

Mr. Samuel Rousso, Director
 for Program Management and Integration
 Office of Civilian Radioactive Waste Management
 U.S. Department of Energy, RW 30
 1000 Independence Avenue, S.W.
 Washington, DC 20585

August 25, 1999

SUBJECT: MINUTES OF THE APRIL 22, 1999, MANAGEMENT/QUALITY ASSURANCE MEETING

Dear Mr. Rousso:

Enclosed are the minutes of the August 11, 1999, Management/Quality Assurance Meeting between the staff of the U.S. Nuclear Regulatory Commission (NRC) and representatives of the U.S. Department of Energy (DOE). The meeting was a video conference between DOE headquarters in Washington, D.C.; NRC headquarters in Rockville, Maryland; DOE's office in Las Vegas, Nevada; and the Center for Nuclear Waste Regulatory Analysis in San Antonio, Texas. The meeting was also attended by representatives of the State of Nevada; Nye and Clark Counties, Nevada; Nuclear Waste Technical Review Board; Nuclear Energy Institute; and DOE contractors.

If you have any questions regarding this letter, please contact Sandra L. Wastler of my staff. Ms. Wastler can be reached at (301) 415-6724.

Sincerely,

C. William Reamer, Chief
 High-Level Waste and Performance
 Assessment Branch
 Division of Waste Management
 Office of Nuclear Material Safety
 and Safeguards

Enclosures: As stated

cc: See attached list

*KH16/11
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Summary Highlights
of
NRC/DOE Management/Quality Assurance Meeting
NRC T2B3, Rockville MD
Hillshire Blue Room, Las Vegas NV
DOE Headquarters, Room 7F091
CNWRA, San Antonio TX
August 11, 1999, 1:00 p.m. to 4:30 p.m. EDT

The Management/Quality Assurance (QA) Meeting between the U.S. Department of Energy (DOE) and the U.S. Nuclear Regulatory Commission (NRC) included a brief discussion of the status of various programmatic issues, but was focussed primarily on the status of, and progress made in addressing concerns regarding implementation of DOE's QA program since the Management Meeting on April 22, 1999. This meeting summary includes a brief description of the presentations, the meeting agenda (attachment 1), the attendance list (attachment 2), and a copy of slides used at the meeting (attachment 3). The meeting was noticed on July 30, 1999.

Management Issues Overview: The NRC's Yucca Mountain Review Plan will describe how NRC will review a potential License Application (LA) against the requirements of 10 CFR Part 63. NRC stated that the plan will eventually contain suggested outlines for the postclosure and preclosure sections of the LA and that this guidance should eventually help facilitate and simplify the staff's review if DOE follows form and content of the review plan. NRC indicated that it is currently reviewing more than 1,000 comments on the proposed 10 CFR Part 63 submitted in writing and in public meetings. NRC discussed the Environmental Impact Statement (EIS) Review Plan, a draft of which is being used to guide both a completeness review and an evaluative review of DOE's Draft EIS. Finally, NRC stated its belief that, while DOE is moving in the right direction on QA, much work remains and DOE should tighten up its schedules for resolving QA issues.

DOE recognized the challenge that lies ahead on QA issues. DOE indicated that, at the Commissioners' request, a briefing on the recently distributed Draft EIS would take place on September 21, 1999. DOE also discussed the evolution of its Viability Assessment design towards an enhanced repository design. DOE indicated that the program baselines would soon be changed to reflect the new design. DOE provided its assessment of the impacts that potential budget cuts could have on the repository program including significant staff reductions and the slippage of key program milestones. Finally, DOE indicated its involvement, along with other Federal agencies, in the interagency review of the proposed EPA standards for Yucca Mountain and briefly summarized recent legislative activities that could affect the high-level waste program.

The State of Nevada and the local counties had no opening remarks.

Quality Assurance Issues Overview: The meeting focused on management and corrective actions taken by DOE to resolve NRC's concerns with the implementation of DOE's QA program. DOE updated NRC on the status of its FY 1999 priority activities and discussed its commitment to quality. DOE has shifted the program's culture to that of a nuclear environment and DOE described its Nuclear Culture Initiative Action Plan. DOE also discussed the general role of the Yucca Mountain Project Operations Review Board (PORB) and its affect on quality. DOE announced that the manager of its employee concerns program now reports directly to the Yucca Mountain Project Manager.

In order to provide an overall framework for its QA presentations, DOE outlined its multi-year planning for the preparation and issuance of the Final EIS, preparation of the documentary basis for Site Recommendation (SR) and preparation and submittal of the LA. Using the VA as a model, DOE will provide a letter to NRC listing the forthcoming documents that will form the technical basis for the SR. DOE will conduct continuous audits on the work feeding the Process Model Reports (PMR) that form a significant part of the technical basis for SR. While DOE intends to send its proposed siting guidelines at 10 CFR Part 963 to interagency review in the coming weeks, it has contingency plans to use the existing guidelines at 10 CFR Part 960 should the rulemaking not move forward. NRC encouraged DOE to continue its efforts to assure that data required to be qualified at the time of SR was available to NRC in time for its preparation of statutorily mandated SR sufficiency comments. NRC and DOE agreed that it is important for all parties to understand exactly what work will not be qualified in time for the SR. DOE stated that every effort would be made to qualify that subset of overall data that would be considered vital to conclusions related to the safety argument (consistent with the DOE Repository Safety Strategy, Rev. 3).

The State of Nevada representative stated that it would be unacceptable to ask the State to review an SR consideration report based on Revision 0 of the PMRs.

DOE presented a detailed review of major quality-related initiatives, including the implementation of process validation and re-engineering, and the status of corrective actions, the reviews of scientific notebooks, and data, model, and code qualification/validation. Thus far, no fieldwork has to be redone as a result of the review of scientific notebooks. DOE also discussed the challenges related to the measurement of results and effectiveness of quality-related initiatives and corrective actions. NRC acknowledged that improvements in self-reporting can often make a program that is improving appear worse and that demonstrating lessons learned can be more important than raw data.

Consistent with its "on-demand" approach to qualifying work, DOE will prioritize its QA efforts based upon Revision 3 of the Repository Safety Strategy. While NRC would like to see all work qualified in time for SR, DOE indicated that this approach will achieve qualification of the work most significant to performance. With respect to DOE's verification of M&O corrective actions, DOE reported that the M&O adequately incorporated previous Office of Quality Assurance recommendations into the Corrective Action Plan and that actions appear to be on schedule.

In closing remarks, NRC and DOE acknowledged the importance of adhering to the quarterly schedule for these meetings and agreed to schedule the next Management/QA Meeting in November. The Clark County, NV representative expressed concern about reviewing a draft rather than a final SR. The State of Nevada and Nye County, NV representatives had no closing remarks.

No regulatory decisions were requested or made during the meeting.

Miscellaneous Action Items

DOE's response to the Nuclear Waste Technical Review Board's recent letter to DOE regarding repository design selection will be provided to NRC.

In response to an NRC request, DOE agreed to allow the on-site representatives to attend PORB meetings, as appropriate.

DOE will provide the planning documents for SR and Site Suitability as soon as they are available.

DOE agreed to add important QA milestones to its SR and PMR schedule charts.

DOE will check to make sure that the M&O General Manager's letter re-affirming the M&O commitment to quality was sent to all employees.

DOE will check whether any work has to be redone as a result of the review of scientific notebooks.

DOE agreed to provide the OCRWM PMR audit schedule to NRC when available.

DOE will provide the QAMA report to NRC as soon as it becomes available.



Sandra L. Wastler
Performance Assessment &
HLW Integration Branch
Division of Waste Management
Office of Nuclear Material
Safety and Safeguards
U.S. Nuclear Regulatory Commission



Nancy H. Slater
Regulatory Coordination Division
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy

NRC/DOE MANAGEMENT/QUALITY ASSURANCE MEETING

NRC Headquarters, Rockville, MD

*Hillshire Blue Room, Las Vegas, Nevada**DOE Headquarters, Room 7F091**CNWRA, San Antonio, Texas*

August 11, 1999

1:00 p.m. to 5:00 p.m. (EDT)

1:00 p.m.	INTRODUCTIONS	All
1:10 p.m.	NRC Program Status <ul style="list-style-type: none"> • Yucca Mountain Review Plan • Environmental Impact Statement Review Plan • 10 CFR 63 • Status of DOE QA 	John Greeves, NRC
1:30 p.m.	DOE Program Status <ul style="list-style-type: none"> • Draft Environmental Impact Statement • Yucca Mountain Design Evolution • FY99 and FY00 Budget Work Scope • EPA Standard • Legislation 	Ron Milner, DOE
	<ul style="list-style-type: none"> • DOE Commitment to Quality • QA Budget Work Scope • Project Operations Review Board (PORB) 	Don Horton, DOE
	<ul style="list-style-type: none"> • 10 CFR 63 • SR/LA Integrated Schedule 	Steve Brocoum, DOE
2:00 p.m.	M&O Program Status <ul style="list-style-type: none"> • M&O Commitment to Quality • PVAR Implementation • M&O Corrective Action Status • Quality of Site Recommendation 	Dan Wilkins, M&O

