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December 31, 1999

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Nuclear Regulatory Commission:

This letter is being submitted in response to the Nuclear Regulatory Commission's (NRC) November 4, 1999 Federal Register notice which sought public comments for the proposed revisions to the NRC processes for overseeing the safety performance of commercial nuclear power plants. This federal notice extended the comment period from November 30 until December 31, 1999.

We appreciate the opportunity to submit comments on this important NRC initiative and thank the NRC for extending the comment period 31 more days. The comprehensive nature of the program change, integrating the inspection, assessment, and enforcement process, and the rapid pace of the implementation is major challenges. We have a strong interest in this new oversight initiative being successful and meaningful.

The new oversight program is a clearer method for focusing on risk significant areas and potentially provides a more objective way to evaluate nuclear power plant performance, but the overall effectiveness of the program remains uncertain. The important results from the pilot plant data and inspection needs a complete and thorough review by the NRC and other stakeholders. It has not yet been proven that the performance indicators correlate with plant performance. The use of colors provides artificial thresholds that have yet to demonstrate that they adequately predict a nuclear power plant's current or future performance.

While we agree with the goal to make nuclear power plant performance easy to understand, the color system oversimplifies and may have undesired results. Public perception to a color system might not increase confidence. Regulatory burden might increase as a result of continuous debates between the licensee and the NRC on color-based indicators that are publicly displayed. Finally, increased suspicions of a simplified

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color-based system, that rarely leaves the green indicator, could further erode our confidence in true performance. The real numbers should be reported, not just the color conclusions.

If the NRC cannot make changes in the program before April 1, when it is scheduled to be rolled out for national implementation, we suggest that the NRC delay. Getting this program right is more important than getting it done quickly.

Specific comments on the new program are detailed in the Performance Indicators, Inspection, Significant Determination Process areas and general comments are detailed in the Program area.

Performance Indicators

We believe that the performance indicator colors, and corresponding thresholds, should be dropped from the program. The performance indicators are good plant data that should be submitted by the licensee, reviewed by the NRC and made available to the public. However, it has not yet been determined that performance indicators correlate with plant performance or that the colors have any real significance. Performance indicators should be used as important information in the overall plant assessment process, but not as conclusive evidence that a plant has an adequate margin of safety.

It has not yet been established that these performance indicators are the correct ones. Are they simply a function of collecting data on those parameters that are easily measurable rather than measuring what is meaningful? Are the thresholds correct? Can trends be assessed before there is a color change? For multiple plants at a site, performance indicators are grouped together. The safety significance of a true indicator can be lost in the dilution with other plants at the site and a systemic problem at one plant could be masked by good performance at other plants. This is where the performance indicators have to be linked to an inspection. An astute inspector will be able to pick apart the data and find the problems. But could a less experienced inspector see the thread?

Performance indicator colors, other than green, continue to be interpreted by the licensee as concerns, when they should be viewed as just indicators. Licensees are averse to accepting any performance indicator color other than green. Unfortunately, as reflected in the pilot, when a color, other than green is reached, the licensee aggressively tries to relax the definitions. This was not the intent of the program. Though performance indicators are helpful for evaluating nuclear power plant performance, they do not substitute for inspection and could increase regulatory burden through excessive concerns over the color of the indicator.

We don't support the use of risk alone to determine performance indicator thresholds (NRC reactor safety chapter performance goal measure #1). It generates thresholds that are unreasonably high and unrealistic. Human performance is generally regarded as low risk, but there are potentially high consequences to errors in human performance. With plant aging a concern, as plants are granted extensions to their operating licenses, there are areas where plant integrity degrades, and it might not be noticed if risk is the only way that performance indicator thresholds are determined.

A good indicator of the color-based system not working can be derived from the pilot performance indicators. By the end of the pilot at 13 pilot plants, 2 performance indicators were white. None were yellow or red. That is, out of 242 performance indicator possibilities, only 2 indicators were not green or .83%. The shadow plant program results reveal that a very high percentage of all plants will be green. Is a system where the results reveal 99.17% green indication a system that is meaningful? Why are class grades scaled to a normalized curve? So you can differentiate good students from those that need extra help. Why not normalize distribution of indicator data? The NRC would be able to distinguish plants that excel from those that need a little extra help. The NRC page for displaying performance indicators can be improved as outlined in Attachment A.

