

# PUBLIC SUBMISSION

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**Docket:** NRC-2009-0417  
Reactor Oversight Process

*9/25/09*  
*74FR 49043*

*4*

**Comment On:** NRC-2009-0417-0001  
Solicitation of Public Comments on the Implementation of the Reactor Oversight Process

**Document:** NRC-2009-0417-DRAFT-0002  
Comment on FR Doc # E9-23214

## Submitter Information

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## General Comment

November 6, 2009

Mr. Michael T. Lesar  
Chief, Rulemaking and Directives Branch  
Office of Administration  
Mail stop: TWB-05-B01M  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

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**Subject:** Solicitation of Public Comments on the Implementation of the Reactor Oversight Process (Docket ID NRC-2009-0417)

**Project Number:** 689

Dear Mr. Lesar:

On behalf of the nuclear energy industry, the Nuclear Energy Institute (NEI) is submitting the enclosed comments on the implementation of the Reactor Oversight Process (ROP), as requested by the U.S. Nuclear Regulatory Commission (NRC) in the Federal Register on September 25, 2009 (74 Fed. Reg. 49043).

We believe the ROP, in general, is meeting established performance goals and continues to be effective in assessing licensee safety performance and in appropriately allocating NRC inspection and oversight resources. Industry appreciates the public interaction of the NRC with its stakeholders in working to continuously improve

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*Call = R. Frahm (RKF)*

the ROP. We have provided detailed responses to the Federal Register questions and would like to highlight the following three areas: safety culture, performance indicators and the significance determination process.

We believe the ROP can be significantly enhanced by changes in the area of nuclear safety culture. Industry and the NRC agree on the importance of a strong nuclear safety culture. Industry has proposed and is beginning a pilot program of an alternate approach that will ensure that licensees take the lead responsibility in assessing and correcting nuclear safety culture issues using an integrated and holistic approach. We believe this approach would also provide the NRC with a better regulatory footprint for its independent oversight role. We appreciate the NRC's interest in observing and commenting on this pilot program. Industry will be prepared to fully implement the approach, contingent on Commission approval of the alternate approach, at the beginning of 2011.

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## Attachments

**NRC-2009-0417-DRAFT-0002.1:** Comment on FR Doc # E9-23214

**NRC-2009-0417-DRAFT-0002.2:** Comment on FR Doc # E9-23214



Thomas C. Houghton  
DIRECTOR, SAFETY-FOCUSED REGULATION  
NUCLEAR GENERATION DIVISION

November 6, 2009

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We believe the ROP, in general, is meeting established performance goals and continues to be effective in assessing licensee safety performance and in appropriately allocating NRC inspection and oversight resources. Industry appreciates the public interaction of the NRC with its stakeholders in working to continuously improve the ROP. We have provided detailed responses to the *Federal Register* questions and would like to highlight the following three areas: safety culture, performance indicators and the significance determination process.

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

Mr. Michael T. Lesar

November 6, 2009

Page 2

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The performance indicator program continues to provide great value, in that it drives licensees to make safe, conservative and timely decisions in operating and maintaining their plants. There is some concern that the performance indicators are "too green" and do not provide value. As we describe in detail in our response to question 4, it takes aggressive, ongoing efforts to ensure the performance indicators remain green, including tougher internal thresholds. In addition, licensees have taken proactive steps to understand the performance indicators and make modifications and improvements in training, programs, procedures, calculations and risk analyses at the plants to improve plant performance and reduce risk. Some plants have specific programs that focus site attention in areas with specific goals to improve equipment availability and reliability and improve plant performance.

There have been significant improvements to the performance indicators over the past several years. The Initiating Events Cornerstone better defines scrams that challenge the operators. The Mitigating Systems Cornerstone helps maintain a risk-informed focus on equipment and plant operations that are important to plant safety. The Mitigating Systems Performance Index (MSPI) PI, while more risk-informed than many of the other NRC PIs, tends to be more complex. Efforts should be made to maintain the indicators simple to understand and manage, but at the same time to provide meaningful indication. Some recent proposed changes to the MSPI will add complexity in order to convert the indicator into a precise measurement but do not appreciably change the calculated results. These efforts have been absorbing significant NRC and industry resources, which could be more fruitfully employed on other performance indicator improvements. We recommend a change in direction to more effective PI improvements.