2:20 p.m.	<ul style="list-style-type: none">• Performance Monitoring/Metrics• Corrective Action Board - Results to date	Dan Wilkins M&O
2:40 p.m.	<ul style="list-style-type: none">• Status of Corrective Actions (CARs 98-002, 98-005, 98-006, 98-010, and 99-001)• Scientific Notebooks	Jean Younker, M&O
3:00 p.m.	Break	All
3:15 p.m.	Status of Data, Model, and Code Qualification/ Validation and Control Plan	Jean Younker M&O
3:55 p.m.	Status of Process Model Report/Analysis Model Report Development	Jean Younker, M&O
4:15 p.m.	<ul style="list-style-type: none">• Verification of Corrective Actions• DOE Trending Program	Bob Clark, DOE
4:45 p.m.	Closing Remarks	NRC, DOE
5:00 p.m.	Adjourn	All

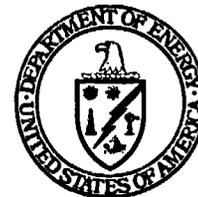
YUCCA
MOUNTAIN
PROJECT

DOE Program Status and Quality
Issues

Presented to:
NRC/DOE Management/Quality Assurance
Meeting

Presented by:
Don Horton, Acting Deputy Project Manager
Yucca Mountain Site Characterization Office

August 11, 1999



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

Topics

- Commitment to Quality
- FY99 Priorities -- Update and Status
- Transition to a Nuclear Culture
- Project Operations Review Board
- A Look Ahead

Commitment to Quality

- Our QA obligations are at the forefront of our planning and have the utmost priority. We have achieved progress -- our path forward is clear
 - Considerations associated with implementing our quality initiatives, establishing a nuclear culture, and meeting our quality assurance obligations are a major part of our performance expectations for the future
- The Program continues to evolve
 - As a result, our needs have evolved as well

FY99 Priorities

- We are enhancing quality across the Program
- At our last Management Meeting, we cited our FY99 priorities
 - Implement effective, efficient program infrastructure: Process Validation and Re-engineering (PVAR)
 - In effect
 - Develop defensible, traceable and reproducible technical basis
 - Planning completed; implementation underway
 - Complete Draft Environmental Impact Statement
 - In print; to be issued August 13, 1999
 - Complete the Design Selection for Site Recommendation
 - EDA II, with modifications, August 1999

FY99 Priorities

(Continued)

- Conduct detailed planning supporting site recommendation process
 - Underway as major part of FY00 annual planning (September 1999)
- Finalize approach to site suitability evaluation
 - Completed April 1999 (SR Management Plan)
- Conduct site investigations and laboratory testing to focus on reducing key uncertainties
 - Includes addressing NRC's Key Technical Issues
- Revise process models for next iteration of TSPA
 - Process Model Reports, Rev. 0s, to be completed by June 2000
- Complete System Description Documents necessary for the site recommendation process
 - Scheduled to be completed in FY00

Transition to a Nuclear Culture

- Our goal in shifting the Project's culture to that of a nuclear environment is to effect a change in individual attitudes -- participants are expected to conduct business as a licensee would
- Nuclear Culture Steering Committee was established January 1999 to lay the foundation for operating in a regulated environment
 - Currently focused on developing Nuclear Culture Initiative Action Plan

Nuclear Culture Initiative Action Plan

- Status reporting and tracking system that includes goals for transition to a nuclear culture, required actions, responsible personnel, expected completion dates, and status
- Action Plan goals for implementation include
 - Communicate senior management's vision for safety and licensing culture
 - Develop metrics to measure success of initiative
 - Implement effective flow-down process for regulation and commitments
 - Maintain effective employee concerns program
 - Instill strong problem reporting system
 - Develop common root cause analysis process

Project Operations Review Board (PORB)

- Established March 1999
- Implements Yucca Mountain Project policy
- Facilitates Project integration/operation
 - Acts as the reviewing and recommending body for programmatic and major technical and quality issues within the responsibility and authority of the YMP Project Manager
 - Facilitates focusing of management attention on quality issues

Project Operations Review Board (PORB) (Continued)

- **Facilitates Project integration/operation**
(Continued)

- Assists the YMP Project Manager with management of Project activities to ensure Project milestones are successfully met by disposing of policy, quality, and technical issues in a timely manner
- Serves as Project Change Control Board
- A means of documenting Project decisions
- Meets weekly, or as necessary
- Chaired by YMSCO Deputy Project Manager
- Comprised of senior DOE and contractor managers

A Look Ahead

- Project is focused on the EIS and the site recommendation process
- Our path forward includes
 - Continue to enhance nuclear culture and improve Project quality and safety standards
 - Complete a comprehensive plan for conducting critical activities supporting preparation of necessary documentation to evaluate the suitability of the Yucca Mountain site
 - Continue necessary testing and design activities to address key uncertainties, KTIs, and ensure an adequate level of detail for the SR design

A Look Ahead

(Continued)

- **Our path forward includes** (Continued)
 - Issue the DEIS and hold public hearings
 - Continued evolution of our Repository Safety Strategy
 - Include consideration of the design features of EDA II
 - Finalize the EIS in November 2000
 - Issue the Site Recommendation Consideration Report in November 2000

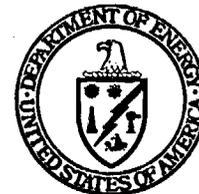
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DOE Views on Proposed 10 CFR Part 63
SR/LA Integrated Schedule

Presented to:
NRC/DOE Management/Quality Assurance
Meeting

Presented by:
Stephan J. Brocoum, Assistant Manager
Office of Licensing and Regulatory Compliance
Yucca Mountain Site Characterization Project

August 11, 1999



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

DOE Views on Proposed 10 CFR Part 63

- We strongly endorse NRC's use of risk-informed, performance-based licensing criteria and NRC's parallel development of a review plan consistent with the approach embodied in the proposed rule
- Our formal comments suggest ways to improve several risk-informed, performance-based aspects of the proposed rule, including:
 - Treatment of human intrusion
 - Requirements for performance confirmation

DOE Views on Proposed 10 CFR Part 63

(continued)

- Our comments also suggest areas where clarification may be appropriate in the final rule
- A concern noted in our letter but not in our comments is that further regulatory changes to the licensing process may be needed to ensure that issues closed at construction authorization are not reopened at a later stage absent new safety-related information

SR/LA Integrated Schedule

- Multi-year planning for FY00 through FY03 is well underway and covers:
 - Preparation and issuance of the final EIS
 - Preparation of the documentary basis for SR
 - Preparation and submittal of the LA
- Top priority for FY00-01 is completion of the work and documentation, including the final EIS, needed to support a DOE decision on SR
- Budget issues in FY00 may delay preparation and submittal of the LA
- Testing and analyses necessary to develop the supporting documentation and design information for the LA will continue as budgets allow

