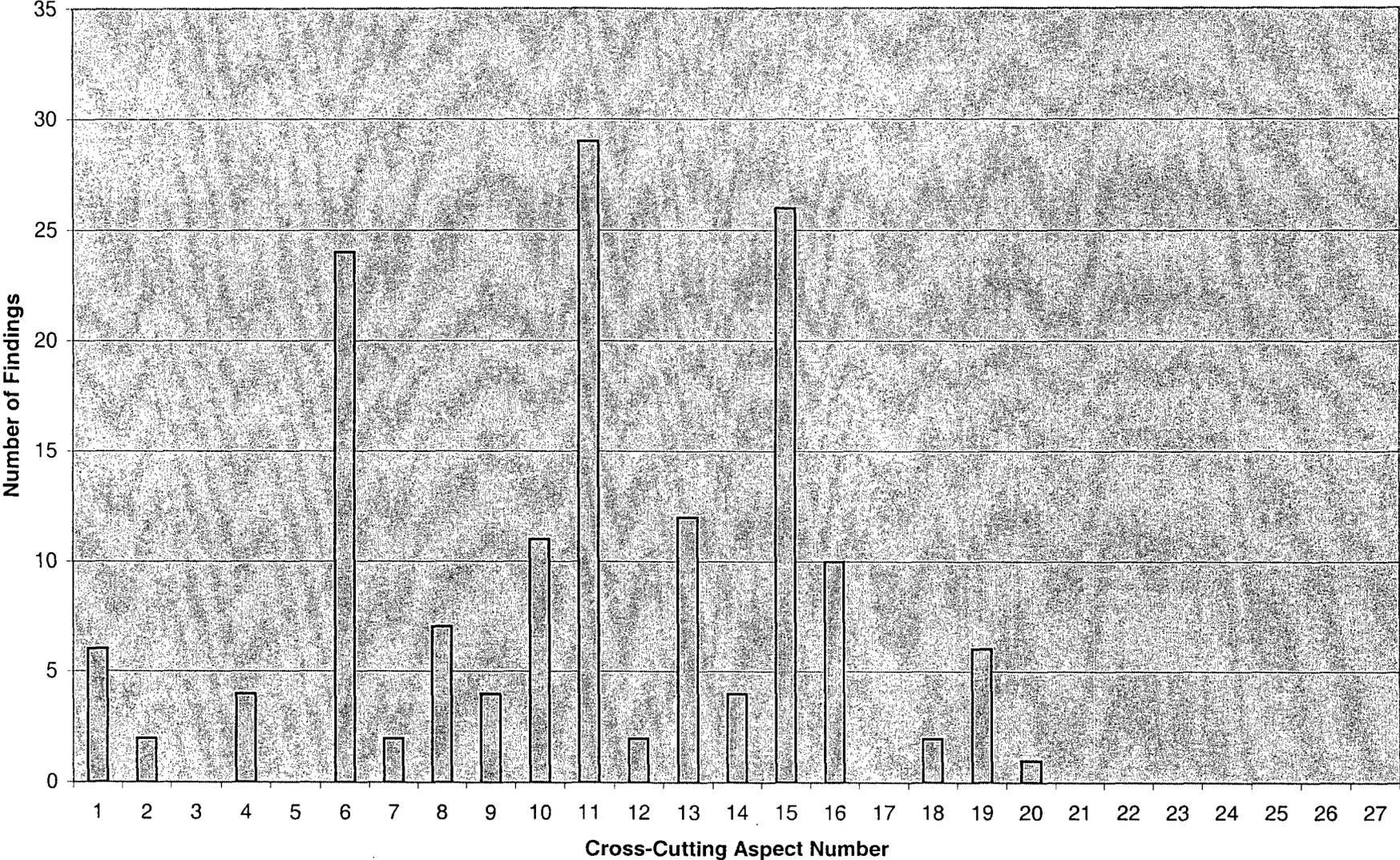
There were no findings with SCWE cross-cutting aspects.

6. There is a perception that licensees become more engaged/concerned on cross-cutting aspects as the number of cross-cutting aspects increases.
7. As a reminder, if no there is no mention of cross-cutting aspects at the exit meeting by the inspector, licensees should always inquire whether there is a cross-cutting aspect associated with the inspection finding and if so what it is.

Safety Culture
End of Implementation Process Elements
(4/9/07)

1. Plan to perform a sample audit review of inspection report characterization of cross-cutting aspects to validate that the most appropriate cross-cutting aspect was characterized.
2. Continue to use the NRC Safety Culture Focus Team to address issues on an ad-hoc basis.
3. Will gain internal input via assessment of internal ROP Feedback Form recommendations and will issue ROP self-assessment external survey with safety culture related questions to compare with FY 06.
4. Continue ROP monthly meetings.
5. Will perform intensive lessons learned following implementation of IP 95003 at Palo Verde.
6. Will review lessons learned from 71152 and other supplemental inspection procedures.
7. Will capture insights from RIV cross-cutting aspect/issue study.
8. Will take another snap-shot of PIM cross-cutting data later in the year and assess.
9. Lessons learned to be included in the 2007 ROP self-assessment Commission paper.

Distribution of Cross-Cutting Aspects for All Findings



c. Components Within the Cross-Cutting Areas

The cross-cutting area components (i.e., the components of safety culture directly related to one of the cross-cutting areas) are described in this section. Descriptions of these components provide cross-cutting aspects that should be used in the evaluation conducted to identify cross-cutting themes. [C4]

Human Performance (H)

1. Decision-Making. - Licensee decisions demonstrate that nuclear safety is an overriding priority. Specifically (as applicable):
 - a. The licensee makes safety-significant or risk-significant decisions using a systematic process, especially when faced with uncertain or unexpected plant conditions, to ensure safety is maintained. This includes formally defining the authority and roles for decisions affecting nuclear safety, communicating these roles to applicable personnel, and implementing these roles and authorities as designed and obtaining interdisciplinary input and reviews on safety-significant or risk-significant decisions. H.1(a)/1
 - b. The licensee uses conservative assumptions in decision making and adopts a requirement to demonstrate that the proposed action is safe in order to proceed rather than a requirement to demonstrate that it is unsafe in order to disapprove the action. The licensee conducts effectiveness reviews of safety-significant decisions to verify the validity of the underlying assumptions, identify possible unintended consequences, and determine how to improve future decisions. H.1(b)/2
 - c. The licensee communicates decisions and the basis for decisions to personnel who have a need to know the information in order to perform work safely, in a timely manner. H.1(c)/3
2. Resources - The licensee ensures that personnel, equipment, procedures, and other resources are available and adequate to assure nuclear safety. Specifically, those necessary for:
 - a. Maintaining long term plant safety by maintenance of design margins, minimization of long-standing equipment issues, minimizing preventative maintenance deferrals, and ensuring maintenance and engineering backlogs which are low enough to support safety. H.2(a)/4
 - b. Training of personnel and sufficient qualified personnel to maintain work hours within working hours guidelines. H.2(b)/5