The significance determination process is also an excellent tool of the ROP. However, assumptions used are sometimes subjective and arbitrary, for example, in the areas of common cause and credit for operator actions. Another area of growing concern is fire protection/safe shutdown. This problem will be exacerbated by conservative PRA methods being required by the NRC for plants implementing NFPA 805. These methods will provide exaggerated fire risk values that are not comparable to existing internal events results, and a method to account for this inherent bias will need to be developed.

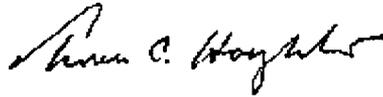
Mr. Michael T. Lesar

November 6, 2009

Page 3

If you have any questions regarding these comments, please contact Ken Heffner (919-546-5688; kmh@nei.org) or me (202-739-8107; tch@nei.org).

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas C. Houghton". The signature is written in a cursive style with a large initial 'T'.

Thomas C. Houghton

Attachment

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**Questions Related to Specific Reactor Oversight Process (ROP) Program Areas**

(As appropriate, please provide specific examples and suggestions for improvement)

- (1) Does the Performance Indicator Program provide useful insights, particularly when combined with the inspection program, to help ensure plant safety and/or security?

Comment:

The Performance Indicators (PIs) are performance standards that the industry strives to exceed. Since the PIs are based on NRC defined acceptable limits, they reinforce industry and Licensee safety performance. Industry has striven to improve its performance in PIs, as evidenced by PI results. Performance outside the licensee response band ("green"), given the outstanding performance of industry in PIs, provides a very useful insight. It is important to keep in mind that the PIs are used in conjunction with inspection findings in ensuring plant safety and security.

Program enhancements have been made to the PIs in the Initiating Events Cornerstone to better define Scrams that challenge the operators and the Mitigating Systems Cornerstones to help maintain a risk informed focus on equipment and plant operations that are important to plant safety. The Mitigating Systems Performance Index (MSPI) PIs, while more risk informed than many of the other NRC PIs, tends to be more complex. Efforts should be made to maintain the indicators simple to understand and manage but at the same time provide meaningful indication. Proposed changes to the MSPI that add complexity in order to convert the indicator into a precise measurement, and which do not appreciably change the result, should be avoided.

- (2) Does appropriate overlap exist between the Performance Indicator Program and the Inspection Program to provide for a comprehensive indication of licensee performance?

Comment:

PIs look at the areas where clear performance thresholds have been developed. As envisioned in the development of the ROP (see SECY 99-007), this allows the inspection program to look at cornerstone attributes not covered by the PIs, and to spend more time looking at those areas that require more evaluation and investigation. The process is well integrated and some overlap does exist – in some cornerstones more than others.

In some cases, specifically in the Initiating Events and Mitigating Systems cornerstones, the inspection overlap can be excessive. This is especially noticeable in the Problem Identification and Resolution (PI&R) inspections and large team inspections such as the Component Design Bases Inspections (CDBI) where an inordinate amount of inspection effort is focused on events and issues reported under the performance indicator program. In addition, CDBIs very rarely have anything other than a few Green findings. This is not worth the considerable resources necessary for the NRC and licensees to participate in these inspections.

At times, there is too much overlap. On several occasions, the staff has put a lot of weight on whether there was a performance deficiency when determining if a condition should count as an MSPI failure. The existence of a performance deficiency is not listed as a criterion in NEI 99-02 in determining if a condition is an MSPI failure. (And, in fact, many PI counts are not performance deficiencies.)

- (3) Does NEI 99-02, "Regulatory Assessment Performance Indicator Guideline" provide clear guidance regarding Performance Indicators?

Comment:

While questions on the guidance do arise, a formal Frequently Asked Question (FAQ) process is available to the industry and NRC inspectors to resolve questions with the guidance. An industry task force (the Reactor Oversight Process Task Force or ROPTF) meets monthly with the inspection and assessment branches of the NRC to discuss and resolve the questions that arise with the guidance. When resolution is not achieved at the monthly Reactor Oversight Process (ROP) meetings, an FAQ appeal process is available and has been used to drive issues to resolution. The FAQ process and appeal process have proven to be effective and should be maintained.