SR/LA Integrated Schedule

Overall SR Process - Proposed

2000		2001						
November	December	January	February	March	April	May	June	July



FEIS Notice of Availability 11/13/00



Notice of SR Consideration: 11/13/00

Public Comment Period (and States & Affected Tribes): 11/13/00 - 2/12/01

Public Hearings: 1/8/01 - 1/12/01

Final SR Documents Prepared: 2/13/01 - 4/11/01

DOE/HQ Review & Concurrence on SR Report: 4/12/01 - 6/12/01

NRC Sufficiency Comments Received: 5/25/01

SR Report to Secretary: 6/13/01

Secretarial Decision on Site Recommendation: 6/26/01

Secretary Notifies Nevada Governor and Legislature: 6/27/01

Site Recommendation Submitted to President: 7/27/01

SR/LA Integrated Schedule

SR Technical Basis Documentation

2000

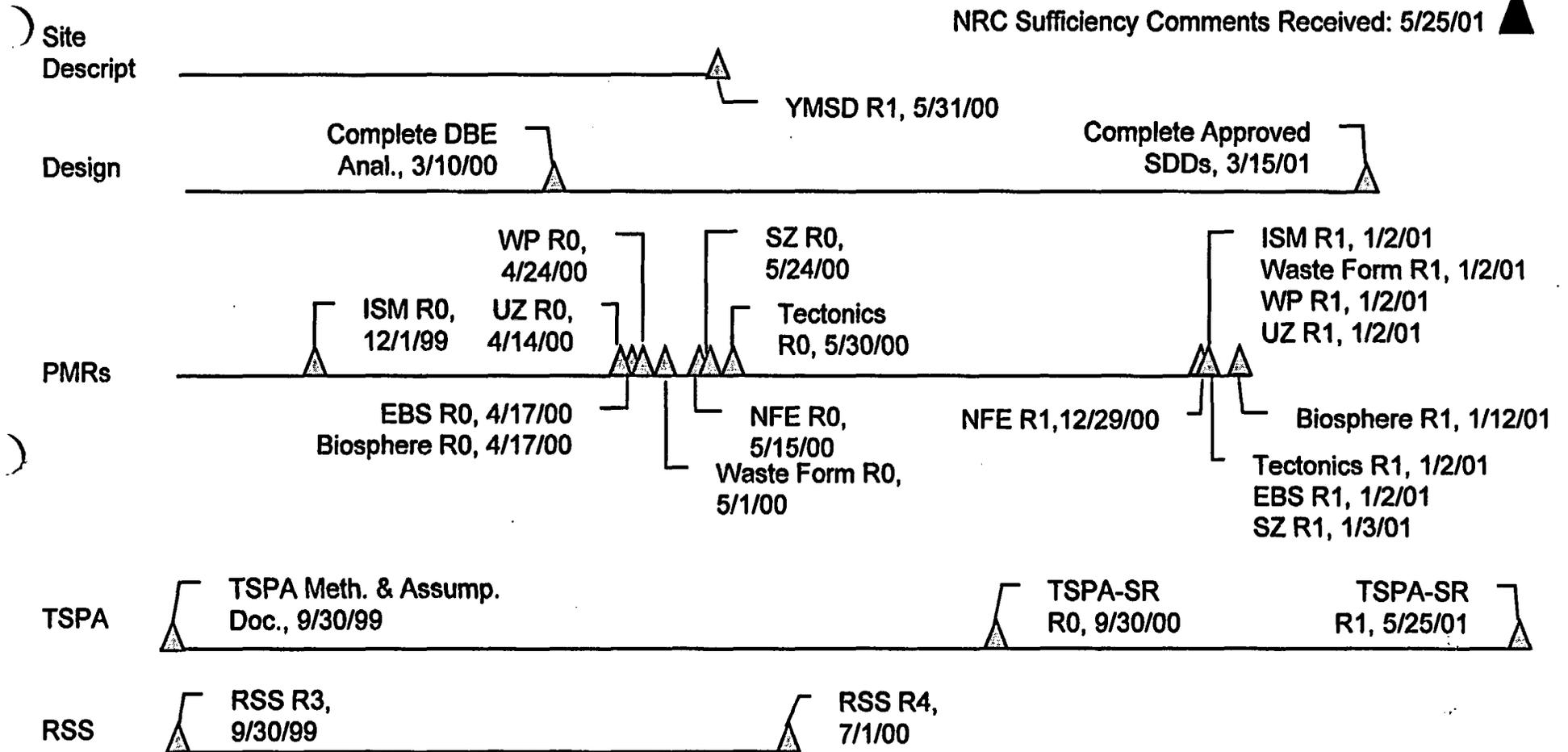
2001



Notice of SR Consideration: 11/13/00



NRC Sufficiency Comments Received: 5/25/01

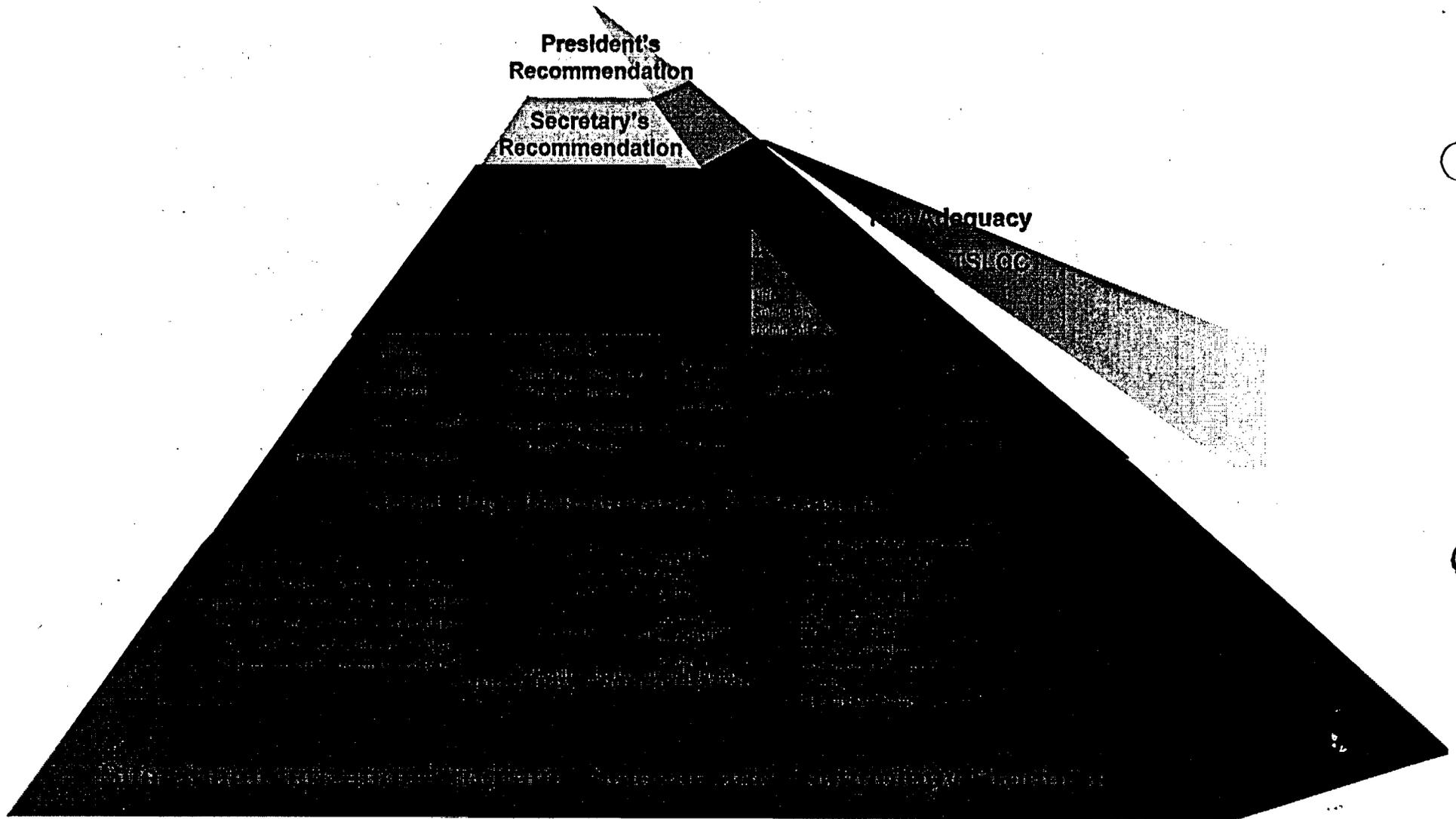


SR/LA Integrated Schedule

(continued)

- **Scope of Activities for FY00-01**
 - Prepare and issue final EIS
 - Develop SR Consideration Report consistent with NWPA, develop traceable and defensible technical basis documents to support SR, and conduct Consideration Hearings with public comment period
 - Prepare Web-based access for Consideration Report and technical basis documents
 - Obtain views and comments of States and affected Tribes
 - Obtain preliminary sufficiency comments from NRC
 - Complete SR Report, including all information required by the NWPA, as basis for SR decision by Secretary in FY01

Site Recommendation Documentation Structure



SR/LA Integrated Schedule

(continued)

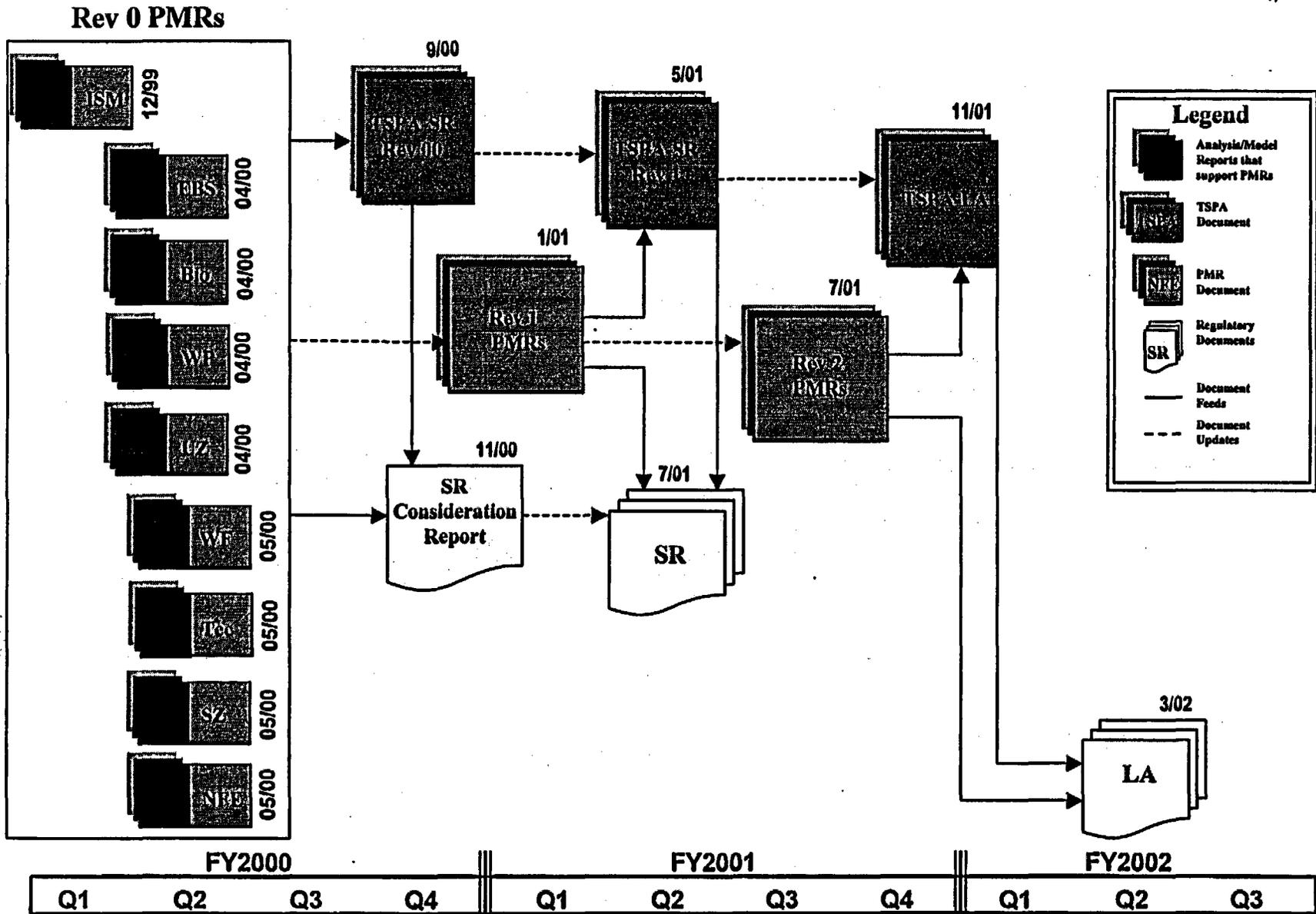
- **Technical documentation being developed to support SR provides the foundation for completion of the LA**
 - Yucca Mountain Site Description, Rev 1, is the starting point for an updated Site Description to provide the site information required for LA
 - Process Model Reports (PMRs), Rev 0, provide the basis for developing updated PMRs (Revs 1 and 2) to support TSPA-SR, Rev 1, TSPA-LA, and the LA
 - System Description Documents (SDDs) and design analyses that provide the design basis for SR are the starting point for updated SDDs and the analyses that provide the design basis for LA
 - Preliminary preclosure safety evaluation for SR provides the basis for developing the Integrated Safety Assessment for LA
 - Total System Performance Assessment (TSPA)-SR, Rev 0 and Rev 1, provide the basis for developing TSPA-LA