- c. Complete, accurate and up-to-date design documentation, procedures, and work packages, and correct labeling of components. H.2(c)/6
 - d. Adequate and available facilities and equipment, including physical improvements, simulator fidelity and emergency facilities and equipment. H.2(d)/7
3. Work Control - The licensee plans and coordinates work activities, consistent with nuclear safety. Specifically (as applicable):
 - a. The licensee appropriately plans work activities by incorporating H.3(a)/8:
 - risk insights;
 - job site conditions, including environmental conditions which may impact human performance; plant structures, systems, and components; human-system interface; or radiological safety; and
 - the need for planned contingencies, compensatory actions, and abort criteria.
 - b. The licensee appropriately coordinates work activities by incorporating actions to address H.3(b)/9 :
 - the impact of changes to the work scope or activity on the plant and human performance.
 - the impact of the work on different job activities, and the need for work groups to maintain interfaces with offsite organizations, and communicate, coordinate, and cooperate with each other during activities in which interdepartmental coordination is necessary to assure plant and human performance.
 - the need to keep personnel apprised of work status, the operational impact of work activities, and plant conditions that may affect work activities.
 - the licensee plans work activities to support long-term equipment reliability by limiting temporary modifications, operator work-arounds, safety systems unavailability, and reliance on manual actions. Maintenance scheduling is more preventive than reactive.
4. Work Practices - Personnel work practices support human performance. Specifically (as applicable):
 - a. The licensee communicates human error prevention techniques, such as holding pre-job briefings, self and peer checking, and proper documentation of activities. These techniques are used commensurate with the risk of the assigned task, such that work activities are performed safely. Personnel are fit for duty. In addition, personnel do

not proceed in the face of uncertainty or unexpected circumstances.
H.4(a)/10

- b. The licensee defines and effectively communicates expectations regarding procedural compliance and personnel follow procedures.
H.4(b)/11
- c. The licensee ensures supervisory and management oversight of work activities, including contractors, such that nuclear safety is supported.
H.4(c)/12

Problem Identification and Resolution (P)

1. Corrective Action Program - The licensee ensures that issues potentially impacting nuclear safety are promptly identified, fully evaluated, and that actions are taken to address safety issues in a timely manner, commensurate with their significance. Specifically (as applicable):
 - a. The licensee implements a corrective action program with a low threshold for identifying issues. The licensee identifies such issues completely, accurately, and in a timely manner commensurate with their safety significance. P.1(a)/13
 - b. The licensee periodically trends and assesses information from the CAP and other assessments in the aggregate to identify programmatic and common cause problems. The licensee communicates the results of the trending to applicable personnel. P.1(b)/14
 - c. The licensee thoroughly evaluates problems such that the resolutions address causes and extent of conditions, as necessary. This includes properly classifying, prioritizing, and evaluating for operability and reportability conditions adverse to quality. This also includes, for significant problems, conducting effectiveness reviews of corrective actions to ensure that the problems are resolved. P.1(c)/15
 - d. The licensee takes appropriate corrective actions to address safety issues and adverse trends in a timely manner, commensurate with their safety significance and complexity. P.1(d)/16
 - e. If an alternative process (i.e., a process for raising concerns that is an alternate to the licensee's corrective action program or line management) for raising safety concerns exists, then it results in appropriate and timely resolutions of identified problems. P.1(e)/17
2. Operating experience - The licensee uses operating experience (OE) information, including vendor recommendations and internally generated

lessons learned, to support plant safety. Specifically (as applicable):

- a. The licensee systematically collects, evaluates, and communicates to affected internal stakeholders in a timely manner relevant internal and external OE. P.2(a)/18
 - b. The licensee implements and institutionalizes OE through changes to station processes, procedures, equipment, and training programs. P.2(b)/19
3. Self- and Independent Assessments - The licensee conducts self- and independent assessments of their activities and practices, as appropriate, to assess performance and identify areas for improvement. Specifically (as applicable):
- a. The licensee conducts self-assessments at an appropriate frequency; such assessments are of sufficient depth, are comprehensive, are appropriately objective, and are self-critical. The licensee periodically assesses the effectiveness of oversight groups and programs such as CAP, and policies. P.3(a)/20
 - b. The licensee tracks and trends safety indicators which provide an accurate representation of performance. P.3(b)/21
 - c. The licensee coordinates and communicates results from assessments to affected personnel, and takes corrective actions to address issues commensurate with their significance. P.3(c)/22

Safety Conscious Work Environment (S)

1. Environment For Raising Concerns - An environment exists in which employees feel free to raise concerns both to their management and/or the NRC without fear of retaliation and employees are encouraged to raise such concerns. Specifically (as applicable):
 - a. Behaviors and interactions encourage free flow of information related to raising nuclear safety issues, differing professional opinions, and identifying issues in the CAP and through self assessments. Such behaviors include supervisors responding to employee safety concerns in an open, honest, and non-defensive manner and providing complete, accurate, and forthright information to oversight, audit, and regulatory organizations. Past behaviors, actions, or interactions that may reasonably discourage the raising of such issues are actively mitigated. As a result, personnel freely and openly communicate in a clear manner conditions or behaviors, such as fitness for duty issues, that

may impact safety, and personnel raise nuclear safety issues without fear of retaliation. S.1(a)/23

- b. If alternative processes (i.e., a process for raising concerns or resolving differing professional opinions that are alternates to the licensee's corrective action program or line management) for raising safety concerns or resolving differing professional opinions exists, then they are communicated, accessible, have an option to raise issues in confidence, and are independent, in the sense that the program does not report to line management (i.e., those who would in the normal course of activities be responsible for addressing the issue raised). S.1(b)/24

