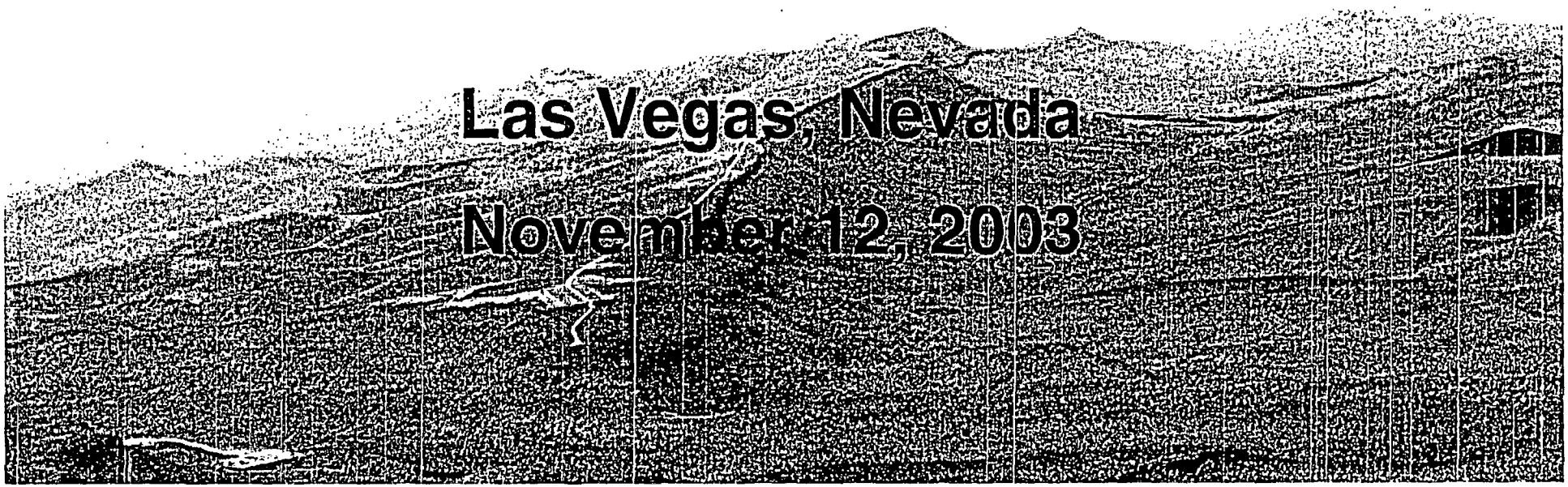
U.S. Department of Energy
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

DOE/NRC Quarterly Quality Assurance Meeting



Enclosure 3

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

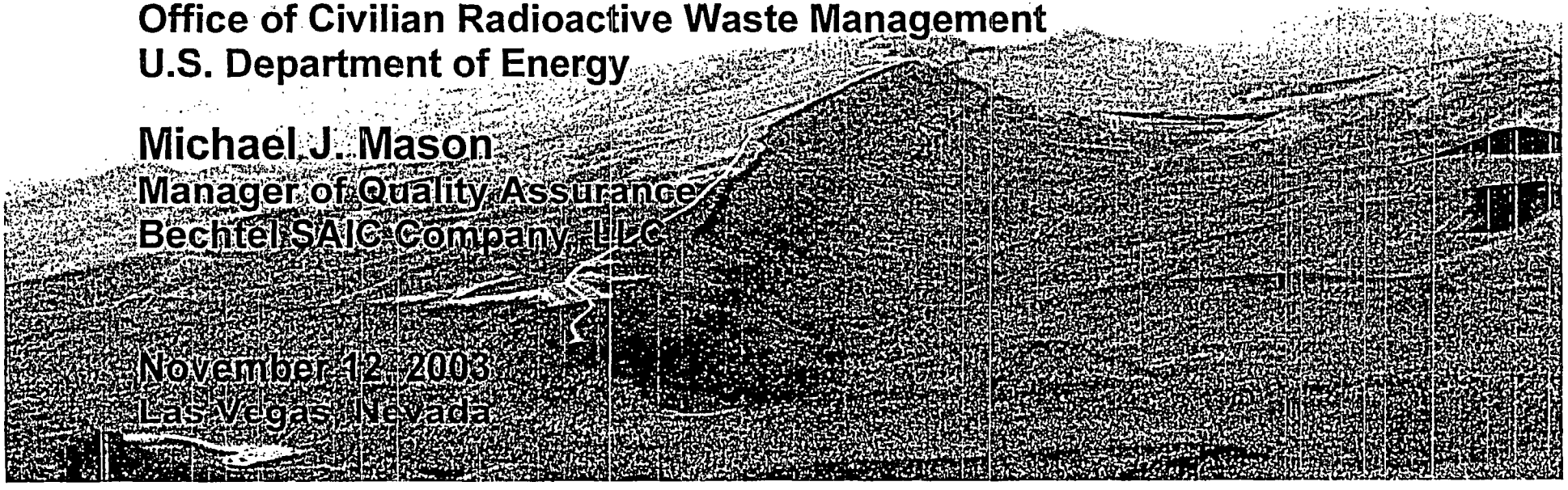
YUCCA MOUNTAIN PROJECT

Quality Assurance Overview

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

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

Michael J. Mason
Manager of Quality Assurance
Bechtel SAIC Company, LLC



November 12, 2003
Las Vegas, Nevada

Quality Assurance Overview

- Quality Assurance Program Improvements
- Assessments
- Surveillances
- Noteworthy Practices

Quality Assurance Program Improvements

- **Senior Management increased involvement**
  - Off site management meeting
  - Monthly operating review
- **Line Management increased involvement**
  - Percentage of self-identified Condition Reports increasing
- **Performance indicators**
  - Indicators developed
  - Data available project wide

Quality Assurance Program Improvements
(Continued)

- **Corrective Action Program**
  - Single point of entry program implemented
  - Cause analysis process improved
  - Corrective action plan development process improved
  - Performance metrics developed

Quality Assurance Program Improvements
(Continued)

- **Trending Program**
  - Uniform cause codes implemented
  - Reporting frequency quarterly
  - More rigorous process implemented
  - Integrated with Condition Reporting and Causal Analysis processes

Assessments

- Repository Design Project - Integrated, (BSC Audit Team Leader)
- Lawrence Berkeley National Laboratory - Integrated (BSC Audit Team Leader)
- Sandia National Laboratory - Integrated (BSC Audit Team Leader)
- Technical Product Inputs - Integrated, Office of Quality Assurance (OQA Audit Team Leader)
- Office of Repository Development - (OQA Audit Team Leader)

Assessments

(Continued)

- BSC Washington D.C. - OQA only
- BSC Las Vegas - Integrated (OQA Audit Team Leader)
- Office of Quality Assurance - (DOE Idaho Audit Team Leader)
- All Procedures (AP-5.1Q) - Integrated, OQA Lead
- BSC Site Activities - Integrated, BSC Lead

Surveillances

- 18 BSC Internal Surveillances
- 7 Supplier Surveillances
- 3 OQA Internal Surveillances

Noteworthy Practices

- Causal Analysis Training
- Causal Analysis Handbook
- Quality Performance Indicators
- Quality Engineering Checklists (In-process reviews)
- Quality Engineering Handbook
- QA Training Needs Matrix

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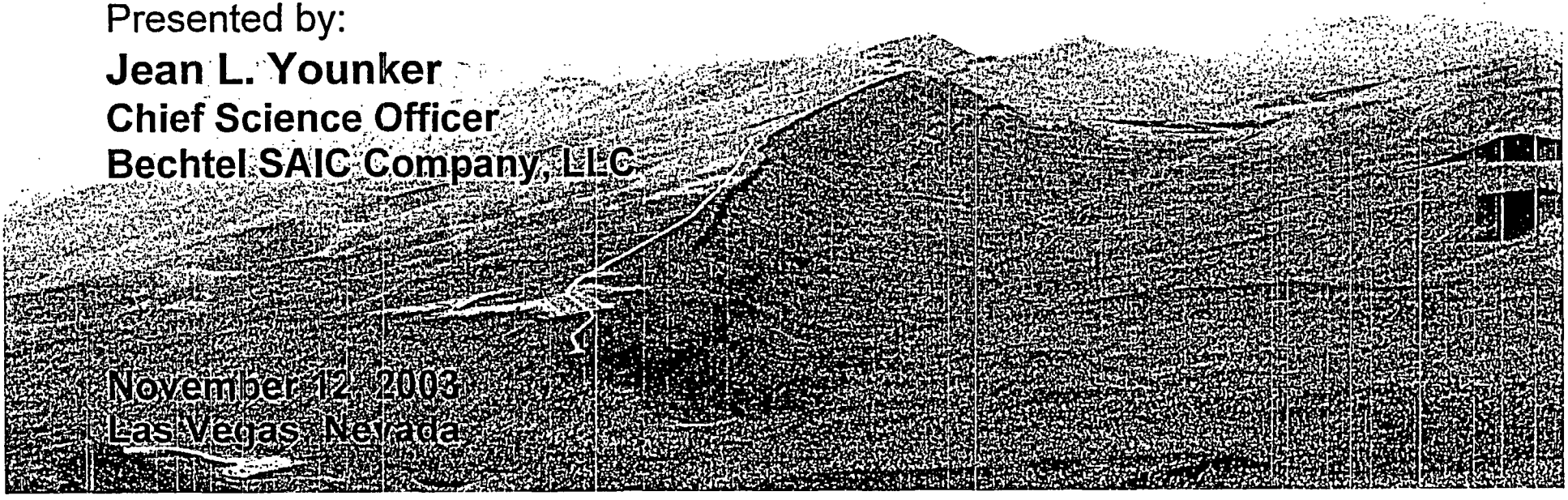
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Model Validation (CAR BSC-01-C-001)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Jean L. Younker
Chief Science Officer
Bechtel SAIC Company, LLC



November 12, 2003
Las Vegas, Nevada

Model Validation (CAR BSC-01-C-001) Background

- Processes controlling model development and model validation were inadequate
  - Inconsistent model validation documentation
  - November 2001 independent review results categorized 87 percent of models as inadequate [60 percent documentation inadequate; 27 percent inadequate model validation]

Model Validation (CAR BSC-01-C-001) Corrective Actions Taken

- **Procedure for Modeling (AP-SIII.10Q) upgraded December 2001**
  - Explicit methods and criteria for model validation incorporated
  - Independent overview function established
  - >500 technical staff trained to new processes in first 3 months
  - Metrics established to evaluate effectiveness of model development and validation processes

Model Validation (CAR BSC-01-C-001) Summary

- Corrective actions for CAR-001 were completed
- DOE/BSC Model Audit (October 21-31, 2003) and CAR-001 verification activities evaluated effectiveness of corrective actions
  - Implementation and effectiveness issues identified during audit are being reviewed against CAR-001 corrective actions
- Sample of models reviewed were substantially improved (approximately 75 percent had adequate model validation vs 13 percent in November 2001)

