



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
WASHINGTON, D.C. 20555-0001

March 28, 2000

MEMORANDUM TO: ACRS Members  
FROM: *Michael T. Markley*  
Michael T. Markley, Senior Staff Engineer  
ACRS  
SUBJECT: CERTIFICATION OF THE MINUTES OF THE ACRS  
SUBCOMMITTEE MEETING ON PLANT OPERATIONS,  
JANUARY 20, 2000, ROCKVILLE, MARYLAND

The minutes of the subject meeting, issued January 20, 2000, have been certified as the official record of the proceedings of that meeting. A copy of the certified minutes is attached.

Attachment: As stated

cc: via E-mail  
J. Larkins  
S. Duraiswamy  
ACRS Staff Engineers  
ACRS Fellows

**CERTIFIED BY:**  
J. Barton - 3/15/00

Date:3/14/00

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS  
MEETING OF THE SUBCOMMITTEE ON PLANT OPERATIONS  
MEETING MINUTES - JANUARY 20, 2000  
ROCKVILLE, MARYLAND

**INTRODUCTION**

The ACRS Subcommittee on Plant Operations met on January 20, 2000, at 11545 Rockville Pike, Rockville, MD, in Room T-2B3. The purpose of this meeting was to discuss technical components of the revised reactor oversight process, including the updated significance determination process (SDP) and plant performance indicators (PIs).

The entire meeting was open to public attendance. Mr. Michael T. Markley was the cognizant ACRS staff engineer for this meeting. The meeting was convened at 8:30 a.m. and adjourned at 2:30 p.m.

**ATTENDEES**

**ACRS Members**

J. Barton, Chairman	R. Seale, Member
G. Apostolakis, Member	R. Uhrig, Member
M. Bonaca, Member	M. Markley, ACRS Staff
T. Kress, Member	R. Savio, ACRS Staff
D. Powers, Member	

**Principal NRC Speakers**

D. Coe, NRR*	D. Hickman, NRR
T. Frye, NRR	M. Johnson, NRR
F. Gillespie, NRR	G. Parry, NRR

**Principal Industry Speakers**

T. Houghton, NEI\*

**Concerned Citizen Participants**

J. Riccio, Public Citizen

NRR            Office of Nuclear Reactor Regulation  
NEI            Nuclear Energy Institute

There were approximately 2 members of the public in attendance at this meeting. A complete list of attendees is in the ACRS Office File, and will be made available upon request. The presentation slides and handouts used during the meeting are attached to the office copy of these minutes.

## **OPENING REMARKS BY THE SUBCOMMITTEE CHAIRMAN**

Mr. Barton, Chairman of the ACRS Subcommittee on Plant Operations, convened the meeting at 8:30 a.m. He introduced the ACRS Members in attendance and stated that the purpose of this meeting was to discuss technical components of the revised reactor oversight process, including the updated significance determination process (SDP) and plant performance indicators (PIs). Mr. Barton noted that the NRC staff held a workshop on January 10-13, 2000, to discuss lessons-learned from the revised reactor oversight pilot program. He stated that the staff is expected to discuss the pilot program results, major issues from the workshop, and proposed actions resulting from lessons-learned and the resolution of public comments.

Mr. Barton stated that the Subcommittee had received no written comments from members of the public. However, he noted that the Subcommittee had received a request from Mr. Jim Riccio of Public Citizen for time to make oral statements

## **DISCUSSION OF AGENDA ITEMS**

### **NRC Presentation**

Mr. Michael Johnson, NRR, led the discussion for the NRC staff. Mr. Timothy Frye, NRR, provided supporting discussion. Messrs. William Dean, Frank Gillespie, Doug Coe, Don Hickman, and Gareth Parry, NRR, provided supporting discussion. Significant points made during the presentation include:

- The staff stated that the proposed Commission paper associated with the reactor oversight process will not be available for ACRS review until mid-February 2000.
- The PIs and baseline inspection program provide a sound technical framework to assure reactor safety is maintained. The process is more objective and focuses on risk significant issues. The revised reactor oversight process is ready for initial implementation at all plants.
- The "current" reactor oversight process relies heavily on inspection where PIs have a minor role, and assessments are completed every 18-24 months. The revised reactor oversight process integrates PIs as a more prominent assessment tool with inspection providing continuous input.
- PI thresholds are used to identify performance levels above which increased NRC attention is warranted. PI results are not ranked or trended.
- The SDP evaluates risk on a plant-specific basis using the Individual Plant Examination (IPE) and/or probabilistic risk assessment (PRA).
- The revised reactor oversight process continues to be a work-in-progress. The staff expects to complete a containment SDP, screening tools for shutdown operations and external events in April 2000. The staff plans to continue to evaluate and modify the program, as appropriate.

## NEI Presentation

Mr. Thomas Houghton, NEI, provided a brief presentation highlighting industry perspectives concerning the revised reactor oversight process. Significant points made during the presentation include:

- Industry performance has continued to improve over the last few years. However, the NRC oversight process has not kept pace with those improvements.
- The revised reactor oversight process is a significant improvement over the previous Systematic Assessment of Licensee Performance (SALP) and Senior Management Meeting (SMM) processes.
- PIs do not cover all areas of performance and will need to be supplemented by inspection. Crossing PI thresholds or having significant inspection findings will have the same approximate meaning and NRC response. However, enforcement actions are not to be considered an input into the assessment process.
- NEI 99-02, Draft Revision D, provides the industry sponsored PI program which the NRC proposes to endorse. Thus, the PIs and associated thresholds in NEI 99-02 constitute the NRC's PIs. The PIs will enable both the NRC and industry to better manage resources on issues of safety significance.

## ACRS Member Presentation

Dr. George Apostolakis, Chairman of the Subcommittee on Reliability and Probabilistic Risk Assessment provided a brief presentation to the Subcommittee. He discussed the issue of plant-specific PIs, use of a 95<sup>th</sup> percentile criterion, and public comments submitted by the State of New Jersey. Significant points raised during the presentation include:

- The ACRS previously recommended plant- or design-specific PIs in its report dated June 10, 1999. The EDO response noted that, ideally, PI thresholds should be plant-specific, but noted that it would be difficult to do at this time. He expressed the view that generic PIs penalize some plants having designs that cannot be changed, yet do not identify adverse performance at other plants that have more margin.
- He presented a quantitative example to illustrate the technical vulnerability of using a 95<sup>th</sup> percentile criterion and stated that the thresholds are too high.
- He noted that the State of New Jersey had expressed concern regarding the potential for "color-coding" to mask adverse performance and had suggested that plant performance data be used as the preferred metric. Dr. Apostolakis noted that there is some merit in questioning NRC staff and public acceptance if nearly all the assessments result in plants being color-coded "green." He also suggested that the staff consider how uncertainties are treated in the analysis.