SR/LA Integrated Schedule

(continued)

- Relevant DOE technical basis documents for SR will be provided to NRC as they become available, including:
 - Yucca Mountain Site Description, Rev1
 - Process Model Reports (PMRs), Rev 0 and Rev 1, and key Analysis and Modeling Reports (AMRs)
 - Total System Performance Assessment (TSPA)-SR, Rev0
 - System Description Documents (SDDs) for SR design
 - Other relevant technical reports
- Interactions with NRC will be proposed to discuss the information presented in the technical basis documents

Linkage of Major Programmatic SR/LA Milestones



Summary

- Current Project focus is on completion of the SR
- Detailed planning is focused on defining the path for development of a technical basis that is traceable, transparent, and defensible
- Interactions with NRC in FY00-01 will focus on the technical basis documents that support SR

YUCCA
MOUNTAIN
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M&O Program Status

Presented to:
NRC/DOE Management/Quality Assurance
Meeting

Presented by:
Daniel R. Wilkins
Assistant General Manager, M&O

August 11, 1999



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

Overview

- M&O Commitment to Quality
- Review Major Quality-Related Initiatives
 - Process Validation and Re-engineering Implementation
 - Status of Corrective Actions
 - Status of Scientific Notebooks
 - Status of Data, Model, and Code qualification/validation
 - Quality of Site Recommendation
 - Status of Process Model Reports/Analysis Model Reports Development
- Measurement of Results/Effectiveness of Quality-Related Initiatives and Corrective Actions

M&O Commitment to Quality

- Safety and Quality are our highest priorities
- Four Pillars
 - Culture
 - Infrastructure
 - Corrective Actions
 - Measuring Effectiveness

Nuclear Culture

- **Emphasized in Regulatory and Licensing Training**
 - Over 750 people trained
 - DOE, M&O, USGS, National Labs, NRC, NEI, QAMA, Nye County, Clark County
 - Training offered monthly
- **Upcoming Initiatives**
 - All hands meeting August 18, 1999
 - WIPP Lessons Learned Workshop

Infrastructure

- Initial PVAR training completed 6/30/99
 - Senior Management Team trained first
 - Senior Management kicked off training
 - Over 1000 people trained to date
- PVAR procedures were effective 6/30/99
- Monitoring of initial PVAR implementation underway
- OQA controlling procedure hierarchy and coordinating ongoing process and procedure improvements

PVAR Objectives/Results

Objectives	Results
<ul style="list-style-type: none">• Standardizing quality-affecting technical procedures for all Program participants• Eliminating procedure redundancy• Providing clear, concise guidance to end-users• Establishing ownership for quality-affecting processes• Establishing an effective, formal training program	<ul style="list-style-type: none">• 25 quality-affecting technical procedures implemented, applying to DOE, USGS, M&O (including laboratories)• Initially tagged 49 procedures for elimination, more to follow• Conducted informal and formal reviews on all procedures. Validated key integrating procedures• Identified SMEs for each procedure. SMEs are the owners and defenders. Users involved in reviews and validations.• Established training program for initial training, completed on June 30, 1999. Incorporating lessons learned for continued use.

Corrective Action Initiatives

- Process Validation and Re-engineering Implementation
- Status of Corrective Actions
- Status of Scientific Notebooks
- Status of Data, Model, and Code qualification/validation
 - Quality of Site Recommendation
 - Status of Process Model Reports/Analysis Model Reports Development

Measuring Effectiveness

- Efforts to develop comprehensive, integrated indicators
 - Recognize the importance of measuring results
 - Must be done properly - measuring the right things/avoiding wrong incentives
 - Evaluating utility experience
 - Tailoring prior experience to unique program needs
 - Indicators in place by end of September 1999

Observations

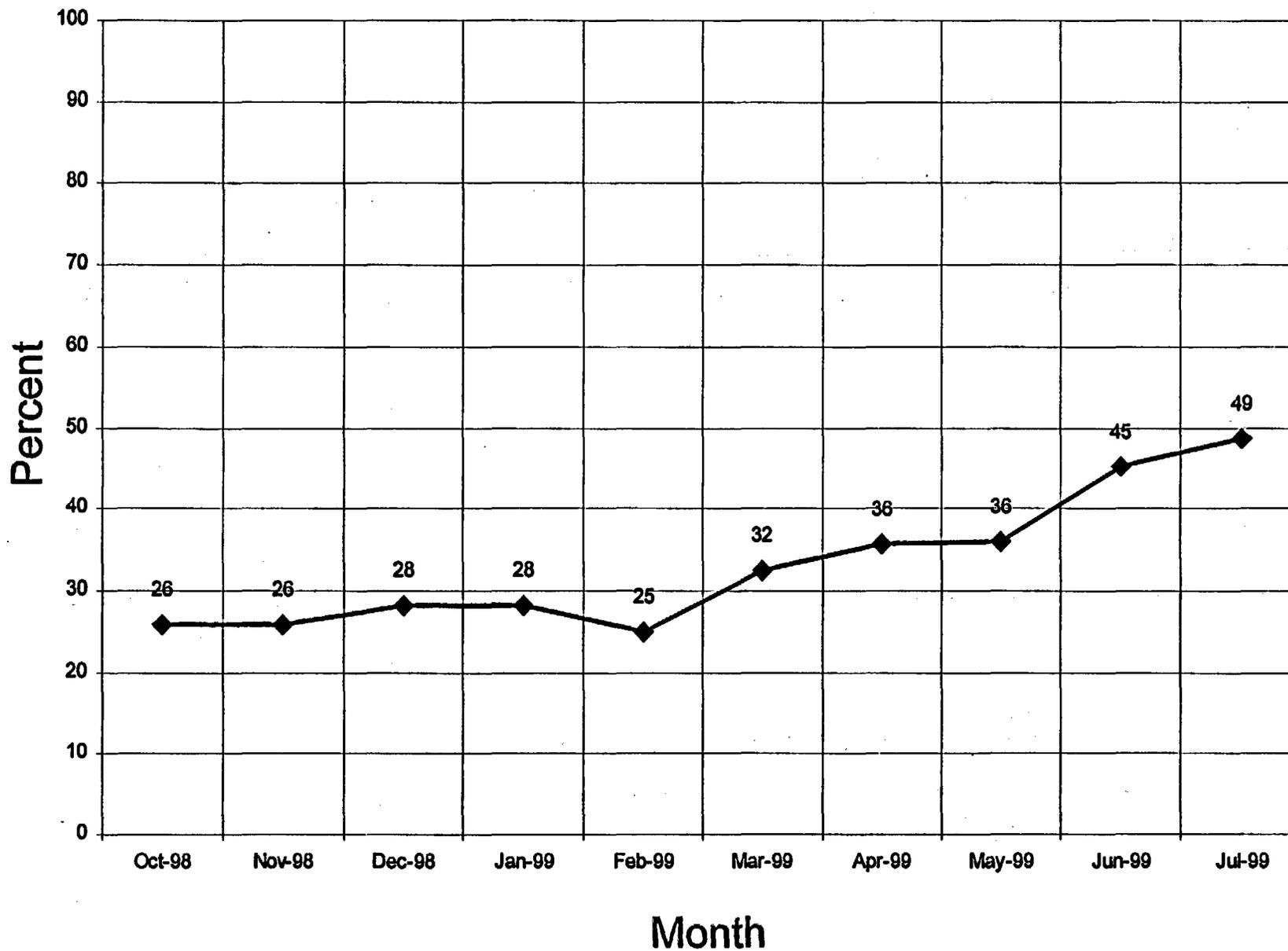
- Self-critical culture is developing
 - Over 30 self-assessments performed
- Line organizations identifying deficiencies
- Line organizations using PVAR Intranet
- Line organizations using culture helpline
- Mixed effectiveness in deficiency backlog closeout
 - Corrective Action Board (CAB) prioritizing deficiencies
 - CAB facilitating communication between line and OQA
 - CAB maintaining status of priority deficiencies
 - CAB escalating to management where necessary

