INTERIM SUMMARY OF THE
U.S. NUCLEAR REGULATORY COMMISSION/U.S. DEPARTMENT OF ENERGY
QUARTERLY MANAGEMENT MEETING
IN PAHRUMP, NEVADA
JUNE 6, 2005

Introduction

The staff from the U.S. Nuclear Regulatory Commission (NRC) and the U.S. Department of Energy (DOE) held a quarterly management meeting open to the public on June 6, 2005. The purpose of this meeting was to discuss the progress of the project regarding the proposed geologic repository at Yucca Mountain, Nevada. The meeting was hosted at the Pahrump Ambulance Building in Pahrump, Nevada, with video and audio connections to NRC headquarters in Rockville, Maryland, the Center for Nuclear Waste Regulatory Analyses in San Antonio, Texas, and DOE offices in Las Vegas, Nevada. The agenda for this meeting can be found in Enclosure 1.

During opening remarks, Mr. Jack Strosnider (NRC) welcomed DOE managers, members of the public, and stakeholders. He thanked Nye County, Nevada, and the City of Pahrump, Nevada for hosting the meeting. Then he and Mr. C.W. Reamer presented the NRC program update of the licensing support network and license application submission dates; the U.S. Environmental Protection Agency 10,000 year compliance standard rulemaking activities; the potential falsification by of information by U.S. Geological Survey employees; key technical issue agreement status; and preclosure interactions. Enclosure 2 is a list of attendees who were present at the above noted locations.

Mr. John Arthur (DOE gave a Yucca Mountain Project update on the management, quality assurance, and safety culture; status of review about the impacts associated with the U.S. Geological Survey email issue; and the status of DOE's preparations to submit the license application and complete supporting systems and documentation.

DOE staff presented project information and status. Mr. Rick Craun reported on the preclosure and repository design update. Mr. Dennis Brown presented a quality assurance overview. Enclosure 3 contains slides presented by DOE.

The status of open action items was discussed, and Mr. Strosnider and Mr. Arthur provided closing remarks. A more detailed summary will be issued within 30 days of the meeting.

Enclosures:
1. Agenda
2. Attendees
3. Presentations

Agenda
DOE/NRC Quarterly Management Meeting
June 6, 2005
9:00 AM – 1:30 PM (PT)
12:00 N – 4:30 PM (ET)

Pahrump Ambulance Building
300 North Highway 160
Pahrump, Nevada

And via Videoconference to:

U. S. Nuclear Regulatory Commission
Two White Flint North, Room T7A-1
11545 Rockville Pike
Rockville, MD

Center for Nuclear Waste Regulatory Analyses
Conference Room B232, Bldg. 189
6220 Culebra Road
San Antonio, TX

Bechtel SAIC Company, LLC
Building 9, Room 915
9960 Covington Cross
Las Vegas, Nevada

INTERESTED PARTIES MAY PARTICIPATE VIA TELECON BY CALLING 1-800-638-8081 or 301-231-5539, Passcode 4956#

9:00 AM	Introductions/Opening Remarks	DOE/NRC	
9:15 AM	NRC Program Update	NRC	Strosnider/Reamer
9:45 AM	DOE Program Update • Budget • Schedule	DOE	Arthur
10:00 AM	Yucca Mountain Project Update • Project Objectives • Management--Culture, Performance Indicators, Focus on Quality and Safety • License Application - Peak dose/EPA standard, Fuel in air, LSN • USGS e-mail Issue • Conclusions	DOE	Arthur/Mitchell
11:15 AM	Break	All	
11:30 AM	Pre-Closure and Design Status • Proposed Plans for Pre-Closure Interactions	DOE	Craun
12:15 PM	QA Program Update	DOE	Brown
12:30 PM	Caucus	All	
12:45 PM	Action Items Status	DOE/NRC	Hanlon/Gil
1:00 PM	Public Comments/Closing Remarks	All	
1:30 PM	Adjourn		

Enclosure 1

ATTENDANCE LIST FOR NRC HEADQUARTERS
QUARTERLY MANAGEMENT MEETING
June 6, 2005

NAME	ORGANIZATION	TELEPHONE/E-MAIL ADDRESS
Steve Frishman	State of NV	775-687-3744 sfreor@nuc.state.nv.us
Budhi Sagar	CNWRA	(210) 522-5252
Gary Hollis	Nye County	727-3169
Alex Sapountzis	NRC-NMSS	301-415-7822 APS@NRC.GOV
Victor Gilinsky	Consultant /NV	1 310 459 0233 victor@gilinsky.com
Richard Craun	DOE	702-794-1988 richard.Graun@ymp.gov
George Hellstrom	DOE	702-794-1419 george.hellstrom@ymp.gov
Matt Urie	DOE	702-794-5568
Bob Fillmore	~~Hunton~~ Hunton & Williams	214-979-3000
Denny Brown	DOE	(702) 821-8410
Rod McCullum	NEI	202-739-8082

ATTENDANCE LIST FOR NRC HEADQUARTERS
QUARTERLY MANAGEMENT MEETING
June 6, 2005

NAME	ORGANIZATION	TELEPHONE/E-MAIL ADDRESS
JACK STROSNIDER	USNRC	301-415-7800 / JRS2@NRC.GOV
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Loraine Clause	Alpha Services	702 794-1451
APRIL GIL	DOE	702 794-5578
JOHN LINEHAN	NRC	301-415-7780
Peggy McCullough	BSC	702 295 0528
Christine Schulte	NRC	301-415-6698
Don Beckman	BSC	702-295-5496
R.M. LATTA	NRC	(702) 794-5048
C G Miller	NRC	301 415 1724 CGM@NRC.GOV

ATTENDANCE LIST FOR NRC/DOE
QUARTERLY MANAGEMENT MEETING
June 6, 2005

NAME	ORGANIZATION	TELEPHONE/E-MAIL ADDRESS
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Leonard D. Wert Jr.	NRC Region IV	817 860-8106 LXW1@NRC.GOV
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Jeff Ciocco	NRC - NMSS	301-415-6391 jac3@nrc.gov
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E. WISEMANN	CLARK COUNTY	
MYRLE RICE	LINCOLN/WHITE PINE COUNTIES	
Yvonne Riding	Booz Allen Hamilton	702 794-1456

ATTENDANCE LIST FOR NRC HEADQUARTERS
QUARTERLY MANAGEMENT MEETING
June 6, 2005

NAME	ORGANIZATION	TELEPHONE/E-MAIL ADDRESS
SUSAN MOORE	NYE CO NRFF	smoore @ co.nye.nv.us 727-7727 Ext 32
DENNIS BACHTEL	319 ENCINA CT HENDERSON, NV	7024547329
JOHN PAWLAK	KPVM CH 41	702-467-0678
David Swanson	Nye County NRFF	775-727-7727 x26
David Cummings	NRC	301-415-1620
Lesia Kraemer	BSC	702-295-4027
Jack Parrott	NRC	702-794-5097 jdp1@nrc.gov
Shirley Peltier	NRC	301-415-5411