Because the MSPI basis document may not consider all situations and available paths, coupled with the appropriate rigidity of the MSPI reporting requirements, plants may, on occasion, achieve an MSPI result that is not consistent with actual performance parameters and is thus not "risk informed," nor "objective."

When an indicator change is the result of a methodology, treatment selection, or bookkeeping error there should be an avenue to identify and address this consideration in terms of reporting other than moving a plant from column 1 to column 2 or 3 in the Action Matrix.

Finally, the guidance is appropriately very prescriptive in terms of what data elements feed into the performance indicator algorithms. If data is not available to produce a performance indicator result, no result should be posted to the NRC website unless the guidance specifically addresses an approved method to produce such an indicator. This did not appear to be the case when Browns Ferry was returned to service after being shut down for several years. Early discussion of these types of situations should be conducted to avoid violating the ROP principle of predictability.

- (4) Does the Performance Indicator Program effectively contribute to the identification of performance outliers based on risk-informed, objective, and predictable measures?

Comment:

The Performance Indicator Program effectively identifies, in conjunction with the Inspection Program, performance outliers based on risk-informed, objective and predictable measures.

There has been significant discussion within the NRC questioning the efficacy of the performance indicator program because the results are "too green" and are no longer providing value. PI thresholds were initially set based on a careful analysis in SECY 99-007 demonstrating that the overall performance of industry had dramatically improved in the 1990s and that, with the occasional exception, plants were safe enough. The Commission agreed with this conclusion. The thresholds therefore were set at levels that reflected outliers to the overall acceptable safety levels. Since the inception of the ROP, performance in the PIs has continued to improve in almost all of the indicators such that most of the indicators are now green. This improvement has been driven by at least three causes:

1. When the NRC set performance expectations (green/white thresholds) the industry responded by placing emphasis on activities to improve their performance. (The aphorism, "what gets measured, gets improved," applies.)
2. The industry set internal higher standards and developed trending to ensure that they would not, if at all possible, exceed the thresholds. Thus the existing PI thresholds have resulted in even higher standards by the licensees.
3. Licensees have taken action to understand the performance indicators and make modifications and improvements in training, programs, procedures, calculations, and risk analyses at the plants to improve plant performance and reduce risk. Some plants have specific programs that focus site attention in areas with specific goals to improve equipment availability and reliability and improve plant performance. Examples of actions taken include:
  - The addition of station blackout EDGs. This reduced a plant's baseline cdf by over 50%.
  - Platforms were installed to provide access and a procedure was prepared to provide for manual manipulation of some valves. Actions and modifications improved MSPI margin for cooling water
  - Implemented Modification adding small generators to maintain battery power and heat SF6 gas allowing realignment of the plant to the grid following a station blackout event lasting more than 4 hours. Modification will improve MSPI margin in the area of EAC.
  - Created procedure to allow manual manipulation of service water valves supporting the Component Cooling Heat Exchanges. Procedure improved MSPI margin for Cooling Water Systems.
  - Modifications to change out solenoid operated valves with more reliable motor operated valves in the auxiliary feedwater system.
  - For challenges with river grassing, procedures were revised and screen modifications are being implemented to reduce the risk of river grassing as an initiating event. Actions and modifications have resulted in improvement to the Initiating Events Cornerstone.
  - Performed an analysis and developed a procedure to support cooling of the Control Room Ventilation during a loss of cooling. This change reduces overall plant risk and improved MSPI margin in Service Water
  - "Just in Time" training provided to operators to reduce and mitigate the effects of known vibration problems during startup with new mono-block main turbine rotors.
  - Procedure changes made to anticipate and mitigate adverse environmental effects on plant operations.
  - A plant performed a single point vulnerability study and as a result, implemented numerous modifications to eliminate conditions where failure of a single component could lead to a unit trip. This impacts the Unplanned Scrams indicator.
  - The INPO/Industry initiative "Zero by Ten" (Zero Fuel Defects by 2010) is a great

example of the industry working together to improve performance. This improvement would be reflected in the RCS activity indicator.