Observations

(Continued)

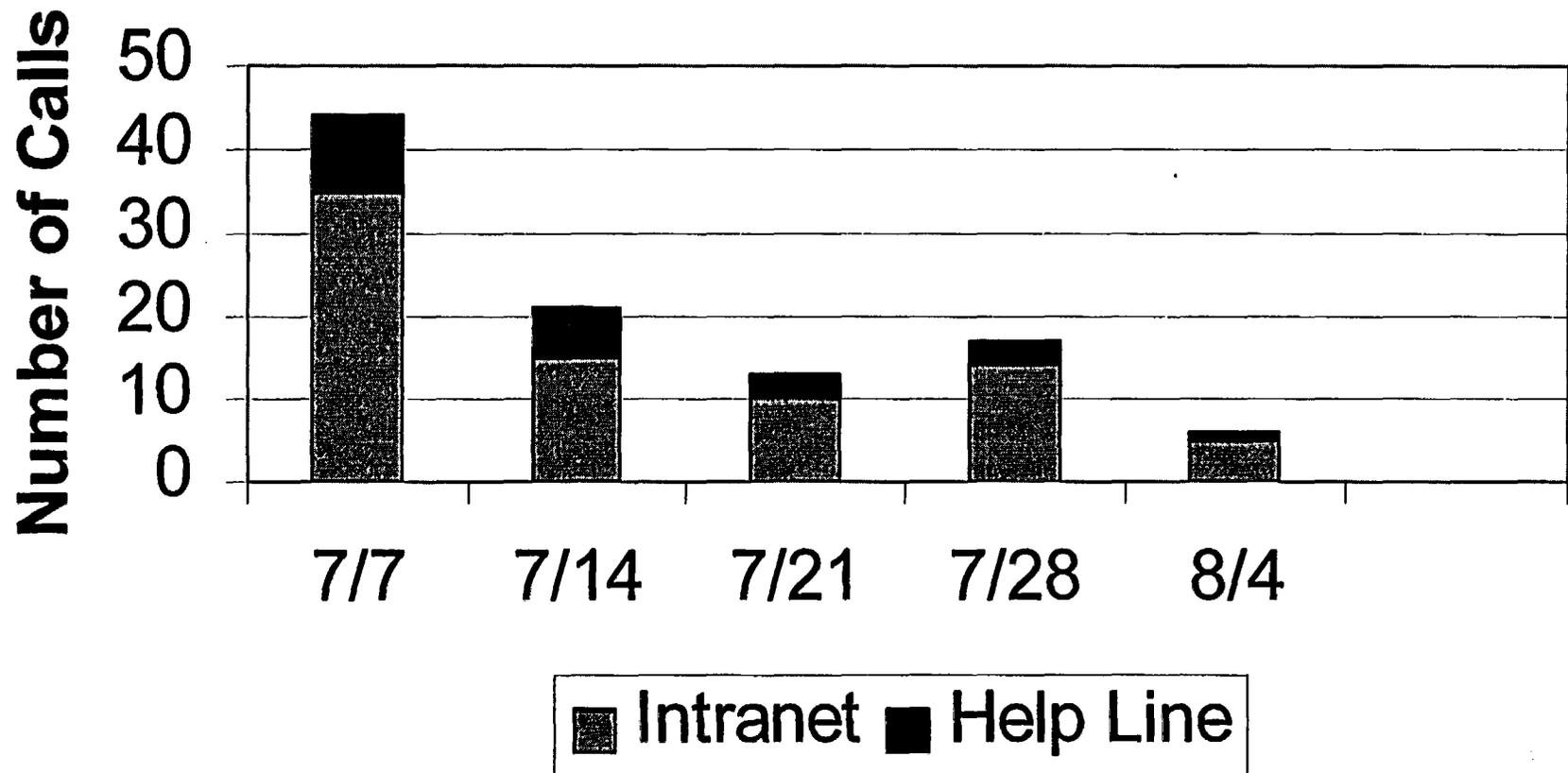
- Implemented Lessons Learned Program, June 1999
- Good overall feedback from Quality Assurance Management Assessment (QAMA)
 - Good working relationship/teamwork between M&O line and OQA Quality Systems (M&O's QA support)
 - Regulatory and Licensing Training has had positive results
 - Nuclear Culture Initiative making excellent progress
 - Data verification/qualification for PMR/AMR initiative is excellent
 - Need to focus on organizational lines of responsibility

Percent of M&O Deficiencies Identified by Line Organizations (Six Month Rolling Average)

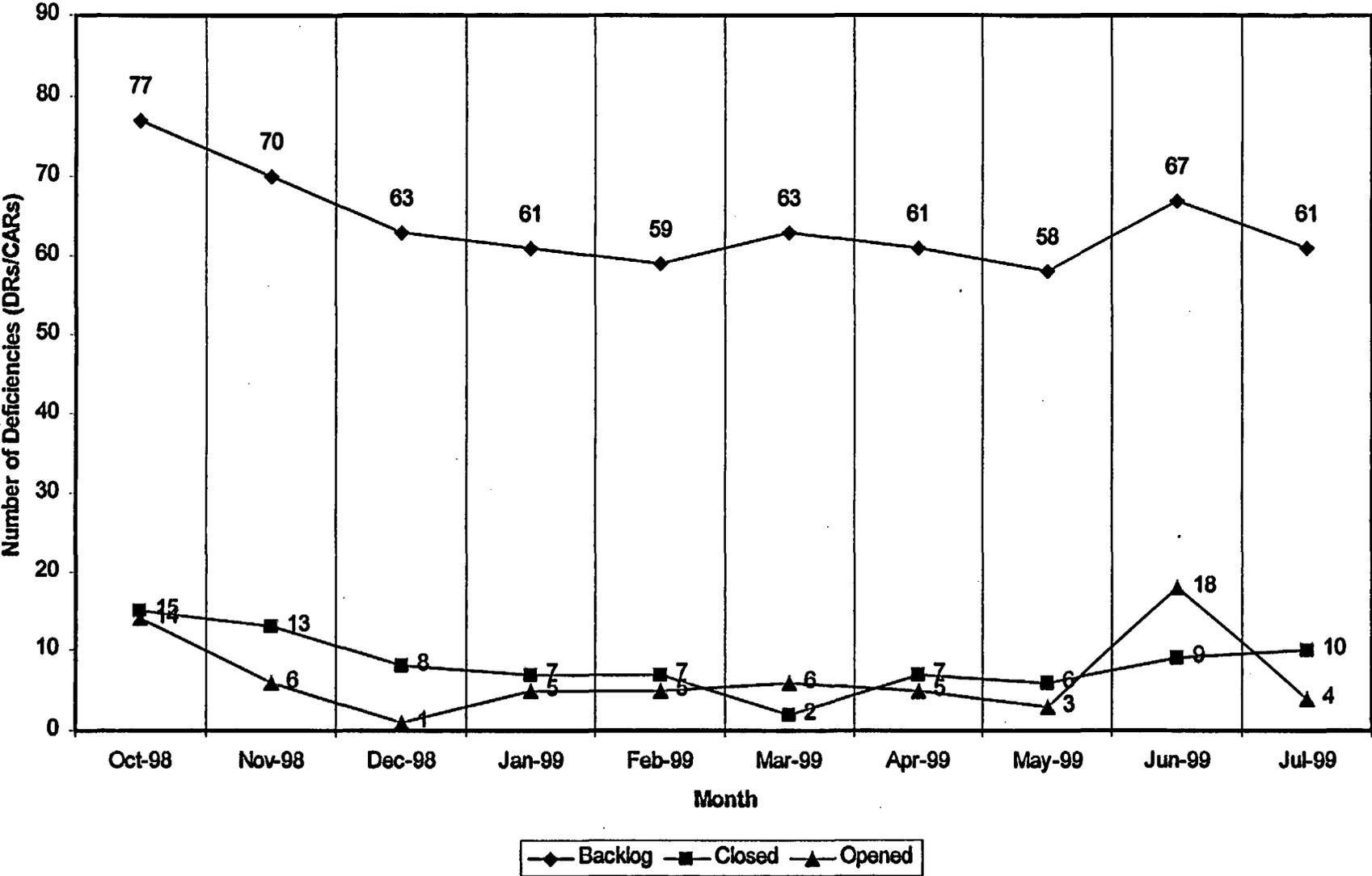


Nuclear Culture Questions

(Shown By Week Ending Date)



Status of M&O Deficiencies (DRs/CARs)



YUCCA MOUNTAIN PROJECT

Status of Corrective Actions (CARs 98-002, Data Qualification; 98-005, Procurement; 98-006, Software; 98-010, Models; and 99-001, Traceability)

Presented to:
NRC/DOE Management/Quality Assurance
Meeting

Presented by:
Jean Younker
M&O Deputy Assistant General Manager,
Technical

August 11, 1999



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

Overview

- Current status of the M&O's corrective actions for the five major Corrective Action Requests (CARs)
- Anticipated M&O completion dates
- Status of data and software verifications accomplished under the CARs

Status of Corrective Actions

(DATA QUALIFICATION, PROCUREMENT, SOFTWARE, MODELS, AND TRACEABILITY CARs)