## Public Citizen Statement

Mr. Riccio's, staff attorney for Public Citizen's Critical Mass Energy Project offered the following significant points:

- The revised reactor oversight process will institutionalize poor licensee performance by encouraging licensees to approach the thresholds without increased regulatory oversight. Concerns expressed by the regional NRC staff have not been sufficiently addressed.
- The staff has not justified the practice of allowing deviations from the action matrix. The negotiations of Level 3 findings are not scrutable to the public. The revised oversight process regulates the regulator, not the regulated. Nevertheless, Public Citizen sees no choice but to proceed with initial implementation.

## **SUBCOMMITTEE COMMENTS, CONCERNS, AND RECOMMENDATIONS**

Subcommittee members raised the following significant points during its discussion with the staff, NEI, and Public Citizen:

- Dr. Apostolakis questioned the objectives of the performance indicators in identifying adverse changes in performance. In particular, he questioned whether the objective was to ensure safety or to verify the plant's operation as licensed. Dr. Apostolakis stated that PIs should be plant-specific. The staff stated that the objectives are to verify that licensee performance is below certain thresholds. The staff stated that licensee performance relative to these thresholds would be used to determine inspection allocation relative to the baseline inspection program that all plants receive.
- Dr. Bonaca and Mr. Barton questioned the technical bases, sensitivity, and adequacy of thresholds. The staff stated that the technical bases was demonstrated in the feasibility study conducted for plants as noted in SECY-99-007A. The staff stated that the PIs use thresholds for regulatory action below which licensees have flexibility in managing activities using the corrective action program. The staff stated that the PIs serve as triggers for a diagnostic mode for further evaluation. Dr. Bonaca expressed the view that the PIs are not sensitive to change and will not provide early warning of declining performance.
- Drs. Apostolakis and Kress questioned the use of a 95<sup>th</sup> percentile criterion. Dr. Apostolakis stated that this criterion allows a plant to increase risk and still maintain "green" PI status. Dr. Kress noted that the value is arbitrary and suggested that it could have been 25 or 50 percent. The staff stated that the intent is to identify plants that are extreme outliers in performance relative to the overall population of plants.
- Dr. Apostolakis questioned the sufficiency of using generic PIs and noted that design- and plant-specific considerations affect the application of thresholds. He reiterated his concern regarding collective risk from approaching thresholds in multiple areas rather than crossing a single threshold. He noted that a plant's performance could degrade and not be detected by the NRC PIs. The staff stated that most licensees use lower thresholds to manage their activities in order to maintain sufficient margin from NRC thresholds. The staff stated that it is also likely that the NRC would likely consider

increased inspection for plants that approach thresholds. The staff also stated that inspection is an integral element in addition to PIs and would weight heavily in the final assessment (i.e., color-coding).

- Drs. Powers and Apostolakis questioned what research might be needed for Phase 3 decisionmaking to compensate for inadequacies in Individual Plant Examinations (IPEs) and Probabilistic Risk Assessments (PRAs). The staff stated that the oversight process was sufficient to support decisionmaking and that no immediate research was needed prior to initial implementation. The staff reiterated that the oversight was sufficient to identify adverse or declining licensee performance and areas needing additional inspection.

At the conclusion of the briefing, the staff reemphasized that the revised reactor oversight program is a work-in-progress and that additional changes would likely be made as more experience is gained. The staff stated that they would be requesting Commission approval for initial implementation with a possible reexamination in about a year.

### **STAFF AND INDUSTRY COMMITMENTS**

None.

### **SUBCOMMITTEE DECISIONS**

At the conclusion of the meeting, Mr. Barton noted that the Commission had issued a Staff Requirements Memorandum dated December 17, 1999, requesting the ACRS to review the technical adequacy of the performance indicators (current and proposed) for the new reactor oversight process, which includes an assessment of the extent to which the performance indicators, collectively, provide meaningful insights into those areas of plant operations that are most important to safety. Mr. Barton stated that the ACRS response to the Commission is due March 15, 2000.

The Subcommittee identified a number of issues for the staff to address during the February 3-5, 2000 ACRS meeting. These issues and questions were provided to the NRC staff in a memorandum dated January 27, 2000.

### **FOLLOW-UP ACTIONS**

None.

### **BACKGROUND MATERIALS PROVIDED TO THE SUBCOMMITTEE PRIOR TO THIS MEETING**

1. Subcommittee agenda.
2. Subcommittee status report.
3. Memorandum dated December 17, 1999, from Annette L. Vietti-Cook, Secretary, NRC, to John T. Larkins, ACRS, Subject: Staff Requirements - Meeting with Advisory Committee on Reactor Safeguards, November 4, 1999.

4. U.S. Nuclear Regulatory Commission, NRC Inspection Manual Chapter 06XX, Significance Determination Process, Draft Revision 1, dated August 10, 1999.
5. Nuclear Energy Institute, NEI 99-02, Draft Revision D, "Regulatory Assessment Performance Indicator Guideline," November 1999.
6. Letter dated November 23, 1999, from Samuel J. Collins, Director, Office of Nuclear Reactor Regulation, NRC, to Dana A. Powers, Chairman, ACRS, Subject: Advisory Committee on Reactor Safeguards Request for Review of Revised Reactor Oversight Process Technical Components.
7. Memorandum dated June 18, 1999, from Annette Vietti-Cook, Secretary, NRC, to William D. Travers, Executive Director for Operations, NRC, Subject: Staff Requirements - SECY-99-007 - Recommendations for Reactor Oversight Process Improvements, and SECY-99-007A - Recommendations for Reactor Oversight Process Improvements (Follow-up to SECY-99-007).
8. Letter dated June 10, 1999, from Dana A. Powers, Chairman, ACRS, to William D. Travers, Executive Director for Operations, NRC, Subject: Pilot Application of the Revised Inspection and Assessment Programs, Risk-Based Performance Indicators, and Performance-Based Regulatory Initiatives and Related Matters.

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Note: Additional details of this meeting can be obtained from a transcript of this meeting available in the NRC Public Document Room, 2120 L Street, N.W. Washington, D.C. 20006, (202) 634-3274, or can be purchased from Ann Riley & Associates, Ltd., (Court Reporters and Transcribers) 1250 I Street, NW, Suite 300, Washington, D.C. Rhode Island Avenue, N.W. Washington, D.C. 20005 (202) 842-0034.