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YUCCA MOUNTAIN PROJECT

Model Audit Results

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
R. Dennis Brown
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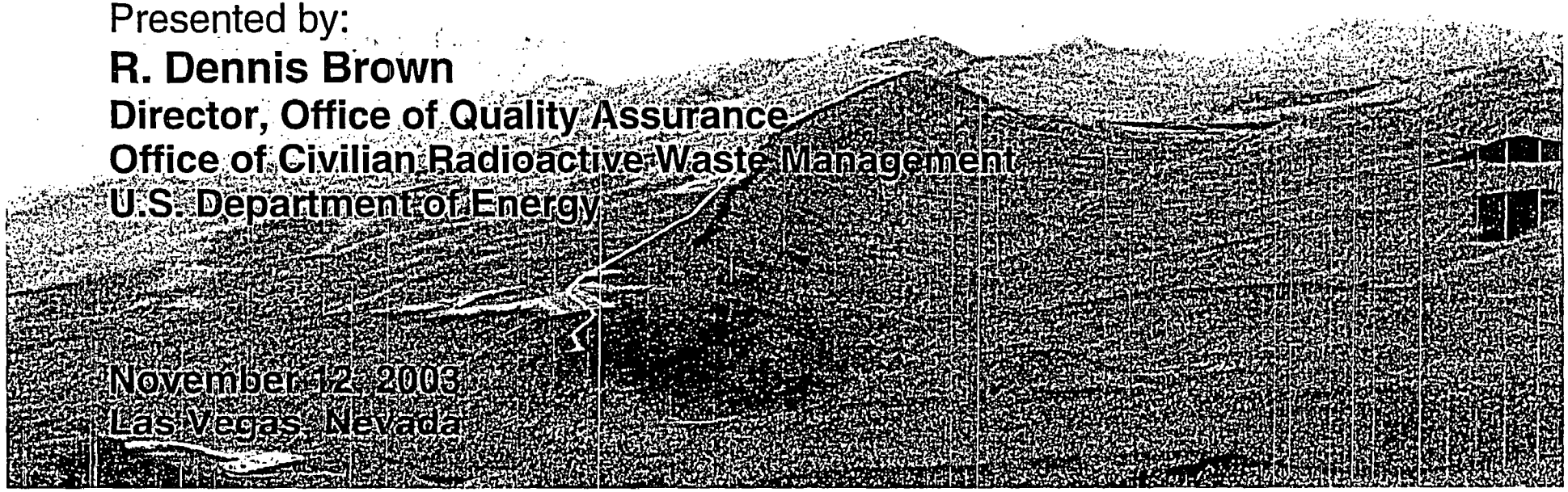
Office of Civilian Radioactive Waste Management
U.S. Department of Energy



November 12, 2003
Las Vegas, Nevada

Model Audit Results

- Dates of audit - October 21- 31, 2003
- Integrated audit, led by the Office of Quality Assurance (OQA)
  - Team makeup, 5 from OQA and 2 from BSC Quality Assurance (QA) and 7 technical specialists
- Scope of audit - processes and related analysis model report products to support License Application
- Audit Results

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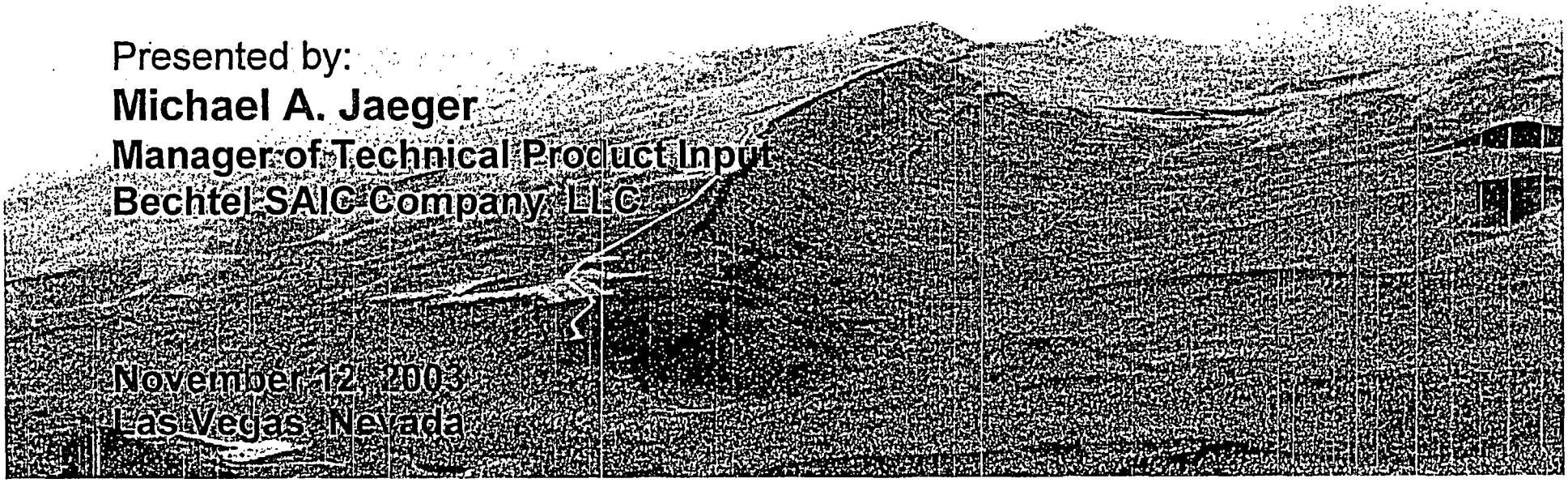
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Management of Data (CAR BSC(B)-03-107)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Michael A. Jaeger
Manager of Technical Product Input
Bechtel SAIC Company, LLC



November 12, 2003
Las Vegas, Nevada

Corrective Action Report
(CAR BSC(B)-03-107)

- Formerly CAR BSC(B)-03-107, now CR-16
- Ineffective corrective actions related to data issues
- Data Confirmation Project addresses remedial actions for the analyses and models that support License Application (LA)

Root Cause Determination
(CAR BSC(B)-03-C-107)

- Root Cause determination completed
- Root Causes
  - Management was not held accountable for assuring effectiveness of corrective actions
  - Did not establish a timely and effective Corrective Action Program
  - Data management and usage not performed in consistent and compliant manner
  - Data requirements are not adequately defined

Summary of Corrective Actions

- **Data Confirmation Project**
  - Remedial actions for analysis model reports (AMR)
  - Phase I Review
    - Proper citation of inputs and completion of Document Input Reference System (DIRS) entries
    - Proper citation of inputs in the document
    - Content correct for cited Data Tracking Numbers (DTNs)
  - Phase II Review
    - Review of data suitability for intended use in AMRs
  - Remediation Plans/AMR revisions

Summary of Corrective Actions
(Continued)

- Procedure changes
- Management actions addressing root causes
  - Corrective Action Program
  - Accountability

Metrics

- **Data Confirmation Project**
  - **Approximately 130 AMRs support LA**
    - **95 (73 percent) products have completed Phase I Review**
    - **10 (8 percent) products completed Phase II Review**
    - **10 (8 percent) product remediation plans completed**

Metrics
(Continued)

- Approximately 1,352 data sets support LA products
  - 689 data sets fully qualified and verified
  - 453 data sets need either qualification (88), Records Roadmap Verification (315), or further evaluation (50)
    - Have dedicated team to prepare the larger, complex data sets
    - Have more than 100 of 315 verifications in process
  - Approximately 210 additional data sets are anticipated to support LA products
    - 120 fully qualified and verified
    - 40 require qualification
    - 50 require Records Roadmap Verification

Summary

- Root cause complete
- Remedial actions in process
- Management leadership to establish data terminology
- Procedure changes being prepared
- Scheduled completion to support license application

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Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Data Audit Results

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
R. Dennis Brown
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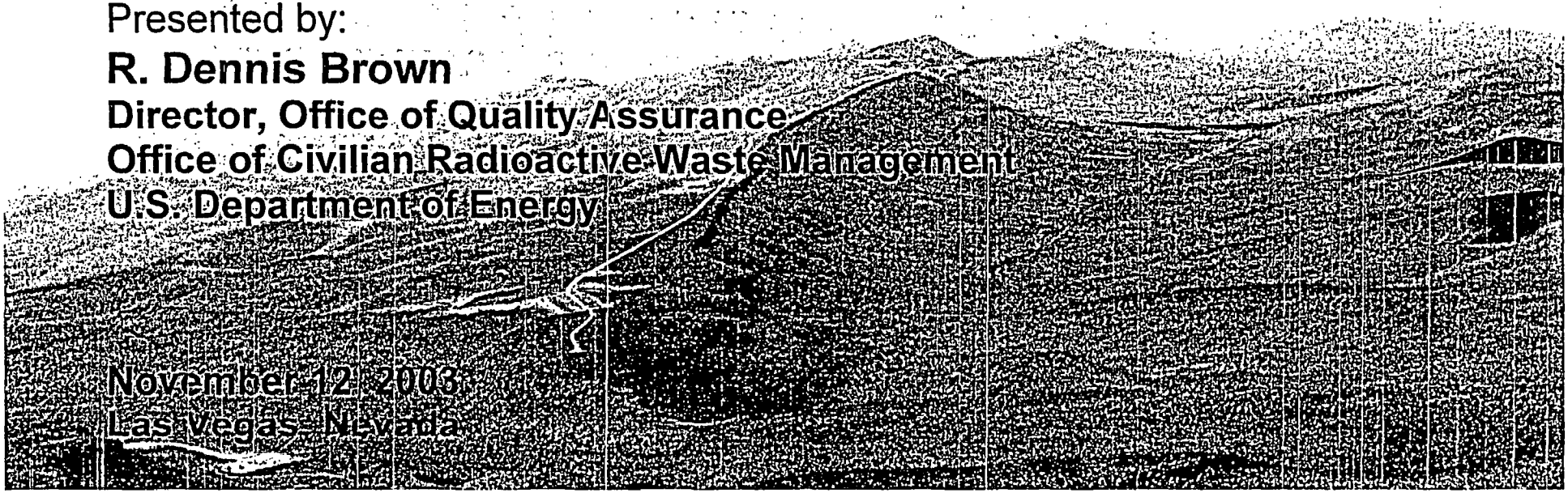
Office of Civilian Radioactive Waste Management
U.S. Department of Energy



November 12, 2003
Las Vegas, Nevada

Data Audit Results

- Dates of audit - September 8-19, 2003
- Integrated audit team led by the Office of Quality Assurance (OQA)
  - Team makeup, 3 from OQA and 3 from BSC Quality Assurance (QA) and 3 technical specialists
- Scope of audit - focused on technical product input related to License Application models and analyses
- Audit results
  - Adequacy was satisfactory
  - Process is effective
  - Procedure compliance unsatisfactory
- 12 condition reports initiated

