UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

June 14, 2005

Gregg R. Overbeck, Senior Vice
President, Nuclear
Arizona Public Service Company
P.O. Box 52034
Phoenix, AZ 85072-2034

SUBJECT: MEETING SUMMARY DISCUSSING PALO VERDE APPARENT VIOLATION (NRC INSPECTION REPORT 05000528; 529; 530/2005011)

Dear Mr. Overbeck:

On June 1, 2005, representatives of Arizona Public Service Company met with NRC personnel in the Region IV office located in Arlington, Texas, to discuss the apparent violation identified in NRC Inspection Report 05000528; 529; 530/2005011. The conference was held at the request of the licensee. The apparent violation occurred when changes to emergency action levels at Palo Verde Nuclear Generating Station resulted in a decrease in the effectiveness of the emergency plan. Arizona Public Service Company agreed that changes made to the Palo Verde Nuclear Generating Station Emergency Plan decreased the effectiveness of the plan, and that a violation of NRC regulations occurred. The licensee presented additional information regarding immediate and long-term corrective actions and the extent of condition of the problem.

The meeting attendance list and a copy of the NRC and licensee presentations are included as Enclosures 1 through 3. The Arizona Public Service Company presentation was redacted to remove potentially sensitive information. No commitments were made by Arizona Public Service Company during the conference.

In accordance with Section 2.390 of the NRC's "Rules of Practice," Part 2, Title 10, Code of Federal Regulations, a copy of this letter and its enclosure will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

Anthony T. Gody, Chief
Operations Branch
Division of Reactor Safety

Dockets: 50-528; 50-529; 50-530
Licenses: NPF-41; NPF-51; NPF-74

Enclosures:
1. Meeting Attendance List
2. NRC Presentation
3. Arizona Public Service Company Presentation

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Team Leader, DRP/TSS **(RLN1)**
RITS Coordinator **(KEG)**
RSLO **(WAM)**
NSIR/DPR/EPD **(REK)**

SISP Review Completed: Y ADAMS: √ Yes No Initials: PJE
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RIV:DRS/OB/EP	C:DRSP/OB			
PJElkmann; lmb	ATGody			
6/9/05	6/14/05			
PJE				

OFFICIAL RECORD COPY T=Telephone E=E-mail F=Fax

ENCLOSURE 1

Meeting Attendance List

PREDECISIONAL ENFORCEMENT CONFERENCE ATTENDANCE

LICENSEE / FACILITY	ARIZONA PUBLIC SERVICE COMPANY , PALO VERDE
DATE / TIME	JUNE 1, 2005 / 2:00 PM CDT
CONFERENCE LOCATION	TRAINING CONFERENCE ROOM, 4TH FLOOR RIV OFFICE, ARLINGTON, TEXAS
EA NUMBER	05-037

OTHER ATTENDEES (BY TELECONFERENCE)

NAME	ORGANIZATION	TITLE
Aubrey Godwin	AZ Div. Emergency Management	Director
Rob Henry	Salt River Project	
Bradley Lee	APS / Palo Verde	Senior E-Plan Coordinator
Gary Cerkas	APS / Palo Verde	Senior E-Plan Coordinator
Lucinda Buraszeski	APS / Palo Verde	E-Plan Coordinator
Thomas Barsuk	APS / Palo Verde	Senior E-Plan Coordinator
Terry Schoech	APS / Palo Verde	E-Plan Coordinator
Mary Pioggia	APS / Palo Verde	Senior E-Plan Coordinator
Roger Middleton	APS / Palo Verde	Operations Shift Manager
Gordon Nelson	APS / Palo Verde	Radiation Protection Tech Advisor
Harry Bieling	APS / Palo Verde	Health/Safety Department Leader

PREDECISIONAL ENFORCEMENT CONFERENCE ATTENDANCE

LICENSEE/FACILITY	ARIZONA PUBLIC SERVICE CO/ PALO VERDE
DATE/TIME	JUNE 1, 2005 / 2:00 PM CDT
CONFERENCE LOCATION	TRAINING CONFERENCE ROOM, 4TH FLOOR RIV OFFICES, ARLINGTON, TEXAS
EA NUMBER	05-037