NRC/DOE Quarterly Management Meeting
Las Vegas, NV
06/06/05

	Printed Name	Signature	Organization/Location
1	ALI HAGHI		BSC/LAP
2	RUTH ANN VINEYARD		BSC / L&C
3	Jim Linhart		NSNFP
4	David Franklin		NWPO
5	SUSAN JOHNSON		DOE
6	Bob Bradbury		MTS
7	JOHN CARTER		BSC QA
8	Tish Morgan		MTS
9	Todd Hartley		BSC Comm.
10	Robert Hartline		BSC QA
11	Jeff Buczek		COGEMA
12	MICHAEL ULSHAFER		OQA
13	Edward P. Opelski		NQS
14	NEAL HUNEMULLER		DOE
15	Shirley Derr		BSC
16	PAM WEST-THOMPSON		BSC
17	Veronica Cornell		MTS
18	Christy Gleason		BSC
19	Marilyn Kavchak		NQS
20	Peggy Sanchez-Davis		DOE
21	BETH BENNINGTON		DOE
22	ANN MACSHANE		MTS
23	C.D. Sorenson		BSC
24	M. J. Mason		BSC
25	MARTHA PENDLETON		BSC

CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES
MEETING ATTENDANCE

SUBJECT OF MEETING: DOE-NRC Quarterly Management Meeting

DATE: 6/6/2005 LOCATION: Bldg. 189, Room B.101

PERSON	ORGANIZATION	TITLE/FUNCTION	TELEPHONE NUMBER
Wesley Patrick	SwRI/CNWRA	V.P.	210-522-6158

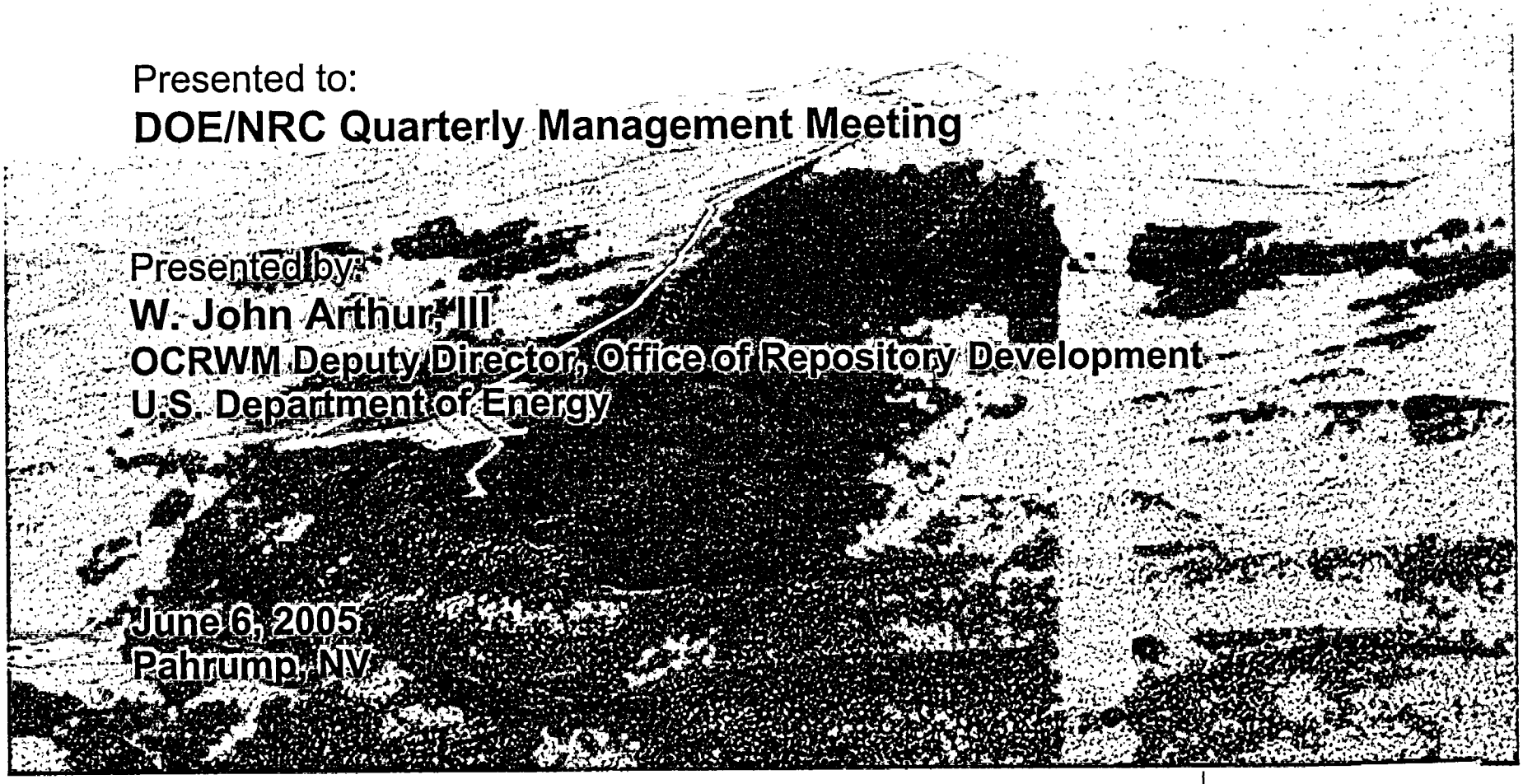
FAX: 702-295-4226

U.S. Department of Energy
Office of Civilian Radioactive Waste Management

www.ocrwm.doe.gov

Project Update

Presented to:
DOE/NRC Quarterly Management Meeting



Presented by:
W. John Arthur, III
OCRWM Deputy Director, Office of Repository Development
U.S. Department of Energy

June 6, 2005
Pahrump, NV

Enclosure 3

Goals and Objectives

- Summarize the Yucca Mountain Project status including Management, Quality Assurance, and Safety Culture
- Discuss the status of reviews about the impacts associated with the U.S. Geological Survey e-mail issue
- Discuss the status of U.S. Department of Energy's preparations to submit the License Application and complete supporting systems and documentation