2. Preventing, Detecting, and Mitigating Perceptions of Retaliation - A policy for prohibiting harassment and retaliation for raising nuclear safety concerns exists and is consistently enforced in that:

- a. All personnel are effectively trained that harassment and retaliation for raising safety concerns is a violation of law and policy and will not be tolerated. S.2(a)/25
- b. Claims of discrimination are investigated consistent with the content of the regulations regarding employee protection and any necessary corrective actions are taken in a timely manner, including actions to mitigate any potential chilling effect on others due to the personnel action under investigation. S.2(b)/26
- c. The potential chilling effects of disciplinary actions and other potentially adverse personnel actions (e.g., reductions, outsourcing, and reorganizations) are considered and compensatory actions are taken when appropriate. S.2(c)/27

FAQ Log 04/07

TempNo.	PI	Topic	Status	Plant/ Co.
69.1	MS06	EDG Testing	03/21 Introduced and discussed 04/11 On hold pending update.	D.C. Cook
69.2	MSPI	Fuel Oil Line Leak	03/21 Introduced and discussed 04/11	Kewaunee

FAQ 69.2

Kewaunee Power Station FAQ

Plant: Kewaunee Power Station
Date of Event: August 17, 2006
Submittal Date: March 7, 2007
Licensee Contact: Paul Miller Tel/email: 920-388-8350/paul.c.miller@dom.com
NRC Contact: S. C. Burton Tel: 920-388-3156

Performance Indicator: MSPI

Site-Specific FAQ (Appendix D)? No
FAQ requested to become effective when approved.

Question Section

NEI 99-02 Guidance needing interpretation (include page and line citation):

Clarification of the guidance related to whether “time of discovery” is when the licensee first becomes aware that the component cannot perform its monitored function or is when the licensee completes a cause determination and concludes the component would not have performed its monitored function at some earlier time, similar to the situation described in the event section below.

Lines 19-20 on page F-5 of section F 1.2.1 in discussion about train unavailable hours. “Fault exposure hours are not included; unavailable hours are counted only for the time required to recover the train’s monitored functions.”

Lines 18-19 on page F-22 of section F 2.2.2. “Unplanned unavailability would accrue in all instances from the time of discovery or annunciation consistent with the definition in section F 1.2.1.”

Lines 34-40 on page F-5 of section F 1.2.1. “*Unplanned unavailable hours:* These hours include elapsed time between the discovery and the restoration to service of an equipment failure or human error (such as a misalignment) that makes the train unavailable. Unavailable hours to correct discovered conditions that render a monitored component incapable of performing its monitored function are counted as unplanned unavailable hours. An example of this is a condition discovered by an operator on rounds, such as an obvious oil leak, that resulted in the equipment being non-functional even though no demand or failure actually occurred.”

Event or circumstances requiring guidance interpretation:

On June 28, 2006 a small leak (one drop per minute) was identified in a diesel generator fuel oil system. A work request was written on that day to repair the leak, but no operability determination or repair was performed. On July 20, the diesel was successfully run for 2.6 hours with the leak still present. On August 17, the diesel was run for 0.35 hours, at which time it was identified that the leak became more significant. The diesel was shut down 1 hour after being started. At this time the diesel was declared

FAQ 69.2

inoperable. The diesel was considered operable up until the time the leak became more significant on August 17. The fuel line was repaired and the diesel was returned to service August 18.

A diesel failure was assigned in the MSPI data for 3Q06 and unplanned unavailability hours were assigned for the August 17-18, 2006, time needed to restore the diesel to service.

If licensee and NRC resident/region do not agree on the facts and circumstances explain

The Kewaunee Senior Resident Inspector believes the "time of discovery" should start when the original small leak on the fuel oil line was discovered on June 28, 2006. This was based on the fact that the station did not perform an operability determination (OD) when this leak was found and that a reasonable conclusion of a proper OD at that time would have been that the EDG would not have been able to complete its monitored safety function, and, therefore, the unplanned unavailable hours should start in June.

Potentially relevant existing FAQ numbers

None

Response Section

Proposed Resolution of FAQ

Kewaunee Power Station believes that in MSPI, unavailable hours are counted only for the time required to recover the train's monitored functions, and, therefore, the "time of discovery" for the purposes of assigning unplanned unavailable hours starts from the time the diesel was declared inoperable on August 17, 2006, and that the guidance adequately states this. Unavailability, prior to the determination that the failure affected the ability of the diesel to perform its monitored function, is actually fault exposure, which is not included in the MSPI unavailability calculation. Since performance deficiencies were noted for this event, the Significance Determination Process (SDP) was used to characterize the risk of the event and this process evaluated the fault exposure period to determine that risk.

The example given on Page F-5, lines 38-40 (*An example of this is a condition discovered by an operator on rounds, such as an obvious oil leak, that resulted in the equipment being non-functional even though no demand or failure actually occurred*) would imply that the discovery of the oil leak in June should be the starting point for unavailability. However, the determination that the degraded condition affected the ability of the diesel to perform its monitored function was not made until some time after the failure in August. As a result, the tubing degradation, evidenced by the oil leak in June, was not known to have resulted in the diesel being non-functional.

If appropriate, provide proposed rewording of guidance for inclusion in next revision.