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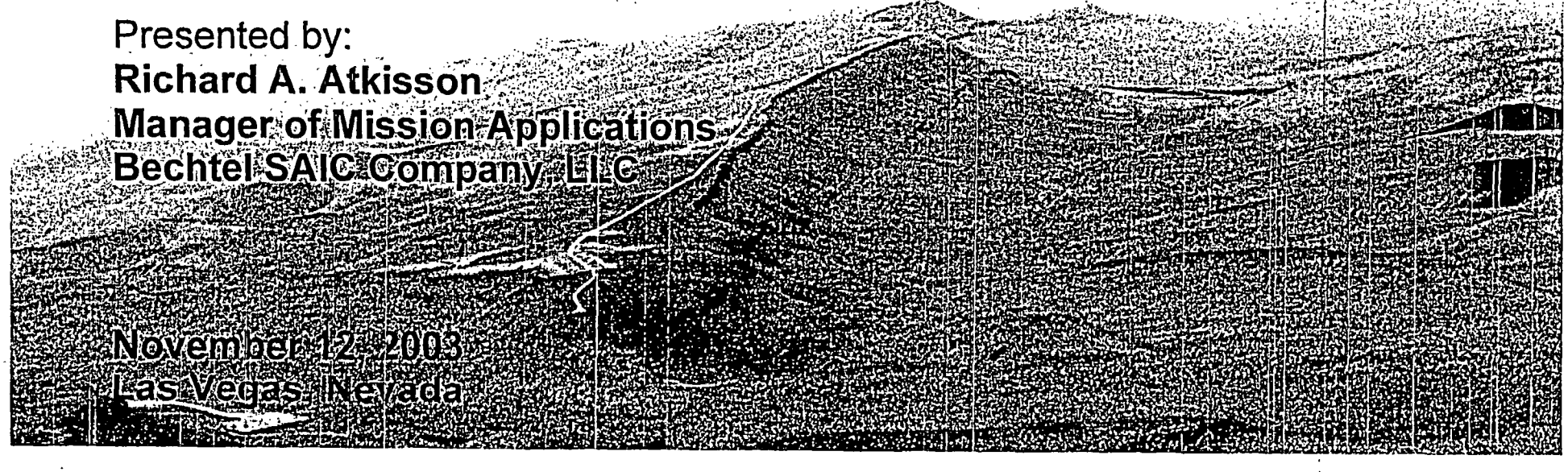
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Software Development (CAR BSC-01-C-002)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Richard A. Atkisson
Manager of Mission Applications
Bechtel SAIC Company, LLC



November 12, 2003
Las Vegas, Nevada

Software Development Corrective Action Report (CAR BSC-01-C-002)

- **Issue: Ineffective implementation of quality software management requirements**
- **Corrective actions include:**
  - **Procedure revisions/development**
  - **Training and requirements emphasis**
  - **Management improvement activities**
- **Corrective actions to be complete December 2003**

Status of CAR-002 Actions

- Request for verification received by Office of Quality Assurance (OQA) on September 11, 2003
- 23 of 28 actions are complete and verified as satisfactory by OQA
- 5 actions judged unsatisfactory and returned for rework
  - 3 actions related to consistency/clarity in software development portion of software package - Change to procedures in progress to address Quality Assurance Requirements and Description (QARD) requirements verbatim
  - 1 action related to timeliness of software defect impact analysis - Procedure Interim Change Notice (ICN) in progress (60 day timeline)
  - 1 action related to Legacy Software Testing - Legacy Software testing procedure (AP-SI.4Q) is developed and approved. Legacy Software functionality testing is in progress

Status of CAR-002 Actions

(Continued)

- **Software performance-based audit in June 2003 confirmed the need for software development procedure changes**
  - **Impact: To date no adverse impact on code functionality or technical products has been noted. Legacy Software testing is still in its early phase**
  - **Amended response required for 5 open actions - Due by November 15, 2003**
  - **New estimated completion date for corrective actions is December 15, 2003**

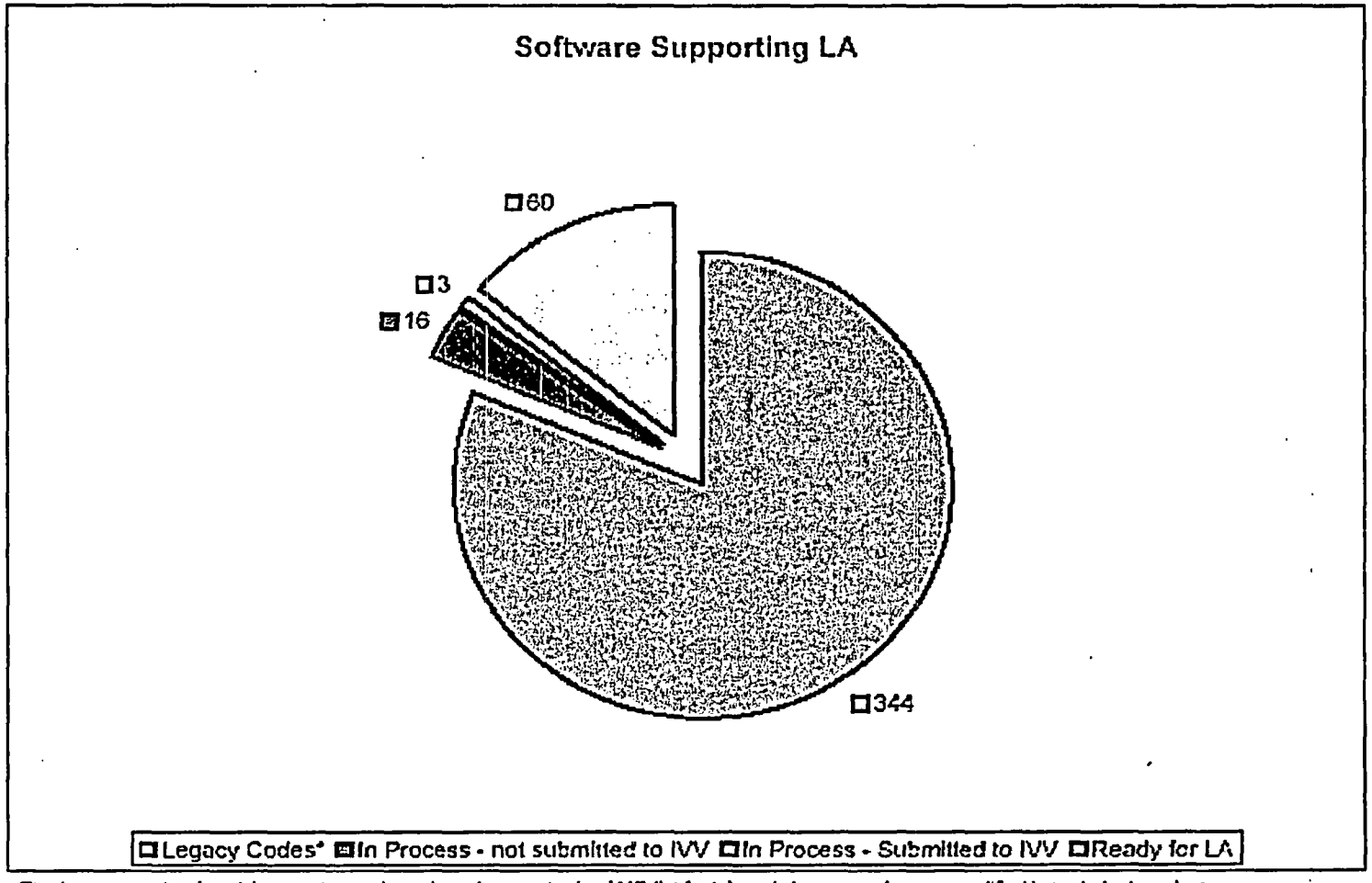
License Application Software Categories

- The "Letter of Agreement on Documentation Requirements for Software Used in Support of License Application (LA)," dated October 24, 2003, divided software that will be used to support LA into 3 bins:
  - Legacy Software is defined as software which was baselined prior to January 13, 2003. There are 344 Legacy codes
  - Transition Software is defined as software which was baselined after January 13, 2003, but before the effective date of the next ICN to the Q Software Procedures. There are 63 Transition codes
  - QARD Rev.13 Software is defined as software which will be baselined after the effective date of the next ICN to the Q Software Procedures. There are 16 codes under development

Legacy Software Retest

- 423 baselined software codes will be used in support of License Application (LA) (as of November 5, 2003)
  - Those codes baselined prior to January 13, 2003 (Legacy Software) will be retested
  - Retest is for code functionality and consists of software installation and validation tests
  - Retest is governed by procedure:
    - AP-SI.4Q - Independent Verification and Validation of Legacy Code
- 60 Software codes have been qualified / completed retest (as of November 5, 2003)
- 19 Codes are in process/undergoing Independent Verification and Validation (IV&V)

Metrics
(Counts as of November 5, 2003)
(Continued)



* The legacy number is subject to change based on changes to the AMR list for LA and discovery of codes qualified in technical products.
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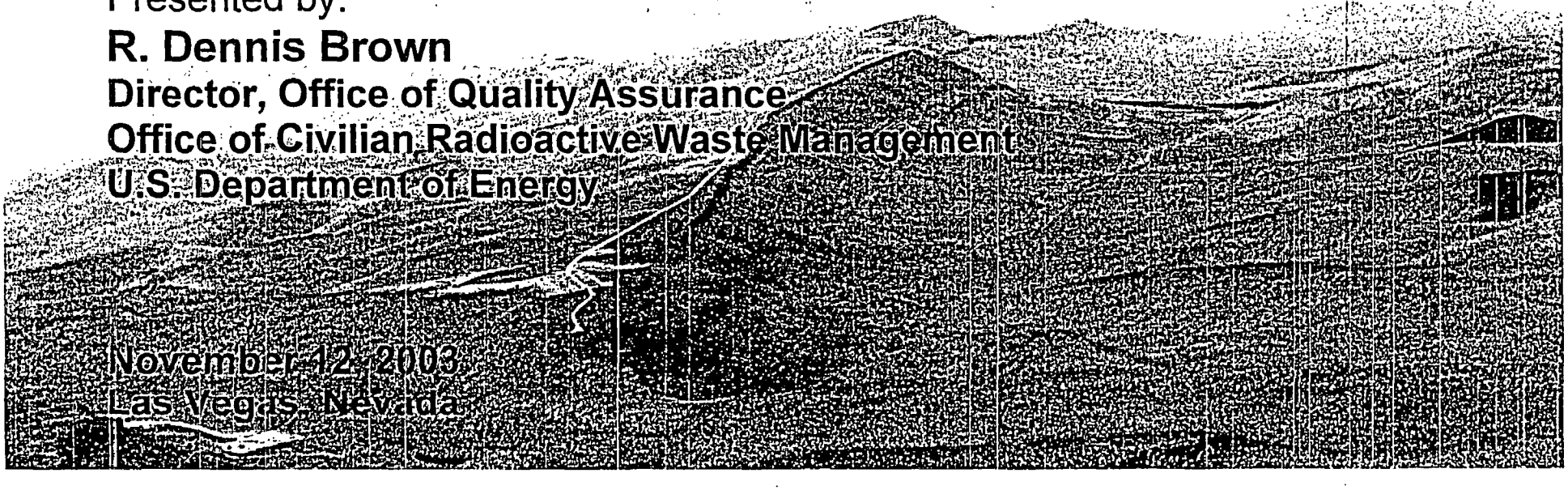
YUCCA MOUNTAIN PROJECT

Software Audit Results (OQAP-BSC-03-07)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

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



November 12, 2003
Las Vegas, Nevada

Software Audit Results
(OQAP-BSC-03-07)

- June 3-13, 2003
- Office of Quality Assurance (OQA) audit
- Synopsis of results/effectiveness
  - Procedures/processes are adequate
  - Implementation of procedures was marginally satisfactory
  - Processes are marginally effective
- Eight Conditions Adverse to Quality (CAQ)

