

RIC 2004 Questions/Take-aways

RIC 04 Panel Summary Form	Questions/Take-aways from W2 / NRC Chairman Nils J. Diaz
<p>Q: You didn't mention resolution of GSI-189, another issue that has "been around too long." Although there is a simple, cost effective way to resolve this issue, the plan is not to resolve it before 2010 What is taking so long? See Session T11 for response.</p> <p>Q: The staff appears to be revising its position on 10 CFR 50.54(q) with regard to emergency action levels to the point of developing regulation by inspection. Does the commission endorse this approach? See Session T10 for response.</p> <p>Q: How will the current NUREG-0654 and the REP program be "dovetailed" into the new Dept. of Homeland Security National Response Plan? See Session T10 for response. This session is complete.</p>	

RIC 04 Panel Summary Form	Questions/Take-aways from W3 / Regulatory Trends
<p>Q: Trends like safety system actuations and scrams suggest uncontrollable events initiating automatic control behavior. Do you see any relationship with the aging electronic controls in nuclear plants? Response: The NRC Industry Trends Program monitors indicators such as Automatic Scrams and Safety System Actuations to assess whether the nuclear industry is maintaining the safety performance of operating reactors. Any adverse industry wide trends or any short-term emergent industry wide issues are assessed for safety significance and the NRC responds as necessary to any safety issues identified. If an indicator warrants assessment, the NRC investigates the cause. This investigation would look for equipment related issues, including equipment aging. To date, no statistically significant adverse trend have been identified and equipment aging has not been identified as a cause of any short-term issues identified by the Industry Trends Program.</p> <p>Q: How can you get useful information from data 2 years old? Why can't you obtain present information for trending purposes quicker? Response: The NRC obtains the information that it needs within a time frame commensurate with the safety significance and level of NRC response required to accomplish its responsibilities. For example, a licensee must notify the NRC as soon as possible but not later than one hour after declaring one of the Emergency Classes specified in the licensee's emergency plan. The Industry Trends Program monitors a set of indicators that are updated quarterly and displayed on the NRC Web page (http://www.nrc.gov/reactors/operating/oversight/industry-trends.html).</p> <p>Annually, the NRC analyzes the industry trend indicators using long-term statistical trending analyses to ensure the nuclear industry is maintaining the safety performance of operating plants. To identify any short-term emergent issues before they manifest themselves as long-term trends, the NRC also monitors prediction limits that are based on data that indicates constant and more recent performance. For the industry trend indicators, 1996 is the farthest back that any of indicators use for determining the prediction limits. Quarterly updates and annual evaluations are appropriate for evaluating current industry performance using statistical trending methods.</p> <p>Q: Has NRR corrected grid reliability related scrams to uprates? Response: As demonstrated by the August 14, 2003, Northeast blackout, grid reliability has an impact on nuclear power plant operations. However, nuclear power plant licensees are not responsible for and do not have control over grid equipment. Plant uprates affect plant equipment that the licensee is responsible for and not grid related equipment.</p> <p>The questions and take-aways from this session are complete.</p>	

Q: Collins: Given the security implications, is NRC considering requiring black start capability for nuclear power stations?

Response: The NRC is not currently considering backfitting existing Nuclear Power plants with blackstart capability. When the Joint Task Force Report for the August 14 event is issued, the NRC will carefully review the recommendations and if necessary, will be involved in any safety determinations necessary as a result of these recommendations.

Q: Holden: Are any NPP's permitted to have all onsite power sources down for maintenance at any time during refueling? Why, if so? Is this safety conscious? What was learned from Brunswick's blackout?

Response: Technical specification, issued for older plant designs, only addressed operating restrictions. Refueling restrictions issued since the 1970s require one offsite and one onsite power source to be operable during shutdown. For the Brunswick blackout, which occurred March 3, 2000 during refueling, only one offsite source was out of service for maintenance. The remaining offsite source and redundant onsite sources were in service. The blackout was initiated by a testing error by maintenance personnel in the switchyard causing loss of offsite power. A comprehensive human performance action plan was developed and implemented to reduce the potential for (and consequence of) future testing errors. And, a subsequent failure of one onsite source caused the blackout (the loss of ac power to one division of ac safety systems). To better understand and to prevent similar failures to the onsite source, additional testing was implemented.

Q: All: Do NRC and the (Panelists') organizations have viable computer codes to solve "multiple reservoir transient problem" and/or "multiple stations electricity transmission problems?" Diagram included with question, previously sent to Session Coordinator.

Response: The NRC does not possess such a code. Each grid operator conducts a review of stability of the grid either through stability analysis or through a contingency analysis. During the NRC review of amendment requests or other licensing changes, the staff reviews the licensee's results of these analysis. Licensees typically rely on the grid operator to provide grid analysis to show the grid remains stable under a variety of grid conditions and anticipated transients.

Q: N.A. Reliability Council wrote a letter to NRC warning that uprate power should not come at a cost of reactive capability - please comment.

Response: The NRC is not aware of any letter warning that power uprates at the cost of reactive power. The NRC typically asks for the licensee to address the impact of the uprate on grid analysis. Licensees typically rely on the grid operator to provide grid analysis to show the grid remains stable under a variety of grid conditions and anticipated transients.

Q: Restoration of the grid may be delayed due to restrictions preventing the restarting of nuclear plants. This may be adverse to public health and safety. Has NRC looked at balancing plant offsite power restrictions against public needs during a major loss of grid power?

Response: The NRC has oversight of the safe operation of nuclear power plants. Any plant startup must be performed in a safe, deliberate manner in accordance with established plant procedures and controls. Whether a startup follows a grid disturbance or a maintenance outage, the requirements are the same and safe plant operations under all shutdown, startup, and operating conditions is key. Each grid operator has a restoration plan following major outage. Nuclear power plant typically need two sources of offsite power restored in order to restart the unit and meet technical specification requirements. The NRC would review a request to deviate from those requirements on a case by case basis in the Notice of Enforcement Discretion process.