Markley

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**ACRS PRESENTATION**

**REVISED REACTOR OVERSIGHT PROCESS  
PILOT PROGRAM RESULTS AND LESSONS LEARNED**

**MICHAEL JOHNSON  
TIMOTHY FRYE  
DONALD HICKMAN  
DOUGLAS COE**

**JANUARY 20, 2000**

## **AGENDA**

- **INTRODUCTION**
- **PILOT PROGRAM RESULTS**
- **PERFORMANCE INDICATORS**
- **SIGNIFICANCE DETERMINATION PROCESS**

## **PILOT PROGRAM OVERVIEW**

- **Pilot program conducted at 2 sites per region**
- **6-month pilot from May to November 1999**
- **Purpose to exercise new processes and collect lessons learned prior to initial implementation**
- **Pilot plants remain under Revised Reactor Oversight Process following completion of the pilot**

## **PILOT PROGRAM RESULTS**

- **PIs and Baseline Inspection provide adequate framework to assure that reactor safety is maintained**
- **NRC assessments and actions more objective and predictable to industry and public**
- **Focus on risk significant issues has reduced unnecessary regulatory burden**
- **Revised oversight process adequate to support initial implementation at all plants**

## **PI & SDP INITIAL IMPLEMENTATION ISSUES**

- **Revise and clarify definitions/guidelines for several PIs**
- **Complete initial development of SDP for internal events, containment, shutdown, and external events**

## **OTHER INITIAL IMPLEMENTATION ISSUES**

- **Resolve how 10 CFR 50.9 and enforcement applies to PI reporting**
- **Clarify process for deviating from the assessment Action Matrix**
- **Trial run systems for processing PI and inspection information**

## **LONG TERM ISSUES**

- **Make PI definitions more consistent across industry (NEI 99-02, WANO, Maintenance Rule)**
- **Continue program self-assessment during first year of implementation**
- **Complete SDP for internal events, external events, shutdown, and containment issues**
- **Continue to evaluate role of cross-cutting issues in the assessment process**

## **SCHEDULE**

- **Commission paper issued by February 16, 2000**
- **Commission brief on March 1, 2000**
- **Initial implementation at all plants effective April 2, 2000**
- **Program self-assessment during first year of implementation**
- **Report results of initial implementation, lessons learned, oversight process changes to Commission by June 2001**

# PERFORMANCE INDICATORS

## **PERFORMANCE INDICATORS**

### **PILOT CRITERIA**

- **Can PI data submitted by industry be reported accurately, in accordance with reporting guidelines, by the end of the pilot program by 8 out of 9 pilot plants?**
- **Can PI data be submitted by industry within one business day of the due date?**

## **PERFORMANCE INDICATORS**

### **CRITERIA RESULTS**

- **PI Data Accuracy**
  - **Use verification inspection results and licensee corrections**
  - **Preliminary look: criterion not met**
  - **Expect accuracy to improve with experience**
- **PI data timeliness**
  - **Criterion met**

## **PERFORMANCE INDICATORS**

### **STAKEHOLDER FEEDBACK**

- **Four categories**
  - **Indicator definitions: concerns with definitions, calculations, or descriptions**
  - **Indicator thresholds: concerns with threshold settings or lack of thresholds**
  - **Indicator guidance: programmatic issues not addressed in guidance document**
  - **Other**

## **PERFORMANCE INDICATORS**

### **PILOT PROGRAM CHANGES**

- **Changes to 13 indicators based on lessons learned during pilot program**
  - **Safety System Unavailability: fault exposure hours (t/2)**
  - **Safety System Functional Failures: rewritten to clarify**
  - **RCS Activity: steady-state measurements**
  - **Drill/Exercise Performance link with Emergency Response Organization Participation: revised to allow licensees flexibility in conducting training drills**

## **PERFORMANCE INDICATORS**

### **ISSUES**

- **Some performance indicator definitions may not be adequate**
  - **Unique plant configurations for Safety System Unavailability**
  - **Scrams With Loss of Normal Heat Removal for BWRs**
  - **Security Equipment Performance Index**
  
- **Some performance indicator thresholds may not be set appropriately**
  - **Security Equipment Performance Index**
  - **Safety System Unavailability**
  - **Barrier indicators**

## **PERFORMANCE INDICATORS**

### **ISSUES (Cont.)**

- **Performance indicator guidance incomplete**
  - **Process for changing, adding, or deleting indicators**
  - **When to declare a PI invalid**
  - **How to handle plants in extended shutdown**
  
- **Other**
  - **Process to resolve interpretation issues**
  - **Reporting period**
  - **Consistency of definitions within NRC and with WANO**
  - **Guidance on potential for double counting indicators and inspection findings**

## **PERFORMANCE INDICATORS**

### **ISSUES FOR RESOLUTION PRIOR TO INITIAL IMPLEMENTATION**

- **12 issues from all four categories, including**
  - **Unique plant configurations for SSU definition**
  - **Scrams With Loss of Normal Heat Removal definition (BWRs)**
  - **Security Equipment Performance Index threshold**
  - **Safety System Unavailability thresholds**
  - **Process for changing, adding, or deleting indicators**
  - **Process to resolve interpretation issues**
  - **PI reporting period**
  - **Consistency of definitions within NRC**
  - **Guidance on potential for double counting**

## **PERFORMANCE INDICATORS**

### **LONG TERM ISSUES**

- **12 issues from all four categories, including**
  - **Security Equipment Performance Index definition**
  - **Barrier indicators definitions and thresholds**
  - **When to declare a PI invalid**
  - **How to handle plants in extended shutdown**
  - **Consistency of definitions with WANO**

## **SIGNIFICANCE DETERMINATION PROCESS (SDP)**

## **SDP PILOT CRITERIA**

### **Efficiency**

- **Can the SDP be used by inspectors and regional management to categorize inspection findings in a timely manner?**

### **Effectiveness**

- **Can inspection findings be properly assigned a safety significance rating in accordance with established guidance?**

**SDP  
CRITERIA RESULTS**

**Efficiency**

- **This criterion was not met**
  - **Phase 3 reviews were not completed within 120 days of the Phase 1 evaluation**
  - **efficiency improvements are needed**

## **SDP CRITERIA RESULTS**

### **Effectiveness**

- **This criterion was met**
  - **There were no risk-significant inspection findings that were inappropriately screened as “green” by the SDP**

## **SDP OBSERVATIONS**

- **Difficult to completely resolve complex issues within 120 days of issue discovery - greater reliance on risk analysts than anticipated**
- **Containment SDP and shutdown significance screening tool not yet developed, resulting in a greater number of Phase 3 reviews**
- **Initial development of plant-specific Phase 2 worksheets omitted certain important core damage sequences that will need to be added**
- **SDP oversight panel essential to ensuring consistency**