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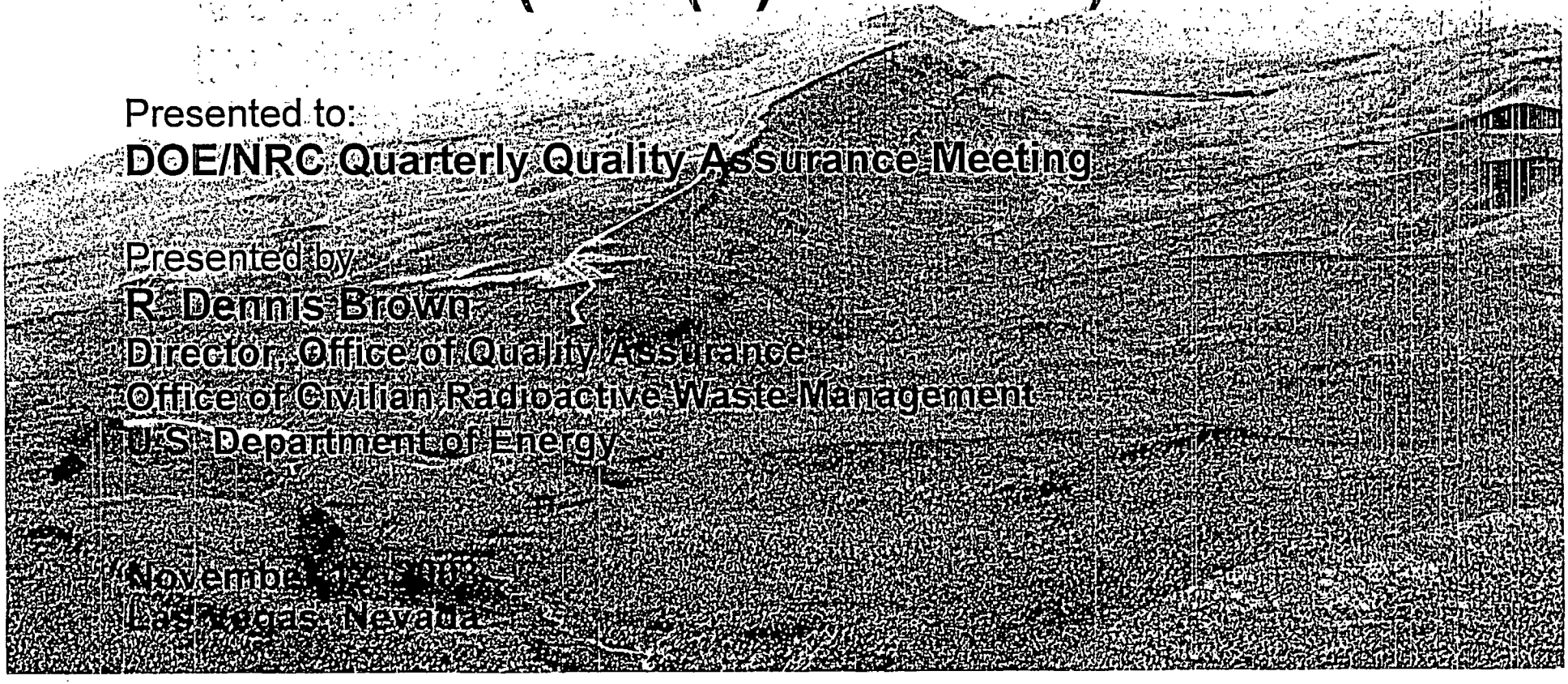
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Software Use – Use of Unqualified Software to Generate Preliminary Data Feeds (BSC(B)-03-D-170)



Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
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Director, Office of Quality Assurance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy

November 12, 2003
Las Vegas, Nevada

Use of Unqualified Software to Generate Preliminary Data Feeds (BSC(B)-03-D-170)

- **Quality Assurance Requirements and Description (QARD) Requirement**
  - **QARD, Section I.2.4, "Software shall not be used in activities identified under Section 2.2.2 or 2.2.3 (i.e., quality-affecting activities) of this document unless it is obtained, and limited to received copies, from software configuration management"**

Use of Unqualified Software to Generate Preliminary Data Feeds (BSC(B)-03-D-170)

(Continued)

- **Issue**
  - Unqualified software was used to generate preliminary data feeds prior to issuance of the analysis model report (AMR)
- **Path forward**

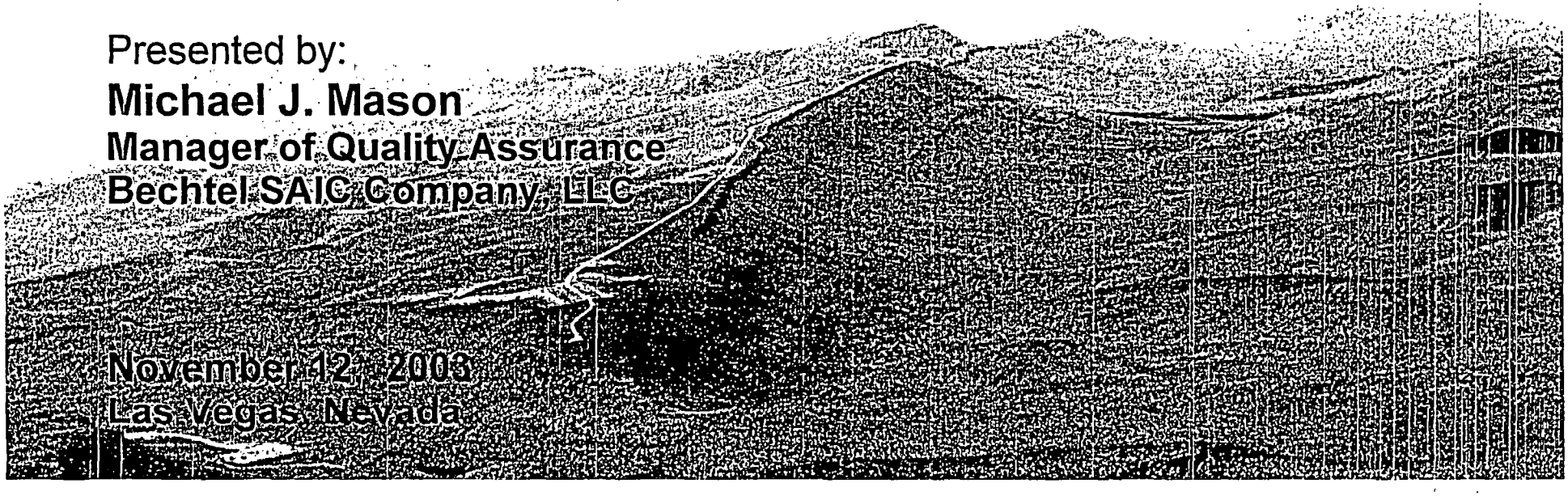
U.S. Department of Energy
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Procedure Implementation (CAR BSC(O)-03-C-097)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Michael J. Mason
Manager of Quality Assurance
Bechtel SAIC Company, LLC



November 12, 2003
Las Vegas, Nevada

Status of Corrective Action Report
BSC(O)-03-C-097

- Issue - BSC procedure on procedures was not developed in accordance with procedure AP-5.1Q, *Procedure Preparation, Review and Approval*
- Corrective Actions
  - AP-5.1Q streamlined
  - AP-5.1Q places more responsibility on line management
  - Rolling Quality Focus Meetings - help to emphasize importance of procedure compliance
  - Subject Matter Experts assigned to each procedure
  - Procedure on procedures - program wide applicability (BSC and DOE)

Status of Corrective Action Report
BSC(O)-03-C-097
(Continued)

- Verification of corrective action results were satisfactory - July 31, 2003
- Lifted Stop Work Order - July 31, 2003
- Closed - August 18, 2003

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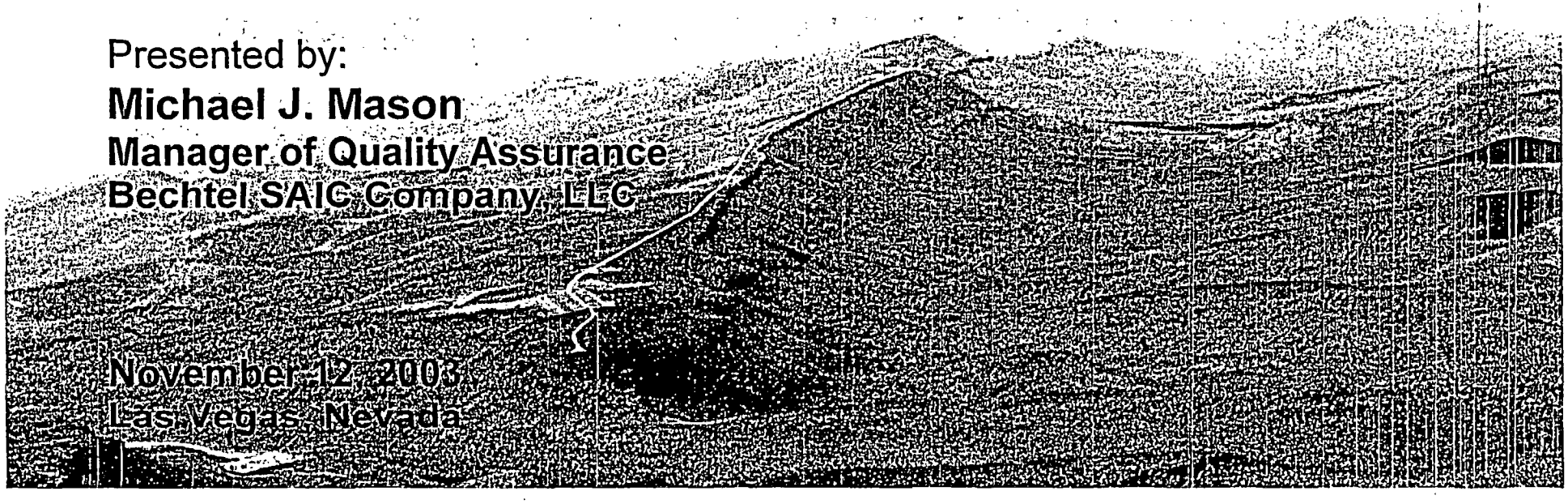
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Training and Qualification (CAR BSC-02-C-001)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Michael J. Mason
Manager of Quality Assurance
Bechtel SAIC Company, LLC



November 12, 2003
Las Vegas, Nevada

Training and Qualification
(CAR BSC-02-C-001)

- **Training Requirements Matrix/Job Function not determined and not provided by Training Organization**
  - No Verification of Education and Experience (VoEE)
  - Training requirements not identified to subcontractor personnel
  - Corrective Actions are complete
    - Subcontractors now have training assignments, and where needed a VoEE record has been generated
    - Process is in place to ensure that subcontractor personnel receive training
    - Process is in place to ensure documentation of VoEE
    - Closure of associated Deficiency Reports (DRs)

Training and Qualification (CAR BSC-02-C-001)

(Continued)

- **Actions and improvements**
  - Over 1200 VoEE record packages reviewed
  - Procedure LP-2.9Q-BSC was developed to establish process for VoEE records
  - A single database of personnel has been developed
  - All VoEE records now flow through a single group in BSC
- **Conclusion**
  - CAR BSC-02-C-001 was closed October 9, 2003

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Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Requirements Flowdown (CR-756)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Michael J. Mason
Manager of Quality Assurance
Bechtel SAIC Company, LLC