The questions and take-aways from this session are complete.

Q: Mallett: In terms of improving timeliness of SDP, address incorporating a graded approach to accepting engineering judgement for past operability evaluations. I.E., white or less accept liberal amount of engineering judgement.

Response: *NEI Response:* Engineering judgment should always be used or considered (not graded) regardless of the significance of the finding. Engineering judgment supplements the risk significance of the finding with substantial additional considerations, e.g., safety margins, operating experience, functional capability of equipment that may be degraded but operable, etc. We are putting too much emphasis on detailed risk analysis in an attempt to attain a level of precision that is unattainable at this point in the development of PRA technology, and engineering judgment can and should be used to improve the timeliness of the SDP process.

NRC Response: The staff recognizes that meeting our timeliness goals for Significance Determination Process (SDP) results continues to be a challenge and has established an Office-level Task Action Plan to improve this area. The most difficult of these challenges stems from the staff's use of probabilistic risk assessment (PRA) models which always include embedded assumptions regarding plant-specific design and operating practices, and the degraded condition itself, certain of which may heavily influence an SDP result. Because the SDP result is solely the staff's responsibility to determine, it must recognize and understand the basis for these influential assumptions within the PRA model it deems most appropriate to use. In coming to this understanding, the staff must often use its own engineering judgement to either accept or challenge these influential assumptions. The SDP process formally and publically invites licensee input, including facts, analysis, and judgement, for the staff's consideration in arriving at its best-informed SDP result. Achieving a best-informed understanding based on reasonably available information is a requirement of the SDP process regardless of the color/significance result. However, the staff is considering ways in which it can reasonably make its engineering judgements more timely for SDP result outcomes of lower significance and is currently planning a public workshop for the summer of 2004 to jointly explore SDP untimeliness drivers with industry and to identify possible improvements. However, what is not expected to change is that it is ultimately the staff's judgements, framed within a PRA model, that will ultimately determine an SDP result.

Q: Mallett: Does allowing credit for containment pressure to maintain NPSH in ECCS pumps compromise the independence of safety systems in depth?

Response: Similar issues have been raised by the State of Vermont in their letter to the NRC dated December 8, 2003 (ADAMS Accession No. ML033440399). The NRC's position regarding whether it is acceptable to credit containment overpressure has evolved over the years. The staff's current position is that containment overpressure credit is allowed under certain conditions. An elaboration of the NRC's current position on this issue will be provided in the response to the State of Vermont in the near future.

Q: Mallett: Comment on connection between aging & extended power uprate in increasing equipment failures.

Response: Increasing equipment failures due to aging is something that the Maintenance Rule should address. As far as power uprates go, it simply means that there is more decay heat for accident mitigation. Therefore, the licensee has to demonstrate that the systems needed for accidents described in the Final Safety Analysis Report (FSAR) will still meet the design requirements, which is a deterministic consideration. For probabilistic considerations, the success criteria for removal of decay heat needs to be evaluated.

Q: Mallett: Some recent interactions w/NRC inspectors/Region appear to not honor or follow the NEI/NRC agreed to process to resolve questions on ROP PI's thru the FAQ Panel. The NRC is using a sole NRR input. Why is the panel not being consistently used prior to a final NRC decision?

Response: NRR will occasionally respond to questions from regional inspectors on interpretations of performance indicators (PIs). These interpretations are based on the input provided by the regions and on past FAQ resolutions, where appropriate. If a licensee disagrees with the response thus obtained by the region, it should submit an FAQ with its own description of the event or condition for presentation to the panel. The panel will consider all information provided to it in reaching its decision.

Q: Mallett: All the speakers, including yourself, expressed concern with the SDP. Since my plant is currently going through a SDP research project, when can we expect changes?

Response: The SDP is a constantly evolving process. The NRC staff has developed and is implementing the SDP Improvement Initiative Task Action Plan, which is targeted mainly at making improvements in timeliness and consistency for significance determinations. All SDP Phase 2 notebooks have now been benchmarked to improve the Phase 2 process. The staff will soon be developing pre-solved risk tables to further aid inspectors. Several new or revised SDPs are expected to be issued this year to improve the process for fire protection, shutdown, containment, physical protection, and steam generator tube integrity findings. When it was first issued, the SDP was recognized as needing continuous and evolutionary improvement, and this is ongoing.

Continued on next page.

Q: Mallett: ROP includes PI's and the SDP process for findings. Thresholds on PI's are not truly risk based as is SDP. Is there any plans to go to risk based threshold for PI's or at least use threshold as trigger for risk reviews?

Response: The staff used historical data from 1995 to 1997 to develop green-white thresholds based on performance that deviated significantly (95th percentile) from industry norms. For the white-yellow and yellow-red thresholds the staff used a number of generic PRAs (e.g., BWR-6, Westinghouse 4 loop, CE CPC plants) to identify performance in each PI that would result in a Δ CDF of 10^{-5} and 10^{-4} respectively. The PI thresholds are risk-informed. There are no plans at this time to develop risk-based thresholds for the existing PIs. Mitigating systems Performance Index (MSPI) is a concept that has been under development to lend more plant-specific risk-informed thresholds to the performance currently being monitored by SSU PIs.

Q: Richards: You noted that PI's have generally been all green, and implied that maybe the PIs are not monitoring the correct things. What do inspection findings in these areas look like? all green or more non-greens?