Waste Package Prototype

Longitudinal seam welding on the 316 stainless steel inner vessel

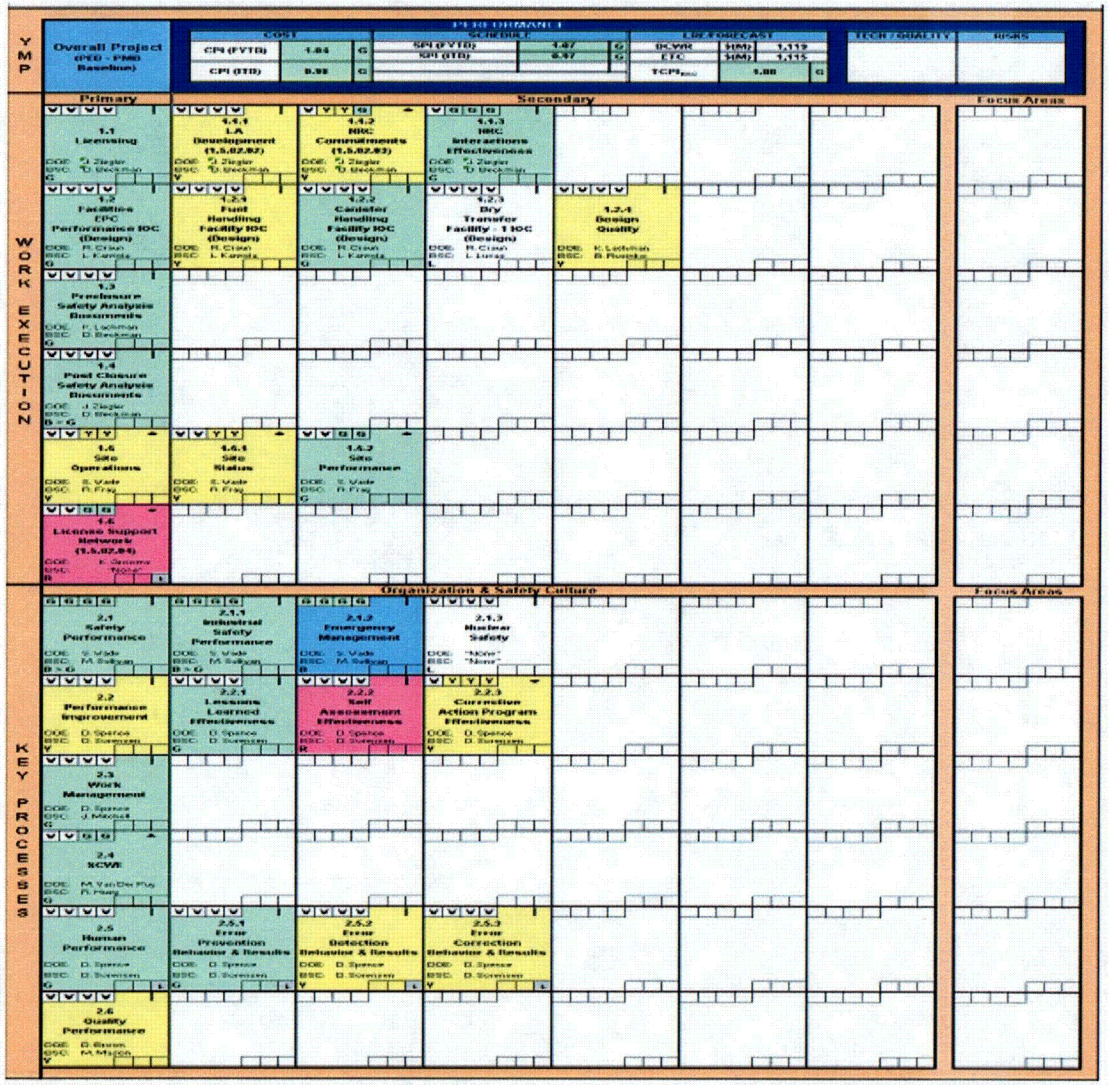
C01

Ongoing Site Improvements

C02

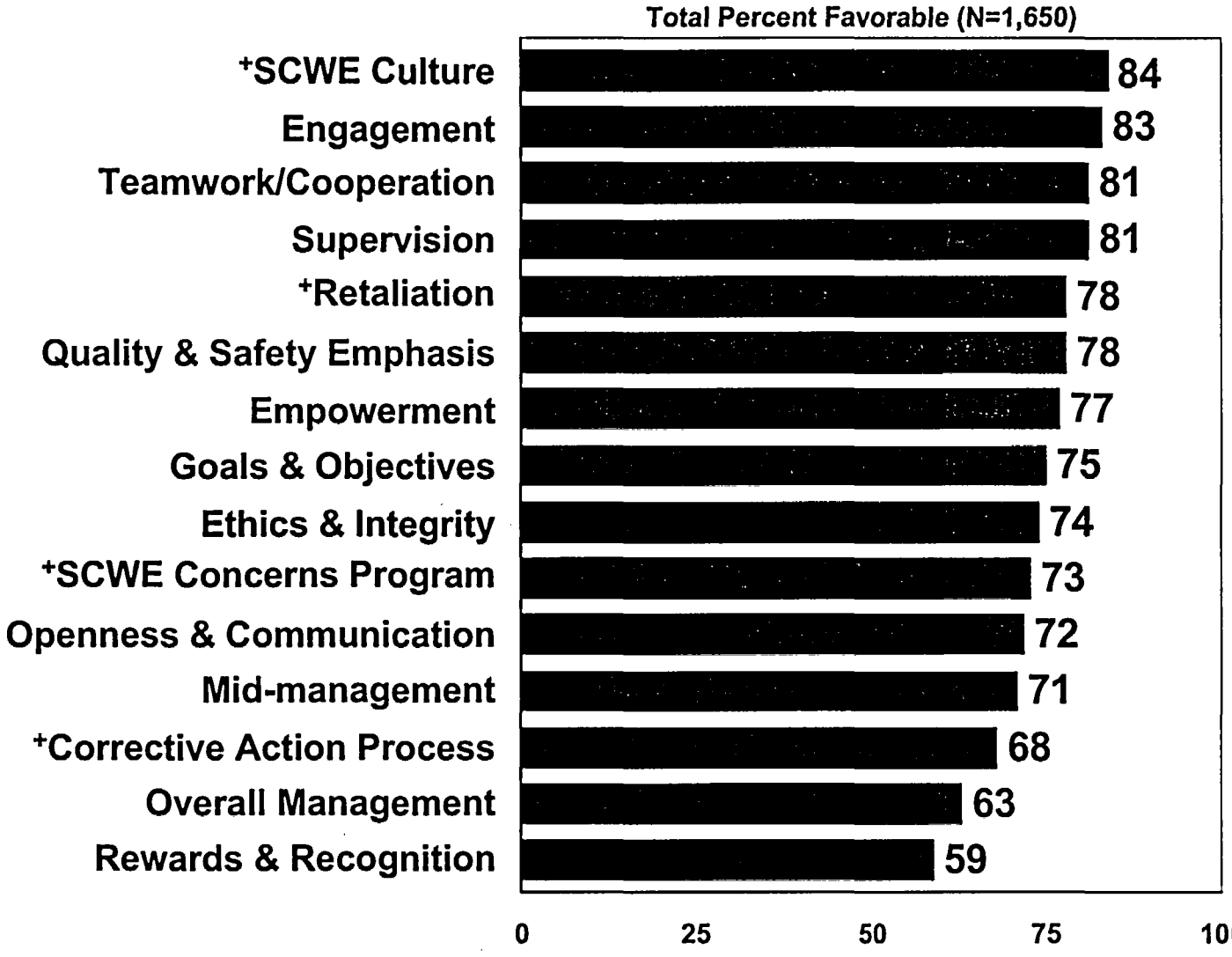
New Annunciator Panel

March 2005



C03

2004 Safety Conscious Work Environment (SCWE) Survey
YMP 2004 Overall Category Scores

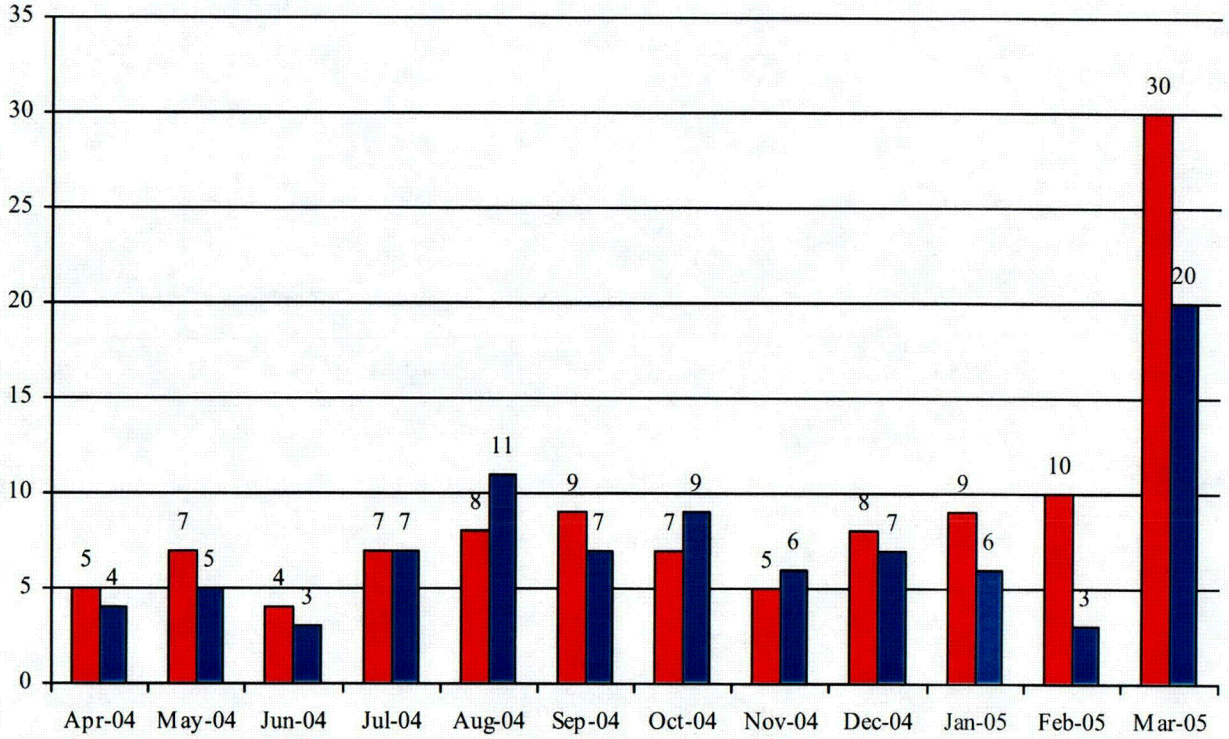


+Indicates a new category for 2004

Focus of SCWE Improvement Efforts

- Improve SCWE behaviors through Human Performance training, observation, and coaching
- Improve the ease-of-use and employee confidence in the Corrective Action Program (CAP)
- Improve employee willingness to use the Concerns Programs, with confidence that concerns will be thoroughly investigated and confidentiality will be maintained
- Improve confidence in commitment to quality