November 12, 2003
Las Vegas, Nevada

Requirements Flowdown (CR-756)

- Initiated October 1, 2003
- Requirement Source - AP-5.1Q, *Procedure Preparation, Review, and Approval*
- Requirement - Procedures shall implement the requirements of the *Quality Assurance Requirements and Description* (QARD) document

Requirements Flowdown (CR-756)

(Continued)

- **Issue - a review of condition reports from Fiscal Years 2002 and 2003 identified a number of instances where QARD requirements did not properly flowdown to implementing documents**
  - **12 condition reports**
  - **20 procedures affected**
- **Status**
  - **The issue(s) and corrective action(s) for each Condition Report (CR) identified in CR-756 was evaluated**

Requirements Flowdown (CR-756)
(Continued)

- **Conclusions**
  - Does not represent a Significant Condition Adverse to Quality
  - Flow-down issues identified represented approximately 1 percent of the QARD requirements in procedures reviewed
  - There is no impact on quality
  - Additional attention to detail required of reviewing organizations

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Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Audit of EM Sites (CR-97)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
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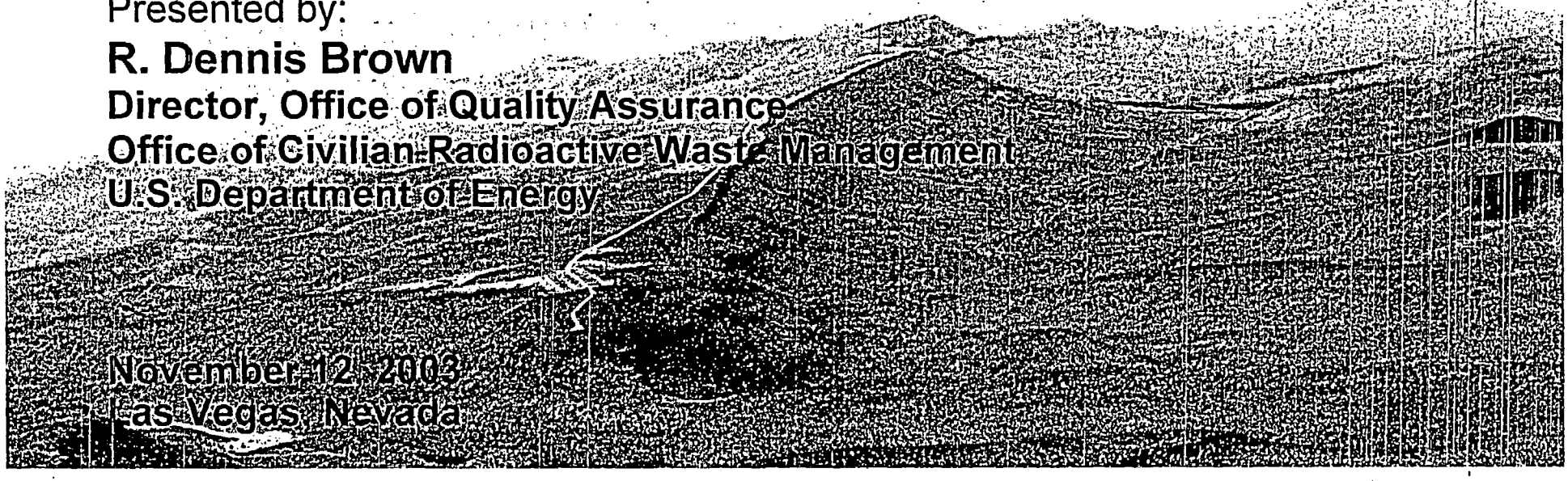
Director, Office of Quality Assurance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy



November 12, 2003
Las Vegas, Nevada

Audit of EM Sites (CR-97)

- **CR-97 Subject:**
  - Required Office of Civilian Radioactive Waste Management (OCRWM) annual audits of Office of Environmental Management (EM) High-Level Waste (HLW) Activities at Hanford and Savannah River not performed
- **CR-97 Issues:**
  - In the past, OCRWM performed audits of the EM Headquarters (HQ) Quality Assurance Requirements and Description (QARD) Oversight function and EM HQ performed direct oversight of HLW sites

Audit of EM Sites (CR-97)

(Continued)

- **CR-97 Issues (Continued)**
  - Elimination of the EM HQ QARD Oversight function left OCRWM with no established interface to audit HLW sites
  - Issues identified in DR-EM-01-D-89 contributed to this condition

Audit of EM Sites (CR-97)

(Continued)

- **DR-EM-01-D-89 Issues:**
  - Documented Interfaces (technical and Quality Assurance (QA)) between OCRWM and EM outdated
  - Deficiency Report (DR) originally issued to EM
  - Subsequent reorganization and policy decisions within EM resulted in the elimination of the EM Headquarters HLW QARD Oversight function

Audit of EM Sites (CR-97)

(Continued)

- **DR-EM-01-D-89 Issues (Continued):**
  - DR responsibility re-assigned to RW-20E
- **DR-EM-01-D-89 Resolution:**
  - OCRWM and EM have reached Agreement on a path forward for resolution
  - Interfaces will be updated and documented in a joint EM/RW Memo
  - Memo will be supplemented by an oversight procedure

Audit of EM Sites (CR-97)

(Continued)

- **CR-97 Resolution:**
  - **OCRWM oversight activities will re-commence in accordance with the new oversight procedure that is being developed to resolve DR-EM-01-D-89**
  - **Oversight of waste sites will be performed jointly by EM HQ and OCRWM staff**

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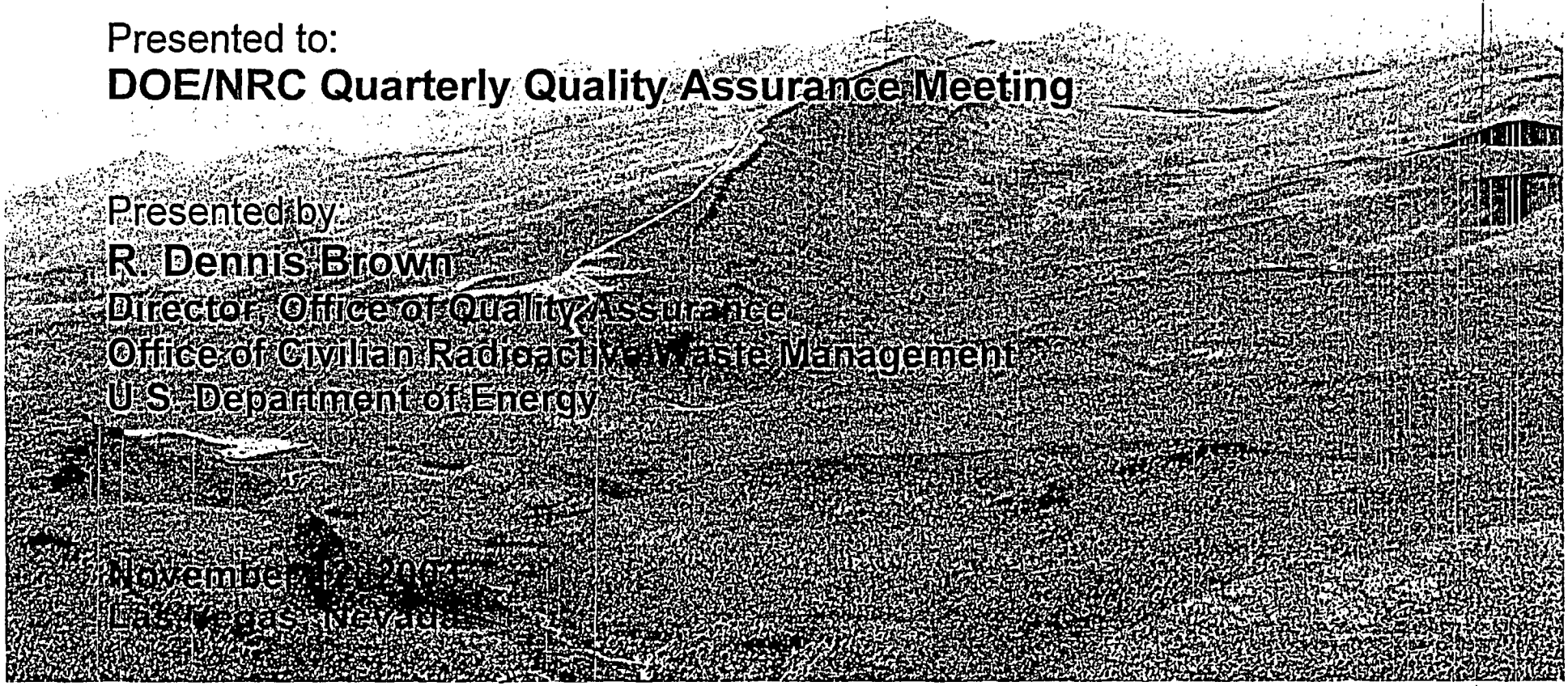
YUCCA MOUNTAIN PROJECT

Corrective Action Program

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting



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

November 2, 2005
Las Vegas, Nevada

Corrective Action Program

- Noted Improvements
- Levels of Significance
- External Teams Reviews
- Corrective Action Metrics

Noted Improvements

- Single entry point process implemented
- Condition Report, Nonconformance Report, Technical Error Report, and Condition/Issue Identification and Reporting/Resolution System processes merged into one process
- Open items from merged databases migrated

Noted Improvements

(Continued)

- Causal analysis process improved
  - Procedure revised to apply more rigor to causal analysis process
  - Apparent and root cause training presented
- Corrective action plan development process improved
  - Procedure revised to include guidance on corrective action plan development
  - Causal training includes development of corrective action plans

Level of Significance

- Level A–Significant Adverse Condition: An adverse condition involving actual or potential consequence that could have a serious impact on public or personnel health and safety, the environment, facility operations, or quality
- Level B–Adverse Condition: An adverse condition such as failure to comply with the technical specifications, licensing commitments, procedures, and regulations. This significance level also includes Nonconforming items and samples

Level of Significance
(Continued)

- Level C–Minor Adverse Condition: An adverse condition that involves lesser risk and/or significance
- Level D–Opportunity for Improvement: A condition that does not meet the definition of an adverse condition

External Teams Reviews

- Performance management assessment (Booz Allen Hamilton, Inc.)
- Quality assurance management assessment (D.L. English Consulting, Inc.)
- ORD management assessment (DOE Office of Independent Oversight and Performance Assurance)