Response: All PIs and inspection findings are available on the public web site at <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html#section3>. PIs and inspection findings measure different aspects of licensee performance and the two complement each other. While inspection findings and some PIs are retained within the Action Matrix for four quarters, some PIs are accumulated over two or three years. This means that a currently non-green PI may have been in part due to a problem that occurred many quarters ago. Therefore, the PI and inspection findings displayed on the web are not directly comparable.

Q: When will the Research MSPI report be issued?

Response: The Office of Research MSPI report is expected to be issued by the end of April 2004.

Q: SDP color determination appears to be based solely on PRA. NRC management states there are other

Response: The tools we use for the reactor safety SDP are the SPAR models, licensee PRA models, SDP Phase 1 and 2 guidance which includes the risk-informed inspection notebooks. Other tools include IPEEE information for external events. For other SDPs, such as emergency preparedness and radiation safety, the colors were based on deterministic criteria decided on by an expert panel. When certain criteria are met and thresholds are crossed, the significance of an issue is greater and leads to a more significant color.

Q: There is a growing tendency to make a statement on NCV/Findings referring to cross cutting aspects. This practice is preconditioning the annual assessment process in that the inspection report is the prime input. Also the basis for cross cutting aspects are typically not articulated. This appears to be a work around to aggregating green findings/NEV's.

Response: Overall licensee performance assessment under the ROP is determined by the performance indicators and inspection findings. The criteria for cross-cutting issues is described in Inspection Manual Chapter (IMC) 0305, "Operating Reactor Assessment Program". Some ROP inspection findings have cross-cutting elements and are so designated when they are entered into the plant issues matrix (PIM). The staff has determined that any substantive cross-cutting issues should be evaluated at the mid-cycle and end-of-cycle review meetings instead of in each individual inspection report. If the criteria for a substantive cross-cutting issue is met IAW IMC 0305, then the NRC's evaluation is added to the mid-cycle or annual assessment letter. Minor issues or observations are not included in this determination as they are not documented in individual inspection reports. Findings that are included in this evaluation are green or greater than green findings with cross-cutting elements. Aggregation of these findings do not occur as they are not compiled to create a more significant finding out of numerous less significant findings. These findings are not aggregated in the assessment process to allow for increased regulatory action in the ROP action matrix.

The questions and take-aways from this session are complete.

Q: Johnson: How long do you anticipate that it will take the staff to develop the approach for addressing AST conservatisms and uncertainties?

Response: The staff is developing a consistent approach while reviewing pending AST adoption amendments that also request relaxations of requirements for engineered safety features (i.e., less stringent testing of charcoal filters). The need to establish the defense-in-depth contribution of such features will be reflected in requests for additional information and may contribute to longer review times.

Q: Johnson: When Reg Guide 1.183 was still a draft, it was commented that the burnup requirement in the guide was not conducive to or consistent with high burnup LTA's/ The Reg Guide was finalized with no change in the burnup requirement. This now causes problems when licensees are involved with vendors in conducting high burnup LTA programs. This causes problems with doing high burnup LTA's which will be a vehicle to obtain additional data as the final and potential source terms data.

Response: The source term data in Regulatory Guide 1.183 were derived from NUREG-1465, "Accident Source Terms for Light-Water Nuclear Power Plants," which contains the limitation that the reported data may not be applicable above 40 GWD/MTU. In developing Regulatory Guide 1.183, the staff was able to develop a basis for extending this limitation to 62 GWD/MTU. The staff did not pursue a higher burnup due to lack of supporting data and since the NRC's environmental assessment of the effects of increasing nuclear reactor peak-rod fuel irradiation was based on fuel burnups to 62 GWD/MTU. The NRC staff has not approved a vendor fuel design for burnups greater than 62 GWD/MTU nor has such approval been requested. Should the NRC receive a proposed fuel design involving burnups greater than 62 GWD/MTU, the guidance of Regulatory Guide 1.183 will need to be revisited.

The question implies that Regulatory Guide 1.183 prohibits operation at burnup levels greater than 62 GWD/MTU. This is not correct. The guide provides source term data that have been found to be acceptable for use with burnups to that level. As with any regulatory guide, the user has the option to propose justifiable alternatives to the guidance provided, including in this case changes to the source term guidance.

The NRC encourages high burnup lead test assemblies as a means to collect fission gas and other data to support future changes in the regulatory guidance. This is consistent with the Agency's Program Plan for High Burnup Fuel (July 1998), which stated that the industry would be encouraged to develop a database and criteria and other guidelines needed to obtain NRC approval for an extended burnup range.

Q: Johnson: The statement of OGC position on NOEDs requiring balancing operating risk against transition risk seems to be a reversal of the position of one year ago where we were to balance risk of operating with the degraded condition by providing compensatory actions to reduce risk overall.

Response: Licensees, in order to justify a NOED, are required to show that the risk of continuing to operate with the non-conforming condition as compared the risk of taking the actions required by technical specifications constitutes no net increase in radiological risk. To show no net increase in radiological risk requires the licensee to show that the risk of continuing to operate under the prevailing circumstance, taking into consideration the compensatory actions being taken, is no greater than the sum of the following: the risk of the transition to the plant configuration (e.g., cold shutdown) technical specifications would take the plant plus the risk of resolving the non-conforming condition in that mode plus the risk of the transition back to 100% power operation. Such a comparison could be quantitative or qualitative. The OGC position has not changed; in the past there have been different interpretations. Our efforts have been focused on communicating what is required more clear to various stakeholders.

Q: What makes one plant an AST plant and not another? What NRC documents define this?

Response: Under 10 CFR 50.67, a holder of a current operating license may submit a license amendment request that proposes to replace the current licensing basis accident source term with an alternative source term. If the NRC approves the amendment request, that plant will have an alternative source term as its licensing basis. Regulatory Guide 1.183, "Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors," provides implementation guidance.

The questions and take-aways from this session are complete.