N/A

REACTOR OVERSIGHT PROCESS
ROP Working Group Action List – Status April 2007

Action Item	Description	Task	Responsible Org/Individual	Target Date
06-01	<u>Unavailability</u>			
	<u>Issue:</u> The issue of planned vs. unplanned unavailability continues to result in confusion and continuous discussion.	Industry to develop and present for NRC discussion proposed recommendations to fix unavailability indicator	NEI ROPTF	May 2007
	<u>Status:</u> 10/24/06: Draft white paper. 12/06 Draft white paper reviewed and discussed. Glenn to give industry to Roy to expand and Roy to finalize paper. 1/06 Date does not support proposed change. Roy work with Glen and Jerry and will gather data and explore using a constant baseline for unavailability 2/07: Need to understand NRC concern and gather appropriate data. 3/07: Review Industry Self-assessment and determine how to proceed.			
06-02	<u>Actual ESF Demands</u>			
	<u>Issue:</u> Actual ESF Demands are an insignificant contributor to the overall MSPI indicator. Furthermore, there is indication of confusion among those reporting the data as to what is an Actual ESF Demand versus Operational/Test demands or invalid demands.	Industry to develop and present for NRC discussion	NEI ROPTF	Apr 2007
	<u>Status:</u> 10/06: White paper to be developed by January. 1/06: Ken will get data from Glen and revise. Consider impact on Id. Address that it would be okay to allow it on a system by system basis rather than making it an "all or nothing" requirement. 2/07 Delete based on attached white paper. 03/07 NRC to review white paper and discuss review. 4/07: Ken to add what would change in the guidance. Final Attached			
06-04	<u>Complicated Scrams Indicator</u>			
	<u>Issue:</u> Determine repeatability of answers given LER and any associated information	Obtain tabletop results and develop action plan as needed.	NEI ROPTF	July 2007
	<u>Status:</u> 10/24/2006: Lenny Sueper and Bill Mookhoek to select LERs for study. Mark Tonacci to select LERs too. 12/06 Waiting tabletop responses. Provide results to TF and NRC upon receiving responses. Develop action plan if responses not acceptable. 1/07: Reviewing results and developing action plan. 1/06: Determine if changes needed to the guidance as a result of the tabletop and develop/revise implementation schedule. Develop plan to communicate change to industry. 02/07: Plan attached. Continue implementation according to plan. Add in CDE changes to plan by Mar. Lenny to prepare			

Action Item	Description	Task	Responsible Org/Individual	Target Date
	webcast material. Webcast on track. Draft guidance sent, small changes no later than 4/25. Notice will be in April Newsletter and APC letter will be issued in May.			
06-05	RCS Leakage			
	Issue: BWR & PWR Owners Groups to develop standard methodology for measuring leak rate.	BWR & PWR Owners Groups to develop standard methodology for measuring leak rate.	NEI/NRC ROPTF	Apr 2007
	<u>Status:</u> 10/16/06 Determine status. Meet with Mark Tonacci. Determine charter and redirect task team. 12/06: Mark to determine if owners group methodology is adaptable to PI's. 1/06: Julie to establish working group of 2-3 industry people and Mark to do the same for NRC. 02/07: Draft Charter discussion. 03/07: Send out charter to members and hold phone call prior to Mar ROP meeting. 04/07: Phone call held, follow-up notes and conference call to finalize how to proceed with data collected sent.			
06-12	EDG White Paper Issue: PWR Owners Group Request	Revisit EDG max mission time to use a weighted avg. time.	NEI ROPTF	May 2007
	Status: Involve Don Dube and Jerry Sowers at the appropriate time.			
07-03	SSFF definitions Issue: Potential discrepancy in NEI guidance (2 places) and NUREG definitions		NEI ROPTF	Apr 2007
	Status: 03/07: Review definitions and determine if discrepancy exists. Final conclusion attached in white paper.			

A summary of proposed changes to IMC 0609 is provided below:

- Revision to criteria under which an appeal will be considered. These changes include allowance of new information that is deemed relevant to the inspection finding and SDP determination and instances where an insufficient basis has been provided on SDP decisions.
- A 30 day window for appeal is retained but an allowance for consideration of appeal beyond 30 days for extraordinary circumstances, as determined by the RA, is provided
- Require that at two cornerstone specialists have independence from prior involvement in appeal issue.
- Allow appeal panel to seek/utilize additional information that they determine is needed.
- Provide additional time for appeal decision (30 days vs. 15 days)

ATTACHMENT 0609.02

PROCESS FOR APPEALING NRC CHARACTERIZATION OF INSPECTION FINDINGS (SDP APPEAL PROCESS)

1. Purpose

To define the process by which a licensee may appeal the staff's final significance determination of an inspection finding documented in an NRC inspection report or final significance determination letter.

2. Prerequisites

It is assumed that the staff has completed its final significance determination, "colored" the finding, and documented this in an inspection report, including the SDP basis for significance. The basis should allow a knowledgeable reader to reconstruct the logic that resulted in the staff's significance determination. The SDP process provides an opportunity for a licensee to meet with regional management at a Regulatory Conference to discuss their alternative perspectives prior to the staff's final determination of significance. In cases where licensee presented alternative perspectives, the staff should have documented its justification for not accepting the licensee perspectives. Further, each issue for which the staff's significance determination is "White, Yellow, or Red" will have been reviewed by the NRC Significance and Enforcement Review Panel (SERP) process in accordance with Attachment 1 of this Inspection Manual Chapter.

3. Limitations

Licensee appeals to reduce the significance of an inspection finding will be considered as having sufficient merit for review by this appeal process only if the licensee's contention falls into one or more of the following categories:

- a. Actual (verifiable) plant hardware, procedures, or equipment configurations were not considered by the staff.
- b. The staff's significance determination process was inconsistent with the applicable SDP guidance or lacked sufficient justification.
- c. An insufficient basis is provided to allow a knowledgeable reader to construct the logic that resulted in the staff's significance determination or insufficient justification is provided for rejection of alternative perspectives provided by the licensee.
- d. New information is provided that is deemed relevant to the inspection finding and SDP determination.

Issues involving the staff's choice of probabilistic risk modeling assumptions used by the SDP will not be considered appealable under this process, provided the staff documented its justification. The review of any licensee appeal will be limited to the issues discussed in

the docketed inspection report, the licensee's letter of appeal or other docketed correspondence, ~~such as the licensee's response to a choice letter.~~

~~New information provided in a licensee's request that was not previously docketed will not be considered by this appeal process.~~ Once the NRC issues a final significance letter, the decision is final unless an appeal is otherwise granted.

4. Inspection Report Cover Letter

The following statement will be added to each inspection report cover letter or other official correspondence that transmits an inspection finding of White, Yellow, or Red significance:

"You have calendar 30 days from the date of this letter to appeal the staff's determination of significance for the identified [white/yellow/red] finding[s]. Such appeals will be considered to have merit only if they meet the criteria given in NRC Inspection Manual Chapter 0609, Attachment 2."