From our review and experience working with all of the performance indicators we developed a series of questions that need to be addressed. How helpful were these performance indicators during the pilot program in contributing to the evaluation of plant performance and how helpful will they be for all plants? Does this merely indicate that all nuclear power plants in the US are operating with an adequate margin of safety? Does it indicate that the NRC's current tight regulatory scheme was successful in promoting safety? If a number of plants have a large space "in the green" in which to operate before they engender increased attention from the regulators, will they take advantage of that and lose their attention to detail? What will happen to safety culture at the utilities? Were any of these questions addressed during the pilot or was it simply too short of a timeframe for utilities to learn to "manage" the indicators and stay in the green with less effort or emphasis on corrective action? Since performance indicator reporting is voluntary, what will the NRC do about plants that don't volunteer? Can a plant submit data voluntarily and drop out later? If they do, what will the NRC do?

Inspections

Overall, inspections remain the cornerstone for evaluating plant performance. The scope of the new inspection procedures captures the major areas of inspection at a nuclear power plant. However, we are concerned with the depth of the individual inspections. The inspections, and the ultimate identification of findings, are very dependent on the inspector who performs the inspection. A meaningful inspection process should be <u>supported</u> by the inspector's experience not <u>dependent</u> on their experience. A system that relies on the inspector's talents (experience, knowledge, and aggressiveness) will be inconsistent across the country and could potentially miss some safety significant issue.

The inspection reports need improvement and our suggestions are outlined in the attachments. One purpose of the new program is to reduce plant inspection hours, however, the number of hours outlined in many inspection procedures are unrealistic. A quality inspection needs to take the time to pull the thread – investigate the detail. A lack of detail can mask a systemic problem – one that might not be recognized unless an inspector took the time to investigate. The NRC concluded that a great deal of variability exists for the amount of inspection time spent on the inspection procedure from plant to plant and region to region. That seems to prove our point that the inspector experience was the most important factor in determining the depth of the inspection, rather than the inspection procedure itself.

Significance Determination Process (SDP)

There are six SDP processes for evaluating the significance of potential NRC inspection findings. The SDP process is incredibly complicated – even daunting – so that few observers of the pilot will be able to comment intelligibly. We will be very interested in the outcome of the public meetings at the pilot plant facilities where the NRC will try to determine the level of public confidence using the new oversight process. Trying to understand and apply the 6 different SDP processes is difficult. In our opinion, the SDP is a risk-informed approach that only a small minority in industry and at the NRC understand.

What assurance can be provided to the public and to interested observers that underlying risk assumptions and conclusions are valid? Since the outcome of the SDP is a color, it minimizes all the other process benefits derived from the potential discovery of the finding to the final determination of the finding. During the pilot, the SDP produced 3 potential findings, other than green, for all 13 pilot plants. These 3 findings are still under review. In two cases, the licensee contested the finding, caused delays, wanted to rewrite the program, and added confusion to the process.

We are concerned that the real objectivity required of this program would get lost during the negotiations between the NRC and the licensee each time a potential finding is identified. These negotiations are invisible to the outside world. The SDP may prove to be a useful tool for focusing on risk significance but should not be used to determine performance unless performance and significance can be correlated.

The NRC should use the results of the SDP as part of plant evaluation and determine independently what further action is required. The SDP is a significant advancement in the NRC assessment process but it should not replace the NRC's overall assessment process. Reducing the evaluation of nuclear power plants to a set of colors again imposes artificial thresholds in a continuum of plant conditions and could increase the regulatory burden through undesired debates over color choices. Rather than implementing corrective action at any time a problem is discovered, the particular problems that push a plant over a color threshold will receive the most attention.

Program

Many unresolved issues exist with this new oversight program. Have all strategic performance areas been addressed? Should economic performance be included? Plants are operating in a new environment – a deregulated environment – where cost cutting will be valued because of its value to the shareholders in the corporation. How long will it take for this value to be transposed into the operations sector, where employees will be valued for their cost-effectiveness? How few employees can effectively run a nuclear power plant? How will we find out that there were too few employees? Is there a cornerstone missing? Can cost-cutting impact safety and not be noticed with this color scheme?