- Several plants have modified their sirens to increase reliability. This impacts the ANS indicator.

These modifications and improvements help drive good plant and equipment performance which is a desirable effect and tends to keep performance indicators green.

Finally, perhaps a reason some at the NRC are concerned that the performance indicators are "too green," is that the performance indicators don't seem to be able to distinguish the good from the poor performers. There are two answers to that concern. First, over time, everyone's performance has improved so that the variability between plants has shrunk. The delta between a top performer and an average or below average performer is no longer significant in the PI area. (This by the way is also true in the inspection finding area as well.) Second, NRC's role is to ensure that the regulations are being met and that plants are safe. If that is the case, it does not matter that plants are all green; in fact it should be viewed as a measure of NRC success.

That being said, we, NRC and industry, need to continue to be vigilant to identify declining performance. New tools to assess performance should be explored and if appropriate, be implemented. It does not mean that the current process is deficient.

- (5) Does the Inspection Program adequately cover areas that are important to plant safety and/or security, and is it effective in identifying and ensuring the prompt correction of performance deficiencies?

Comment:

The resident inspectors are usually effective in ensuring areas important to safety are appropriately addressed through the baseline inspection program. The inspection program and the ROP assessment methodology are effective in ensuring identified performance deficiencies are promptly corrected. However, the larger team inspections (such as the CDBI) have a tendency to inspect the same systems and re-inspect issues that have already been inspected, come up with very little useful information, and should be reviewed for improvement or elimination.

Also, the inspection threshold used for identifying performance deficiencies is low and subjective. This diverts licensee resources from addressing actual causes and concerns that contribute to risk.

One area that could be improved is resident inspector review of data that licensees submit to the NRC in the ROP. For example, there have been two different efforts this year where NRC consultants have identified several instances where they felt that licensees were reporting Safety System Functional Failures and the types (i.e Start, Load/Run, Run) of MSPI failures incorrectly. These efforts occurred long after the events or failures occurred, and have little relevance to current performance (ROP principle of "timely" assessment). This does not ensure prompt correction of performance deficiencies. The resident inspectors have the ability to look at the data reporting real time, and in fact have inspection hours assigned to look at PI data. The NRC should consider whether or not additional training is needed in this area.

(Note that we are not opposing the need to conduct efforts to ensure data element

definitions are clear and that data is being accurately reported.)

- (6) Is the information contained in NRC inspection reports relevant, useful, and written in plain English?

Comment:

The NRC inspection reports are relevant, useful and well written.

- (7) Does the Significance Determination Process result in an appropriate regulatory response to performance issues?

Comment:

Not consistently. The assumptions used by the NRC in the Significance Determination Process (SDP) are at times subjective and arbitrary. Examples include the amount of penalty a licensee must take for common cause and the amount of credit allowed for human performance (operator actions).

Another area where the SDP process is overly restrictive is the area of fire protection/safe shutdown. This problem will be exacerbated by conservative PRA methods being required by NRC for plants implementing NFPA 805. These methods will provide exaggerated fire risk values that are not comparable to existing internal events results, and a method to account for this inherent bias will need to be developed. Otherwise, erroneous conclusions are likely to be reached. The SDP guidance must be updated and regional staff training/understanding must be improved in this area to ensure accurate and consistent results are achieved.

Industry encourages the use of licensees' PRA models that have been evaluated to R.G. 1.200 to support the SDP process as they become available. The NRC could continue maintain a degree of independence by using a verification process modeled after the PI verification process. The current practices lack transparency and scrutability and in some cases result in assigning higher significance to an issue than is warranted.

- (8) Does the NRC take appropriate actions to address performance issues for those plants outside the Licensee Response Column of the Action Matrix?

Comment:

The action taken by the NRC to address performance issues at plants outside the Licensee Response Column of the action matrix has recently been more predictable and appropriate. However industry has a concern about comments occasionally made at public meetings that deviations from the action matrix are permitted on a case by case basis and should be considered an option. This should be rare and for exceptional circumstances in order to support the ROP principle of "predictability." Program changes that can be made to avoid routine deviations from the action matrix should be evaluated and incorporated.