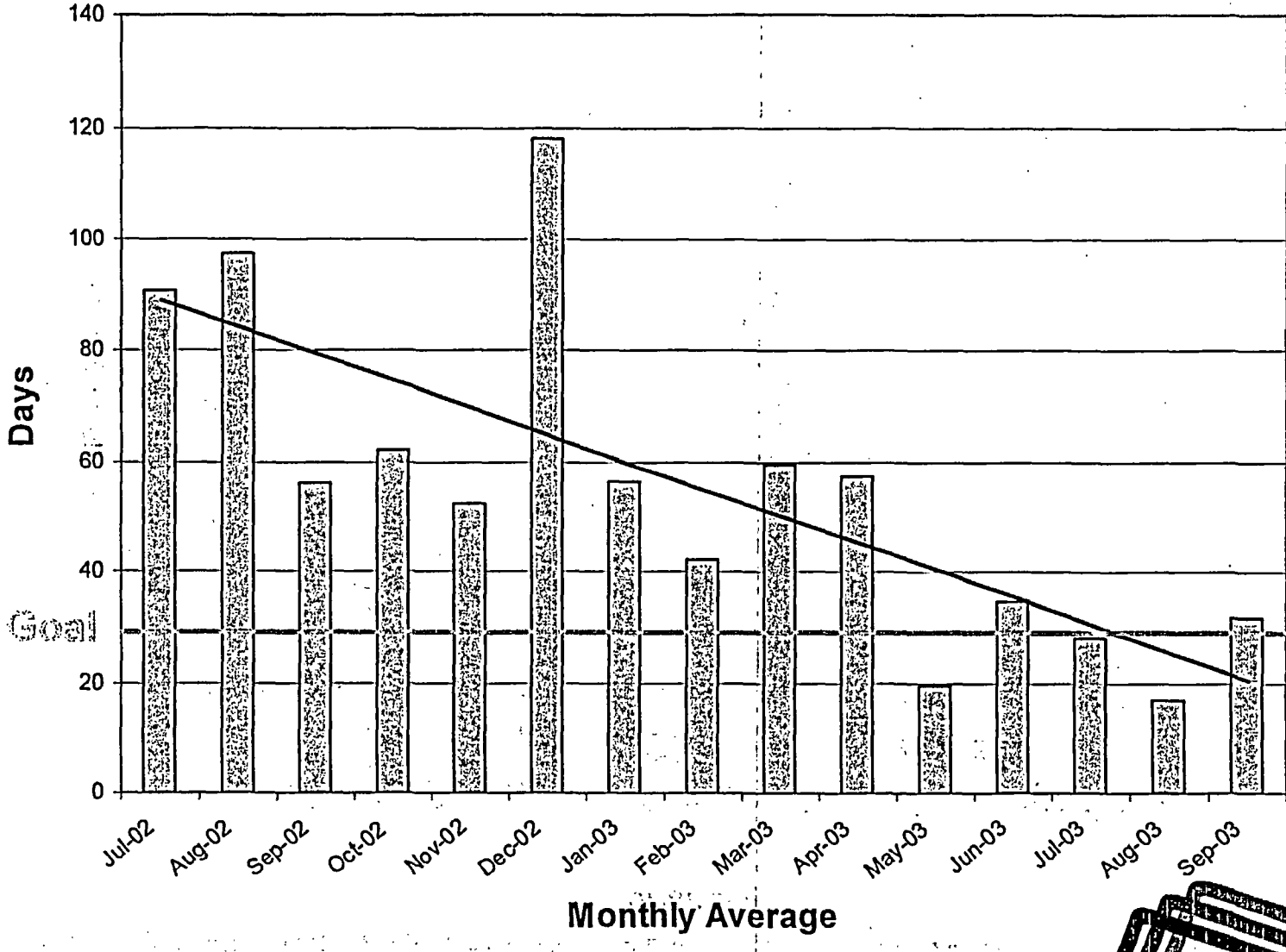
Corrective Action Program Metrics

- Several performance indicators developed
- Performance indicators continue to evolve

Corrective Action Program Metrics

(Continued)

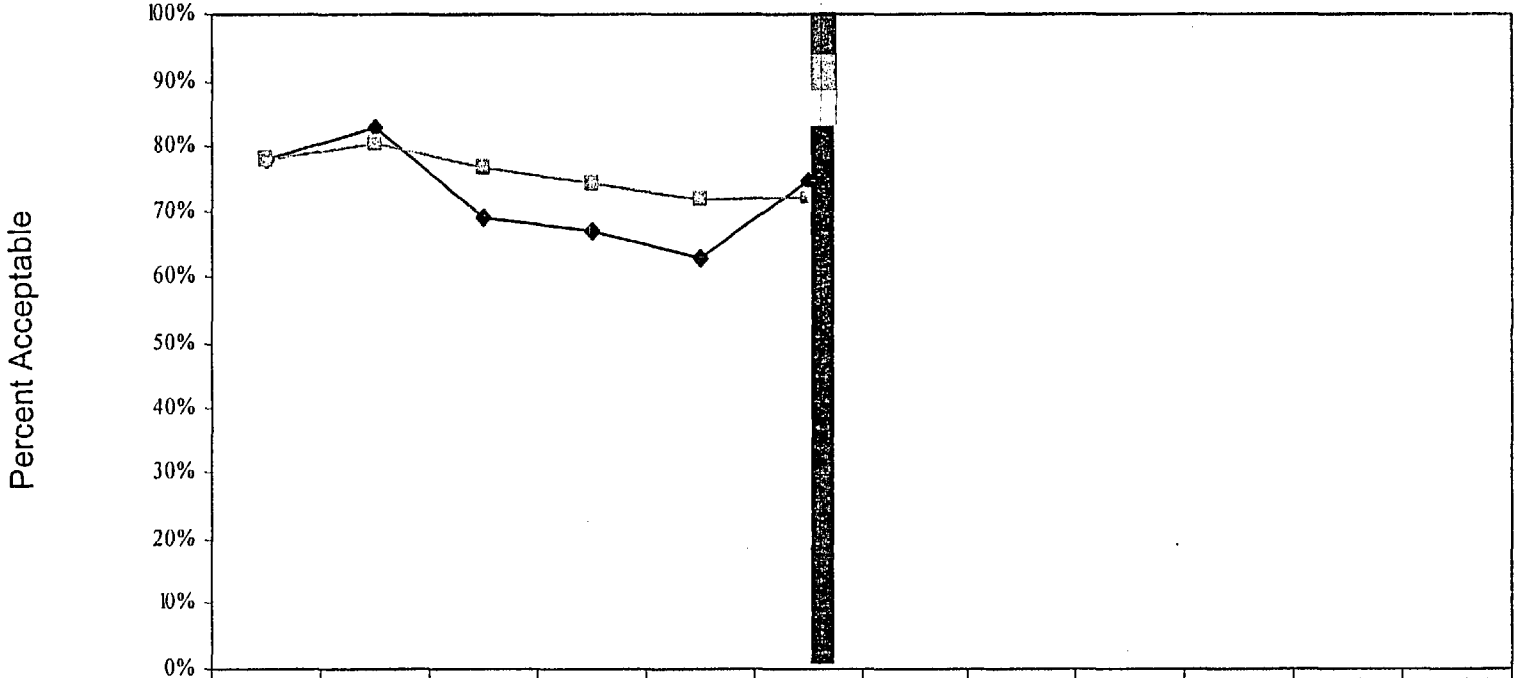
Days to Prepare Acceptable Corrective Action Plan



Corrective Action Program Metrics

(Continued)

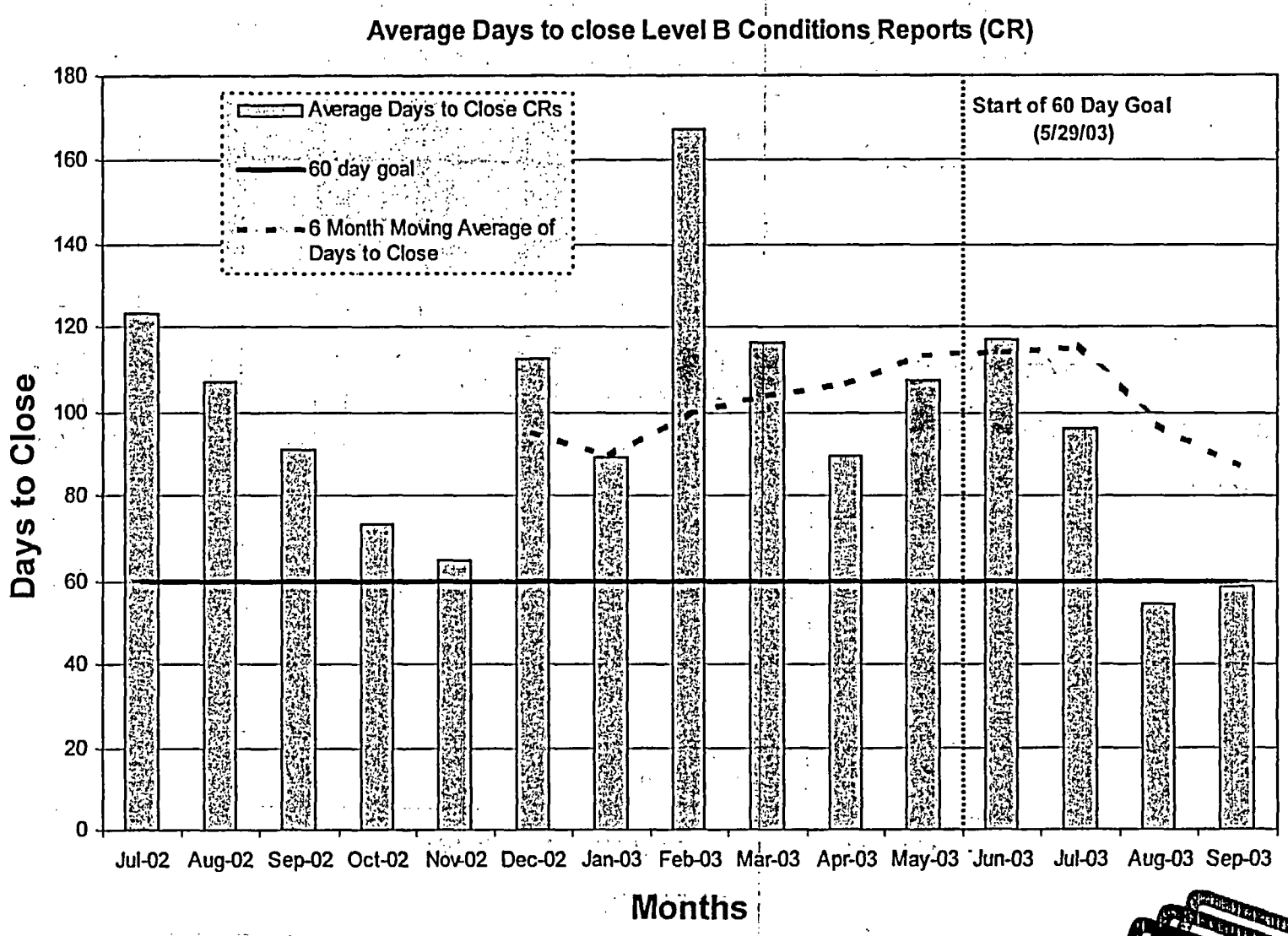
Acceptable Corrective Action Plans Developed for Level A and B Condition Reports



	April	May	June	July	Aug	Sep	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12
Index Score	0.78	0.83	0.69	0.67	0.63	0.75						
Six Month Rolling Avg	78.0%	80.5%	76.7%	74.3%	72.0%	72.5%						
% initial CA plans acceptable	0.78	0.83	0.69	0.67	0.63	0.75						