5. Appeal Process

- a. The licensee should submit its ~~points of contention~~ letter of appeal in writing to the Regional Administrator (RA) within calendar 30 days of the date of the transmittal letter. Letters of appeal submitted after this calendar 30 days will not be considered for review absent extraordinary circumstances, as determined by the RA.
- b. The RA should determine whether the appeal meets the above merit guidelines. If it does not, the RA should respond in writing indicating that the appeal request does not meet the merit guidelines and why. Otherwise the RA will proceed as below.
- c. If the appeal is to be reviewed further, the RA will appoint a panel consisting of, at a minimum, two specialists in the cornerstone being discussed and an enforcement specialist. The RA may also request representation by the Office of General Counsel. The cornerstone specialists for initiating events, mitigation systems, and barriers will be two persons with risk analysis experience (one from the RA's ~~a~~ regional office and one from headquarters). Other persons with related technical expertise may also be appointed from any regional or headquarters office. The ~~At least one~~ cornerstone specialist ~~panel member~~ should ~~will not~~ have had prior involvement with the significance determination under appeal. The principal purpose of the panel is to arrive at a consensus regarding the validity of the licensee's appeal.
- d. The panel will review the inspection finding, its significance characterization and basis, and the licensee's points of contention. The panel will conduct its review based only on docketed information either provided by the licensee, issued by the staff, or otherwise publicly available. The panel may, at its discretion, request or receive, and review additional information. The panel may recommend one of the following:

1. No further action and the significance determination is unchanged, or
2. more detailed justification of the basis for the significance determination, or
3. change the significance determination (either increase or decrease).

The panel may also recommend changes to the SDP, regardless of whether such changes would affect the outcome of the appeal under review.

- e. The panel will report its recommendations and justification to the RA, and will obtain the concurrences by the Deputy Division Director, Division of Inspection and Regional Support, responsible for the reactor oversight process, NRR, and the affected technical spokesperson including: 1) Deputy Division Director, Division of Risk Assessment, (for fire protection, reactor safety, containment, shutdown risk, steam generator, maintenance), or 2) Deputy Director, Office of Nuclear Security and Incident Response (for physical security and emergency planning), or 43) Deputy Division Director, Division of Inspection and Regional Support, (for ALARA, occupational radiation).

The Director of NRR will resolve any disagreements, if necessary. The RA will notify the licensee in writing of the final agency position within 45-30 calendar business days from the date of receipt of the letter of appeal. ~~written licensee submittal.~~

- f. There are no further appeal avenues, other than directly to the NRC Executive Director for Operations using procedures established by that Office.

END

Actual ESF Demands

NEI 99-02 requires plants to report actual ESF demands (NEI 99-02, F-19, line 22) and run hours (NEI 99-02, F-20, line 10). The number of actual ESF demands is insignificant compared to the total number of demands over the reporting period.

The guidance is inconsistent in the area of demands. For example, Appendix F, page 19, line 20 of NEI 99-02, says if a monitored component fails a post maintenance test, and the failure was unrelated to the maintenance that was performed, the failure must be counted, but the demand "may" be counted. This is also true on page F-22, lines 2, 4, 8, and 12. Since all demands roll up into one number, it is illogical to say that, in some cases demands have to be reported, and in other cases, they "may" be reported. It is to the plant's advantage to report additional demands and run hours so they should be allowed, but not required, to report actual ESF demands and run hours.

If a plant is reporting estimated demands, they only have to change that estimate if it changes for the whole group of components in a system by more than 25% over three years.. The current guidance requires a single change in the demands for a single monitored component to be reported. This should be insignificant when rolled up into total demands in CDE.

NEI 99-02 Appendix F, page 19 beginning at line 21 says:

The number of demands is:

- 22 · the number of actual ESF demands plus
- 23 · the number of estimated test demands plus
- 24 · the number of estimated operational/alignment demands.

Recommend that line 22 be footnoted to say:

22 · the number of actual ESF demands¹ plus

Similarly, Appendix F, page 20, line 10 would be footnoted as well:

10 · the number of actual ESF run hours¹, plus

This makes it easier for licensees as well as inspectors in that plants who commit to reporting actual demands/run hours are required to report all actual demands/run hours. Plants that choose to report estimated demands/run hours are only required to report estimated demands/run hours, but may report actual ESF demands/run hours, if they so desire.

The decision to report actual or estimates must be contained in the licensee's basis document for each MSPI system. It is permissible for some systems to report actual demands/run hours and some to report estimates, but the methodology must be documented in the basis document.

¹Only required for plants that have documented in their basis document that they will report actual demands/run hours. Plants reporting estimated demands/run hours are not required to but may report actual ESF demands/run hours.

SSFF White Paper

10 CFR 50.73 (a) (2) (v) requires that any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:

- (A) Shut down the reactor and maintain it in a safe shutdown condition;
- (B) Remove residual heat;
- (C) Control the release of radioactive material; or
- (D) Mitigate the consequences of an accident.

10 CFR 50.73 (a) (2) (vi) provides the clarification that the events covered in paragraph (a)(2)(v) of this section may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, it does not expand the scope of 10 CFR 50.73 (a) (2) (v), it only clarifies that the cause of the event is more than actual equipment failure, i.e., it is possible that there is no actual problem with the equipment, but due to a procedural error, for example, the equipment was in a condition that could have prevented the fulfillment of its safety function.

NUREG-1022 clearly carries over this guidance, stating an LER is required for an event or condition that could have prevented the fulfillment of the safety function of structures and systems defined in the rules. These criteria cover an event or condition where structures, components, or trains of a safety system could have failed to perform their intended function because of: one or more personnel errors, including procedure violations; equipment failures; inadequate maintenance; or design, analysis, fabrication, equipment qualification, construction, or procedural deficiencies. In addition, under the heading "3.2.7 Event or Condition That Could Have Prevented Fulfillment of a Safety Function", both 10 CFR 50.73 (a) (2) (v) and 10 CFR 50.73 (a) (2) (vi) are quoted.

Although NEI 99-02 does not specifically reference 10 CFR 50.73 (a) (2) (vi), it also carries over the guidance found in both 10 CFR 50.73 (a) (2) (v) and 10 CFR 50.73 (a) (2) (vi), stating on Page 21, that:

Safety System Function Failure (SSFF) is any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:

- (A) Shut down the reactor and maintain it in a safe shutdown condition;
- (B) Remove residual heat;
- (C) Control the release of radioactive material; or
- (D) Mitigate the consequences of an accident.