- Revisions to the CARs were made and accepted by OQA in early June 1999
 - Revisions corrected prior errors and revised the approach on the Procurement and Traceability CARs
- OQA has completed two interim phases of planned three phase verification

Status of Corrective Actions

**(DATA QUALIFICATION, PROCUREMENT, SOFTWARE,
MODELS, AND TRACEABILITY CARs)**
(Continued)

Total of 67 M&O actions to complete the CARs
(19 are common to more than one CAR)

- **58 are complete**
- **5 are on-going verifications**
- **1 is to finalize model “family trees” - 10/29/99**
- **1 is to revise two procedures - 8/31/99 (this action was due 7/12/99)**
- **2 are to complete training and implementation of automated Software Configuration Control System - 9/30/99 (possible 45 day delay)**

Status of Corrective Actions

(DATA QUALIFICATION, PROCUREMENT, SOFTWARE,
MODELS, AND TRACEABILITY CARs)
(Continued)

- All remedial actions are complete
- All root cause determinations are complete
- All but one of actions to preclude recurrence are complete
- Actions to determine the extent of conditions are now incorporated into procedures
 - “on-demand” basis

Status of Corrective Actions

**(DATA QUALIFICATION, PROCUREMENT, SOFTWARE,
MODELS, AND TRACEABILITY CARs)**
(Continued)

- **Procurement and Traceability CARs revised to “on-demand” approach**
- **Revising the Data Qualification CAR to be consistent with this approach**

Anticipated M&O Completion Dates

- CAR 98-002, Data Qualification: 9/1/99
- CAR 98-005, Procurement: 9/1/99
- CAR 98-006, Software: 11/19/99
- CAR 98-010, Models: 10/29/99 (may be earlier)
- CAR 99-001, Traceability: 9/1/99

Current Data Verification Status

(CAR 98-002)

- Initial data requiring verification were based on VA Technical Basis Document and Site Description Report
- 348 Data Tracking Numbers (DTNs)
 - 40 DTNs *qualified* - TBVs being closed
 - 149 DTNs to be reviewed
 - 60 DTNs being reviewed
 - 99 DTNs with data reviews complete
 - 19 in review by M&O
 - 43 forwarded in procurement verification
 - 37 with issues to be dispositioned

Current Software Verification Status

(CAR 98-006)

- Initial software requiring verification based on “best estimate” of software expected to support SR/LA
- 124 software packages
 - 46 *qualified*
 - 15 with checklists in process
 - 63 with checklists complete
 - 36 with issues - to be dispositioned
 - 27 with major issues - require full qualification under AP-SI.1Q, *Software Management*

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Status of Scientific Notebook Reviews

Presented to:
NRC/DOE Management/Quality Assurance
Meeting

Presented by:
Jean Younker
M&O Deputy Assistant General Manager,
Technical

August 11, 1999



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

Status of Scientific Notebooks Reviews

- A Scientific Notebook Register was created to track the status of open notebooks
- Reviews of active open notebooks were completed using checklists
 - closed notebooks will be reviewed as required by “on demand” data verification
- Open inactive notebook reviews were to be completed 7/31/99
 - results are being compiled

Status of Scientific Notebooks Reviews

(continued)

- The CRWMS M&O conducted training on notebook maintenance at all locations (including the Nevada Universities)
- Although implementing documents were not considered deficient, AP-SIII.1Q, *Scientific Notebooks*, was revised to provide improved consistency (effective 6/30/99)

Status of Scientific Notebooks Reviews

(Active Open Notebooks As Of 8/2/99)

<u>Organization</u>	<u># Not Yet Reviewed</u>	<u># Reviewed</u>	<u># With Open Comments</u>
LANL	0	158	28
LBNL	0	84	2
LLNL	0	197	61
SNL	0	8	0
USGS	0	59	0
M&O	0	7	3
UNR/UNLV	0	<u>23</u>	<u>0</u>
		536	94

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Status of Data, Model, and Code
Qualification/Validation and
Control Plan

Presented to:
NRC/DOE Management/Quality Assurance
Meeting

Presented by:
Jean Younker
M&O Deputy Assistant General Manager,
Technical

August 11, 1999



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

Qualification/Validation Control Plan Status

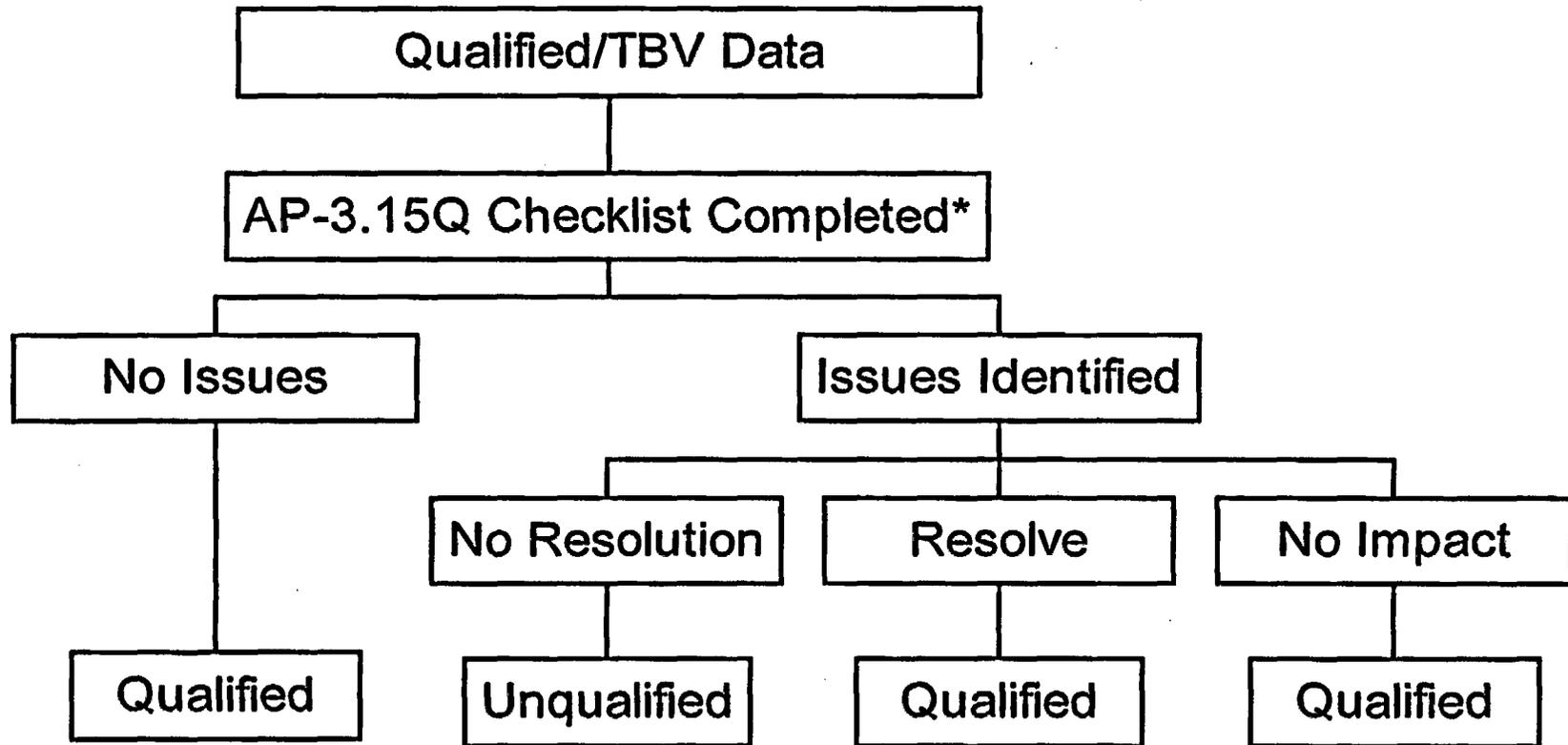
- Transitioning from identifying *issues* with data/models/codes to managing *actions* for qualification and validation
- Established lines of responsibility
 - Line managers provide resources and direction for resolving qualification issues
 - Analysis and Modeling Report Leads ensure verified/qualified inputs are used
 - Data/code/model originators support verification or qualification/validation

Qualification/Validation Control Plan Status

(Continued)