**SDP  
ISSUES FOR RESOLUTION  
PRIOR TO INITIAL IMPLEMENTATION**

- **Need to improve consistency of SDP entry condition and treatment of PI&R issues**
- **Need to ensure all SDP results have similar importance for same “color”**
- **Need to account for external event initiators in reactor cornerstones SDP**
- **Need to improve the efficiency of and consider defining an appeal process for Phase 3 risk reviews**

**SDP  
ISSUES FOR RESOLUTION  
PRIOR TO INITIAL IMPLEMENTATION (Cont.)**

- **Need to document the process for revising, implementing, validating, and training new SDPs under development**
- **Need to be more clear in inspection reports and other correspondence that a “white” finding is not more adverse than intended**
- **Need to define the SDP process for addressing “white” or greater issues that still conform to the licensing or design basis**
- **Fire protection SDP is complex and difficult to use**

## New Regulatory Oversight Process

Tom Houghton  
NEI



## Impetus for Changing the Regulatory Oversight Process

- Long-standing concerns with SALP and Watchlist
- Arthur Andersen study
- Integrated Review Assessment Process (IRAP)
- NEI task force White Paper
- NRC workshop 9/98

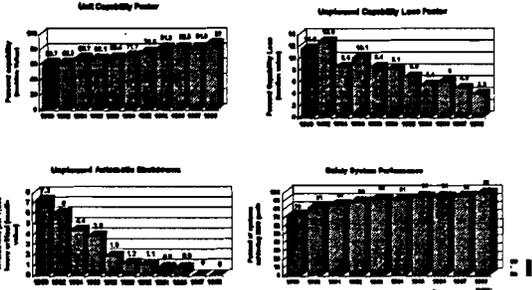


## Key Rationale for proposing a new Process

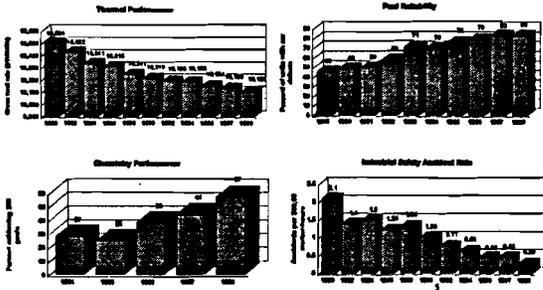
- Continuing improvement in industry safety and performance
- NRC oversight process did not keep pace with industry improvement
- Recognition that nuclear power is an industrial process which will always have some random error
- Focus NRC on safety significant issues and allow licensee to manage processes and resources



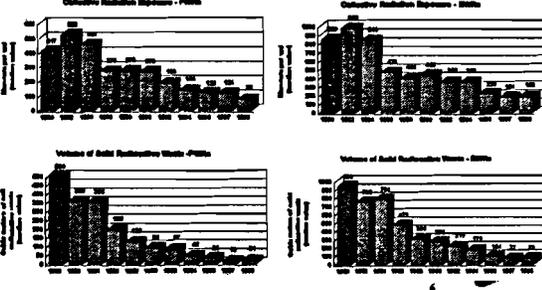
## Safety and Performance Trends Improve Across the Board



## Safety and Performance Trends Improve Across the Board



## Safety and Performance Trends Improve Across the Board



**ACCEPTABLE PERFORMANCE - Increased Regulatory Response Band**

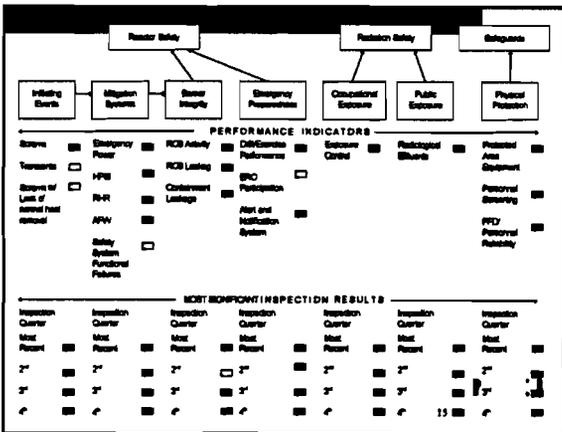
- Cornerstone objectives met w/ minimal reduction in safety margin
- Outside bounds of nominal performance
- Within Technical Specification Limits
- Changes in performance consistent with ranges of aCDF-E-3 (ALERP-E-6)

**ACCEPTABLE PERFORMANCE - Reduced Regulatory Response Band**

- Cornerstone objectives met w/ significant reduction in safety margin
- Technical Specification limits reached or exceeded
- Changes in performance consistent with ranges of aCDF-E-4 (ALERP-E-5)

### Inspectable Areas for Baseline Inspection

- Selected based on their significance from a risk perspective
- Needed to meet a cornerstone objective
- Inspected attributes complement or supplement PIs
- Derived from combination of:
  - PRA insights,
  - Operational experience,
  - Deterministic analysis insights, and
  - Regulatory requirements



### ACTION MATRIX

REALITY	INCREASED SAFETY RESPONSE	INCREASED SAFETY RESPONSE	INCREASED SAFETY RESPONSE
Assessment Finding	All Assessment Findings are addressed in the next 12 months. If not, a corrective action plan is developed and implemented within 12 months.	Open items are addressed in the next 12 months. If not, a corrective action plan is developed and implemented within 12 months.	Open items are addressed in the next 12 months. If not, a corrective action plan is developed and implemented within 12 months.
Licensee Action	Licensee develops and implements a corrective action plan for each finding.	Licensee develops and implements a corrective action plan for each finding.	Licensee develops and implements a corrective action plan for each finding.
Regulatory Action	None	None	None

### Initiating Events Cornerstone Objective

To limit the frequency of those events that upset plant stability and challenge critical safety functions, during power operations and shutdown. If not properly mitigated, and if multiple barriers are breached, a reactor accident could result which may compromise the public health and safety. Licensees can reduce the likelihood of a reactor accident by maintaining a low frequency of initiating events.

### Unplanned Scrams / 7,000 Critical Hours

**Purpose:**

- Monitors number of unplanned scrams
- Records rate of scrams/year of operation at power normalized based on number of critical hours
- Provides indication of initiating event frequency

### Barrier Integrity Cornerstone Objective

To provide reasonable assurance that the physical design barriers protect the public from radionuclide releases caused by accidents or events. The PIs assist in monitoring the functionality of the fuel cladding, the reactor coolant system, and the containment.

### Reactor Coolant System (RCS) Specific Activity

#### Purpose

- Monitors the integrity of the fuel cladding. It records the level of radioactivity in the RCS as a percentage of TS limit and is an indication of cladding functionality

### Reactor Coolant System Leakage

#### Purpose

- Monitors the integrity of the RCS pressure boundary. It records RCS Identified Leakage as a percentage of the tech spec allowable Identified Leakage to provide an indication of RCS integrity

### Containment Leakage

#### Purpose

- Monitors the integrity of the containment. Records type B and type C containment leakage as a percentage of the tech spec allowable leakage to provide an indication of containment integrity

### Emergency Preparedness Cornerstone Objective

To ensure that the licensee is capable of implementing adequate measures to protect the public health and safety during a radiological emergency.