The indicator includes a wide variety of events or conditions, ranging from actual failures on demand to potential failures attributable to various

causes, including environmental qualification, seismic qualification, human error, design or installation errors, etc. Many SSFFs do not involve actual failures of equipment.

NEI 99-02 also states that (page 22) guidance contained in the latest revision to NUREG-1022, "Event Reporting Guidelines, 10CFR 50.72 and 50.73," that is applicable to reporting under 10 CFR 50.73(a)(2)(v), should be used to assess reportability for this performance indicator. As discussed above, the reporting guidance in 10 CFR 50.73 (a) (2) (vi) that clarifies the reporting guidance in 10 CFR 50.73 (a) (2) (v) is clearly referenced in NUREG-1022.

Based on the above, we do not believe that the guidance in NEI 99-02 misleads licensees into believing that 10 CFR 50.73 (a) (2) (vi) does not need to be considered when determining if an SSFF has occurred.

10 CFR 50.72 (b) (3) (v) Any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to:

- (A) Shut down the reactor and maintain it in a safe shutdown condition;
- (B) Remove residual heat;
- (C) Control the release of radioactive material; or
- (D) Mitigate the consequences of an accident.

10 CFR 50.73 (a) (2) (v) Any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:

- (A) Shut down the reactor and maintain it in a safe shutdown condition;
- (B) Remove residual heat;
- (C) Control the release of radioactive material; or
- (D) Mitigate the consequences of an accident.

10 CFR 50.73 (a) (2) (vi) Events covered in paragraph (a)(2)(v) of this section may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant to paragraph (a)(2)(v) of this section if redundant equipment in the same system was operable and available to perform the required safety function.

NUREG 1022

3.2.7 Event or Condition That Could Have Prevented Fulfillment of a Safety Function

<p>§ 50.72(b)(3)(v)</p> <p>"Any event or condition that alone <u>at the time of discovery</u> could have prevented the fulfillment of the safety function of structures</p>	<p>§ 50.73(a)(2)(v)</p> <p>"Any event or condition that alone could have prevented the fulfillment of the safety function of structures or systems that are</p>
<p>or systems that are needed to:</p> <p>(A) Shut down the reactor and maintain it in a safe shutdown condition;</p> <p>(B) Remove residual heat;</p> <p>(C) Control the release of radioactive material; or</p> <p>(D) Mitigate the consequences of an accident."</p> <p style="text-align: center;">§ 50.72(b)(3)(vi)</p> <p><u>"Events covered in paragraph (b)(3)(v) of this section may include one or more procedural errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant to paragraph (b)(3)(v) of this section if redundant equipment in the same system was operable and available to perform the required safety function."</u></p>	<p>needed to:</p> <p>(A) Shut down the reactor and maintain it in a safe shutdown condition;</p> <p>(B) Remove residual heat;</p> <p>(C) Control the release of radioactive material; or</p> <p>(D) Mitigate the consequences of an accident."</p> <p style="text-align: center;">§ 50.73(a)(2)(vi)</p> <p>"Events covered in paragraph (a)(2)(v) of this section may include one or more procedural personnel errors, equipment failures, and/or discovery of design, analysis, fabrication, construction, and/or procedural inadequacies. However, individual component failures need not be reported pursuant to paragraph (a)(2)(v) of this section if redundant equipment in the same system was operable and available to perform the required safety function."</p>

An LER is required for an event or condition that could have prevented the fulfillment of the safety function of structures and systems defined in the rules.

These criteria cover an event or condition where structures, components, or trains of a safety system could have failed to perform their intended function because of: one or more personnel errors, including procedure violations; equipment failures; inadequate maintenance; or design, analysis, fabrication, equipment qualification, construction, or procedural deficiencies.

This indicator monitors events or conditions that prevented, or could have prevented, the fulfillment of the safety function of structures or systems that are needed to:

- (a) Shut down the reactor and maintain it in a safe shutdown condition;
- (b) Remove residual heat;
- (c) Control the release of radioactive material; or
- (d) Mitigate the consequences of an accident.

Safety System Function Failure (SSFF) is any event or condition that could have prevented the fulfillment of the safety function of structures or systems that are needed to:

- (A) Shut down the reactor and maintain it in a safe shutdown condition;
- (B) Remove residual heat;
- (C) Control the release of radioactive material; or
- (D) Mitigate the consequences of an accident.

The indicator includes a wide variety of events or conditions, ranging from actual failures on demand to potential failures attributable to various causes, including environmental qualification, seismic qualification, human error, design or installation errors, etc. Many SSFFs do not involve actual failures of equipment.

Because the contribution to risk of the structures and systems included in the SSFF varies considerably, and because potential as well as actual failures are included, it is not possible to assign a risk-significance to this indicator. It is intended to be used as a possible precursor to more important equipment problems, until an indicator of safety system performance more directly related to risk can be developed.

The definition of SSFFs is identical to the wording of the current revision to 10 CFR 50.73(a)(2)(v). Because of overlap among various reporting requirements in 10 CFR 50.73, some events or conditions that result in safety system functional failures may be properly reported in accordance with other paragraphs of 10 CFR 50.73, particularly paragraphs (a)(2)(i), (a)(2)(ii), and (a)(2)(vii). An event or condition that meets the requirements for reporting under another paragraph of 10 CFR 50.73 should be evaluated to determine if it also prevented the fulfillment

of a safety function. Should this be the case, the requirements of paragraph (a)(2)(v) are also met and the event or condition should be included in the quarterly performance indicator report as an SSFF. The level of judgment for reporting an event or condition under paragraph (a)(2)(v) as an SSFF is a reasonable expectation of preventing the fulfillment of a safety function.

In the past, LERs may not have explicitly identified whether an event or condition was reportable under 10 CFR 50.73(a)(2)(v) (i.e., all pertinent boxes may not have been checked). It is important to ensure that the applicability of 10 CFR 50.73(a)(2)(v) has been explicitly considered for each LER considered for this performance indicator.

NUREG-1022: Unless otherwise specified in this guideline, guidance contained in the latest revision to NUREG-1022, "Event Reporting Guidelines, 10CFR 50.72 and 50.73," that is applicable to reporting under 10 CFR 50.73(a)(2)(v), should be used to assess reportability for this performance indicator.

significance determination process characterizes as having low to moderate, or greater safety significance (White, Yellow or Red finding); or any order based upon a violation.