RIC 04 Panel Summary Form	Questions/Take-aways from W7 / New Reactors/Advanced Reactors
<p>Q: NEI: As part of public opinion survey, have you asked public if they would support building a nuclear plant within 10 miles of their home? Response: While we have not asked this specific question in our polling, we ask related questions, and our most recent poll shows an increase in support for new plants across the general public. For example, 70 percent agreed we should keep the option to build more plants in the future; 54% said we should "definitely" build new plants; and 57% said it would be acceptable to add a new plant at the nearest existing site with operating reactors. Also, it's worth noting that license renewal hearings to date have consistently shown strong local support for continued operation of the current plants. We expect there will also be strong local support for new construction at these sites.</p> <p>The questions and take-aways from this session are complete.</p>	

RIC 04 Panel Summary Form	Questions/Take-aways from W8 / International Issues
<p>ALL QUESTIONS WERE ANSWERED DURING SESSION. This item is complete.</p>	

RIC 04 Panel Summary Form	Questions/Take-aways from T1 / Safeguards/Security
<p>Q: A licensee must have a license amendment to implement the new security plans (most, if not all, operating licenses have a condition regarding compliance with specific revisions to the security plans as revised by 50.54). How will the operating licenses be revised? Will the NRC comply with 50.90? Response: License conditions which reference a particular revision or date of the NRC-approved security plan will be changed to reference the new security plan. This is an administrative, conforming change to the license condition that is required to achieve compliance with the April 29, 2003 DBT order, which was an order modifying the operating reactor licenses. Since this administrative change is inherently required by the Order, no separate 50.90 license amendment is necessary.</p> <p>Q: NRC talked about control of safeguards information. Ms. Brian seems to know some detail of the DBT and she admits to having seen a licensee's security plan and the number of officers delineated therein. Does NRC plan any action against Ms. Brian and POGO? Response: The NRC normally does not comment on sensitive information in the public domain, and normally does not confirm or deny the accuracy of information which members of the public or the media assert is information which is or may be Safeguards Information (SGI) or other sensitive homeland security information. The unauthorized disclosure of SGI by any person is a serious violation of Federal law and may result in civil or criminal sanctions, including imprisonment. Information which suggests that there may have been an unauthorized disclosure of SGI is evaluated on a case-by-case basis. The NRC does not comment on pending investigative or enforcement matters.</p> <p>Q: A recent report from Germany once again identified obvious and significant structural vulnerabilities to NPP designs, specifically, early BWR designs in Germany. There is growing public concern, most recently in newspapers around Oyster Creek that similar structural vulnerabilities exist and are being ignored by NRC and operators of Mark I and II BWRs. What is NRC doing to address this growing awareness of structural vulnerability to early US BWR designs? Response: NRC is continuously evaluating potential vulnerabilities and developing mitigative strategies in coordination with its homeland security partners and the industry.</p> <p>Continued on next page.</p>	

Q: No facility is capable of countering a terrorist attack if we have to assume the terrorists have unlimited resources. The design basis threat defines the limits we place on what level of attack we need to be capable of responding to. Can you provide some comments on what role your organization plays in assuring the DBT is bounding, i.e., what is in place to ensure any terrorist action would be limited/controlled?

Response: The HSC coordinates homeland security-related activities among executive departments and agencies and promotes the development and implementation of all homeland security policies. Specifically, we are coordinating interagency efforts to improve protective and response capabilities for areas outside of the direct control of commercial nuclear facilities. This requires close collaboration between various agencies including DHS and the FBI and other Federal, state, and local government agencies.

Q: Much credit is being taken for having decided policy and design threats. However, we are 7+ months to completing the Order and implementation is where the rubber meets the road which is generally lagging. The water threat isn't yet clear. Without over designing to the tune of millions and millions of dollars it would appear there will be cases where implementation will not be complete. We recognize the NRC can take action if Order implementation isn't complete such as to shutdown a plant. However, even shutdown doesn't reduce the threat significantly. So the Question is - 2 part. What does the NRC intend to do if implementation isn't complete? And what realistic options exist other than shutdown and doesn't that really further reduce the robustness of the electric grid infrastructure if several were shutdown?

Response: Absent the approval by the NRC of an extension of time to achieve full compliance by the Order's compliance date of October 29, 2004, there would be a violation of the order by any licensee who did not achieve full compliance. This would be a serious matter that would be evaluated under the Commission's Enforcement Policy. Shutdown is only one option available for such a violation. Other options include ordering immediately effective compensatory measures with or without daily civil penalties until compliance is achieved.

Q: How long do you think it will be before the industry receives clarifications on the DBT order so we may meet the October deadline for order implementation?

Response: The latest DBT implementing guidance was distributed in early June, 2004. It was fully coordinated with industry representatives.

Q: Our facility license contains a paragraph specifying the revision of the security plan approved by the NRC. When the new security plan is submitted how will this license paragraph be corrected without a 50.90 change?

Response: License conditions which reference a particular revision or date of the NRC-approved security plan will be changed to reference the new security plan. This is an administrative, conforming change to the license condition that is required to achieve compliance with the April 29, 2003 DBT order, which was an order modifying the operating reactor licenses. Since this administrative change is inherently required by the Order, no separate 50.90 license amendment is necessary.

Remaining IOUs/Takeaways for this session are under review by NSIR. Inquiries concerning the responses should be addressed to NSIR at 301-415-8003.

Q: How can NRC hold industry accountable to tell the truth? Example: Entergy has been caught misleading the public in VT so many times that the public has little trust left.