### Drill/ Exercise Performance

#### Purpose

This indicator monitors timely and accurate licensee performance in drills, exercises, and actual events when presented with opportunities for classification of emergencies, notification of offsite authorities, and development of protective action recommendations (PARs).

It is the ratio, in percent, of timely and accurate performance of those actions to total opportunities over the previous two years

## Physical Protection Cornerstone Objective

To provide assurance that the physical protection and access authorization systems can protect against the design basis threat of radiological sabotage.



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## Protected Area Security Equipment Performance Index

### Purpose

- Index provides an indication of unavailability of protected area intrusion detection systems (IDS) and alarm assessment systems to perform their intended function.



## Personnel Screening Program Performance

### Purpose

- Verifies that the unescorted access authorization program has been implemented pursuant to 10 CFR 73.56 and 73.57 to evaluate trustworthiness of personnel prior to granting unescorted access to the protected area. The indicator is the number of reportable failures to properly implement the program's regulatory requirements



## FFD/Personnel Reliability Program

### Purpose

- Verifies that the fitness-for-duty (FFD) and behavioral observation programs have been implemented pursuant to 10 CFR Part 26 and §73.56 to provide reasonable assurance that personnel are in compliance with associated requirements (suitable inquiry, testing for substance abuse and behavior observation). The indicator is the number of reportable failures to properly implement the program's regulatory requirements



## NEI 99-02 and Data Reporting

- General Reporting Guidance
- Historical Submittal
- Threshold Table
- PI definitions and calculations
- Frequently Asked Questions
- PIWEB



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## PILOT PLANT PERFORMANCE INDICATOR RESULTS TO DATE

ALL GREEN EXCEPT FOLLOWING WHITES

Plant	4Q99	1Q99	2Q99	3Q99	4Q99
FitzPatrick	Per Change	Per Change			HPCI
Hope Creek	Sec	Sec	Sec	Sec	RCIC
Salem 1	Sec	Sec	Sec	Sec	RCIC
Salem 3	Sec	Sec	Sec	Sec	RCI activ.
Sesquoyah 1					
Sesquoyah 2					
Shearon Harris 1					
Prairie Island 1	SSFF		ERO Partic		
Prairie Island 2	SSFF		ERO Partic		
Quad Cities 1	Scram	Sec	Sec	Sec	
	SSFF				
	Sec				
Quad Cities 2	Sec	Sec	Sec	Sec	RCIC
Cooper					RCIC
Fert Calhoun					
TOTAL	10	6	8	8	2



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### What We've Learned

- Structure and tools of new process support:
  - Improved objectivity
  - Consistency
  - Improved safety focus
- Inspection planning and execution greatly improved:
  - Safety-focused
  - Promotes improved licensee/NRC communications



### What We've Learned

- Communication to stakeholders improved
  - Less subjective inspection reports
  - More timely information for public
- Enforcement better linked to safety significance of violation
- Action matrix promotes predictability of NRC response to plant performance trends
- More efficient use of licensee and NRC resources



### Where We Go From Here

- Some issues remain to be resolved
- Final training and education steps
- Further learning requires full industry participation
- Resolution of differences in definitions
- Refinements will be an on-going process



### Conclusion on PIs

- PIs are indicators of performance, not measures
- PIs do not address all aspects of performance; inspection supplements and complements the PIs
- Improvement can be achieved, but they are good enough to proceed
- NRC and industry will continue working to assess potential changes to PIs



### Steps necessary to implement PIs

- Review industry operating experience and identify a candidate PI
- Validate that PI addresses the attributes of importance for the appropriate cornerstone
- Obtain stakeholder concurrence on proposed PI
- Develop draft PI definitions and clarifying notes
- Gather best available historical industry data
- Review historical data and establish tentative regulatory thresholds



### Steps necessary to Implement PIs (contd)

- Pilot proposed PI definitions, thresholds and data reporting at 8 to 10 plants
- Revise baseline inspection program to reflect differences in information between old and new indicator
- Evaluate lessons learned/ make necessary adjustments
- Train industry on new PIs
- Implement new PI industrywide



### Cultural Issues

- Need for strong change management within NRC:
  - Recognition that all industrial processes have random error -- zero defect *cannot* be achieved
  - Focus on safety significant issues
  - Consistency across Regions
- Improved safety focus not substitute for compliance
- Less reliance on NRC
  - Strong self assessment capability important
  - Effective corrective action program required
- Integration with management systems/indicators



### Conclusion

- New Reactor Oversight Process is a significant improvement for all stakeholders
- PIs and SDP are not perfect BUT they are good enough to proceed
- Future development will strengthen the program
- New process meets the objectives established by NRC
- Industry fully supports implementation of the new process April 1, 2000



Unavailability:

$$q_{50} = 10^{-2}$$

$$q_{95} = 10^{-1}$$

$$n = 12$$

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$$P[k \geq 1/q_{50}] = 0.11$$