The NRC and the licensees do not have enough experience to properly assess the program. Yet to gain experience means that the program will be rolled out to all nuclear power plants in the US, and after that, it will be inordinately difficult to make any changes to the program. Already the performance indicators seem to be set in stone since the shadow plants are already collecting the data and getting ready to submit it to the NRC. If any changes occur to the performance indicators, many data collection systems will have to be altered or scrapped. Rather than rush the program implementation by April 1, 2000, it would seem prudent to try to get the program right. False starts only lead to confusion down the line. Change becomes progressively more difficult the more plants are involved. Basic questions remain unanswered: does this new oversight program which produces colors, actually measure performance? The overall conceptual approach supports this, but the details that emerged during the pilot have not convinced us that it will capture plant performance in its current design.

The outcome of this program will reduce total and direct inspection hours at nuclear power plants. This will reduce the number of inspectors that NRC has on staff, thereby reducing the regulatory burden to the nuclear power industry. One way to look at this is that the safety conscience (or consciousness) has been shifted to the utility. The NRC merely emphasizes results. It de-emphasizes preventive actions. The utility has to trend, identify, and fix the margin issues (those in the green). Reporting on these is limited. Will this "margin management" lead to cost cutting by utilities for margin issues? The pilot was too short and too limited for us to see these trends, but they must be monitored in the future.

Another tradeoff is that the utilities will be providing more information voluntarily, and that information will be made public. It is as if the public were suddenly given the responsibility to make judgements about nuclear power plant safety themselves, based on a color-coded scheme. While I have great faith in the American public's abilities, this tradeoff has not yet been justified.

The role of the states is not explicit in this new oversight process. Many of the reporting tools that the states traditionally used in assessing nuclear power plant safety such as the SALP, the 50.72 reports, the deviation reports will no longer be used. How will states make use of the new data available? Certainly states vary in their interest and resources devoted to nuclear power plant surveillance. But all states are involved in emergency preparedness and most have environmental monitoring programs. Some of the performance indicators should measure how well the state resources are integrated into the emergency plan, and whether the interface between states, utilities and the NRC is seamless. The public expectation is that we are all working together as a team. What is the reality?

With the implementation of the program moving so quickly, has the NRC adequately informed the public about their new role? Did the results of the pilot plant experience capture performance at the pilot plants in enough detail that it can be justified to expand the program to all plants? We believe that it is still inconclusive. This is supported by the Pilot Program Evaluation Panel report, which concluded that the program could move forward but the key issues the pilot was supposed to address remain unanswered.

We appreciate the opportunity to offer our thoughts on the new oversight program and are available to discuss them with you further, at your convenience. Specific observations based on our participation in the inspections at the pilot plants in our state follow. The NRC staff has welcomed our participation and we wish to pass along our compliments for their dedication to providing a more open and effective process for governmental regulation.

Sincerely,

Jill Lipoti

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Attachments: NJ DEP Comments

NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
COMMENTS

Reactor Safety - Emergency Preparedness

A. Performance Indicators

PSE&G's interpretation of the NRC's performance indicators give little indication of any problems with the EP cornerstone. For example, under the Drill/Exercise Performance there is no separate indication for notification, classification, and protective action recommendation and no indication of timeliness or accuracy. The Drill/Exercise Performance Indicator is measured by PSE&G, through combining notifications, classifications, and protective action recommendations for all three operating nuclear power plants. By doing this, the result is a 99.0% and 97.9% performance. Yet there have been three real events in the past year that resulted in either misclassifications or untimely classifications. Finally, the identification and corrective actions were not effective or timely because the Performance Indicators were not trended appropriately. Each corrective action was treated individually.

The indicator as it is reported, dilutes the indication of performance by combining all opportunities at all three PSE&G's nuclear power plants. Salem has had and is having classification problems. Therefore, it is essential that the licensee report each type of opportunity, notification, classification and protective action recommendation at each operating nuclear power plant to better characterize performance.