- Develop and implement organization-specific action plans as warranted
- Improve the survey instrument
- Complete alignment with best practices

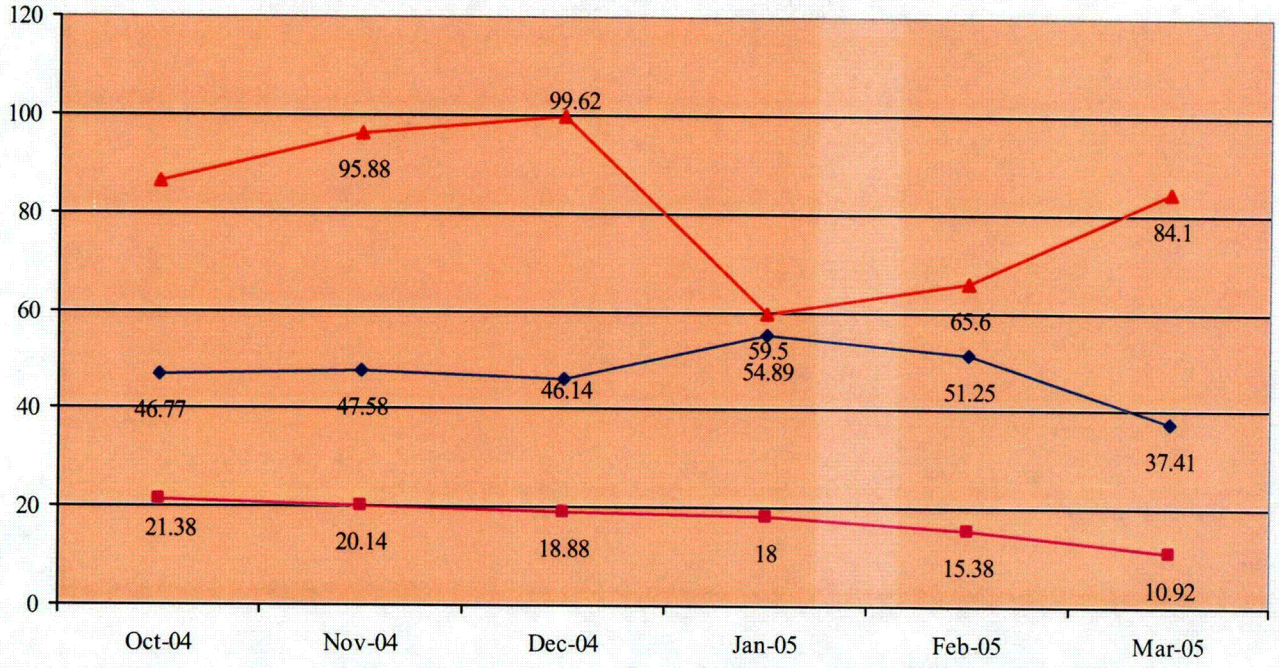
Employee Concerns Program
Cases/Concerns Received and Closed
Rolling 12 Month (April 2004 – March 2005)



	Apr-04	May-04	Jun-04	Jul-04	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05
Cases/Concerns Received	5	7	4	7	8	9	7	5	8	9	10	30
Cases/Concerns Closed	4	5	3	7	11	7	9	6	7	6	3	20

C04

Employee Concerns Program
Average Processing Time
Rolling 6 month (October 2004 – March 2005)



	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05
Total Average Age	46.77	47.58	46.14	54.89	51.25	37.41
Routine Avg Age (30 Day Goal)	21.38	20.14	18.88	18	15.38	10.92
Complex Ave Age (90 Day Goal) Goal)	86.36	95.88	99.62	59.5	65.6	84.1