$$P[k \geq 1/q_{95}] = 0.72$$

$$P[k \geq 2/950] = 0.007$$

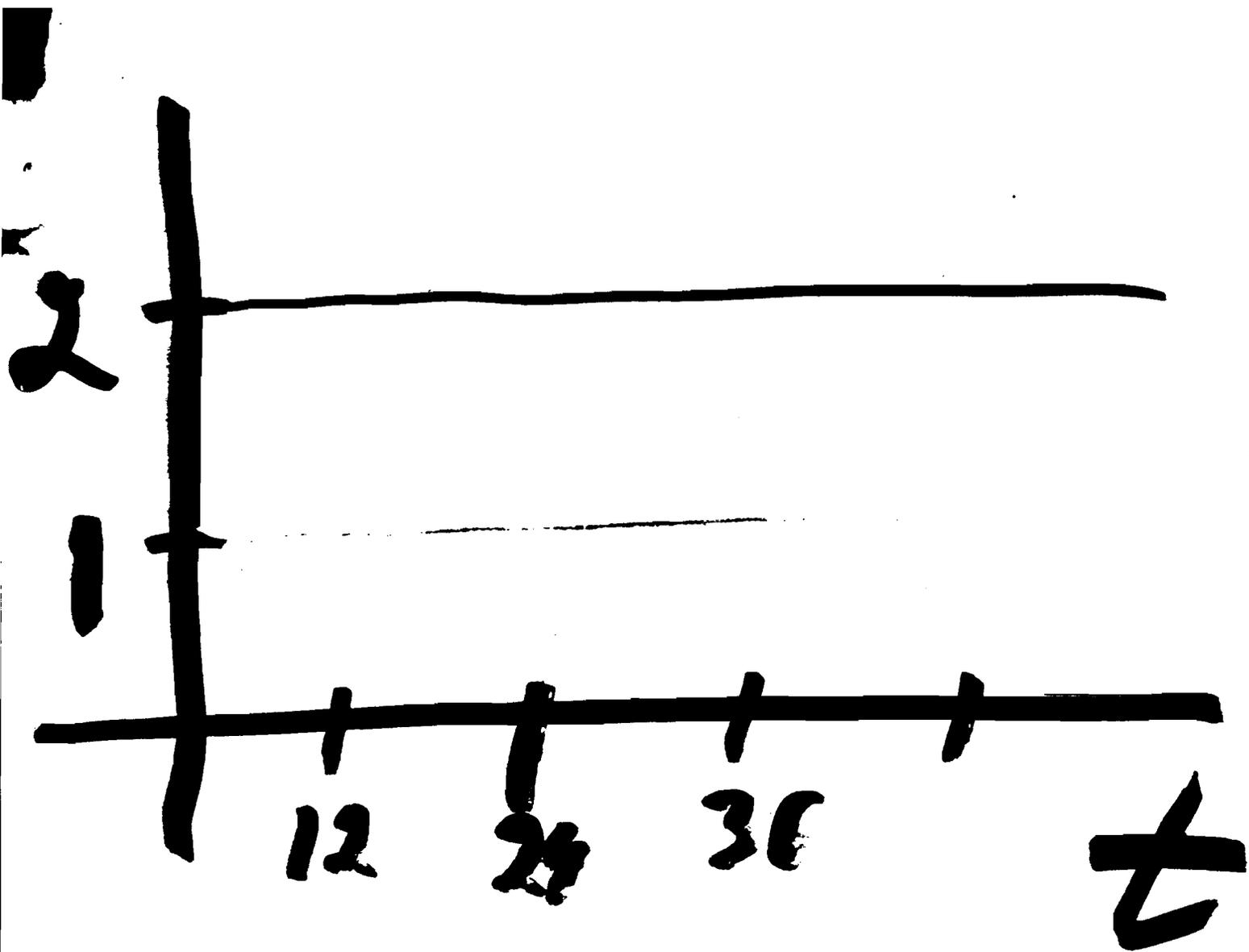
$$P[k \geq 2/95] = 0.34$$

$$P[k \geq 3/9_{50}] =$$

$$= 0.006$$

$$P[k \geq 3/9_{15}] =$$

$$= 0.11$$



Revised Reactor Oversight Process  
Performance Indicators Summary

[Pilot Plant Assessment Overview & Results](#)    [Description of Cornerstones & Performance Indicators](#)    [Introduction](#)  
[Nuclear Reactors](#)    [NRC Home Page](#)

Performance Indicators		BWR Pilot Plant					PWR Pilot Plant							
		Cooper	Hope Creek 1	James A. FitzPatrick	Quad Cities 1	Quad Cities 2	Fort Calhoun	Prairie Island 1	Prairie Island 2	Salem 1	Salem 2	Sequoyah 1	Sequoyah 2	Shearon Harris 1
Based on data through November 30, 1999														
G = Green														
W = White														
Y = Yellow														
R = Red														
<u>Initiating Events</u>	<u>Unplanned Scrams</u>													
	<u>Scrams with Loss of Normal Heat Removal</u>													
	<u>Unplanned Power Changes</u>													
<u>Mitigating Systems</u>	<u>Emergency AC Power System</u>													
	<u>High Pressure Injection System</u>			W										
	<u>Heat Removal System or Auxiliary Feedwater System</u>					W								
	<u>Residual Heat Removal System</u>													
<u>Barrier Integrity</u>	<u>Safety System Functional Failures</u>													
	<u>Reactor Coolant System Specific Activity</u>													
	<u>Reactor Coolant System Leakage</u>													
<u>Emergency Preparedness</u>	<u>Containment Leakage</u>													
	<u>Drill/Exercise Performance</u>													
	<u>ERO Drill Participation</u>													
<u>Occupational Radiation Safety</u>	<u>Alert and Notification System</u>													
	<u>Exposure Control Effectiveness</u>													
<u>Public Radiation Safety</u>	<u>RETS/ODCM Radiological Effluents</u>													
<u>Physical Protection</u>	<u>Protected Area Equipment</u>													
	<u>Personnel Screening Program</u>													

# TRANSCRIPT REQUEST FORM

(REQUEST FOR REPORTING SERVICE)

TO: JAMES CAVANAUGH (JAC8) 415-7408 (FAX #415-5599)  
MAIL STOP T-3F23

*Barbara Jo*

WORK ORDER NO. LB- \_\_\_\_\_

DATE SENT- December 23, 1999

Barbara Jo White, ACRS/ACNW

Mail Stop -- T-2E26

Telephone # -- 415-7130

NAME AND TYPE OF MEETING: PLANT OPERATIONS

LOCATION OF MEETING: ROOM T-2B3, 11545 ROCKVILLE PIKE,  
ROCKVILLE, MD

PERSON TO CONTACT AT LOCATION: MICHAEL MARKLEY  
PHONE: 301/415-6885

DATE(S)      TIME(S) (FROM-TO) OF MEETING

*3:00*

THURSDAY, JANUARY 20, 2000 - 8:30 A.M. UNTIL 5:00 P.M.

BEGIN PAGINATION OF TRANSCRIPT WITH PAGE NO. 1

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Rockville, MD 20852-2738

3-1/2 WP 5.1 PROVIDE PC  
FLOPPY DISKETTE

BUDGET REQUEST: MATERIAL \_\_\_\_\_

OR REACTOR X

SUBCOMMITTEE MEETING DATA SHEET

1. Subcommittee (Name) - PLANT OPERATIONS

a. Date

1a. JANUARY 20, 2000

b. Cognizant Staff Engineer

1b. MICHAEL MARKLEY

2. Amount of Time Spent in Open Sessions

2. 4h 55min.  
(hours and minutes)

3. Amount of Time Spent in Closed Session

3. None

(1) Exemption 1 - Natl. Security Info.