Response: **Every US nuclear power plant licensed by the NRC is required to comply with NRC regulations. This is fundamental to the NRC's ability to have confidence in the safety of licensed activities at each plant. Therefore, information provided by any licensee that the NRC regulates is required, by regulations, to be complete and accurate in all respects. In addition, the NRC conducts plant inspections to verify the accuracy and completeness of information provided to us in the past. If licensee personnel are found to have committed willful acts of wrongdoing by the NRC, then appropriate enforcement with regard to the individual will be pursued along with the appropriate enforcement oriented toward the licensee. We will continue to ensure adequate protection of the public health and safety by holding the licensee accountable to its mission of safely operating their plant in accordance with NRC regulations.**

Q: Being part of the industry, it is very interesting that communications between the three offices poor or mired in politics. If we are to be responsible industry members, the NRC internal communications need to improve. A big part of the communications issues within the NRC delays resolutions of issues.

Response: **The NRC is a large, independent federal regulatory agency. As such, input from different offices within the agency, including the Executive Director For Operations and the Commission, are often required while still ensuring that the NRC maintains its safety mission and its commitment to protect public safety. To support our mission, the agency has a goal to ensure openness by providing all stakeholders with timely, understandable, and consistent information. In order to effectively accomplish this goal, the Commission has tasked the staff to improve internal communications. Therefore, we have taken steps to address any underlying problems and have engaged the staff for other improvements to ensure feedback.**

Although our performance in this area is comparable to other federal agencies, we still continue to pursue innovative techniques for communicating more effectively both internally and with the public we serve. For example, the NRC established an internal Communications Council to plan, coordinate, and implement NRC internal communications strategies, and share best practices that add value across the agency. In addition, training on risk communication is being developed to provide NRC staff with an interactive forum for practicing and reinforcing risk communication principles for both external and internal communication. We are seeking to improve our ability to clearly communicate internally, as well as externally with the public.

The questions and take-aways from this session are complete.

Q: Tschiltz: What is the required level of quality of PRA to fully support the SDP defined in the ROP?

Response: NRC uses SPAR models for SDP Phase 2 worksheets and Phase 3 analyses. The NRC is continuously improving the SPAR models by incorporating advancements in PRA and comparisons to licensee PRAs. Licensees may rely on NRC SPAR models, but many licensees have decided to utilize a plant specific PRA when discussing SDP results with NRC staff. PRAs are used in two ways: first as the basis for the notebooks, and second in Phase 3 SDP. The notebooks are based on the licensee's PRA model, specifically, on the functional level event trees, and the system success criteria used to support those event trees. Since the notebooks are only required to be accurate to an order of magnitude and the numerical input is generic, it can be argued that they are of sufficient quality. The benchmarking of the notebooks has highlighted where there may be differences between the notebooks and the licensee's PRA. If the licensee wants to challenge the staff's SDP phase 2 assessment and does so with his PRA, the staff needs to understand the differences to choose the most appropriate approach.

Q: Bradley: Has NEI or NRC reviewed other industry standards like API-580 that do address qualitative & semi qualitative interpretation of risk analysis?

Response: Neither NEI nor NRC have reviewed API-580, "Risk Based Inspection API Recommended Practice." However, as part of its effort to improve PRA quality, the NRC staff is developing a NUREG that will provide guidance for acceptable alternative methods to a PRA. In addition, the industry (led by EPRI) is developing guidance on dealing with model uncertainty.

Q: Baranowsky: If results and conclusions from PRA should be discussed in context of a range of values, and not a single number - then how does one go about developing a risk-based performance indicator that inherently relies upon a single performance threshold?

Response: It's true that PRA results are uncertain. The NRC strategy for dealing with uncertainties is documented in RG 1.174. The NRC position is that guidelines are compared with mean values. The mean value does take into account the uncertainty, at least in a limited sense. If another metric were to be used, e.g., the 95th percentile, the staff would have to rethink what criteria to use. This is not a trivial issue, but on the other hand the goal is to come up with indicators; they don't have to be perfect, just good enough.

Q: Tschiltz: Has the NRC looked at the comparable FAA standards for online safety risk interpretation for the public - or do comparable FAA standards even exist?

Response: The NRC and the FAA have been members of an inter-agency risk management working group for the last several years. Other agencies on the working group include: NASA, USDA, FDA, CDC, DOE, and EPA. The working group has sponsored many activities focused on sharing information. Recently, the University of Maryland Center for Technology Risk Studies held a workshop under joint sponsorship by the Center, NRC, NASA, and USDA, on "Uses of Risk Information by Agencies of the U.S. Federal Government," at the University of Maryland. This was not a public meeting. Rather, it was by invitation only to federal agencies who develop and/or use risk information. Sixteen federal agencies participated and there were four sessions, as follows:

1) An overview was presented of the risk information (techniques and tools) used in three of the participating federal agencies.

Presentations in the remaining three sessions were made by representatives of the participating agencies. These sessions were entitled:

2) "The Role of Risk Methods and Information in Regulation and Management."

3) "Establishment and Uses of Risk Target Levels."

4) "Formal Uses of Risk Results in Decision Making and Risk Communication"

Q: Is anyone working on a PRA method to address terrorism risk?

Response: Not explicitly, however, the NRC has been working on assessing potential vulnerabilities at its facilities, including systems, procedures, and structures and identified appropriate mitigating measures. The NRC has completed the initial assessment of power reactor vulnerabilities to intentional malevolent use of commercial aircraft in suicidal attacks and has initiated a broad-ranging research program to understand the vulnerabilities of various classes of facilities to a wide spectrum of attacks.

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RIC 04 Panel Summary Form	Questions/Take-aways from T3 / Risk Informed Activities - continued
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Q: Baranowsky: It is not clear to me what basis will be used to resolve differences between SPAR CDF numbers and CDF numbers from licensee models. That is, what standard(s) will be used to determine which numbers to use.