C05

Level A Condition Reports

- CR 3235 – Effectiveness of corrective actions – appropriate closure of CRs
  - Issued 7/22/04
  - Planning (including root cause analysis) complete – 4/13/05
  - Due date for completion – 7/29/05
  - 17 actions remain open

- CR 5559 - Extensive rework of technical work products
  - New Level A CR - Issued 5/12/05
  - Planning (including root cause analysis) is underway

USGS E-mail Evaluation Objectives

- Identify the technical work that may be called into question
- Identify the quality assurance controls and issues involved
- Determine the impact of the technical basis on
  - Site Recommendation
  - Key Technical Issue agreements
  - Draft License Application
- Strategy for corrective action

USGS E-mail Preliminary Findings and Conclusions

- A list of work items originated by the USGS employees has been identified beyond the primary work called into question
- The quality assurance controls provided some assurance that the USGS technical products substantively complied with program requirements
- The net infiltration estimates are technically defensible, being consistent with independently derived results and acknowledged as valid by a diverse technical community

USGS E-mail Preliminary Findings and Conclusions

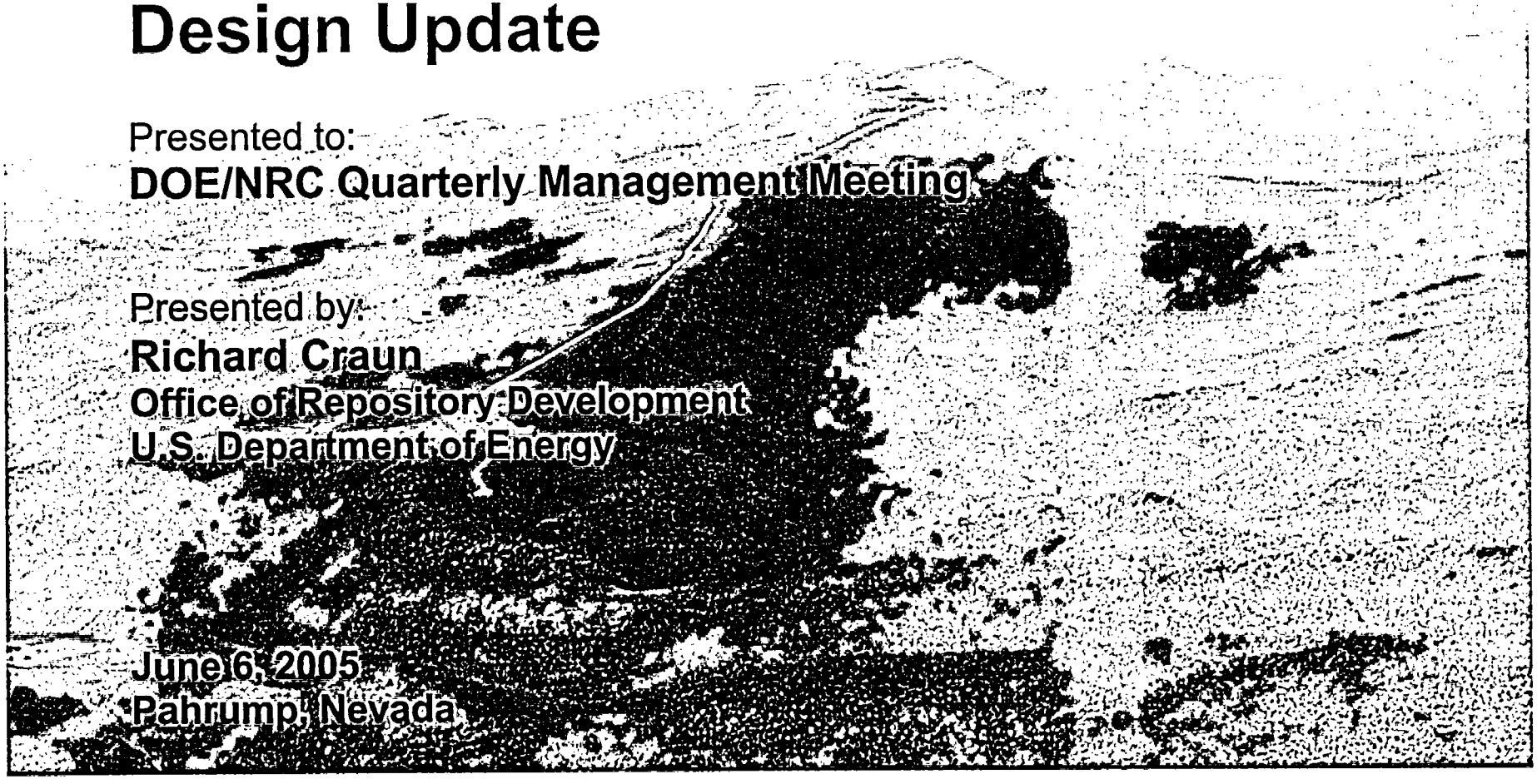
(Continued)

- There is no objective technical reason to question the technical basis of the SR, the KTI agreements, or the draft LA
- While the net infiltration estimates are considered technically defensible, it is prudent to provide additional assurance for the completeness and accuracy surrounding the work provided by the USGS employees

Summary

- The USGS e-mail issue appears limited to a few individuals
- We are assessing a range of activities; the objective of which is to provide additional assurance regarding the completeness and accuracy of the work performed by certain USGS employees
- DOE continues work to complete the LA and prepare for submittal
- Good progress continues in management areas
- The national importance of this Project and the level of professional conduct expected of all Project personnel have been reinforced by recent events

Preclosure and Repository Design Update



Presented to:
DOE/NRC Quarterly Management Meeting

Presented by:
Richard Craun
Office of Repository Development
U.S. Department of Energy

June 6, 2005
Pahrump, Nevada

Design Update

- **Design Status**
  - NRC information requests
  - DOE initiated design enhancements
- **Path Forward**

Design Status

- At the February 2005 DOE/NRC Quarterly Management Meeting, an update was provided on the NRC's October 8, 2004 information request letter needs and the DOE initiated design enhancements
- Information Request
  - Site specific casks for aging
  - Important to Safety (ITS) electrical system boundary
  - Target reliability values for equipment and systems
  - Aircraft hazard
  - Seismic design methodology

DOE Initiated Design Enhancement Status

- Develop enhanced strategy for handling spent nuclear fuel in air
- Develop automated event trees
- Develop enhanced strategy for fire protection
- Incorporate direct radiation doses
- Incorporate off-normal event analyses
- Incorporate other radioactive material as potential source terms
- Utilize bounding source terms for Category 1 event sequences
- Develop enhanced thermal management strategy