\_\_\_\_\_ )

(2) Exemption 4 - Proprietary Material\*

\_\_\_\_\_ )

(3) Exemption 6 - Undue Invasion of  
Personal Privacy

\_\_\_\_\_ )

(4) Exemption 9 - Premature Disclosure  
(e.g., Budget and Financial Info)

\_\_\_\_\_ )

(5) Exemption 10 - Adjudicatory Matters

\_\_\_\_\_ )

4. Number of Written Comments from the  
Public (submitted for consideration)  
(Names)

4. None )

5. Number of Oral Statements  
(Name)

5. 1 \_\_\_\_\_

Jim Riccio, Public Citizen

6. Number of Public Attendees

6. 2 \_\_\_\_\_

\*Currently includes Plant Security Information

**ADVISORY COMMITTEE ON REACTOR SAFEGUARDS**

**SUBCOMMITTEE MEETING ON PLANT OPERATIONS**

**JANUARY 20, 2000**

**Date(s)**

**JANUARY 20, 2000**

**Today's Date**

**NRC STAFF SIGN IN FOR ACRS MEETING**

**PLEASE PRINT**

<b>NAME</b>	<b>BADGE #</b>	<b>AFFILIATION</b>
Michael Johnson	B542	NRC/NRR
Donald Hickman	B6244	NRC/NRR/IIPB
Peter R Wilson	A-1214	NRC
William Dean	B6575	NRC
PETER KOLTAY	B86 00	NRC
Steven Stein	B8064	NRR
Garth, Pam	B8060	NRR/DSSA
C. Holden	B 9813	NRR
M. Thadani		NRR
Tim Frye	B-8578	NRR
See-Meng Wong	B-8181	NRR
Roger Pedersen	B-6909	NRR/DIPM
Stephen Klementowicz	B-6373	NRR/DIPM
RL Sullivan	B8201	NRR/DIPM
J. Costello	B0395	NRC RES/DET

**ADVISORY COMMITTEE ON REACTOR SAFEGUARDS**

**SUBCOMMITTEE MEETING ON PLANT OPERATIONS**

JANUARY 20, 2000

Date(s)

JANUARY 20, 2000

Today's Date

**ATTENDEES - PLEASE SIGN BELOW**

**PLEASE PRINT**

**NAME**

**AFFILIATION**

T C Houghton

NEI

J Riccio

Public Citizen

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For the U.S. Nuclear Regulatory Commission.

**Robert A. Nelson,**

*Acting Chief, Decommissioning Branch,  
Division of Waste Management, Office of  
Nuclear Material Safety and Safeguards.*

[FR Doc. 99-33681 Filed 12-27-99; 8:45 am]

BILLING CODE 7890-01-P

## NUCLEAR REGULATORY COMMISSION

### Advisory Committee on Nuclear Waste Notice of Meeting

The Advisory Committee on Nuclear Waste (ACNW) will hold its 116th meeting on January 13 and 14, 2000, Room T-2B3, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance.

The schedule for this meeting is as follows:

*Thursday, January 13, 2000—5 p.m.*

*until the conclusion of business*

*Friday, January 14, 2000—12 Noon until  
the conclusion of business*

The Committee will prepare ACNW letter reports and discuss ACNW Planning and Procedures as time allows.

**Preparation of ACNW Reports (Open)**—The Committee will discuss planned reports on the following topics: The Department of Energy's Draft Environmental Impact Statement for the Proposed Repository at Yucca Mountain, NV; the rubblization decommissioning option; the NRC's proposed high-level waste regulation; and other topics discussed during this and previous meetings as the need arises.

**ACNW Planning and Procedures (Open)**—The Committee will consider topics proposed for future consideration by the full Committee and Working Groups. This will include strategic planning and self-assessment. The Committee may also discuss ACNW-related activities of individual members.

**Miscellaneous (Open)**—The Committee will discuss miscellaneous matters related to the conduct of Committee and organizational activities and complete discussion of matters and specific issues that were not completed during previous meetings, as time and availability of information permit.

Procedures for the conduct of and participation in ACNW meetings were published in the *Federal Register* on September 28, 1999 (64 FR 52352). In accordance with these procedures, oral or written statements may be presented by members of the public, electronic recordings will be permitted only during those portions of the meeting

that are open to the public, and questions may be asked only by members of the Committee, its consultants, and staff. Persons desiring to make oral statements should notify Richard K. Major, ACNW, as far in advance as practicable so that appropriate arrangements can be made to schedule the necessary time during the meeting for such statements. Use of still, motion picture, and television cameras during this meeting will be limited to selected portions of the meeting as determined by the ACNW Chairman. Information regarding the time to be set aside for taking pictures may be obtained by contacting the ACNW office, prior to the meeting. In view of the possibility that the schedule for ACNW meetings may be adjusted by the Chairman as necessary to facilitate the conduct of the meeting, persons planning to attend should notify Mr. Major as to their particular needs.

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefore can be obtained by contacting Mr. Richard K. Major, ACNW (Telephone 301/415-7366), between 8 A.M. and 5 P.M. EST. ACNW meeting notices, meeting transcripts, and letter reports are now available for downloading or reviewing on the internet at <http://www.nrc.gov/ACRSACNW>.

Videoteleconferencing service is available for observing open sessions of ACNW meetings. Those wishing to use this service for observing ACNW meetings should contact Mr. Theron Brown, ACNW Audiovisual Technician (301-415-8066), between 7:30 a.m. and 3:45 p.m. EST at least 10 days before the meeting to ensure the availability of this service. Individuals or organizations requesting this service will be responsible for telephone line charges and for providing the equipment and facilities that they use to establish the videoteleconferencing link. The availability of videoteleconferencing services is not guaranteed.

Dated: December 21, 1999.

**Andrew L. Bates,**

*Advisory Committee Management Officer.*

[FR Doc. 99-33676 Filed 12-27-99; 8:45 am]

BILLING CODE 7890-01-P

## NUCLEAR REGULATORY COMMISSION

### Advisory Committee on Reactor Safeguards; Meeting of the ACRS Subcommittee on Plant Operations

The ACRS Subcommittee on Plant Operations will hold a meeting on January 20, 2000, Room T-2B3, 11545 Rockville Pike, Rockville, Maryland.

The entire meeting will be open to public attendance.

The agenda for the subject meeting shall be as follows:

*Thursday, January 20, 2000—8:30 a.m.*

*until the conclusion of business*

The Subcommittee will discuss selected technical components of the revised reactor oversight process, including the updated significance determination process and plant performance indicators. The purpose of this meeting is to gather information, analyze relevant issues and facts, and to formulate proposed positions and actions, as appropriate, for deliberation by the full Committee.

Oral statements may be presented by members of the public with the concurrence of the Subcommittee Chairman and written statements will be accepted and made available to the Committee. Electronic recordings will be permitted only during those portions of the meeting that are open to the public, and questions may be asked only by members of the Subcommittee, its consultants, and staff. Persons desiring to make oral statements should notify the cognizant ACRS staff engineer named below five days prior to the meeting, if possible, so that appropriate arrangements can be made.