Response: The answer depends on the application and how it will be used. It is important to keep in mind that the CDF numbers from the PRA are only one input to the NRC decision. If the SPAR model is being used to check the licensee's model for some application, it is important to understand the reasons for any differences. The resolution would be on the merits of the relative cases. For example, if the SPAR model has used a conservative success criterion whereas the licensee has used a realistic one, the decision would lean towards the licensee's model. Conversely, if the licensee uses a success criterion that the staff believes is unrealistic, the staff would lean toward the SPAR model.

Q: How does conservative decision making fit into today's regulations?

Response: Maintaining safety, protection of the environment, and the common defense and security is the preeminent performance goal for the NRC and takes precedence over all other performance goals. The NRC's regulatory structure was developed using conservative assumptions to account for uncertainties in analysis and to bound unknown phenomena.

The safety performance of the nuclear power industry has improved substantially over the past ten years, and nuclear reactors, collectively, are operating above acceptable safety levels consistent with the agency's Safety Goal Policy. The NRC believes this level will be maintained. If substantial safety improvements are identified, additional requirements should only be imposed consistent with the Commission's Backfit Rule (10 CFR 50.109). Allowing small risk increases may be acceptable when there is sufficient conservatism and reasonable assurance that sufficient defense-in-depth and safety margins are present.

The NRC licensees will continue to have the primary role in maintaining safety and are expected to identify, through mechanisms such as operating experience feedback and integrated risk assessments, the design and operational aspect of their plants that should be enhanced to maintain acceptable safety performance levels.

Q. Where can RG 1.200be found on the NRC web site?

Response: It is located at <http://www.nrc.gov/reading-rm/doc-collections/reg-guides/power-reactors/active/index.html>

The questions and take-aways from this session are complete.

RIC 04 Panel Summary Form	Questions/Take-aways from T4 / Operating Experience
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ALL QUESTIONS ANSWERED DURING SESSION.

This item is complete.

RIC 04 Panel Summary Form	Questions/Take-aways from T5 / Safety Conscious Work Environment
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ALL QUESTIONS ANSWERED DURING SESSION.

This item is complete.

RIC 04 Panel Summary Form	Questions/Take-aways from T6 / TMI
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ALL QUESTIONS ANSWERED DURING SESSION.
[This item is complete.](#)

RIC 04 Panel Summary Form	Questions/Take-aways from T7 / Commissioner McGaffigan
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ALL QUESTIONS ANSWERED DURING SESSION.
[This item is complete.](#)

RIC 04 Panel Summary Form	Questions/Take-aways from T9 / Commissioner Merrifield
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ALL QUESTION ANSWERED DURING SESSION
[This item is complete.](#)

Q: With the reliability and coverage problems of sirens, and the fact that sirens are a rather old technology (cold war) and have little information content, wouldn't it be better to use new technology for alert and informing the public (internet, cable TV, cell phones, etc.)?

Response: While there have been limited reliability and coverage problems with sirens, they continue to provide an acceptable method of alerting the public. However, existing guidance in FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants, November, 1985," gives licensees flexibility to use new technology for alerting the public. For example, some plant sites use tone alert radios, automatic telephone dialing systems, mobile siren vehicles, etc., to notify the public as either the primary notification means or as a supplement to the siren systems. Also, in conjunction with the alert notification system, the Emergency Alerting System (EAS), formerly the Emergency Broadcast System (EBS), does use means such as radio and cable TV to provide informational messages to the public. In addition, technological advances have been made in sirens, such as the installation of feedback systems, which more effectively monitor the performance of sirens. Advances in technology have also increased the availability and reliability of sirens.

Q: The staff appears to be revising its position on 10 CFR 50.54(q) with regard to emergency action levels to the point of developing regulations by inspections. Does the Commission endorse this approach?

Response: The NRC staff has not changed its position on 10 CFR 50.54(q), nor does the NRC staff consider its inspection and enforcement actions in the area of licensee compliance with 10 CFR 50.54(q) to have departed from the requirements of the regulations with respect to changes to emergency action levels. The regulations in 10 CFR 50.54(q) that are related to changing emergency action levels also have not changed. 10 CFR 50.54(q) states that a nuclear power reactor licensee may make changes to its emergency plan without Commission approval **only** if the changes do not decrease the effectiveness of the plan, and the plan as changed, continues to meet the standards of 10 CFR 50.47(b) and the requirements of 10 CFR 50 Appendix E. 10 CFR 50.54(q) also states that proposed emergency plan changes that decrease the effectiveness of the approved emergency plan may not be implemented without application to and approval by the Commission. In addition, on October 8, 2003, the NRC issued a Regulatory Issue Summary (RIS) to inform addressees that the NRC had endorsed Nuclear Energy Institute 99-01 "Methodology for Development of Emergency Action Levels", Revision 4 (NEI 99-01) dated January 2003. The RIS endorsed the use of NEI 99-01 for use as guidance in developing or changing a standard emergency classification and action level scheme.

Q: Question raised during W2 plenary session (Diaz) and reassigned to T10. NRC provided potassium iodide (KI) will expire in 2005. Is there any plan to replace it or will that just fall to the states that choose to accept the initial issue?

Response: The first orders of KI were provided in February 2002. The shelf-life of that supply is five years. Therefore, those states receiving KI in 2002 would not need to replace it until 2007. The NRC has contracted to continue to provide an initial supply of KI to eligible states that request it through February 2009. Replacement KI will be supplied, if directed by the Commission. In future budget proposals, the NRC will consider additional funding necessary to provide replacement KI.

Q: Question raised during W2 plenary session (Diaz) and reassigned to T10. How will the current NUREG-0654 and the REP program be "dovetailed" into the new Department of Homeland Security National Response Plan?