The Alert Notification System should not be restricted to offsite sirens but should include the on-site sirens and public access system. It is important that both on-site and off-site notification systems work effectively. They should be tracked as a supplemental component in the Alert Notification System performance indicator.

B. Significance Determination Process

Under the SDP review, for it to be a white finding, a correlation must be shown where corrective actions were not effective in three events due to two repeats.

Under the Problem Identification and Resolution (PIDR) Flow Chart 1, it is clear that the licensee has not corrected long-standing classification problems. It is apparent that two out of three events had classification problems and when one reviews the problems with exercises, and Salem's history of not making accurate classifications during real events (loss of annunciators) there is an apparent root cause analysis problem. A significant component that is not part of the licensee's corrective action procedure, is the use of an emergency preparedness expert on the root cause analysis team. Interviews are conducted, but emergency preparedness personnel do not review the final document or provide independent assessment. This is essential for establishing trends and taking ownership over long-standing problems. The two root cause analyses would have resulted, at a minimum, in a Level IV violation in the old system.

Under the PIDR Drill/Exercise Evaluation Flow Chart 2, it is clear that the licensee has not been successful in identifying and resolving classification problems for simulator training, exercises and drills. The Self-Assessment process doesn't extend the review over a longer time period to assist in identifying and verifying trends. For example, one of the self-assessments reviewed classification problems as a negative item and the emergency preparedness group initiated an independent review by operations. The independent verification concluded that no trends were apparent, therefore no negative findings. However, the independent assessment conclusions were based on one future exercise. For trends to be established, a review of exercises prior to the event and after the event needs to be performed. If a review of a set of consecutive exercises were done, Operations would have concluded that classifications are a systemic problem at Salem.

Conclusion

The new process needs modification to include relevant PIs. In part these are described in the baseline inspection program document for the Pilot program. What is not described is how the lack of detailed performance indicators can mask systemic problems at a nuclear facility. Modify the baseline inspection procedure to be more accurate and helpful to the regulator and establish a true measure of public health and safety.

Reactor Safety - Initiating Events, Mitigating Systems, Barrier Integrity

A. Performance Indicators

1. Initiating Events

Unplanned Scrams per 7000 Critical Hours

Tracking scrams at a nuclear power plant is a good indicator because it is easy to understand and captures the notion that frequent plant challenges are unwanted. If thresholds are kept, we suggest keeping the white and yellow thresholds where they are and change the red threshold. This should be set at 11 which corresponds to 11 scrams for a plant operating at 7000 hours for the year and 4 scrams for a plant that operated at 2400 hours critical for the year. Also, the NEI guidance document states that this PI not be calculated if the annual critical hours is under 2400 hours. The number should be calculated at 2400 hours and reported with a note. If any doubt or question exists as to determining if a scram should be counted in this data set, the guidance should instruct the licensee to be conservative and count the scram. All of the PIs displayed on the WEB can be improved with the following modifications outlined on Attachment A.

Scrams with a Loss of Normal Heat Removal

Significant scrams, which occur at a nuclear power plant, are important. This indicator is easy to understand and captures the notion that frequent plant challenges are not wanted. The indicator doesn't need to be spread out over three years. We suggest that the NRC limit it to an operating cycle or 2 years and the thresholds should be reset to correlate with the reduced reporting time period. We suggest that more than 3 of these scrams over two years should be white, more than 6 of these scrams over two years should be yellow and more than 9 of these scrams over two years should be red. If any doubt or question exists as to determining if a scram should be counted in this data set, the guidance should instruct the licensee to be conservative and add it in as a scram.

Unplanned Power Changes per 7,000 Critical Hours

Tracking and trending large power fluctuations is a good idea. This is easy to understand and indicates unwanted plant challenges. Again, 8 large power fluctuations in a year as a threshold is excessive. We suggest that the threshold be dropped to 6 and add a yellow and red band. Set the yellow threshold at 8 and the red at 10. This would also correspond to a red for 4 large power oscillations at a plant that operated for 2400 hours during the year. We believe that yellow and red thresholds should be used. The NEI guidance does not provide any justification for not having them and for consistency they should be included. If any doubt or question exists as to determining if an unplanned power change occurred, the guidance should instruct the licensee to err on the conservative side and report it.