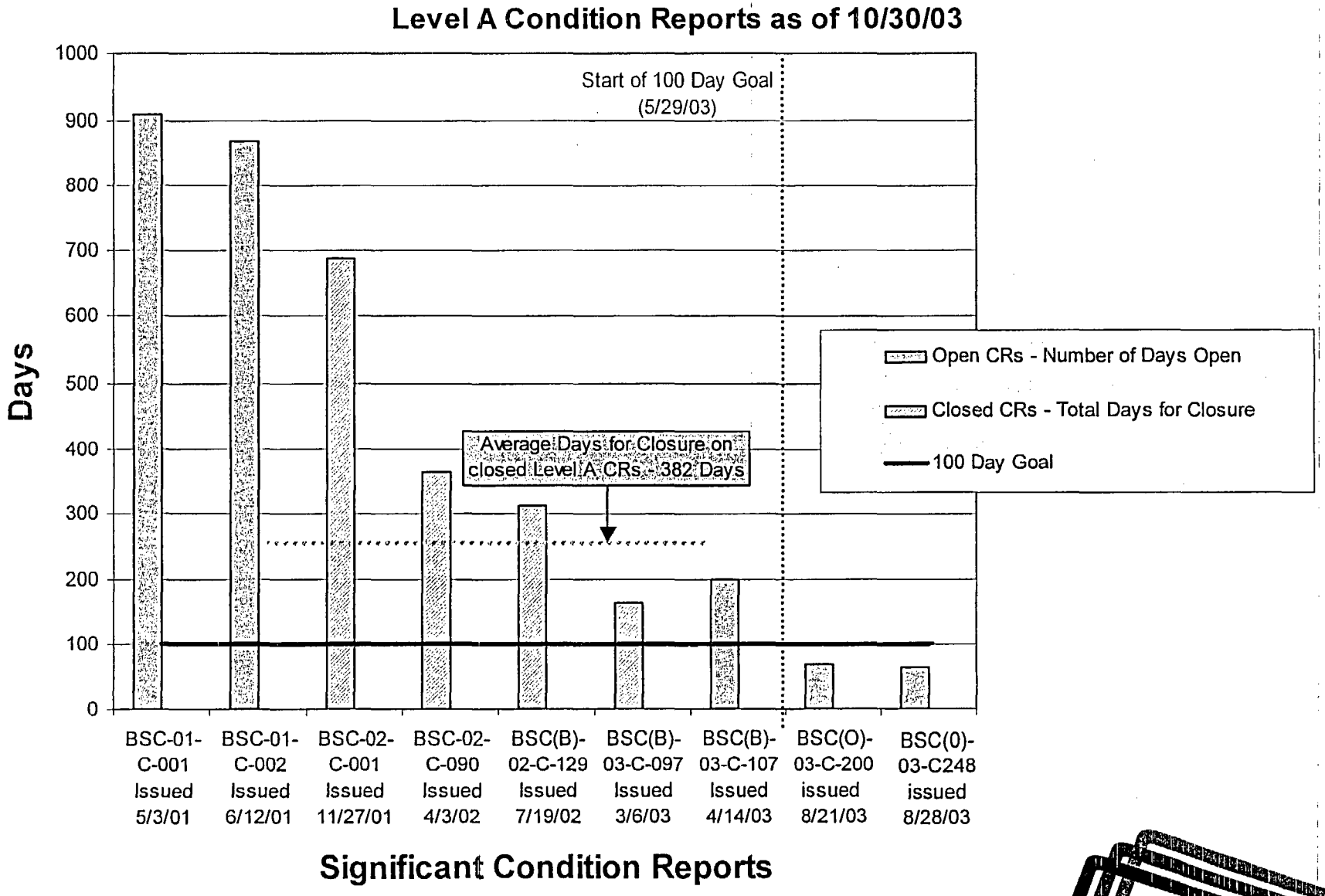
Corrective Action Program Metrics

(Continued)



Corrective Action Program Metrics

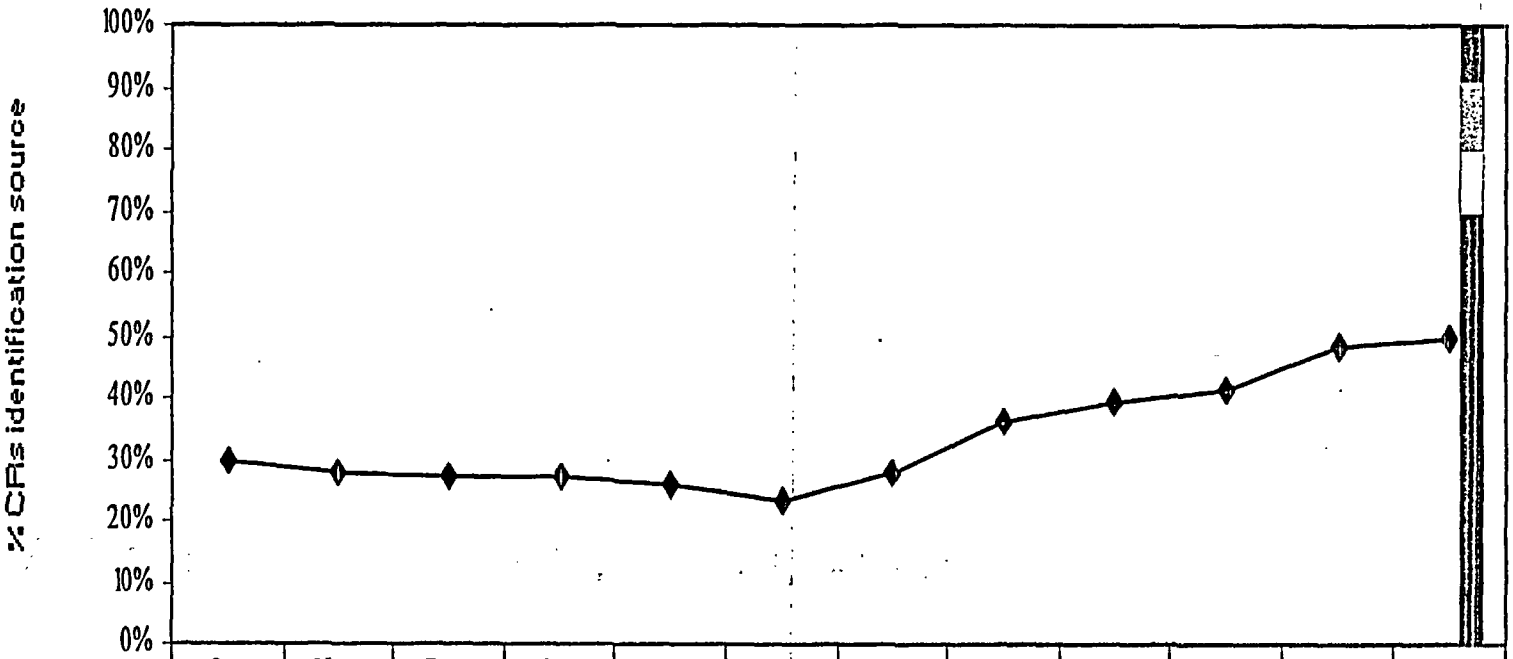
(Continued)



Corrective Action Program Metrics

(Continued)

Adverse Conditions Self-Identified by Line Organization



	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Six Month Rolling Avg	30.0%	28.0%	27.3%	27.2%	25.5%	23.5%	27.7%	36.2%	39.5%	41.5%	48.5%	49.4%

Path Forward

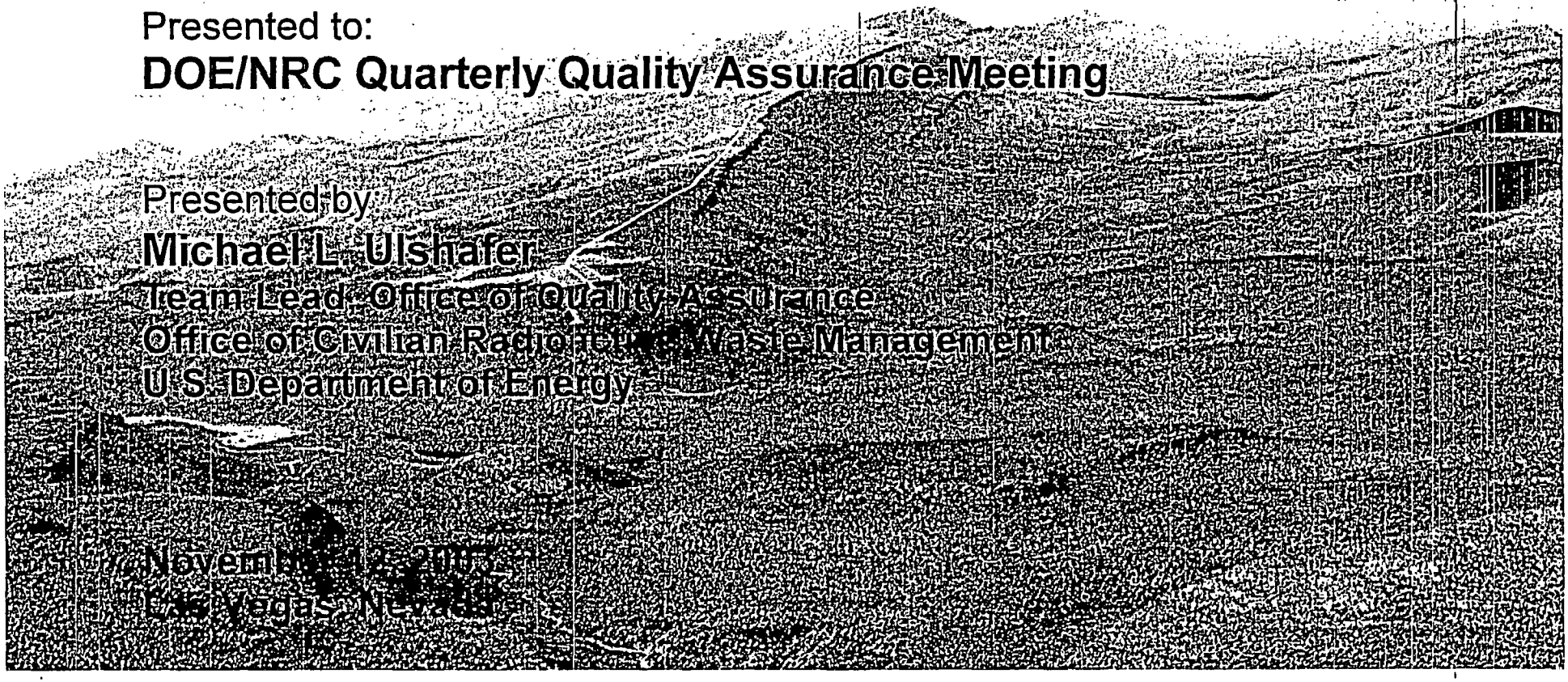
- Monitor effectiveness
- Evaluate process enhancements

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

YUCCA MOUNTAIN PROJECT

Performance Indicators

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting



Presented by:
Michael L. Ulshafer
Team Lead, Office of Quality Assurance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy

November 12, 2003
Las Vegas, Nevada

Performance Indicators

- Indicators are quantitative versus subjective
- Indicators under configuration control
- Data available project wide
  - Data feeds are updated monthly