LICENSEE REPRESENTATIVES

NAME (PLEASE PRINT)	ORGANIZATION	TITLE
CRAIG SEAMAN	APS	DIRECTOR REG. AFF.
Tom Gray	APS	RP Dept. Leader
EDWARD O'NEILL	APS	E.P. DEPT. LEADER
JOHN GAFFNEY	APS	R.P. DIRECTOR
JOHN HESSER	APS	DIRECTOR EMERGENCY SERVICES
CHRIS AANENSEN	APS	Communications Rep. Sr.
DAVID MAULDIN	APS	Vice President, Engrg. & Support

PREDECISIONAL ENFORCEMENT CONFERENCE ATTENDANCE

LICENSEE/FACILITY	ARIZONA PUBLIC SERVICE CO/ PALO VERDE
DATE/TIME	JUNE 1, 2005 / 2:00 PM CDT
CONFERENCE LOCATION	TRAINING CONFERENCE ROOM, 4TH FLOOR RIV OFFICE, ARLINGTON, TEXAS
EA NUMBER	05-037

NRC REPRESENTATIVES

NAME (PLEASE PRINT)	ORGANIZATION	TITLE
MAIER, William A.	NRC Region 4	Regional/State Liaison Officer
KAHLER, ROBERT E	NRC - NSIR	INSPECTION TEAM LEADER
Vegel, A	NRC Region	Dep Dir - DRP
Howell, Arthur T.	NRC Region IV	Director, DRP
NICK TAYLOR	NRC REGION IV	PROJECT ENGINEER, DRP
Paul Elkmann	NRC REGION IV	EP INSPECTOR
Greg Werner	NRC RIV	DRP Senior Project Eng
BRIAN LARSON	NRC RIV	OPS ENGINEER
MARK HAIRE	NRC RIV	OPS. ENGINEER
JAMES DRAKE	NRC RIV	OPS ENGINEER.
RYAN LANTZ	NRC RIV	SR EP INSP.
DOUG STARKEY	NRC OE	SR. ENF. SPEC.
Greg Warnick	NRC RIV	SRI - PVNGS

ENCLOSURE 2

NRC Presentation

NRC Enforcement Program

Predecisional Enforcement Conference with
Arizona Public Service Company
June 1, 2005
Arlington, Texas

Key Points

- Most violations at power reactors processed under SDP
- Violations impacting NRC regulatory process are processed under Enforcement Policy
- If significance is >SL4, civil penalty is considered
- No decisions have been made

Decision Process

- Determine whether violation occurred
- Determine significance of violation
- Evaluate all circumstances
- Determine sanctions

Factors in Determining Significance

- Actual safety consequences
- Potential safety consequences
- Impact on NRC's regulatory process
- Willfulness

Possible Outcomes

- No action if no violation occurred
- NOV or NCV for SLIV violation
- NOV or NOV/CP for SLIII violation