2. Mitigating Systems

Safety System Unavailability

This data is very important. Though the performance indicator is calculated for three years of data, the NEI guidance does not explain why three years is used. These threshold levels are not understandable to most people, even if they are supposed to be connected to risk. What difference does it make to the public if they are told that a safety system was unavailable 1%, 5%, or 25% of the time. Most people are concerned if a critical safety system is unavailable for any amount of time, except for repairs and maintenance. Debate continues over definitions for these indicators and each plant should define, for themselves, the necessary system, components, and support systems to make sure the data collectors understand them. This will avoid lengthy debate and discussion each time a potential finding arises during plant operation. Also, a lot of uncertainty exists with these performance indicators. The numbers have been and will continue to be periodically revised in an adverse direction upon discovery of oversights, latent problems, etc.

Safety System Functional Failures

It is not explained why the threshold level of 5 is used before the white color band is reached. And again, for consistency and public confidence add thresholds for all colors and limit them to a two year period, which corresponds to an typical operating cycle.

3. Barrier Integrity

Reactor Coolant Activity

There has been discussion over changing the threshold because changes in reactor coolant activity from power changes don't reflect fuel failure in coolant activity. Again, this data provides a valuable piece of information concerning barrier integrity. The thresholds should be set as low as possible if one believes that indicators are warnings not measures of performance. If a plant is in the white due to power changes than it is in the white. For program consistency, a red threshold should be added, as well.

RCS Leakage

Again, this data provides a valuable piece of information concerning barrier integrity. The unidentified leak rate should be added to the identified leak rate. This provides a better indicator, which is more significant than just looking at identified leakage. The thresholds should be set as low as possible if one believes that indicators are warnings not measures of performance. For program consistency, a red threshold should be added, as well.

Containment Leakage

This data should be provided as an indicator. It is important to know the leakage value as a plant enters another operating cycle. Under the PI relating to containment leakage, there is a statement - "if a repair attempt is unsuccessful (not accepted), then the leakage rate is not counted against the plant" (pg 77 line 9-10). Does this mean that if an attempt to repair a leaking valve fails, and the valve now has a higher leak rate, that the leak rate for that valve is discounted? The thresholds should be set as low as possible if you believe that indicators are warnings not measures of performance. For program consistency, a red threshold should be added, as well.

B. Inspections

Reactor Safety Initiating Events, Mitigating Systems, and Barrier Integrity

This procedure is fragmented and difficult to follow. Boundary integrity should have its own procedure for clarity.

Inservice Inspection Activities, Inservice Testing of Pumps and Valves

The only difference between inspection procedure 71111, attachment 08 (inservice inspection activities) and the current inservice inspection procedure 73051, is that the inspection time and inspection scope have been reduced. In the new procedure, the scope is limited to the reactor coolant system boundary components, and to ensuring that the licensee has developed and is implementing an appropriate and well-managed inservice inspection program. The estimate of inspection hours was adequate to cover the reduced inspection scope, if no adverse findings or questionable areas arose.

Changes to License Conditions and Safety Analysis Reports

A basic weakness in the procedure exists. It asks the inspector to judge the adequacy of safety evaluations without defining what an acceptable safety evaluation looks like. Utilities generally follow guidance published by the Nuclear Energy Institute, but the NRC inspection procedure does not recognize its existence and consequently does not mention whether this provides an acceptable framework for safety evaluations.

The inspection procedure requires a sample size of only 5 safety evaluations per year. A sample of 15-20 provides a more suitable sample size when one takes into account the variety of activities that generate safety evaluations. The procedure should direct the inspectors to sample safety evaluations generated from design changes, analytical changes, procedure changes and program changes.

The procedure makes no differentiation between a single unit plant and a multiple unit plant. Clearly a multiple unit plant has a larger population of safety evaluation, consequently a larger sample size and more manhours are needed to gain the same confidence level.

Licensees deem certain procedure changes and plant modifications to not warrant a safety evaluation. The procedure should require that a sample of these activities be evaluated to see if the decision to not perform a safety evaluation is justified. In today's environment of cost cutting, there may be an increasing use of plant changes without a safety evaluation.