Finding (FIN): A NRC-identified or self-revealing issue of concern that is associated with a licensee performance deficiency. Findings may or may not be associated with a regulatory requirements and, therefore, may or may not result in a violation. Licensee-identified findings of very low safety significance (Green) that are not violations of regulatory requirements are not documented in inspection reports.

Green Finding: A finding of very low safety significance.

Independent Item: An item used to track information that does not originate in or is typically not documented as a finding in an inspection report but may be referenced in an inspection report to assess plant performance such as an Office of Investigation harassment and intimidation case.

Integrated Inspection Reports: A reactor inspection report that combines inputs from several inspections (resident, regional, etc.) conducted within a specified period.

Issue: A well-defined observation or collection of observations that is of concern and may or may not result in a finding.

Licensee-Identified: For the purpose of this inspection manual chapter (IMC), "licensee-identified" findings are those findings that are not NRC-identified or self-revealing. Most, but not all, licensee-identified findings are discovered through a licensee program or process. Some examples of licensee programs that likely result in such findings are post maintenance testing, surveillance testing, ASME Section XI testing, drills, critiques, event assessments, evaluations, or audits conducted by or for the licensee. Other examples of licensee-identified findings are those findings that are identified by the licensee as a result of their deliberate and focused observation during the course of performing their normal duties (e.g., plant operator or other licensee personnel identifying a packing leak on a valve or identifying a valve out-of-position during a routine tour of the facility would be considered licensee-identified, although the individual's duties at the time may not have been to identify these types of deficiencies).

Minor Violation/Finding: A violation or finding that is less significant than a Severity Level IV violation or less significant than what the SDP characterizes as Green and is of such low significance that documentation in an NRC inspection report is not normally warranted. Although minor violations must be corrected, they are not usually described in inspection reports (see exception in section 05.03.d).

Non-Cited Violation (NCV): A method for dispositioning a Severity Level IV violation or a violation associated with a finding that is characterized as Green (very low safety significance). Provided applicable criteria in the enforcement policy are met, such findings are documented as violations, but are not cited in notices of violation, which normally require written responses from licensees.

Noncompliance: A violation (regardless of whether it is cited or not), nonconformance, or deviation.

Nonconformance: A vendor's or certificate holder's failure to meet contract requirements related to NRC activities (e.g., 10 CFR Part 50, Appendix B, Part 71, or Part 72) where the NRC has not imposed requirements directly on the vendor or certificate holder.

Notice of Violation (NOV): A formal, written citation in accordance with 10 CFR 2.201 that sets forth one or more violations of a legally binding regulatory requirement.

NRC-Identified: For the purpose of this IMC, NRC-identified findings are those findings, found by NRC inspectors, of which the licensee was not previously aware or had not been previously documented in the licensee's corrective action program. NRC-identified findings also include previously documented licensee findings to which the inspector has significantly added value. Added value means that the inspector has identified previously unknown weakness in the licensee's classification, evaluation, or corrective actions associated with the licensee's correction of a finding.

Observation: A factual detail noted during an inspection. Observations are not generally documented in inspection reports but may be documented in conjunction with and to support a finding. Additionally, observations may be documented to support the requirements of temporary instructions and Inspection Procedure (IP) 71152, "Identification and Resolution of Problems."

Performance Deficiency: An issue that is the result of a licensee not meeting a requirement or standard where the cause was reasonably within the licensee's ability to foresee and correct, and that should have been prevented. A performance deficiency can exist if a licensee fails to meet a self-imposed standard or a standard required by regulation.

If the performance deficiency has related cross-cutting aspects, the cross-cutting aspects are generally considered an underlying cause of the performance deficiency rather than an independent issue. Issues of problem identification and resolution, human performance, or establishment of a safety-conscious work environment, in and of themselves, do not provide the basis for a performance deficiency.

Potentially Generic Issue: An inspection finding that may have implications for other licensees, certificate holders, or vendors whose facilities or activities are of the same or similar manufacture or style.

Red Finding: A finding of high safety significance.

Self-Revealing: For the purpose of documentation in the ROP (versus enforcement), self-revealing findings are those findings that become self-evident and require no active and deliberate observation by the licensee or NRC inspectors to determine whether a change in process or equipment capability or function has occurred. Additionally, self-revealing findings will normally be documented in the inspection report for the time period in which the self-revealing event occurred. Self-revealing findings become readily apparent to either NRC or licensee personnel through a readily detectable degradation in the material condition, capability, or functionality of equipment or plant operations. Self-revealing findings are treated the same as NRC-identified findings for the purposes of documenting them in inspection reports. Some examples of self-revealing findings include those

resulting from: reactor trips and secondary plant transients; failure of emergency equipment to operate; unanticipated or unplanned relief valve actuations; obvious failures of fluid piping or plant equipment; and identification of large quantities of water in areas where you would not normally expect such a condition; non-compliance with high radiation area requirements that was identified through an electronic dosimeter alarm.

Significance: A measure of importance. As used in this IMC, significance involves the consideration of: (1) actual safety consequences; (2) potential safety consequences, including the consideration of risk information; (3) potential for impacting the NRC's ability to perform its regulatory function; and (4) any willful aspects of the violation.

Significance Determination Process (SDP): The process used to characterize the importance of an inspection finding using the process described in IMC 0609.

Substantive: Involving matters of major or practical importance; considerable in amount or numbers. In this IMC, substantive information must be placed in context relative to the inspection scope and the potential or actual safety significance.

Unresolved Item (URI): An issue about which more information is required to determine if it is acceptable, if it is a finding, or if it constitutes a deviation or violation. Such a matter may require additional information from the licensee or cannot be resolved without additional guidance or clarification/interpretation of the existing guidance (e.g., performance indicator reporting guidance).

Violation (VIO): The failure to comply with a legally binding regulatory requirement, such as a statute, regulation, order, license condition, or technical specification.

Weakness: (Applies to emergency preparedness) A demonstrated level of performance (e.g., in a drill) that could have precluded effective implementation of the emergency plan in the event of an actual emergency.

Willfulness: An attitude toward noncompliance with requirements that ranges from careless disregard to a deliberate intent to violate or falsify.