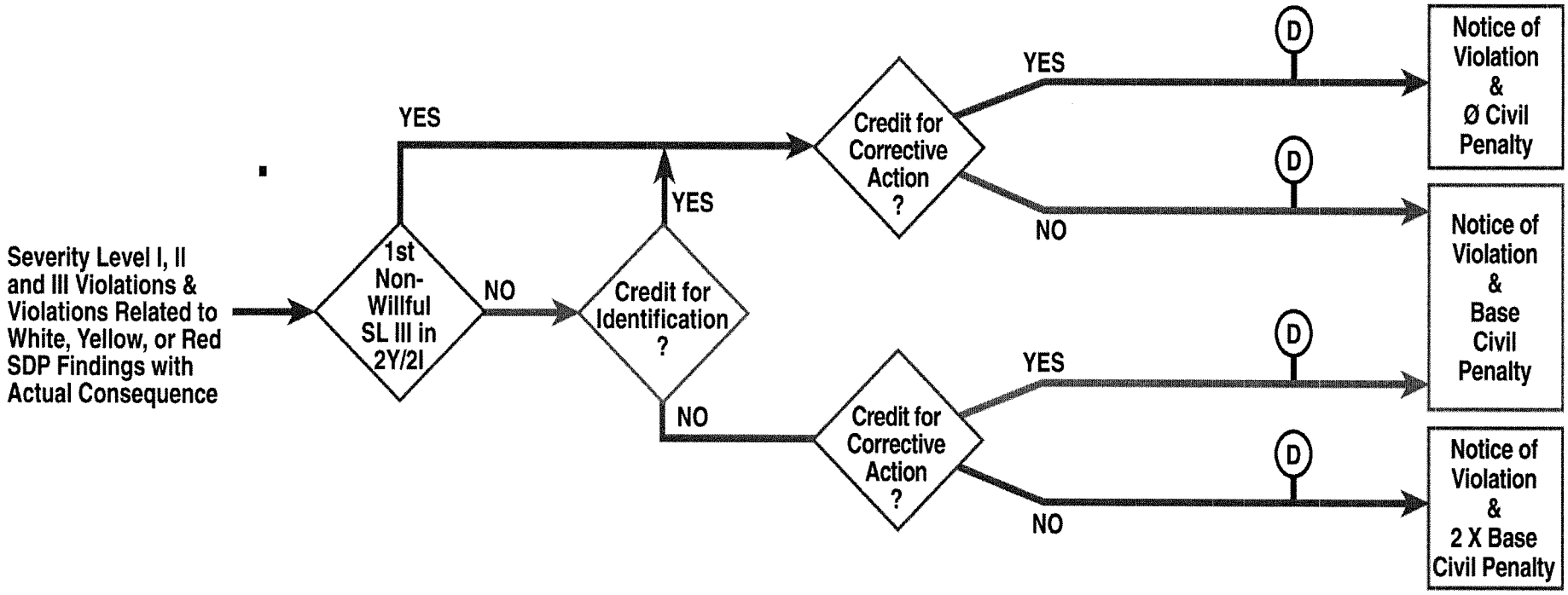
Key Points About Civil Penalties

- Considered for SL I, II, and III violations
- May be assessed for each violation or grouping of violations and for each day violation occurred
- Base penalty for power reactors is $65,000 for SL3 violation

Factors in Assessing Civil Penalties

- History of significant violations
- Willfulness
- Circumstances surrounding identification
- Corrective action taken
- Discretion (judgment)

CP Flow Chart



Post-Conference Process

- Review all information
- Panel to reach final decision
- Develop actions
- Notify licensee & issue actions
- Issue press release for civil penalties and orders

Appeal Rights

- NRC enforcement actions may be challenged
- Challenge may result in reconsideration of action or hearing
- Civil penalties and orders provide hearing rights

ENCLOSURE 3

Arizona Public Service Company Presentation

NRC
Predecisional Enforcement Conference

June 1, 2005

David Mauldin
Vice President
Engineering and Plant Support

Introduction

Apparent Violation

Changes to EALs 3-16 and 3-19 represented a decrease in effectiveness of the licensee's emergency plan, in violation of the requirements of 10CFR50.54(q).

Apparent Violation of 10 CFR 50.54(q)

APS agrees with the Violation

Agenda

♦ Introduction	David Mauldin, VP Eng
♦ Event Description	John Gaffney, Dir, RP
♦ Root Causes	Edward O'Neill, DL EP
♦ Extent of Condition Review	Tom Gray, DL, RP
♦ Event Significance	John Gaffney, Dir, RP
♦ Further Reviews and Corrective Actions	John Hesser, Dir, ESD
♦ Conclusion	David Mauldin, VP Eng

John Gaffney
Director
Radiation Protection

Event Description

Deep Dose Equivalent

DDE
(Deep Dose Equivalent)
Dose attributed to external sources. Measurable with field instruments.

Committed Effective Dose Equivalent

DDE
(Deep Dose Equivalent)
Dose attributed to external sources.
Measurable with field instruments.

CEDE
(Committed Effective Dose Equivalent)
Risk weighted dose to organs from inhalation of radioiodine.

Derivation of CEDE

DDE
(Deep Dose Equivalent)
Dose attributed to external sources.
Measurable with field instruments.

CEDE
(Committed Effective Dose Equivalent)
Risk weighted dose to organs from inhalation of radioiodine.

- **CEDE = CDE x .03**

- **CDE is established by air sampling**

DDE and CEDE Relationship to TEDE

DDE
(Deep Dose Equivalent)
Dose attributed to external sources. Measurable with field instruments.

CEDE
(Committed Effective Dose Equivalent)
Risk weighted dose to organs from inhalation of radioiodine.

DDE + CEDE = TEDE

TEDE (Total Effective Dose Equivalent) represents the total exposure from internal and external sources

NUMARC 007
Emergency Action Levels (EALs)

1. **Installed Plant Effluent Monitoring readings indicate >100mR TEDE or 500mR CDE at the site boundary. (Covered by EALS 3-14, 3-15)**

2. **Perimeter Radiation Monitoring System >100mR/hr**

   (Palo Verde has exception because a telemetered perimeter system does not exist.)