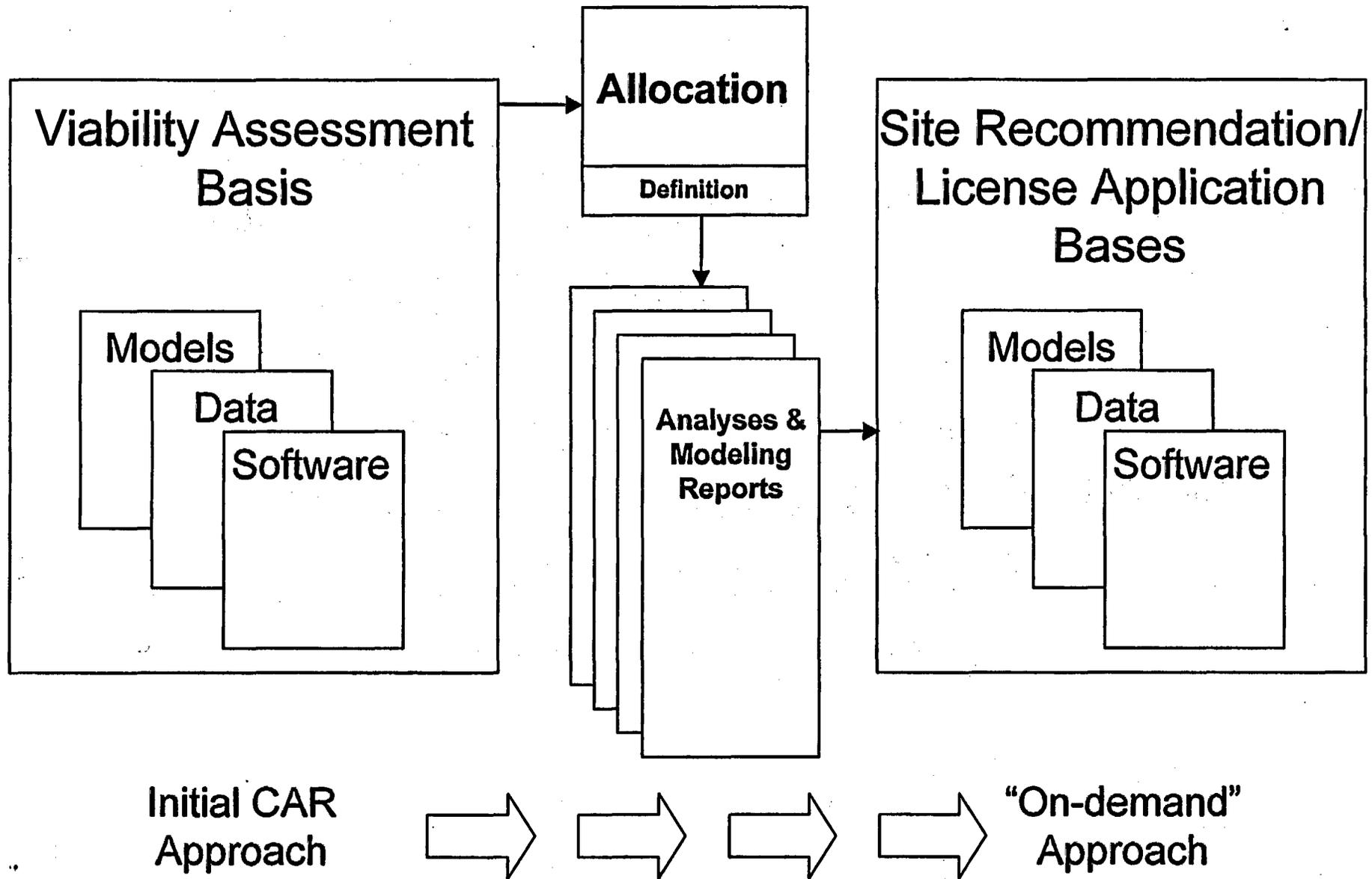
- Data verification performed to AP 3.15Q,
Managing Technical Product Inputs
- Data qualification performed to AP SIII.2Q,
*Qualification of Unqualified Data and the Documentation
of Rationale for Accepted Data*
- Code qualification performed to AP SI.1Q,
Software Management
- Model validation performed to AP 3.10Q,
Analyses and Models

Resolution Process for Data "On-Demand" Approach



* Checklist in AP-3.15Q hands off verification of associated procurements and software to applicable procedures