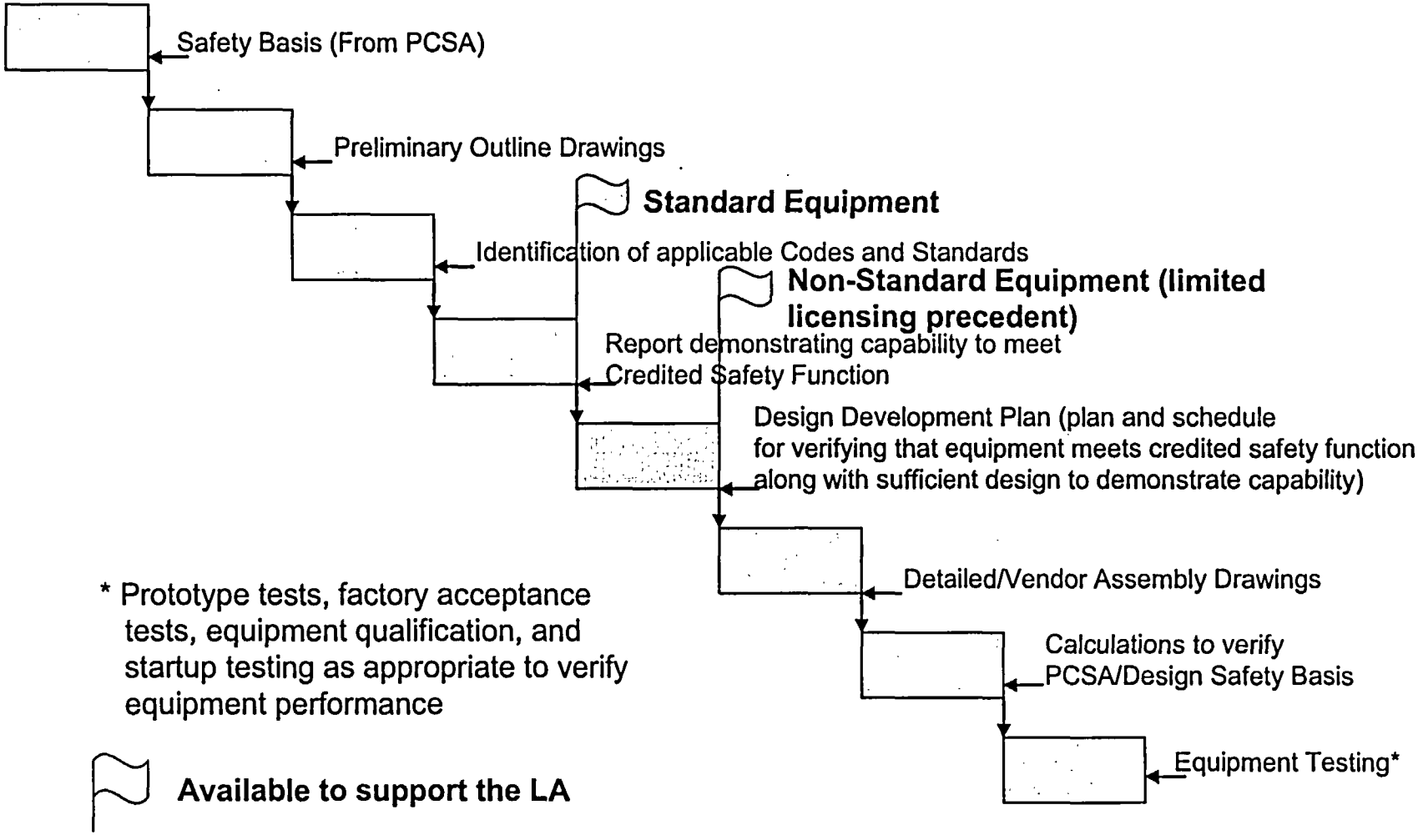
Aging System

- Evaluating existing storage system designs certified under 10 CFR 72 against YMP site specific criteria. Part 72 licensed vendor reports will describe the extent to which existing design analyses bound repository conditions
  - Reports from four vendors are scheduled to be received in early June
  - Technical basis review and analyses scheduled to be received in late fall
- Developing site specific cask system
  - Bolted lids and integral metallic shielding
  - Requires unloading of spent nuclear fuel assemblies after aging
- Developing site-specific canister system
  - Design feasibility study has been completed
  - Cask overpack used in aging configuration
  - Canister designed for direct emplacement into a waste package after aging
  - Conceptual design based on existing component design configurations (PWR and BWR waste package basket designs placed in a canister with dimensions similar to a Navy long canister. The canister, once loaded and sealed, is placed in a Navy long waste package for disposal)

Electrical System

- At the time of our February 2005 meeting, a portion of the onsite electrical power system supplying surface facility ventilation fans was described as being important to safety
- As a result of design changes to consider handling fuel in air, the ventilation system design has been changed. Electrically powered ventilation fans are no longer credited with an ITS function. Required ITS ventilation exhaust flow provided by ejectors running off stored energy (liquid Nitrogen).
- The onsite electrical power system, including the diesel generators, provides operational continuity, life safety function, and defense-in-depth, but does not provide an ITS function

Design Development Plans



* Prototype tests, factory acceptance tests, equipment qualification, and startup testing as appropriate to verify equipment performance

Available to support the LA

Design Development Plans

(Continued)

- Design Development Plans are being developed to define the path forward for demonstrating that target reliability values are achieved. Design Development Plans are being prepared for the following equipment or system:
  - Waste package and cask trolleys, including rails
  - Site rail transfer cart (SRTC) and rails
  - Waste package transporter
  - Emplacement gantry
  - Trolley turntables
  - Cutting systems for dual-purpose canister (DPC) and waste packages
  - Waste package and transportation cask tilting machines
  - Trunnion collar removal machine
  - Aging cask and canister
- Design Development Plans are scheduled for completion in June 2005

Aircraft Hazards/Frequency Analysis

- Completed updates to the *Identification of Aircraft Hazards* and the *Frequency Analysis of Aircraft Hazards for License Application* reports
- Current approach credits a no fly zone and for military aircraft robustness of the waste handling facilities and barrier surrounding aging pads to withstand aircraft crash
- Approach also relies on a no fly zone
  - 5.5 nautical miles radius
  - 14,000 feet mean sea level (MSL) upper bound
  - 5,000 overflights/year allowable
  - Interfacing with the Air Force regarding an Memorandum Of Understanding
- Based on this approach the probability of an aircraft crash to a potentially vulnerable areas of the Geologic Repository Operations Area (GROA) is beyond a Category 2 event sequence

Seismic Design Methodology

- The methodology for analyzing and demonstrating compliance with 10 CFR 63 performance objectives for seismically initiated event sequences has been stable for several years
- During our February 2005 meeting a description of the preclosure seismic design methodology was provided. Since this meeting, the project has completed or revised the following documents:
  - Technical basis document for low probability seismic events
  - Seismic consequence abstraction report
  - Earthquake ground motion input for preclosure seismic design and postclosure performance assessment
  - Peak ground velocities for seismic events, and
  - Seismic analysis for preclosure safety
- The current focus is on:
  - Completing the multiple lumped mass stick models with soil springs for ITS surface facilities and obtaining additional geotechnical data for dynamic soil-structure interaction analysis

DOE Initiated Design Enhancement Status

- Develop enhanced strategy for handling spent nuclear fuel in air
- Develop automated event trees
- Develop enhanced strategy for fire protection
- Incorporate direct radiation doses
- Incorporate off-normal event analyses
- Incorporate other radioactive material as potential source terms
- Utilize bounding source terms for Category 1 event sequences
- Develop enhanced thermal management strategy