NUMARC 007
Emergency Action Levels (EALs)

3. **Computer Modeled Dose Assessment indicates >100mR TEDE or >500mR CDE at site boundary**

4. **Actual field surveys indicate >100mR/hr (DDE) or >500mR CDE**

EAL 3-16 Revision 1

(similar to 3-19)

"IC - Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 100 mR Whole Body or 500 mR Child Thyroid for the Actual or Projected Duration of the Release."

Site Boundary dose rate > 100 mrem/hr Deep Dose Equivalent as measured with portable instrumentation

OR

Valid dose assessment indicates > 100 mrem/hr TEDE or > 500 mrem/hr thyroid CDE at the Site Boundary (3-16).

The Event

ent Category (Modes 1-6 and defueled unless specified)

ERT	SITE AREA EMERGENCY (SAE)	GENERAL EMERGENCY (GE)
lease of Gaseous or o the Environment that ne Radiological ons for 15 Minutes or le > 1.0 mrem/hr Deep asured with portable]	**IC - Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 100 mR Whole Body or 500 mR Child Thyroid for the Actual or Projected Duration of the Release** [redacted] (remove) [redacted] indicates > 100 mrem[redacted] TEDE or > 500 mrem[redacted] thyroid CDE at the Site Boundary **[3-16]** (replace)	**IC - Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 1000 mR Whole Body or 5000 mR Child Thyroid for the Actual or Projected Duration of the Release Using Actual Meteorology** [redacted] (remove) [redacted] indicates > 1000 mrem[redacted] TEDE or > 5000 mrem[redacted] thyroid CDE at the Site Boundary **[3-19]**
active Material or n Levels within the Operation of Systems Safe Operations or to Cold Shutdown ssociated radiation llowing areas required to nctions which are: om Alarm Station	Field survey results or valid dose assessment for the actual or projected duration of the release	(add to end of sentences)

(replace)

EAL 3-16 Revision 2

"IC - Boundary Dose Resulting from an Actual or Imminent Release of Gaseous Radioactivity that Exceeds 100 mR Whole Body or 500 mR Child Thyroid for the Actual or Projected Duration of the Release."

Field survey result or valid dose assessment indicates > 100 mrem TEDE or > 500 mrem thyroid CDE at the Site Boundary for the actual or projected duration of the release (3-16).