- (9) Is the information contained in NRC assessment letters relevant, useful, and written in plain English?

Comment:

The information contained in assessment reports is, for the most part, relevant, useful, and well written. Inspection schedules in particular are good to have in advance even if they are not fully refined. When significant changes are made to inspection schedules, revised schedules should be made publicly available.

An element of the assessment letters that could be improved is the discussion about substantive cross cutting issues. Greater consistency in the language and the detailed discussion used across regions would be appropriate. The criteria for opening and closing SCCIs are not clear; therefore it is not surprising that the assessment letters do a poor job of explaining why SCCIs have been opened or closed. This does not support the ROP principles of "predictability," and "objectivity."

- (10) Do the ROP safety culture enhancements help in identifying licensee safety culture weaknesses and focusing licensee and NRC attention appropriately?

Comment:

The ROP safety culture changes to the ROP consist of identifying cross-cutting aspects of performance deficiencies, and accumulating them into substantive cross-cutting issues (SCCI).

The identification of cross-cutting aspects associated with inspection findings does provide value to the licensee to consider in the assessment of safety culture. Note, however, that the association by NRC is done without conducting a formal root or apparent cause, and may very well be mistaken. Licensees should incorporate the NRC's association into its ongoing assessment of safety culture, using all available site data (for example, safety culture assessments, employee concerns issues, site PI data, self assessments, audits, benchmarking, industry evaluations, operating experience, etc.) More accurate conclusions can be reached by integrating all of the information available on the site safety culture.

Industry does not believe that the practice of accumulating aspects into SCCIs is appropriate or effective. First, the number (usually four in a year) is arbitrary and not based on research, and its appropriateness has not been assessed (benchmarked against actual safety performance) since the changes were implemented. For example, it does not appear reasonable that four procedure adherence issues (usually all green, or of very low safety significance) over a year's period represents a cultural problem. (The thousand people at a station likely perform more than one procedure per person per day, for 365 days a year, which would be hundreds of thousands of opportunities, with only four failures.) Furthermore, the number four is not normalized based on the inspection hours or the number of units on site, and therefore can create a false impression of cultural weakness merely because there were more opportunities to identify violations which are assigned an aspect. Second, many of the aspects are not safety culture issues per se, but rather process errors (for example an error in a procedure step, or a deficiency in the corrective action program). A more thorough examination of multiple process errors is needed to determine whether there was a common cultural aspect that deserves

corrective action beyond just fixing the process error. Third, much time and effort is expended discussing which aspects apply, particularly as one approaches the number of four. Fourth, it is not at all clear what the objective criteria are for determining whether the licensee is taking appropriate action to address the supposed substantive issue, or what needs to be done to clear the issue if it in fact exists. Fifth, the use of two different languages to discuss safety culture (the NRC's and the industry's) can lead to confusion in identifying and resolving cultural issues. In summary, industry believes that the SCCI process results in excessive use of NRC and licensee management resources, and it diverts resources to address perceived problems from correcting actual safety issues, including safety culture issues.

The industry wants to be proactive in ensuring our plants have a strong nuclear safety culture:

- Licensees are responsible for the safe operation and safety culture of their plants.
- NRC is responsible for providing effective oversight.

Therefore industry has proposed three actions and is working with the NRC and other stakeholders to achieve them:

1. Develop a common language of safety culture to be used by the regulator and the licensee.
2. Develop an integrated approach for licensees to assess their safety culture on an ongoing and proactive basis with NRC providing effective, transparent oversight, and
3. Develop a common methodology for conducting self, independent and third party safety culture assessments.

### **Questions Related to the Efficacy of the Overall ROP**

(As appropriate, please provide specific examples and suggestions for improvement)

- (11) Are the ROP oversight activities predictable (i.e., controlled by the process) and reasonably objective (i.e., based on supported facts, rather than relying on subjective judgment)?

Comment:

Overall, the ROP is predictable and reasonably objective. Some opportunities for improvement include the following.