Response: Homeland Security Presidential Directive-5 tasked the Department of Homeland Security (DHS) to develop and administer the National Response Plan (NRP) (the national-level, all-hazards interagency plan) and the related National Incident Management System (NIMS) (the national-level adaptation of Incident Command System). Nuclear power plants were neither the impetus nor focus of the NRP, but are necessarily included in the "all-hazards" applicability of the NRP. The NRP and NIMS development is a lengthy process involving multiple stakeholders at the Federal, State, local and private-sector levels. NIMS was finalized and issued by DHS on March 1, 2004. The NRP will integrate Federal-level interagency response plans, including the Federal Radiological Emergency Response Plan (FRERP). The FRERP will become an annex to the NRP. DHS anticipates issuance of the NRP in July 2004 and will have an extensive role-out process for all stakeholders.

The NRC is participating in the NRP review and comment process and is co-authoring, with DHS/FEMA and other agencies, modification of the FRERP into a NRP annex. The NRC has conducted, and will continue to conduct, outreach activities regarding the NRP development and its potential impact on licensee emergency preparedness programs. Also, the NRC will revise its Incident Response Plan (NUREG-0728) following issuance of the NRP in July 2004 and will address the relevance of NRP provisions to nuclear power plant emergency preparedness programs.

[The questions and take-aways from this session are complete.](#)

RIC 04 Panel Summary Form	Questions/Take-aways from T11 / Emergent Technical Topics
<p>Q: Question raised during W2 plenary session (Diaz) and reassigned to T11. (Diaz) You didn't mention resolution of GSI-189, another issue that has d"been around too long." Although there is a simple, cost-effective way to resolve this issue the plan is not to resolve it before 2010. What is taking so long?</p> <p>Response: The staff review of Generic Safety Issue (GSI) -189, "Susceptibility of Ice Condenser and Mark III Containments to Early Failure from Hydrogen Combustion During a Severe Accident," is ongoing. The Advisory Committee on Reactor Safeguards agreed with the staff that installation of an alternative power supply for hydrogen igniters in the containment buildings of 13 nuclear power plants would provide a safety benefit during a severe accident concurrent with a station black out (loss of all AC power) event. The staff is currently working on a regulatory analysis in support of GSI-189. This analysis includes a backfit evaluation, a cost-benefit analysis, alternative regulatory options, and analysis conclusion. The staff is holding public meetings with interested stakeholders to develop the design criteria for the alternate power supplies to help inform the regulatory analysis process. The staff plans to recommend to management a regulatory action to resolve GSI-189 by this summer. If rulemaking is the recommended regulatory action, a rulemaking plan will be developed and promulgated to the Commission for approval, tentatively by the end of this year. The rulemaking process takes about two years from the start of the rule plan, through the proposed rule and public comment stage, before issuing the final rule. Thus, a proposed rule could be issued for comment in 2005 and the final rule would be issued by the end of 2006.</p> <p>The questions and take-aways from this session are complete.</p>	

RIC 04 Panel Summary Form	Questions/Take-aways from T12 / License Renewal
<p>ALL QUESTIONS ANSWERED DURING SESSION</p> <p>This item is complete.</p>	

RIC 04 Panel Summary Form	Questions/Take-aways from T13 / Spent Fuel/Transportation/Disposal
<p>Q: Panelist Martin G. Malsch (Egan, Fitzpatrick, Malsch & Cynkar, PLLC): "Wouldn't the funding provided to the State of Nevada be better spent on aggressive technical oversight of the safety of a HLW repository rather than legal fees?"</p> <p>Response: Answer by Martin G. Malsch: "In a different world where NRC licensing decisions would be based solely on expert technical presentations and evaluations, all one would need to participate effectively in an NRC case would be "aggressive technical oversight." However under the Atomic Energy Act and NRC regulations, and especially under NRC's very complicated and burdensome pleading rules, lawyers are essential in order for any party to be assured that its technical experts will actually be heard at the hearing. This is because the NRC rules place a premium on drafting of written pleadings and other legal documents, legal argument, and compliance with pleading and hearing rules drafted by lawyers. Time and time again, NRC has rejected hearing requests when its pleading rules are not satisfied. So, under NRC's rules, legal fees are a price that must be paid in order to participate effectively in a NRC licensing proceeding."</p> <p>The questions and take-aways from this session are complete.</p>	

**RIC 04 Panel
Summary Form**

Questions/Take-aways from T14 / Fire Protection

Q: Black: No specific fire protection issues were addressed.

Response: The Fire Protection session of the Regulatory Information Conference (RIC) is one of many public meetings that are conducted to discuss fire protection issues. This particular Fire Protection session was in keeping with the overall RIC theme centered around communications. Thus, this session included speakers representing internal and external stakeholders that supported the session's theme of cooperative efforts and communications. The description of internal and external interactions, the collaborative research efforts, and communication mechanisms was thought to be useful information for attendees. Several specific issues were addressed, for example, the ANS standard for fire PRA. There are many other public meetings held by the NRC that specifically discuss fire protection issues, with some meetings limited to a specific fire protection issue. For example, public meetings have been recently held on operator manual actions (November 12, 2003); fire protection Significance Determination Process (October 30, 2003); NFPA 805 rulemaking (December 4, 2003); and associated circuits (January 28, 2004). Information on future public meetings can be found on the NRC website. For example, the NRC fire protection staff is scheduled to provide presentations to the Advisory Committee on Reactor Safeguards Fire Protection Sub-Committee in the near future. This meeting will be posted on the NRC website once it has been scheduled.

Q: Black: Where is NPP explosive (i.e., H2)+ fire issue in resolution (H2 from all sources, esp. T.G)where & in what state is H2 stored in general?