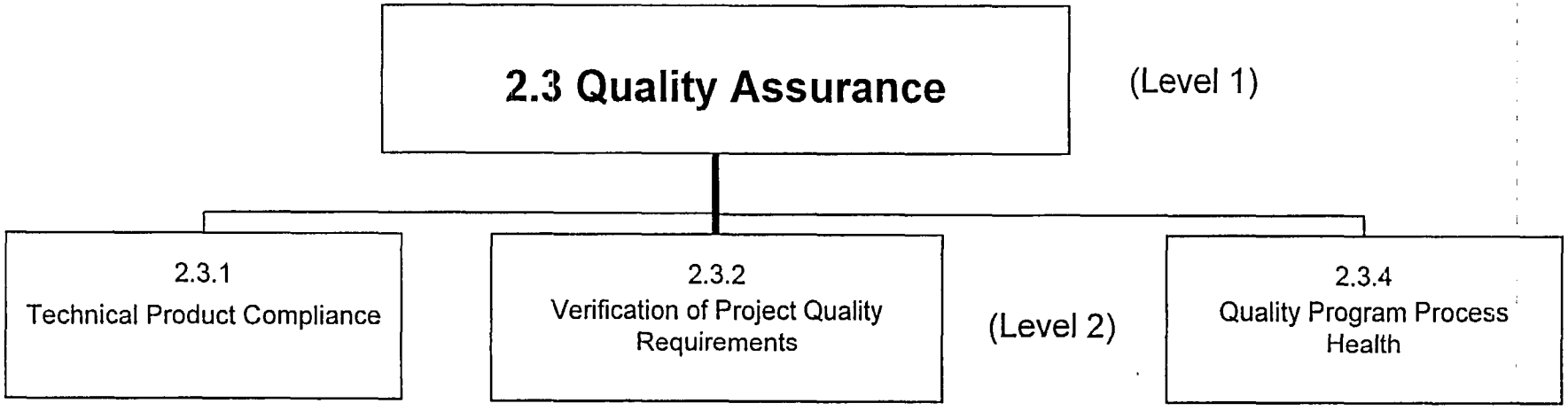
Performance Indicators

(Continued)

- **Level 1 Performance Indicators**
  - Quality Assurance Program
  - Problem Identification and Resolution
  - Level 1 indicators fed by Level 2 and Level 3 indicators
- **Level 2 and 3 Performance Indicators**
  - Weighted to feed next level up indicator
  - Some are weighted "0" until data can be obtained

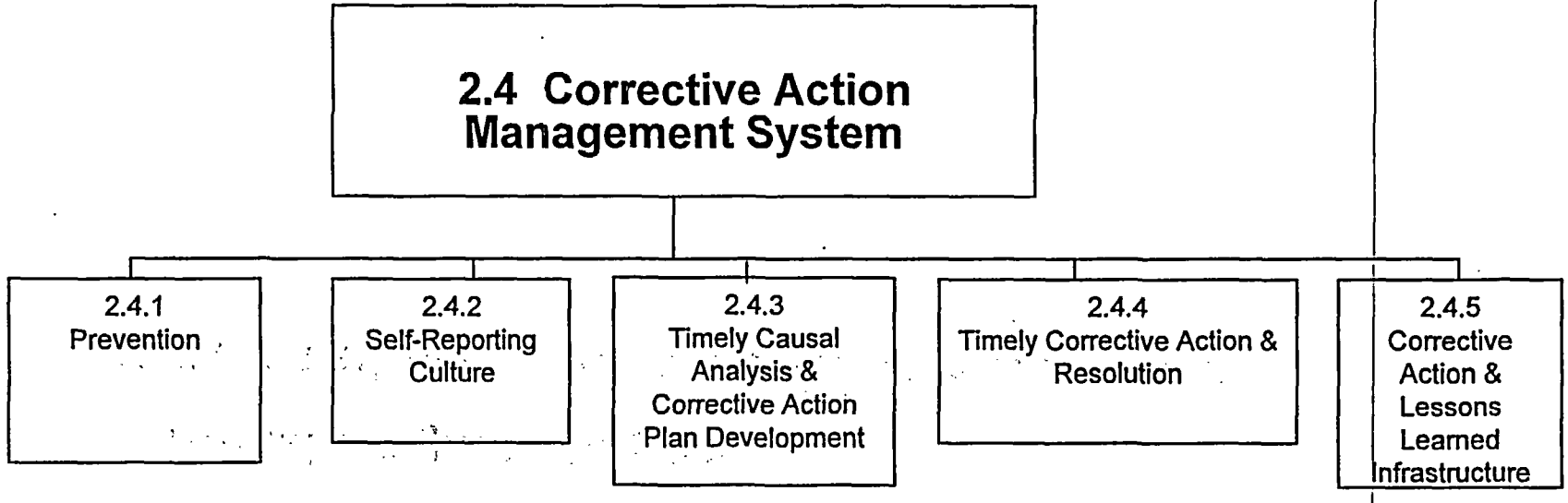
Performance Indicators

(Continued)



Performance Indicators

(Continued)



Performance Indicators
(Continued)

- **Path Forward**
  - Continue to evolve
    - Add/modify indicators and feeds based on performance
    - Adjust weights and goals
  - Identify and respond to levels of performance

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Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Trending Program Improvements

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Michael J. Mason
Manager of Quality Assurance
Bechtel SAIC Company, LLC

November 2, 2006
Las Vegas, Nevada

Trending Program Improvements

- Requirements
- Industry Best Practices
- Trend Process Improvements

Trending Program Improvements
(Continued)

- **Requirements**
  - Quality Assurance Requirements and Description (QARD) - Reports of nonconformances and conditions adverse to quality shall be evaluated to identify adverse quality trends and help identify root causes
  - QARD - Trend evaluation shall be performed in a manner and at a frequency that provides for prompt identification of adverse quality trends
- **Industry Best Practices**
  - Institute of Nuclear Power Operations (INPO) - Information in performance reporting/corrective action systems is periodically assessed for trends needing additional evaluation or corrective action

Trending Program Improvements
(Continued)

- **AP-16.3Q Trend Evaluation and Reporting revised, effective September 30, 2003**
  - Process changed to focus on trend evaluation and analysis through resolution of identified adverse trends
  - Uniform cause codes implemented
  - Reporting frequency increased to quarterly
  - New criteria and process for identifying repetitive problems and trends
  - Adverse and emerging trends documented in corrective action system to track associated actions

Trending Program Improvements
(Continued)

- **Improved the causal analysis process based on current commercial nuclear industry best practices**
  - **AP-16.4Q, *Causal Analysis and Corrective Action Plan Development* completely revised, effective September 30, 2003**
  - **Developed Causal Analysis Handbook to support the new causal analysis process**
  - **Improved training on causal analysis to improve cause identification and subsequent coding**
  - **Improved training on root cause analysis process**

Trending Program Improvements
(Continued)

- Electronic tracking system has improved capability for supporting the trend evaluation process
- Trending and analysis performed on a larger population of data (Q and Non-Q) to improve the identification of emerging trends
- New software purchased and being deployed to aid real-time identification of emerging trends
- Senior Management will be briefed on trend results and recommended actions to address adverse trends

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

YUCCA MOUNTAIN PROJECT

Quality Assurance Requirements and Description

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Michael L. Ushafer
Team Lead, Office of Quality Assurance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy

November 2005
Las Vegas, Nevada

Quality Assurance Requirements and Description

- Quality Assurance Requirements and Description (QARD) Rev. 13 currently under revision
  - Revision 14
    - 10 CFR 63, Subpart G, Quality Assurance
    - NUREG 1804, Yucca Mountain Review Plan
- Requirements matrices nearly complete
  - 95 percent complete

Quality Assurance Requirements and Description

(Continued)

- **Path Forward**
  - Formal review/comment cycle - 1st Quarter FY04
  - Resolve comments - 2nd Quarter FY04
  - Discussion meetings with NRC - 1st and 2nd Quarters FY04
  - Approval by DOE - 2nd Quarter FY04
  - Review/approval by NRC - 2nd Quarter FY04

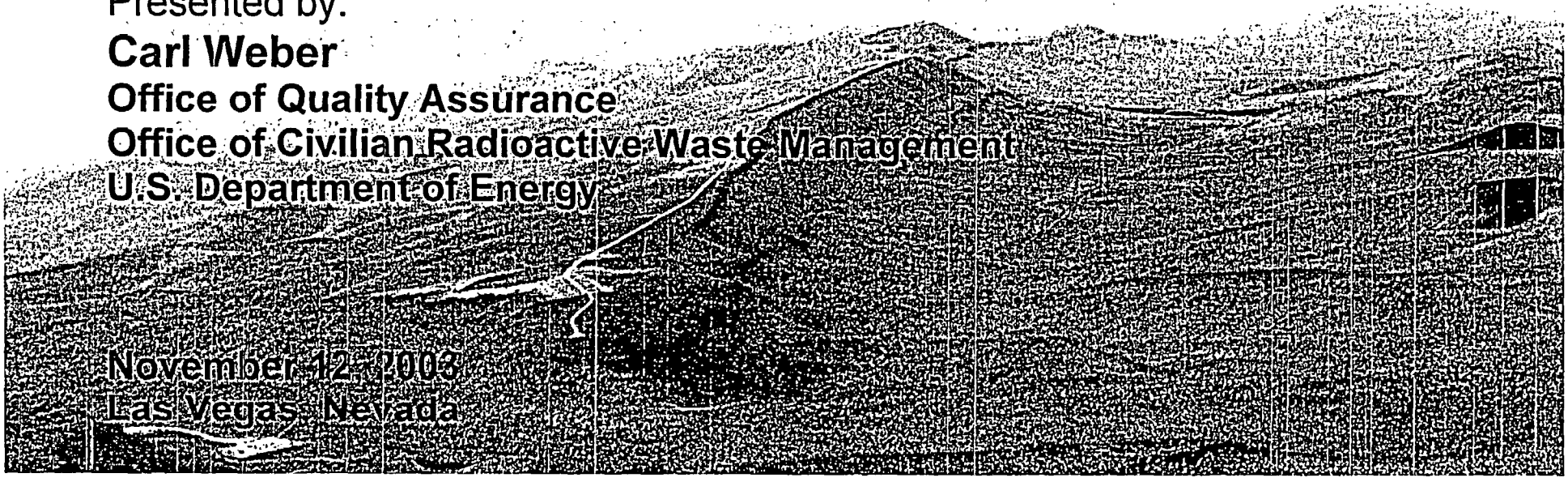
U.S. Department of Energy
Office of Civilian Radioactive Waste Management

YUCCA MOUNTAIN PROJECT

Results of Compliance Audit of BSC (OQAP-BSC-03-13)

Presented to:
DOE/NRC Quarterly Quality Assurance Meeting

Presented by:
Carl Weber
Office of Quality Assurance
Office of Civilian Radioactive Waste Management
U.S. Department of Energy



November 12, 2003
Las Vegas, Nevada

Results of Compliance Audit of BSC (OQAP-BSC-03-13)

(Continued)

- September 22-26, 2003
- Office of Civilian Radioactive Waste Management (OCRWM) Led Audit (Integrated team)
- Limited Scope
  - BSC Compliance with implementing procedures
  - Effectiveness of corrective actions related to closed Deficiency Documents

Results of Compliance Audit of BSC (OQAP-BSC-03-13)

(Continued)

- Thirteen Conditions Adverse to Quality (CAQ) identified - Three closed during audit
- Two recommendations for process improvement
- One best practice associated with a procurement document package

Results of Compliance Audit of BSC (OQAP-BSC-03-13)

(Continued)

- Audit team concluded BSC was effective in its implementation of the Quality Assurance (QA) Program
- All 13 of the CAQs were considered isolated and/or minor in nature
- None of the CAQs appeared to impact technical work