1. The assumptions used by the NRC in the Significance Determination Process are at times subjective and arbitrary (ref comment on question 7). This has in some cases resulted in delays in finalizing the final results of an SDP. An example of this was a recent security finding at plant where the characterization (color) changed several times because of changing subjective assumptions. Industry encourages the use of Licensees' PRA models which have been evaluated and peer reviewed against consensus PRA standards and NRC Regulatory Guide 1.200 to support the SDP process as they become available. We also encourage additional work in the areas of common cause and human performance.
2. The process is not objective in the area of fire protection/Alternate Safe Shutdown (ASSD) capability, and this issue will be exacerbated due to NRC expectations for conservative fire PRA assumptions as the basis for NFPA 805 implementation. These

models do not provide results consistent with operating experience or internal events PRA models, and this bias will need to be accommodated in the SDP process, because insights and experience from the piloting of transitioning to NFPA 805 have not been incorporated into the ROP.

3. Also, please refer to our comments in question 10 regarding the predictability and objectivity of the NRC's safety culture approach.
4. The availability definitions have been somewhat confusing (in that there are several) and are continually a topic of discussion.

Recent difficulty regarding the definition of availability centers around how much credit can be taken for simple actions that restore equipment and make it usable; for example, a manual action that has been determined to be feasible to allow the equipment to be ready to perform its risk significant function (Note that this does not involve trying to take credit for the actions to avoid counting a failure; only to restore availability). Since differences exist, and regulatory interpretations are not consistent, issues regarding availability and the definition of availability have become distracting.

5. When MSPI was developed the intent was to align the definitions of availability between the PI manual, NEI 99-02, and the Maintenance Rule definition of unavailability in NUMARC 93-01. More work is needed in this area (understanding of the definitions of availability and alignment.) NEI has submitted proposed revisions to NUMARC 93-01 to address this inconsistency.

- (12) Is the ROP risk-informed, in that the NRC's actions are appropriately graduated on the basis of increased significance?

Comment:

In general, the NRC's Action Matrix provides appropriate graduation on the basis of increased risk for NRC actions to be taken. However, over the survey period, the NRC has made or considered making changes to the ROP that were contrary to the risk informed philosophy initially established as a goal for the ROP. Two examples are the actions to integrate NRC assessment of safety culture and consideration of including traditional enforcement into the ROP. Safety culture assessments and traditional enforcement issues are based on deterministic concepts not risk-informed concepts. While these elements are important and need to have NRC oversight, they should not be integrated into the ROP if the ROP (in particular the action matrix) is going to remain risk informed and objective.

We have discussed safety culture previously. Regarding including traditional enforcement as input into the Action Matrix, the NRC sponsored open and frank discussion in public meetings to consider alternatives. As a result, process changes were made which reflected the NRC's need to follow up on traditional enforcement violations without compromising the risk-informed approach of the action matrix.

- (13) Is the ROP understandable and are the processes, procedures and products clear and written in plain English?

Comment:

The ROP procedures and products are generally clear and understandable. Changes to Manual Chapter 0305 regarding the definition of Multiple/Repetitive Cornerstone Column in the Action Matrix and additional guidance to prevent double counting an inspection finding and performance indicators with the same underlying cause added clarity to the manual chapter.

- (14) Does the ROP provide adequate assurance, when combined with other NRC regulatory processes, that plants are being operated and maintained safely and securely?

Comment:

The NRC's internal analysis of industry performance data demonstrates that plant operations and safety margins have improved greatly since the adoption of ROP. For example, improving trends in unplanned plant scram rates and in the decreasing frequency of significant operating events provide objective evidence of the effectiveness of the ROP.

The ROP provides adequate assurance, when combined with other regulatory processes, that plants are being operated and maintained safely and securely. As discussed in the response to question 4 above, the current set of PIs has contributed to plant performance improvements made by licensees and has in some cases resulted in more PIs being green. When the ROP was initially implemented, performance standards were established that provided assurance that the NRC's mission to protect the health and safety of the public was met. Industry organizations such as INPO exist to promote excellence. The ROP should continue to be focused on protecting the health and safety of the public. The current performance indicators and inspections are effective in ensuring safety and regulatory compliance. The ROP should continue to assess performance to maintain safety and security.