The inspection procedure lacks substance, to the point where its not really useful as a procedure. It provides a very limited, ill defined scope with no clear meaningful criteria.

Maintenance Rule Implementation

The revised maintenance rule inspection procedure, which was revised on October 22, 1999, is much better than the prior inspection procedure. Since the maintenance rule area is so important, we want to continue to stress the importance that the NRC places on ensuring that this program be well inspected with knowledgeable inspectors. The time estimates are not realistic given the scope of the inspection procedure. The finding of significant issues during the inspection will rest with the experience, knowledge, and training of the inspector in the maintenance rule area. We have observed that who performs the inspection is as important as what is in the inspection procedure. Does a resident inspector perform this inspection or does it include regional assistance?

Flood Protection

This procedure, though short, is very important. It is adequate to ensure that effective flood protection measures are in place for flood conditions at nuclear power plants. We had a good opportunity to evaluate the procedure due to Hurricane Floyd. Again, determination of potential findings still rests with the knowledge, experience, and tenacity of the inspector. Unless the NRC has a strict set of requirements regarding who is able to inspect what, the depth of the inspection will remain questionable.

Safety System Design and Performance Capability

The pilot process, as well as the NRC enforcement process, relies heavily on a licensee maintaining an effective corrective action program (CAP). It would seem appropriate that the NRC inspect the CAP early in the assessment period. This is one of the only inspections of a licensee process. It would lay the ground work for future inspections since most, if not all, inspection procedures require some interface with the CAP. The NRC's risk based inspection philosophy relies heavily on an effective CAP. In addition, if licensees modify their CAP, it would seem appropriate that the NRC re-inspect this area since it may adversely impact the resolution of previously NRC-identified nonconformances.

The level of effort utilized in these inspections was appropriate but it clearly was in excess of the man-hour estimates contained in the inspection procedures. These estimates appear unrealistic and do not take into account inspection options that are identified within the procedure. For example, the use of an inspector to review the operations area is an option in the engineering and design inspection but the man-hours for this individual are not included in the estimate within in the procedure. In addition, a two unit plant should take more resources than a one unit plant because the units may be similar but not 100% identical and it will take more time to perform system walkdowns, review differences in design bases, differences in modifications, differences in equipment performance etc. For two units, there are more opportunities to review modifications, tests and maintenance on a real time basis which we feel is a key component of the inspection.

The safety system inspection is focussed on plant systems in the mitigating cornerstone. Supporting systems such as instrument and control air and ventilation systems are included on a limited basis in the inspection scope. Where in the inspection program would a thorough inspection of one of these support systems take place? Additionally, a system like Control Room ventilation supports mitigating systems in an indirect way, but it appears to be unlikely that it would be included in the scope of an Attachment 21 inspection.

C. Significance Determination Process

The SDP process needs to be simplified. Manual chapter 06XX refers Barrier Integrity ADP to Appendix 1 and Phase 2 Analysis. The sample screening and Phase-2 Work Sheet is not yet developed. Plant design specific information is also required. The screening process relies heavily on the Maintenance Rule Risk Significance SSC determination. If only the fuel barrier is affected, the issue will be screened out since a PI exists for this barrier. RCS barrier functions will be assessed in Phase 2. Containment barrier issues will be referred to a Risk Analyst. The Phase - 2 analysis requires the application and review of plant specific PRA's, Safety Analysis reports, Tech Spec Bases and Emergency Operating Procedures that the State does not have ready access to.

Fire Protection

A. Inspection

The fire protection procedure was logical and fairly easy to follow. The inspection takes much more time than that allocated in the inspection procedure. This can be reduced with additional advanced planning. Hopefully, once the baseline inspection is completed, the triennial inspection will be able to utilize the baseline data so that follow-up inspections will be less time consuming.

Since this inspection deals with post-fire safe shutdown capability, there should be an evaluation of a Control Room fire drill with a demonstration of plant cooldown capability initiated from the safe shutdown control stations. This is especially important in older plants with safe shutdown control stations scattered around the plant. Multiple degradation of fire suppression should have additional impact on plant assessment.