PMR Role and Path Forward

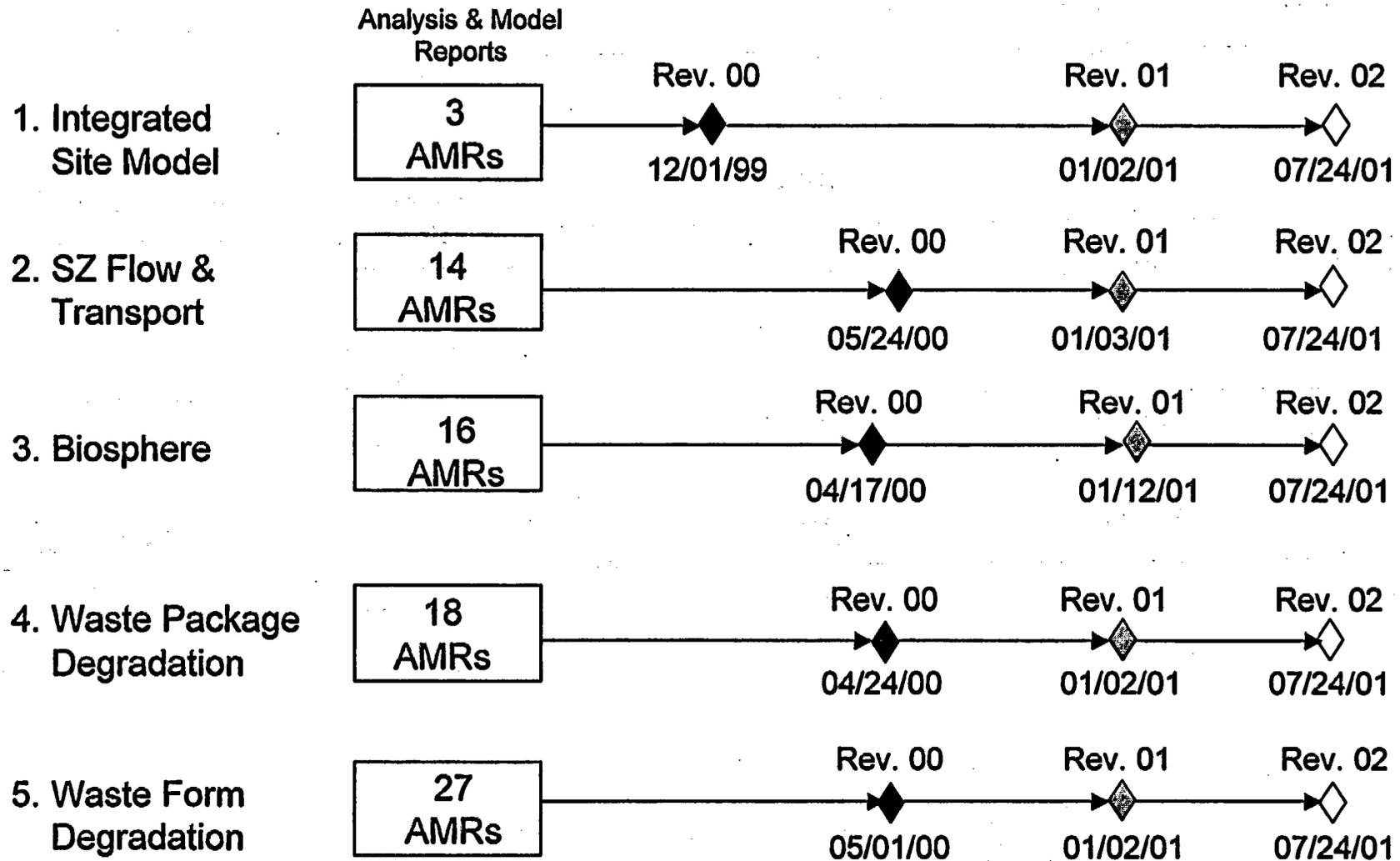


Process Model Report (PMR)/Analysis & Modeling Report (AMR) Status

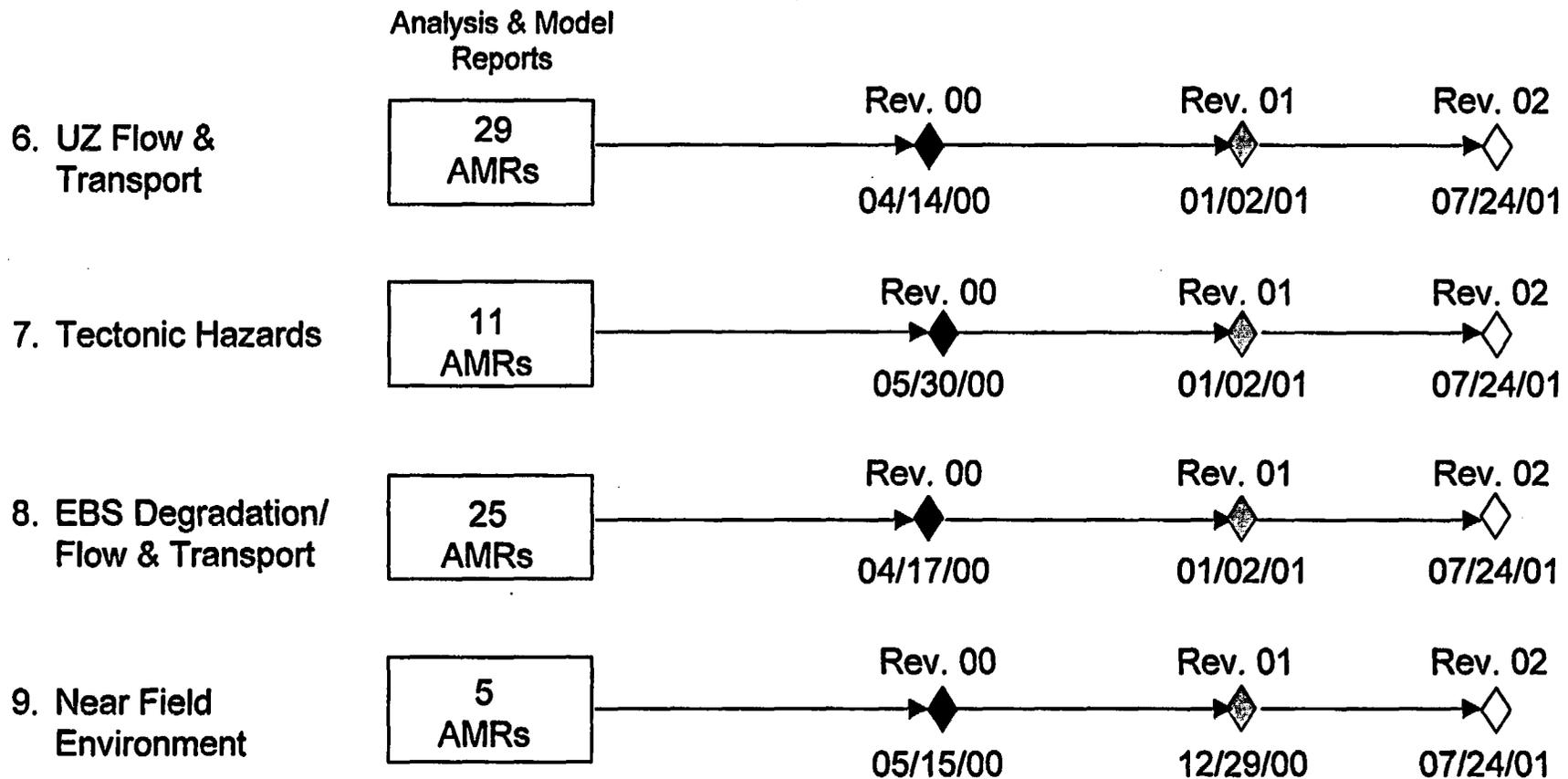
- 9 PMRs, supported by 148 AMRs
 - 1368* DTN inputs to AMRs identified as of 8/6/99
 - 42 *qualified* (40 by verification, 2 by qualification)
 - 821 qualified/TBV - require verification
 - 505 unqualified
 - 78 accepted data items
 - Remainder are developed data, DTNs in process, or assumptions
 - 325 models
 - 51 software codes

* Number subject to change as AMRs progress

Process Model Reports Schedule (DOE Acceptance Dates)



Process Model Reports Schedule (DOE Acceptance Dates) (Continued)



PMR Quality Goals

Action	PMR Rev. 0	PMR Rev. 1	PMR Rev. 2
Verification (qualification status verified) of data inputs to PMRs and AMRs	50%	90%	Completed based on repository safety strategy
Qualified data	40%	80%	Completed based on repository safety strategy
Qualified software codes	40%	80%	Completed based on repository safety strategy
Validated models	40%	80%	Completed based on repository safety strategy

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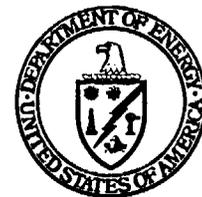
Office of Quality Assurance (OQA)

- Verification of Corrective Actions
- Trending Program

Presented to:
NRC/DOE Management/Quality Assurance
Meeting

Presented by:
Bob Clark
Acting Director, Office of Quality Assurance

August 11, 1999



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

OQA CAR Management Plan Verification

- Results of OQA Phase 1 verification, report dated April 27, 1999
 - CAR actions need to reflect SR/LA priority
 - Management of the integration of CARs needed improvement
 - Communication between the M&O and National Laboratories and the USGS needed improvement
 - Direction to complete CAR actions from the M&O needed improvement (several interim actions not complete)
 - The OQA CAR Verification Team reported that completion dates did not appear to be achievable based on verification observations

OQA CAR Management Plan Verification

(Continued)

- **M&O actions taken based on the OQA Phase 1 verification**
 - The CAR Management Plan was revised (Revision 3) to direct corrective actions consistent with project plans/schedules for SR/LA
 - A CAR Coordinator was assigned at each National Laboratory and the USGS
 - The M&O sent a team with the CAR Management Plan expertise to each National Laboratory and the USGS to improve communication
 - The M&O provided updated clarification and direction
 - Additional resources were added to the USGS

OQA CAR Management Plan Verification

(Continued)

- Results of OQA Phase 2 verification, report dated August 6, 1999
 - M&O satisfactorily addressed the concerns and recommendations identified during the Phase 1 verification
 - Considerable progress has been made toward the completion of the committed interim corrective actions
 - Communications, direction, and coordination have been improved
 - Process to evaluate DTNs related to the AMRs/PMRs is an improvement

OQA CAR Management Plan Verification

(Continued)

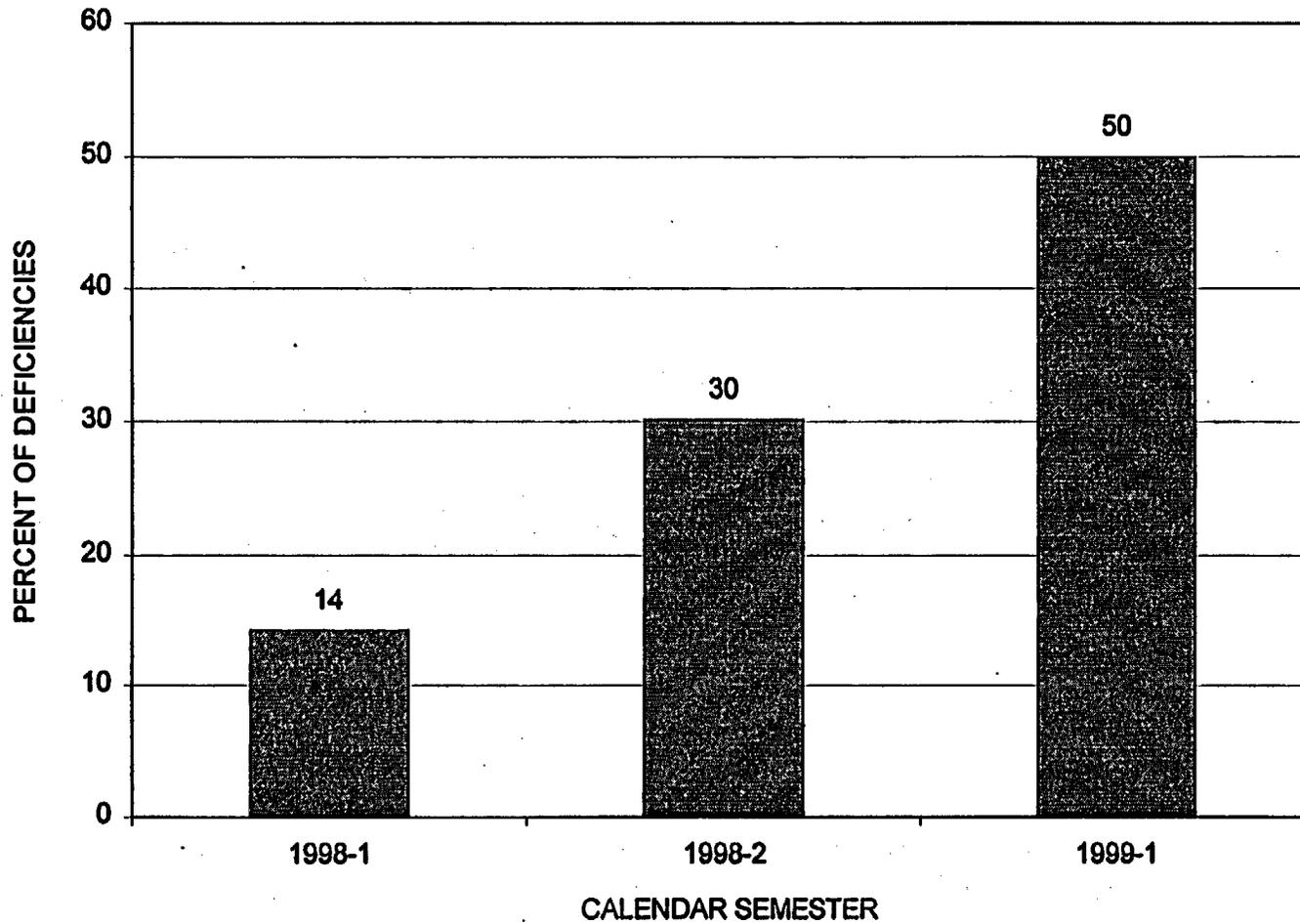
- Results of OQA Phase 2 verification, report dated August 6, 1999 (Continued)
 - Progress on CAR 002 is improving, however, given the increase in the number of data sets identified supporting SR/LA, we recommend that the M&O revise the response consistent with the new approach.
 - Progress on CAR 005 is on schedule
 - Progress on CAR 006 is on schedule
 - Progress on CAR 010 appears to be ahead of schedule

Trending Program

Current Trend Information

- Percent of deficiencies being identified by the line organizations is increasing

PERCENTAGE OF NON-OQA REPORTED DEFICIENCIES



Trending Program

Current Trend Information

(Continued)

- **Current Emerging Issues**
 - Control of tracers, fluids, and materials
 - Work control of field activities

Trending Program

Current Trend Information

(Continued)

- **Status of CAR-LVMO-99-C-003 (Training)**
 - Corrective Action completion due date
7/31/99
 - Remaining actions
 - M&O compiling training attendance sheets to
verify completion of training