- (15) Are NRC actions related to the ROP effective (e.g., are NRC actions of high quality, efficient, timely, and realistic to enable the safe use of radioactive materials)?

Comment:

For the most part, the ROP is effective, efficient, realistic, and timely. However, some areas could be improved, specifically timeliness in finalizing the characterization of a finding using the SDP. One reason for the delay is the use of subjective assumptions by the NRC. Industry encourages the use of licensees' PRA models which have been evaluated and peer reviewed against consensus PRA standards and NRC Regulatory Guide 1.200 to support the SDP process as they become available and believes that by doing so, improvements would be made in timely application of the SDP.

Regarding the extensive resources that are being expended by NRC and industry on changes to the MSPI performance indicator: Recent efforts to make the indicator more "elegant" and theoretically pure, but which result in miniscule changes in results, are wasting resources needed for other improvements. It must be remembered that the MSPI is an indicator of performance which is "risk-informed." The resources being applied by NRC and industry are not going to make plants safer, will not effectively allocate NRC

inspection resources and are not appropriate.

- (16) Does the ROP ensure openness in the regulatory process (e.g., does the NRC appropriately inform stakeholders in the regulatory process)?

Comment:

The ROP process, with its many public meetings and opportunities for involvement, does ensure openness not available in the previous process. However, improvements could be made in soliciting stakeholder feedback when revising or developing regulatory documents such as Inspection Procedures, Manual Chapter guidance, or Regulatory Issue Summaries (RIS). As the agent for the industry, NEI routinely requests the opportunity to review draft documents and provide feedback in a public venue. However, the NRC is sometimes reluctant to share draft information, particularly changes to inspection procedures and processes, and the inspection/enforcement process being addressed by the Office of Nuclear Security and Incident Response (NSIR).

Press releases for special inspections and reactive inspections are released indicating that the NRC is going to look at a significant problem at a plant. However, seldom is the outcome publicized unless the outcome is negative. Providing balanced information to the public is not promoting the industry, but rather providing pertinent information.

- (17) Has the public been afforded adequate opportunity to participate in the ROP and to provide inputs and comments (e.g., does the NRC appropriately involve stakeholders in the regulatory process)?

Comment:

The public has been afforded adequate opportunity to participate in most of the ROP and to provide inputs and comments by way of the public monthly ROP meetings, ROP feedback surveys, and the annual assessment public meetings. This is not the case however in the area of Physical Protection. The Physical Protection area of the ROP is not very open to the public, which may be appropriate in most cases; however, program and process changes should go through a change management process (similar to the ROP).

- (18) Has the NRC been responsive to public inputs and comments on the ROP?

Comment:

The NRC for the most part has been responsive to public inputs and comments on the ROP. The NRC published a response to the 2007 ROP survey in which comments received were dispositioned. Industry strongly encourages the NRC to publish a response for these and any future ROP survey comments submitted.

There was one example where the NRC's responsiveness to comments made in the 2007 public ROP comment survey was disappointing regarding the treatment of a plant that had been shutdown for many years and was returning to service. The NRC interpreted the performance indicator guidance in such a way that data elements to produce an indicator were inappropriately extrapolated from a limited set of actual plant performance

data. In addition, the PI threshold values continued to be based on data derived from a mature fleet of operating reactors rather than one in essentially a new plant startup condition. Industry recommends that performance for plants returning to service after being shut down for several years, and new plants that are beginning initial operation be assessed using data and thresholds that better account for challenging issues associated with new plant operations.

(19) Has the NRC implemented the ROP as defined by program documents?

Comment:

For the most part, the ROP is implemented as defined by program documents. However, the staff continues to consider whether a performance deficiency occurred as an input into determining whether or not an event should count against a Performance Indicator. There is no criterion in the performance indicator manual, NEI 99-02, related to performance deficiencies and their relationship with PI data. This is an example of inappropriate overlap between PIs and inspection findings.

Industry is also concerned about the inconsistencies that are apparent in number of findings, violations, and safety culture cross-cutting aspects issued across the four regions. We encourage NRC to continue efforts to ensure that the ROP is consistently implemented across the regions.