Fuel In Air

- Completed and released the *Commercial Spent Nuclear Fuel in Air Study* in late March 2005. This report helped define, quantify, and provide background information on fuel performance when handled in air.
- Using this information the current design efforts are focused on the following:
  - Designing an inerted transfer cell in the Fuel Handling Facility and the Dry Transfer Facilities
  - Reviewing licensing precedent associated with transportation and/or storage casks safety analyses that consider impacts with and without impact limiters or crush pads

Automated Event Trees and Fire Hazard Analyses

- Automated event tress
  - Completed the development of automated event tree analysis using conventional code (SAPHIRE)
  - The event sequences associated with design modifications to address fuel in air will be categorized as part of the upcoming revision to the Categorization of Event Sequences analysis
- Fire Hazard Analysis
  - Completed and released fire hazard analyses for the Fuel Handling Facility, Canister Handling Facility, and Dry Transfer Facility
  - Design changes as a result of fuel in air will result in revisions to the Fuel Handling Facility and Dry Transfer Facility reports

Direct Radiation Sources and Low-level Waste Sources

- The inadvertent direct exposure to workers due to failure of shield door interlocks has been considered in the Categorization of Event Sequences analysis, and requirements established in the Nuclear Safety Design Basis such that the frequency of occurrence is required to be less than a Category 1 event
- An engineering study has been completed to quantify other potential source terms such as filters, low level liquid from decontamination and firewater, and solid waste such as empty Dual Purpose Canisters and dry active waste
  - The dose from event sequences related to these other source terms will be calculated as part of an update of the dose consequence analysis
  - The event sequences associated with other potential source terms will be categorized as part of the upcoming revision to the Categorization of Event Sequences analysis

Thermal Management Strategy

- Developed an initial thermal management strategy report, and a Waste Package and Drift Loading Study
- The results of these reports will be incorporated into an enhanced thermal management study scheduled for release in early June 2005

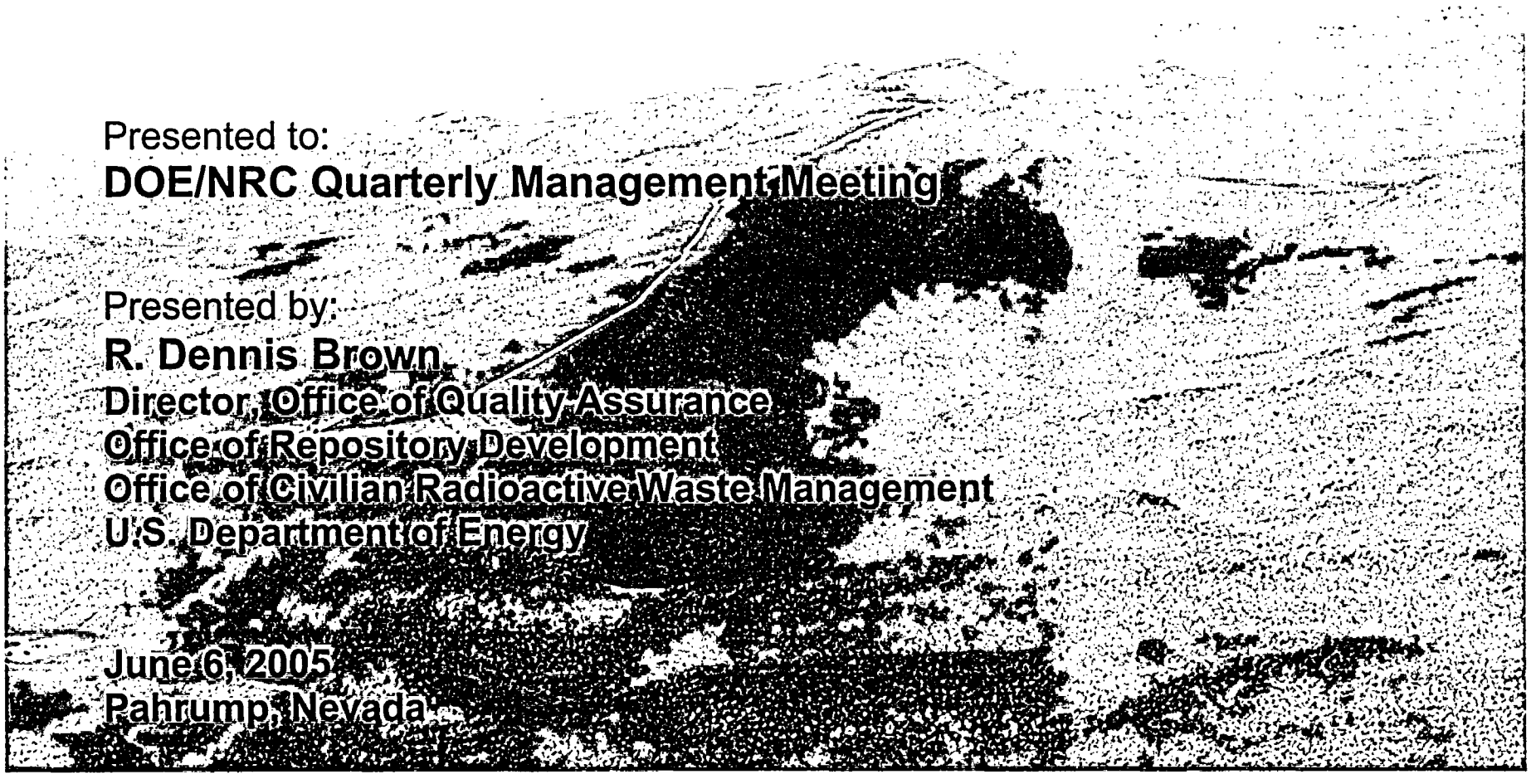
Conclusion and Path Forward

- **Project focus**
  - Commercial spent nuclear fuel in air design changes
  - Support to NRC information needs
- **Path forward – specific areas ready for technical interactions**
  - Preclosure safety analysis process
  - Material handling
  - Non-standard equipment
  - Waste package transporter and emplacement gantry

U.S. Department of Energy
Office of Civilian Radioactive Waste Management

www.ocrwm.doe.gov

Quality Assurance Overview



Presented to:
DOE/NRC Quarterly Management Meeting

Presented by:
R. Dennis Brown
Director, Office of Quality Assurance
Office of Repository Development
Office of Civilian Radioactive Waste Management
U.S. Department of Energy

June 6, 2005
Pahrump, Nevada

Quality Assurance Overview

- Quality Assurance Requirements and Description (QARD)
- Corrective Action Program (CAP) Oversight
- Corrective Action Report (CAR)-001 Status
- Trend Evaluation and Reporting
- Performance Based Auditing
- Office of Quality Assurance (OQA) Audits/Surveillances
- Management & Operating (M&O) Contractor Quality Assurance (QA) Audits/Surveillances