Response: Generally, nuclear plants meet or exceed the hydrogen storage separation provisions described in either NFPA 50A, "Gaseous Hydrogen Systems," Appendix A to Branch Technical Position APCSB 9.5-1 (Appendix A), or NUREG-0800 CMEB 9.5-1. This standard describes that hydrogen should be stored over 50 feet away from plant structures and ventilation openings. The NRC has evaluated plants that do not meet hydrogen storage provisions, and has confirmed that they are in compliance with their licensing bases. The NRC has identified no outstanding risk significant issues involving hydrogen storage.

Hydrogen is generally stored in a compressed state.

Q: Black: How does hypothetical n/c crash enter into planning /resolution?

Response: Separation distances are designed to be adequate to protect the plant from a hydrogen fire or explosion. Regardless of the cause of a hydrogen fire or explosion, the NRC does not expect hydrogen storage facilities to challenge the safe shutdown of nuclear plants.

Q: Black: To what extent is terrorist act considered in probability figures?

Response: Terrorist acts are not currently considered in fire probability figures.

Q: Black: How do manual actions replace separation distances & structural integrity?

Response: Most plants meet the separation distances or have structural protection from hydrogen storage facilities. The remaining plants have been reviewed and meet their licensing basis. Manual actions are not required in order to safely shutdown in the event of a hydrogen fire.

The questions and take-aways from this session are complete.

**RIC 04 Panel
Summary Form**

Questions/Take-aways from F1 / Region III Breakout

ALL QUESTIONS ANSWERED DURING SESSION

This item is complete.

RIC 04 Panel Summary Form	Questions/Take-aways from F2 / Region IV Breakout
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ALL QUESTIONS ANSWERED DURING SESSION
Takeaways:
 Develop operating experience prep for security. (Transferred to HQ, NSIR)
 Communication plan for where we are going in security. This item moved to HQ. See below for transferred items.
 Workshop with stakeholders on crosscutting issues. This item moved to HQ. See below for transferred items

RIC 04 Panel Summary Form	Questions/Take-aways from F3 / Region I Breakout
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ALL QUESTIONS ANSWERED DURING SESSION
 This item is complete.

RIC 04 Panel Summary Form	Questions/Take-aways from F4 / Region II Breakout
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ALL QUESTIONS ANSWERED DURING SESSION
 This item is complete.

RIC 04 Panel Summary Form	Reassigned Take-aways from F1 / Region III Breakout
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Takeaways:
 NRC evaluation of increased PI & R sub. Cross Cutting
 Response: During CY 2003, the staff made several improvements in the assessment program, as reflected in revisions to IMC 0305, "Operating Reactor Assessment Program."
 The staff revised the guidance to clarify what constitutes a "substantive cross-cutting issue" and to include the option to request that a licensee respond to the identification of such issues. The staff incorporated specific criteria into IMC 0305, and the program office continues to participate in each of the individual plant mid-cycle and end-of-cycle review meetings to ensure consistent application of this policy across the regions. Substantive cross-cutting issues are discussed in both the mid-cycle and end-of-cycle assessment letters to licensees. Any substantive cross-cutting issue raised will be evaluated in future assessments, and the assessment letter will either state that the issue has been satisfactorily resolved, or summarize the licensee's progress in addressing the issue. Licensee progress in clearing substantive cross-cutting issues is determined by evaluating the current 12-months of findings with cross-cutting elements against the criteria provided in IMC 0305: there are multiple green or safety significant inspection findings with documented cross-cutting causal factors (generally in more than one cornerstone), and the causal factors have a common theme. In addition, the regions may request that the licensee provide a response to an unresolved substantive cross-cutting issue at the next annual public meeting, in a separate meeting specifically for that purpose, or in writing.

The staff plans to continue monitoring regional implementation of this guidance, making adjustments as necessary. The staff also plans to continue to actively solicit input from the NRC's internal and external stakeholders in the interest of further improving the reactor oversight process (ROP), and will continue to evaluate program improvements via the ongoing self-assessment process. However, at this time, the staff does not plan to have a workshop with stakeholders on the ROP cross-cutting issues. This item complete.

Takeaways:

Develop operating experience prep for security.

Response: **This Takeaway under review by NSIR and Region IV.**

Communication plan for where we are going in security.

Response: A conference call was held prior to the end of March 2004, with all Region IV licensee's to discuss future plans for security activities including inspection plans. **This item complete.**

Workshop with stakeholders on crosscutting issues.

Response: During CY 2003, the staff made several improvements in the assessment program, as reflected in revisions to IMC 0305, "Operating Reactor Assessment Program." The staff revised the guidance to clarify what constitutes a "substantive cross-cutting issue" and to include the option to request that a licensee respond to the identification of such issues. The staff incorporated specific criteria into IMC 0305, and the program office continues to participate in each of the individual plant mid-cycle and end-of-cycle review meetings to ensure consistent application of this policy across the regions. Substantive cross-cutting issues are discussed in both the mid-cycle and end-of-cycle assessment letters to licensees. Any substantive cross-cutting issue raised will be evaluated in future assessments, and the assessment letter will either state that the issue has been satisfactorily resolved, or summarize the licensee's progress in addressing the issue. Licensee progress in clearing substantive cross-cutting issues is determined by evaluating the current 12-months of findings with cross-cutting elements against the criteria provided in IMC 0305: there are multiple green or safety significant inspection findings with documented cross-cutting causal factors (generally in more than one cornerstone), and the causal factors have a common theme. In addition, the regions may request that the licensee provide a response to an unresolved substantive cross-cutting issue at the next annual public meeting, in a separate meeting specifically for that purpose, or in writing.

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NRR to look at MC9900 guidance.

Response: Updating IMC9900 is currently in progress. Because of the difficulty coordinating among numerous technical branches, it will be accomplished incrementally over an extended time period. **This item complete.**