(20) Does the ROP result in unintended consequences?

Comment:

SECY 99-007, "Recommendations for Reactor Oversight Process Improvements" outlines the key objectives for the ROP as:

- a. Improve the objectivity of the oversight processes so that subjective decisions and judgment are not central process features.
- b. Improve the scrutability of these processes so that NRC actions have a clear tie to licensee performance.
- c. Risk-inform the processes so that NRC and licensee resources are focused on those aspects of performance having the greatest impact on safe plant operation.

Unintended consequences result whenever actions taken by NRC or licensees are not in full alignment with these objectives. In general, the ROP has been a success and has avoided unintended consequences. Several areas for improvement are listed below.

1. Significant NRC and licensee resources are spent characterizing the significance of findings. The majority of these resources are focused on findings that have minimal risk significance. This result is inconsistent with the ROP objective to "focus resources on aspects of performance having the greatest impact on safe plant operation."
2. Responses to several questions above have discussed the need for improvement in the safety culture approach of the ROP. Removing the subjectivity of the SCCIs

and replacing it with an integrated industry approach with robust NRC oversight is the goal of the industry safety culture pilot beginning this year.

3. Problems exist in the interpretation of safety system functional failures and how to report corrections to the data. We believe NRC and industry need to resolve these concerns, both in the interpretations of NUREG 1022 as to what constitute SSFFs, and in the FAQ process, on how to report the effective date of a revised LER.
4. A desire to make the MSPI risk-based rather than risk-informed has unintended consequences resulting in wasted resources for little or no gain.

NEI 99-02 Revision 6 states (emphasis added):

"Mitigating System Performance Index (MSPI) is the sum of changes in a **simplified core damage frequency evaluation** resulting from differences in unavailability and unreliability relative to industry standard baseline values."

"The MSPI is an **approximation** using information from a plant's PRA and is intended as an indicator of system performance. More accurate calculations using plant-specific PRAs or SPAR models cannot be used to question the outcome of the PIs computed in accordance with this guideline."

At times the staff has lost sight of the fact that MSPI was designed to be simple and understandable. The paragraph that discusses licensees not being able to use their plant-specific PRA model and the NRC not being able to use the plant-specific SPAR model to challenge the output of the MSPI calculation was added specifically because it was recognized that we were calculating an **approximation** of the change in core damage frequency.

SECY-99-007 " Recommendations For Reactor Oversight Process Improvements states the following:

From page 5 – "An efficient oversight process is one that applies agency resources in a risk-informed manner."

One of the objectives of the ROP listed on page 6 of the SECY – "Risk-inform the processes so that NRC and licensee resources are focused on those aspects of performance having the greatest impact on safe plant operation."

Unfortunately, NRC and industry resources continue to be used on prolonged research projects in an attempt to improve the perceived accuracy of MSPI beyond what the current state of the PRA modeling is capable of. This diverts resources from investigating real improvements to the index.

Examples of recent activities that are consuming large amounts of resources and are not risk-informed, will not appreciably affect outcomes (PI values), will not affect NRC oversight and allocation of inspection resources, most importantly, will have no impact on safe plant operation include:

1. MSPI rounding calculations
2. Fuel Oil Transfer Pumps/Mixed Priors
3. Monitoring trains (i.e., Birnbaum values  $\ll 1E-09$ ) that will never impact the MSPI.

More specific details of these and other issues are discussed in the public monthly meetings of the ROP working group. We look forward to discussing these concerns in detail in those meetings.

- (21) Please provide any additional information or comments related to the Reactor Oversight Process.

Comment:

Monthly interactions between NRC and industry through the ROP Working Group are critical to continued improvement of the ROP. The willingness to devote resources to these meetings is a clear indication of NRC's commitment to making the process as predictable and efficient as possible.

Consideration should be given to updating bases documents for all of the performance indicators, similar to the bases that was developed when the Scrams with Complications was revised. Understanding and maintaining the original bases for some of the indicators and even some of the basic fundamentals on which the ROP was founded are becoming obscure, partly because of the high attrition in the industry and the NRC associated with career moves into new plant work and aging workforce retirements.