Quality Assurance Requirements and Description

- QARD Rev 17 sent to NRC for review and acceptance on April 11, 2005
- Currently being reviewed by NRC for acceptance

Corrective Action Program Oversight

- Three M&O surveillances of effectiveness of Condition Report (CR) actions
- Four M&O surveillances of Level C CR processing
- OQA surveillance of DOE Level C CR processing
- As a result of the number of CAP process issues, AP-16.1Q is being revised to make the initiation process clearer and easier to follow

CAR-001 Status

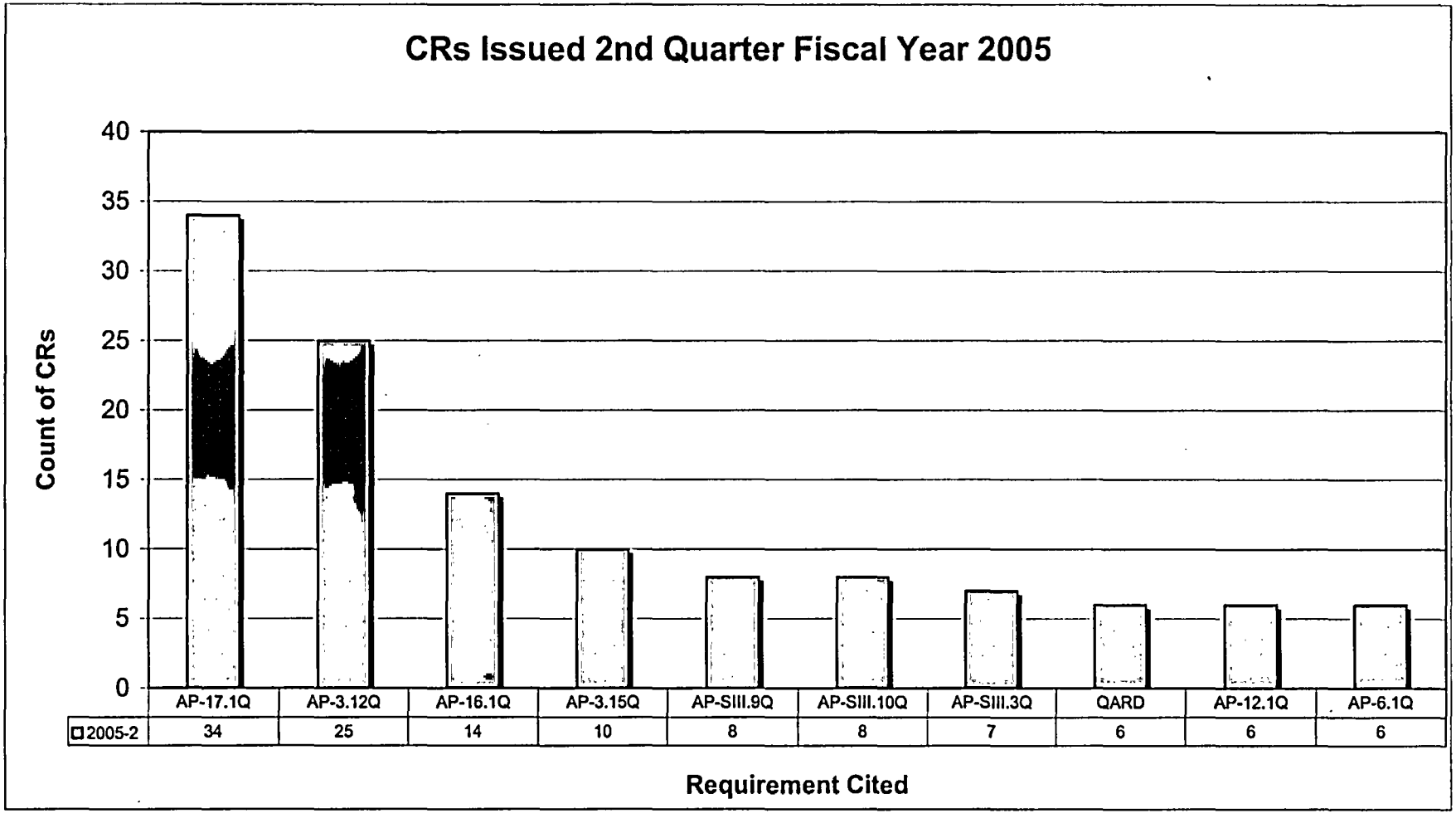
- Condition Report 99, also known as CAR-001 on model validation, closed February 22, 2005
- CR 4961 issued to track five model AMRs

Trend Evaluation and Reporting

- 2nd Quarter FY2005 Trend Evaluation Report issued May 20, 2005
- Human Performance continues to be the dominant causal factor for the 2nd Quarter
- Decline in percent of line identification of Level A and B conditions identified as an adverse trend
- Consistently high level of CRs with event codes relating to Data Management – Further investigation is underway

Trend Evaluation and Reporting

(Continued)



Performance Based Auditing

- History of performance based auditing at YMP
- Benchmarked NRC Inspection Methodology and Industry Standards
- Future approach to audits

Office of Quality Assurance Audits/Surveillances

- **Completed Audits**
  - Compliance Audit of BSC Procurement
  - Compliance Audit of National Laboratory Activities
  - Compliance Audit of USGS
- **Completed Surveillances**
  - DOE processing of Level C CRs

Office of Quality Assurance Audits/Surveillances

(Continued)

- **Upcoming Audits**
  - BSC Procedure Adequacy
  - Software QA Activities
  - BSC Design
  - Augmented QA Program and Site Activities
- **Upcoming Surveillances**
  - BSC processing of Level C CRs

Office of Quality Assurance Audits/Surveillances

(Continued)

- **Completed EM/OCRWM Audits**
  - National Spent Nuclear Fuel Program (Idaho)
  - Savannah River Defense Waste Processing Facility (High-Level Waste)
  - West Valley (High-Level Waste)
- **Upcoming EM/OCRWM Audits**
  - Hanford Spent Nuclear Fuel
  - Hanford Office of River Protection (High-Level Waste)

Management and Operating Contractor Quality Assurance Audits/Surveillances

- **Completed QA Audits**
  - Design Control Process (Compliance based and Limited Scope)
  - Compliance Audit of M&O Las Vegas Activities
- **Completed QA Surveillances**
  - Seven Data Confirmation, Use of Data, Memos, Document Input Reference System
  - Design and Criticality Calculations
  - Site Maintenance Program
  - Licensing Support Network
  - Independent Technical Review of Total System Performance Assessment

Management and Operating Contractor Quality Assurance Audits/Surveillances

(Continued)

- **Upcoming QA Audits**
  - Corrective Action Program (Performance-based)
  - Scientific Investigation, Sample Control and Measuring and Testing Equipment (Performance-based)
- **Upcoming Notable QA Surveillances**
  - Four Surveillances of Processing of Level C CRs
  - Two AMRs and One Criticality Calculation Evaluation
  - Data submittals to Technical Data Management System by LLNL
  - Use of Qualified-Verification Level 2 Data on Engineered Products
  - Design Interface between Engineering and Pre-Closure