White Finding: A finding of low to moderate safety significance.

Yellow Finding: A finding of substantial safety significance.

0612-04 RESPONSIBILITIES

04.01 General Responsibilities Each inspection of a reactor facility shall be documented in a report consisting of a cover letter, a cover page, a summary of findings or summary of issues, and inspection details.

04.02 Inspectors

- a. All NRC power reactor inspectors are required to prepare inspection reports in accordance with the guidance provided in this manual chapter.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

**NRC REGULATORY ISSUE SUMMARY 2007-xx
CHANGES TO THE UNPLANNED SCRAMS WITH LOSS OF NORMAL
HEAT REMOVAL PERFORMANCE INDICATOR**

ADDRESSEES

All holders of operating licenses for nuclear power reactors except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

INTENT

The U.S. Nuclear Regulatory Commission (NRC) is issuing this regulatory issue summary (RIS) to inform addressees that beginning on July 1, 2007, the agency will replace the unplanned scrams with a loss of normal heat removal (LONHR) performance indicator (PI) with the unplanned scrams with complications (USwC) performance indicator. This RIS and Nuclear Energy Institute (NEI) 99-02, "Regulatory Assessment Performance Indicator Guideline," provide guidance to participating addressees for calculating and submitting USwC data to the NRC. This RIS also contains background information for interested members of the public and other stakeholders. Addressee participation in the PI program is voluntary. Therefore, this RIS requires no action or written response on the part of an addressee.

BACKGROUND INFORMATION

Regulatory oversight is implemented within the framework of the Reactor Oversight Process (ROP). The ROP includes two major inputs into the assessment of licensee performance. These inputs are inspection findings and PIs. From the beginning of the development of the ROP, the staff recognized the need to refine the use of PIs as noted in SECY-99-007, "Recommendations for Reactor Oversight Process Improvements," dated January 8, 1999.

The LONHR PI has resulted in many frequently asked questions (FAQs) since the initiation of the ROP and has been the subject of two prior RISs. In an attempt to address the challenges with the PI, the NRC/Industry Working Group began development of a replacement indicator in October 2004. The NRC/Industry Working Group consists of NRC management and staff, NEI

management, and senior industry representatives. The PI development process is described in Inspection Manual Chapter 0608, "Performance Indicator Program."

Industry performance data from 1995 to 2000 was gathered to provide a foundation for evaluating the new PI. The NRC/Industry Working Group met in monthly public meetings to refine the proposed replacement indicator, plan and conduct a table-top pilot, and develop the criteria to be used to evaluate the pilot results. A basis document was developed for the USwC, complete with examples from industry events to aid in implementation. The table-top pilot was performed using industry events from the past few years. The purpose of the pilot was to ensure that the guidance was sufficiently clear to achieve the same response from both NRC staff and industry representatives given the same set of facts. Twelve representatives from the industry and staff evaluated 20 selected Licensee Event Reports. Some minor enhancements were made to the guidance to incorporate recommendations from the table-top pilot. Information concerning the new PI has been posted on the ROP page of the NRC public web site.

SUMMARY OF ISSUE

The USwC PI developed by the NRC/Industry Working Group is replacing the LONHR PI. The USwC is designed to identify facilities that are outliers in complications that can elevate the risk of an unplanned manual or automatic reactor trip or scram. The PI will monitor the following six actions or conditions that have the potential to complicate the post trip recovery; reactivity control, pressure control (boiling water reactors)/turbine trip (pressurized water reactors), availability of power to emergency buses, actuation of emergency injection sources, availability of main feedwater, and the use of emergency operating procedures to address complicated scrams. A complete description of the PI basis document is available on the ROP page of the NRC public website. The web site has been set up to give stakeholders general information on the USwC PI, and implementation guidance documents.

The USwC PI is based on a 1-year rolling time-frame; it represents more current performance than the LONHR PI, which is based on 3 years. Triggering any one of the above criteria during an unplanned scram counts in the USwC PI. Two or more such events in a 12-month period will cause the indicator to change from green to white, which results in increased regulatory response. There are no yellow or red bands for this PI.

It is expected that the number of plants that receive increased regulatory oversight based on the new PI will be similar to that of the LONHR PI. There may be some plants that are currently green under the LONHR PI that will go white under the USwC or conversely. This impact is not because of a change in performance, but because the USwC PI is a much broader PI that measures different attributes than the LONHR PI, and the criteria for loss of main feedwater are different for USwC.

The applicable NRC procedures and NEI 99-02 will be changed prior to implementation to reflect the latest guidance for the USwC PI. Changes to databases and software necessary for each licensee to be able to implement the new PI, and the training of industry and staff will also be completed prior to implementation. This new PI will take effect July 1, 2007. Licensees will report the results of the USwC PI quarterly, as is done for the current PI. The third quarter data

will be reported on October 22, 2007, in accordance with NEI 99-02 guidance. The NRC will post the results of the USwC PI on its public website in a fashion similar to other PIs.

COMPLETENESS AND ACCURACY OF INFORMATION DISCUSSION

This RIS requires no action or written response. The reporting of USwC data, as with any PI data, will be used for assessment under the ROP.

Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.9 requires that information provided to the Commission by a licensee shall be complete and accurate in all material respects. This includes the voluntary submittal of PI information by licensees. This information is considered material because the NRC uses it to assess licensee performance and to make decisions on regulatory action.

BACKFIT DISCUSSION

This RIS requires no action or written response. Any action on the part of the addressees to collect and transmit PI data in accordance with the guidance contained in this RIS is strictly voluntary and; therefore, is not a backfit under 10 CFR 50.109. Therefore, the staff did not perform a backfit analysis.

FEDERAL REGISTER NOTIFICATION

A notice of opportunity for public comment on this RIS was not published in the *Federal Register* because this RIS is informational.

SMALL BUSINESS REGULATORY ENFORCEMENT FAIRNESS ACT of 1996

The NRC has determined that this action is not subject to the Small Business Regulatory Enforcement Fairness Act of 1996.

PAPERWORK REDUCTION ACT STATEMENT

This RIS does not contain information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

CONTACT

Please direct any questions about this matter to the technical contacts listed below.

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Note: NRC generic communications may be found on the NRC public Web site,
<http://www.nrc.gov> under Electronic Reading Room/Document Collections.

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