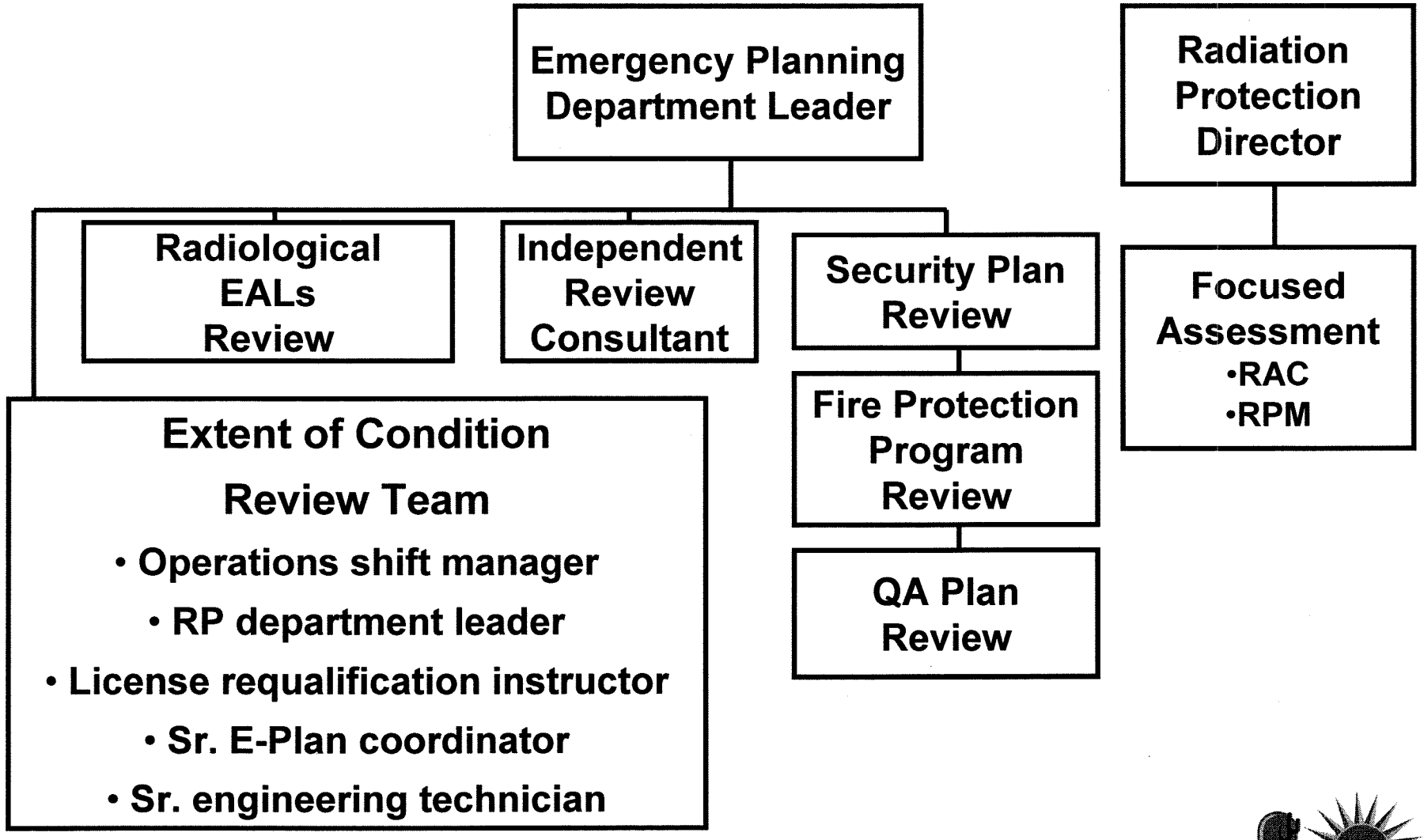
Edward O'Neill
Department Leader
Emergency Planning

Root Causes

Root Causes

- Emergency Planning Department lacked the necessary RP expertise and knowledge
- Failure to send revision for cross-organizational reviews
- Transfer of E-Plan procedure change responsibility from ESD Programs to E-Plan failed to identify appropriate training

Organization of Review Teams



Tom Gray
Department Leader
Radiation Protection

Extent of Condition Review

Extent of Condition Review

- Technically review EAL and PAR changes made after NUMARC 007 Acceptance (1994)
- The team reviewed the following for decreases in effectiveness:
  - Emergency Plan by comparing current EALs against EALs issued in 1994
  - Emergency Plan by comparing current PARs against PARs issued in 1994
  - Emergency Plan EALs to current procedure by checking each procedure revision starting from 1994 to date (20 procedures)

Extent of Condition Review

The team reviewed the following for decreases in effectiveness:

- **Emergency Plan PARs to current procedure by checking available procedure revisions starting from 1994 to date (18 procedures)**
- **Representative review of changes to the Emergency Plan since 1994 (7 changes)**
- **Representative review of changes to Emergency Planning Implementing Procedures (9 changes)**

Extent of Condition Results

Two EALs were determined to be a "decrease in effectiveness"

Extent of Condition Results

EAL 1-1 Changed 10/13/2000 –

- Original – "Highest valid CET temperature >700° F"
- Changed to – "Highest valid CET temperature >50° F superheat"

Extent of Condition Results

EAL 1-2 Changed 10/13/2000 –

- **Original – "RVLMS level <21% plenum"**
- **Changed to – "Valid RVLMS level currently or previously <21% plenum"**

Further Review Results

Two EALs were identified for enhancement

Extent of Condition Results

- EAL 1-4, containment radiation monitor — fuel clad barrier loss — changed December 5, 2003
- Incorporated monitor reading for first two hours, then use of log-log graph thereafter
- Change back to original format of one reading per radiation monitor for human factor considerations
- Proposed changes submitted to NRC for review/approval

Extent of Condition Results

- New EAL, containment radiation monitor — RCS barrier loss — never incorporated in 1994
- Original EAL excluded from scheme because radiation monitor used for leakage would be isolated or the level of radiation would be below the high range monitor level of detectability at "normal RCS concentrations"
- Add EAL 1-16, to account for another indication of RCS barrier loss, using the containment radiation monitor and maximum RCS technical specification concentration for consistency with NUMARC/NESP-007
- Proposed changes submitted to NRC for review/approval