B. Significance Determination Process

The final draft (August 2, 1999) version of the "Determining Potential Risk Significance of Fire Protection and Post-fire Safe Shutdown Inspection Findings Evaluation Guidance" was used in the inspection of Salem Units 1 and 2. Phase one of the screening process is clear, but was not fully utilized at Salem, as the fire barriers are known to be degraded and the utility has an NRC - accepted plan for improvement in place.

In the Phase 2 screening process, the Ignition Frequency (IF) is the most critical element. The generic IF for a PWR switchgear room is listed as 1E-2. Salem has a value of 3.6E-4, roughly 100 times higher than the generic numbers generated by the NRC. The accuracy of this information is a potential issue with the NRC, as it will have a major bearing on the outcome of this inspection.

We are concerned with several aspects of the SDP screening process. If a plant has a minimal effective automatic fire detection/suppression system (Low DR), and a good manual fire suppression team (Low DR), they can have a Medium to High DR in their 1 hour fire barrier system with very little penalty. This needs to be considered in the next draft of the fire protection SDP.

The SDP process is overly complex and should be simplified. This procedure cannot be fully evaluated until it has been fully exercised through a baseline and a triennial inspection sequence. It might be helpful to have a separate procedure for the baseline, as it involves going back to original design calculations and assumptions for selected fire areas. Meeting the current inspection requirements, as written, does not necessarily indicate that the plant can achieve post-fire safe shutdown.

Occupational Radiation Safety

A. Performance Indicators

The definitions for technical specification high radiation area occurrences and very high radiation area occurrences are clear and measurable. The definition of unintended exposure occurrences is generally clear, there is some confusion as to the definition line item 22 relating to "discrete radioactive particles". It would be helpful if the NRC were to define this term to be a fuel flea, hot particle, fission fragment, CRUD, or all of these items individually or in combination. A review of NRC Information Notices 86-23 and 87-39 indicated that these terms are interchangeable and their use is indiscriminate.

Line item 25 through 28 indicate that the dose criteria do represent 'risk significance', but NRC inspectors still refer to the doses as 'risk significant' in order to enter the SDP.

B. Inspection

Access Control, ALARA Planning and Control, Radiation Monitoring Instrumentation

The procedure could be improved. One important area that neither the inspection procedure nor the PIs address is contamination control. Poor contamination area control can lead to spread of contamination, increased exposure to workers, and work activities that can lead to generation of airborne contamination. Poor contamination control leads to skin contamination and increased decontamination efforts at access control points. Skin contamination incidents are the result of poor radiological worker practices and a degradation of the ALARA program

The procedure effectively captures Health Physics (HP) staff performance. The new inspection module gives the inspector more flexibility in choosing the depth that each area will be examined.

C. Significance Determination Process

There is some confusion as to what is meant as "Substantial Potential". Is this just based on the radiation level being high enough to get an overexposure, or a complete loss of control over a radiation area where such potential exists?

In the ALARA SDP, it is assumed that if a plant is in the top half of the INPO collective dose findings for the last three years, then a plant could have a major breakdown in the ALARA program and still be green. The SDP, as it is written, has no limits to the number of ALARA failures a plant can have as long as their overall dose remains low enough.

Public Radiation Safety

A. Performance Indicators

There are inconsistencies in terminology used in the referenced documents. Indicator definitions refer to 'whole body' and 'organ' doses based on GL 89-01. Since the terms for human exposure have changed since 1989, we feel that exposure terms used in the procedure be upgraded to current terminology of TEDE and CEDE. In the Performance Indicators, liquid effluent doses are listed in mrem/qtr and, gaseous effluent doses from Gamma and Beta are listed in mrad/qtr. We feel that both terms be in mrem/qtr as they relate to human dose rates, not gamma energy deposition in dry air.

The NEI document states that failures of the effluent radiation monitors are not counted as reportable events. The failure of an RMS monitor is not an environmental release, but it has a significant bearing on Public Radiation Safety, and the ability to evaluate offsite doses.

B. Inspection

The new 'free release' limits of Attachment 02.06 need to be evaluated. It appears that the new levels are significantly higher than the previous free release limits. The NRC are in line with decommissioning requirements, but the standards are still being developed by other branches of the Federal Government. It would be more logical, and more conservative, to tighten up the free release limits.