During the initial portion of the meeting, the Subcommittee, along with any of its consultants who may be present, may exchange preliminary views regarding matters to be considered during the balance of the meeting.

The Subcommittee will then hear presentations by and hold discussions with representatives of the NRC staff and other interested persons regarding this review.

Further information regarding topics to be discussed, whether the meeting has been canceled or rescheduled, and the Chairman's ruling on requests for the opportunity to present oral statements and the time allotted therefor, can be obtained by contacting the cognizant ACRS staff engineer, Mr. Michael T. Markley (telephone 301/415-6885) between 7:30 a.m. and 4:15 p.m. (EST). Persons planning to attend this meeting are urged to contact the above named individual one or two

working days prior to the meeting to be advised of any potential changes to the agenda, etc., that may have occurred.

Dated: December 21, 1999.

Howard J. Larson,

Acting Associate Director for Technical Support, ACRS/ACNW.

[FR Doc. 99-33677 Filed 12-27-99; 8:45 am]

BILLING CODE 7590-01-P

## NUCLEAR REGULATORY COMMISSION

### NUREG-0713, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities;" Issuance, Availability

The Nuclear Regulatory Commission has issued Volume 20 of NUREG-0713, "Occupational Radiation Exposure at Commercial Nuclear Power Reactors and Other Facilities." This NUREG summarizes the occupational exposure data that are maintained in the U.S. Nuclear Regulatory Commission's (NRC) Radiation Exposure Information and Reporting System (REIRS). The bulk of the information contained in this NUREG was compiled from the 1998 annual reports submitted by NRC licensees<sup>1</sup> subject to the reporting requirements of 10 CFR 20.2206. Since there are no geologic repositories for high level waste currently licensed, only six categories will be considered in this report. This NUREG is available at <<http://www.reirs.com>>, through the NRC Public Electronic Reading Room link <<http://www.nrc.gov/NRC/ADAMS/index.htm>> at the NRC Homepage.

Comments and suggestions in connection with this NUREG are encouraged at any time. Written comments may be submitted to the REIRS Project Manager, Mailstop T-9F31, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Issued NUREGs may be purchased from both the Government Printing Office (GPO) and the National Technical Information Service (NTIS). Details on this service may be obtained by writing either the GPO at The Superintendent of Documents, U.S. Government Printing Office, P.O. Box 37082, Washington, DC 20402-9328 or the NTIS, 5285 Port Royal Road, Springfield, VA 22161. NUREGs are not copyrighted, and

<sup>1</sup> Commercial nuclear power reactors; industrial radiographers; fuel processors (including uranium enrichment), fabricators, and reprocessors; manufacturers and distributors of byproduct material; independent spent fuel storage installations; facilities for land disposal of low-level waste; and geologic repositories for high-level waste.

Commission approval is not required to reproduce them.

(5 U.S.C. 552(a))

Dated at Rockville, Maryland, this 9th day of December 1999.

For the Nuclear Regulatory Commission.

Thomas L. King,

Director, Division of Risk Analysis and Applications, Office of Nuclear Regulatory Research.

[FR Doc. 99-33682 Filed 12-27-99; 8:45 am]

BILLING CODE 7590-01-P

## OFFICE OF PERSONNEL MANAGEMENT

### Submission for OMB Review; Comment Request for Reinstatement, With Change, of a Previously Approved Information Collection for Which Approval Has Expired: SF 2817

AGENCY: Office of Personnel Management.

ACTION: Notice.

**SUMMARY:** In accordance with the Paperwork Reduction Act of 1995 (Public Law 104-13, May 22, 1995), this notice announces that the Office of Personnel Management (OPM) has submitted to the Office of Management and Budget a request for review of the following reinstatement, with change, of a previously approved collection which has expired. SF 2817, Life Insurance Election, is used by Federal employees and assignees (those who have acquired ownership and control of an employee's or annuitant's coverage through the enrollee's assignment of life insurance). The form is used as the official agency record of the individual's coverage and enrollment status under the FEGLI program, and as acknowledgment and authorization by the individual for collection from him or her of the enrollee share of the premium contributions.

We estimate 100 forms are completed annually by assignees. Each form takes approximately 15 minutes to complete. The annual estimated burden is 25 hours.

For copies of this proposal, contact Mary Beth Smith-Toomey on (202) 606-8358, or E-mail to [mbtoomey@opm.gov](mailto:mbtoomey@opm.gov).

**DATES:** Comments on this proposal should be received on or before January 27, 2000.

**ADDRESSES:** Send or deliver comments to—

Laura Lawrence, Senior Insurance Benefits Specialist, Insurance Planning and Evaluation Division, Retirement and Insurance Service, U.S. Office of Personnel Management,

1900 E Street, NW, Room 3415, Washington, DC 20415; and Joseph Lackey, OPM Desk Officer, Office of Information & Regulatory Affairs, Office of Management & Budget, New Executive Office Building, NW, Room 10235, Washington, DC 20503

## FOR INFORMATION REGARDING ADMINISTRATIVE COORDINATION—

**CONTACT:** Phyllis Pinkney, Budget & Administrative Services Division, (202) 606-0623.

U.S. Office of Personnel Management.

Janice R. Lachance,

Director.

[FR Doc. 99-33584 Filed 12-27-99; 8:45 am]

BILLING CODE 5325-01-P

## OFFICE OF PERSONNEL MANAGEMENT

### Submission for OMB Review; Comment Request for Reclearance of an Information Collection: RI 38-107

AGENCY: Office of Personnel Management.

ACTION: Notice.

**SUMMARY:** In accordance with the Paperwork Reduction Act of 1995 (Public Law 104-13, May 22, 1995), this notice announces that the Office of Personnel Management (OPM) has submitted to the Office of Management and Budget a request for reclearance of an information collection. RI 38-107, Verification of Who is Getting Payments, is used to verify that the entitled person is indeed receiving the monies payable. Failure to collect this information would cause OPM to pay monies absent the assurance of a correct payee.

We estimate 25,400 RI 38-107 forms are completed annually. Each form takes approximately 10 minutes to complete. The annual estimated burden is 4,234 hours.

For copies of this proposal, contact Mary Beth Smith-Toomey on (202) 606-8358, or E-mail to [mbtoomey@opm.gov](mailto:mbtoomey@opm.gov).

**DATES:** Comments on this proposal should be received January 27, 2000.

**ADDRESSES:** Send or deliver comments to—

Ronald W. Melton, Chief, Operations Support Division, Retirement and Insurance Service, U.S. Office of Personnel Management, 1900 E Street, NW, Room 3349, Washington, DC 20415, and

Joseph Lackey, OPM Desk Officer, Office of Information and Regulatory Affairs, Office of Management and Budget, New Executive Office