Radiological EALs Review

- **EAL changes to better align with NUMARC/NESP 007:**
  - Field survey samples (air samples) for 3-16 & 3-19
  - Readjusted monitor readings
    - Change to iodine removal efficiency
    - Included EPA-400 dose conversion for 4-day deposition
    - Updated source term
  - Corrected terminology to be more consistent with NUMARC
- **Proposed changes submitted to NRC for review/approval**

PALO VERDE

Independent Review

- Contingency Management Consulting Group, LLC
- Technical Basis Review - for Containment Radiation Monitoring and Radiological Emergency Action Levels (EALs)

Conclusions:

- No major inconsistencies
- No significant findings
- Calculation methodology for radiological effluents conservative

John Gaffney
Director
Radiation Protection

Event Significance

Even though EALs 3-16 and 3-19 were changed, the correct method for classification still existed

- Two implementing procedures were unchanged
- Field assessment team checklist in EPIP 99 also unchanged

Unchanged EPIP-01 Chart

Threshold	Site Boundary Dose Rate
NUE	>0.1 mRem/hr Deep Dose Equivalent
ALERT	> 1.0 mRem/hr Deep Dose Equivalent
SAE	>100 mRem/hr Deep Dose Equivalent >500 mRem/hr Thyroid CDE 12 Kcpm on AgX
GE	>1000 mRem/hr Deep Dose Equivalent > 5000 mRem/hr Thyroid CDE 120 Kcpm on AgX

RP E-Plan Continuing Training

RPM/RPC/RAC continuing training (Lesson Plan NRE98X000118)

- Utilized same chart
- Trained mid-2004

RP Knowledge Maintained

- **Focused assessment**
  (14 of 14 RPM qualified personnel made an accurate call when questioned)

- **RP staff aware that DDE is part of TEDE**

Conclusion

- Possibility existed that conflict in procedural guidance could slow down classification or cause misclassification
- This potential was minimal based on:
  1. Multiple procedures remained unchanged
  2. RP continuing training
  3. Basic staff knowledge

John Hesser
Director
Emergency Services

Corrective Actions
and
Further Reviews

Completed Corrective Actions

- Extent of condition review
- EALs revised and submitted for NRC approval Compliance to NUMARC/NESP 007 upon NRC approval
- Significant CRDR investigation/evaluation
- Training and job qualification card on Technical Reviews and 10CFR50.54(q) evaluations
- Radiation Protection personnel assigned to E-Plan

Completed Corrective Actions

- Operations personnel assigned to E-Plan
- E-Plan personnel coached
- New E-Plan manager selected
- Focused assessment of RP ERO to properly assess and recommend EAL for event classification using EAL error

Corrective Actions

- Develop guidance to control Emergency Planning procedure changes (June 2005)
- Develop guidance for 10CFR50.54(q) evaluations (June 2005)

Further Extent of Condition Reviews

- **Scope**
  - Review changes to specific 10CFR50.54 licensing programs
  - Evaluate qualifications of preparers and technical reviewers of changes
- **Programs selected:**
  - Fire Protection Program
  - Security Plan
  - Quality Assurance Plan

Further Extent of Condition Reviews Quality Assurance Plan (10CFR50.54(a))

- Changes reviewed for "Reduction in Commitment"
  - Licensing Document Change Requests (33)
- Conclusions:
  - Found no changes that would have resulted in a reduction of commitments
  - Preparers and technical reviewers had appropriate qualifications
  - Weaknesses identified:
  - Lack of Rigor for evaluations, Failure to follow procedure, & Lack of Impact Reviews
  - CRDRs: 2800970, 2802961, 2802971, & 2802976

Slide Deleted because it contained sensitive material not to be released to the public per 10 CFR 2.390.

Further Extent of Condition Reviews
Fire Protection Program (10CFR50.54(a))

- Reviewed previous changes to determine if they "adversely affect the ability to achieve and maintain safe shutdown in the event of a fire"
  - Licensing Document Change Requests (40)
  - Implementation and Testing Procedures (5)
  - Program Calculations (2)
- Conclusions:
  - Found no changes that would have adversely affected the ability to achieve and maintain safe shutdown in the event of a fire
  - Preparers and technical reviewers had appropriate qualifications

David Mauldin
Vice President
Engineering and
Plant Support

Conclusion