Some definitions need to be brought up to current standards. We disagree with the NRC philosophy that there is no off-site dose risk significance to the General Public unless there is a discharge that results in a measured dose above specified limits.

Overall, we believe the level of effort utilized in these inspections was appropriate but it clearly was in excess of the man-hour estimates contained in the inspection procedures. These estimates seem to be unrealistic and do not take into account inspection objectives and requirements that are identified within the procedure. For example, the use of an inspector to review the Annual Environmental Monitoring Report, the ODCM, FSAR, and various calibration and maintenance records should take more resources than outlined in the inspection because it takes additional time to perform system walkdowns, interview staff and investigate identification and resolution of problems.

C. Significance Determination Process

The threshold for the radiological environmental program is too high. The only significant issue would come from an incident that compromises the utility's ability to assess the environmental impact of those violations. An event counter would be a welcome addition in this area similar to the counter for the radiological material control program.

Definition of the term "incident that would compromise the ability to assess the environmental impact" needs to be refined. Loss of an RMS monitor in the discharge path fits the existing definition as it compromises the ability to assess an environmental impact, since these monitors are used by the utility and the state to determine off-site release rates during accidents. We believe that failure of service of radiation monitors is very important in the evaluation of the REMP program.

Corrective Action Program Inspection

The corrective action program is very important to the new NRC oversight program. Any NRC inspection activity that doesn't make it to an inspection report but was significant enough to warrant licensee action is put into the licensee's corrective action program. Since the corrective action program is invisible to the public, it becomes the most important licensee responsibility.

Concerning the inspection itself, the scope of the corrective action program inspection is appropriate. Our main concern is the experience and training of the inspectors who conduct the inspection. The more experience, knowledge, and training in corrective action program, the more likelihood of potential findings and effective evaluation of the licensee's ability to identify problems and correct them. The inspection procedure must stress that the corrective actions are being classified properly and corrected in a reasonable period of time. It is still unclear as to how many corrective actions should be inspected to get a representative sample. The number of items inspected in the corrective action program were too small and not selected based on any statistical confidence, and guidance is needed in the inspection. During the inspection, 30,000 corrective action items existed with 3,000 added every month. A selection of 20 corrective actions for inspection should be released to the public to see if this enhances public confidence. Much more time than estimated is needed to perform this inspection procedure. Finally, the plant resident inspectors are in the best position to evaluate the licensee's ability to properly identify operations and maintenance problems. The region should be given the task of inspecting the licensee's ability to correct these problems.

Plant Status Inspection

This a very important resident activity which takes much more time than is outlined in the inspection procedure. The residents should be given all the time they need to accomplish every facet of the plant status inspection.

NRC Inspection Reports

The inspection reports covering the last 6 weeks of the pilot program for Hope Creek and Salem have not yet been received. Based on a review of the reports received, we have three observations:

1. The first reports written in the pilot program were misleading. For instance in the Summary of Findings Section, each cornerstone was followed by its color rating and

then a summary of the problem(s) noted during the inspection. Some serious sounding problems are identified while the cornerstone is categorized as green, and no further explanation was provided. In reading this (they were all green) one is left wondering why they are green. However, it was noted that in later inspection reports, e.g. Salem 99-08 dated November 15, 1999, an explanation was provided with each problem so that the reader got some insight as to why the cornerstone was rated as green even with the problem(s) mentioned. This appears to have been resolved.

2. The content of Salem Inspection Report 99-08 seemed appropriate, hopefully this will be the standard for future reports. Specifically, a concise description of what activity was inspected is provided, PSE&G notifications written as a result are identified, and adverse observations are discussed. It was noted that Salem Inspection Report 99-08 contains more descriptive information under the inspection scope sections than does Hope Creek Inspection Report 99-06. These inspection reports were both dated November 15, 1999. The Salem report provides more specific information, like the date of a PSE&G maintenance activity or test being inspected, or the date that an NRC walkdown or observation was performed, whereas the Hope Creek report does not.

3. The recent NRC document entitled "minimum threshold for documenting inspections findings" outlines that a minor violation may not be documented. Our position is that any violation should be reported in the inspection report.

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