

MINUTES FROM DOE/NRC  
JOINT QUALITY ASSURANCE MEETING  
SEPTEMBER 7, 1989

On September 7, 1989, staff of the U.S. Nuclear Regulatory Commission (NRC), and representatives from the U.S. Department of Energy (DOE), and the State of Nevada met at NRC headquarters in Rockville, Maryland to discuss items of mutual interest on quality assurance (QA). No representatives of affected units of local government were present. A list of attendees is shown as Attachment 1.

To open the meeting, DOE presented an update to its audit schedule. This is included as Attachment 2. Overall, the NRC staff found the schedule acceptable with the exception of the qualification date listed for the United States Geologic Survey (USGS) QA program. NRC questioned the qualification date listed for the USGS QA program for the reasons mentioned below in the discussion of the recent DOE qualification audit of USGS which was observed by NRC and the State of Nevada. DOE responded that the date was a tentative date and would probably be rescheduled based on the results of the USGS audit.

The second topic discussed was the recent DOE qualification audit of the USGS which took place August 14 through 23, 1989. During its presentation, DOE discussed the four Standard Deficiency Reports (SDR's) written on the USGS program and the one SDR written on the Yucca Mountain Project Office (Project Office) program. The deficiencies reported on the USGS program were in the areas of calibration, calibration records (two), and documentation of comment resolution. The Project Office deficiency was in the area of not permitting the USGS to submit QA records to the Central Records Facility in Las Vegas. Based on its audit, DOE concluded that the USGS had an acceptable QA program in place to control quality level 1 and 2 activities. Attachment 3 accompanied DOE's discussion.

The NRC staff commented on their observations of the DOE audit of USGS. The staff noted several positive aspects including the quality of the programmatic checklists and programmatic auditors. The staff found that the USGS software configuration management, current seismicity monitoring, and calcite and opaline silica vein deposit study programs were well run by competent principal investigators (although it should be noted that comments regarding the qualification of investigators cannot be made without reservation due to the Privacy Act issue which is discussed below). However, the staff believes that the scope of the audit was not sufficient to allow NRC to make a determination of the acceptability of the USGS program. Particular concerns were expressed about auditing study plans which had been prepared under a previous version of the QA program, and about the choice of technical areas in which little work had actually been accomplished. It was noted that this observation about the scope of the audit was made early in the audit. However, the DOE auditors felt that the scope of the audit was adequate and therefore no action was taken to

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alter the scope. Because little of the technical work audited was developed under the present QA program, the staff concluded that the audit could not demonstrate that the QA plan could be acceptably implemented. The staff also expressed concern about the need for better coordination between the technical and QA aspects of the audit, with particular regard to technical procedures and checklists. As a result of observing the audit, the NRC staff recommends increased surveillance of all aspects of the USGS program, further audits of USGS by DOE, and consideration of the need for a possible independent audit by NRC. NRC considers this to have been a marginally effective audit and does not believe that it can issue an acceptance letter for the USGS program based on the information it has obtained to date. However, the staff agrees with DOE's preliminary conclusion that work can proceed at USGS. Attachment 4 was used by NRC to highlight its discussions.

The State of Nevada raised two issues with regard to the USGS audit. First there was a concern about an apparent inconsistency between the definitions of indoctrination and training used during the audit with the generally accepted DOE definitions. DOE provided its current definitions and assured the State of Nevada that these were the only acceptable definitions to be used in the program. The State of Nevada also raised a concern about the use of verbal communication and other communication outside the boundaries of the approved QA programs of DOE program participants. These types of communication have resulted in direction being given to program participants which is contrary to procedures that the participants should be following. The example given dealt with Project Office direction to participants not to carry out management assessments called for in their QA programs. DOE agreed that this was a problem and stated that plans were being made to allow for modifications to programs via documented Project Office QA interpretations of the project QA plan. It was agreed by the meeting participants that the issue of the effect of such communications on QA plan implementation shall require further consideration by all parties.

Following the discussions of the USGS Audit, DOE provided a number of summary or status presentations. The first was a summary of recent surveillances which the Project Office had conducted. During the last three months the Project Office has attempted to complete its surveillances of program participants. There has also been an attempt to begin a program of internal Project Office surveillances to determine its own QA program's status. Internal surveillances were performed on the following areas (results are listed in the right hand column):

Radiological Monitoring/ Environmental Air Quality	While not an area of concern with regard to site characterization, this area was found to be deficient.
Instructions, Procedures, Drawings	Marginal
Records Management	Deficient

Sample Management Facility	Good
Exploratory Shaft Facility Design Control	Acceptable

The staff requested that DOE provide a list of upcoming surveillances. DOE noted that a formal list of surveillances for next year has not yet been developed. Both the State of Nevada and NRC noted that DOE had not previously provided adequate notification of surveillances and commented on the need for earlier notification of future surveillances.

Next, DOE discussed the status of waste glass producing facility QA programs, including OGR/B-14, which is the requirements document for the waste glass producers. DOE feels that the Defense Waste Processing Facility QA plan is generally good and that the West Valley Demonstration Project Plan is improving. NRC questioned how these programs were to be qualified--whether the same process used in the qualification of the Office of Civilian Radioactive Waste Management (OCRWM), Project Office, and contractor programs would be used. DOE stated that it will be providing scheduled milestones for the qualification of glass producers' programs which shall be comparable to those developed for the repository program. A copy of this presentation is included in Attachment 2.

After the summary of the glass producers' programs, DOE provided an update on the Privacy Act Issue. DOE stated that it is attempting to resolve the problem of how to legally provide auditors with access to files on personnel qualification of federal employees involved in the repository program. Two tracks are currently being followed. An attempt at a short term solution which involves a separate qualifications folder within the personnel record is being pursued through DOE's general counsel staff. At the same time a regulation change through the Federal Register process is also being prepared as a permanent solution. The latter may take as much as six months due to statutory comment periods.

The fourth DOE status presentation was on the "Status of Procedures for Qualifying Existing Data." DOE stated that the Project Office Administrative Procedure (AP) 5.9Q had been developed for qualifying existing data. This procedure interprets NUREG 1298, "Qualification of Existing Data for High-Level Nuclear Waste Repositories," which is the NRC staff's technical position on qualifying existing data. DOE also noted that another policy was currently in development for the qualification of data for the Exploratory Shaft Facility (ESF) Title II design work. This policy will address the question of qualification of data to be used for ESF Title II design. It was noted that AP 5.9Q will apply to all program participants. DOE agreed to send the staff a copy of AP 5.9Q. The staff noted that there is a Site Characterization Analysis (SCA) comment related to this topic which must be resolved. It was also noted by the staff that DOE still needs to demonstrate acceptable implementation of NUREG 1298. Attachment 5 was used by DOE in its presentation on the status of revised procedures on NUREG-1318, "Technical Position on Items

and Activities in the High-Level Waste Geologic Repository Project Subject to Quality Assurance Requirements," which is the staff's technical position for identifying items and activities important to safety or waste isolation. DOE described how several existing related procedures are being revised and combined. AP 6.8Q, AP 6.9Q, AP 6.10Q, and AP 6.11Q, which deal with identification of items and activities, will be combined into AP 6.17Q, "Determination of the Importance of Items and Activities." AP 5.4Q and AP 5.17Q, which deal with the assignment of QA Levels and application of graded QA, will be combined into AP 5.28Q, "Assignment of QA Levels, QA Criteria and Grading." A simplified flow chart describing the process for the assignment of quality levels was presented. DOE explained that consideration was being given to directly determining quality controls for specific items and activities rather than assigning quality levels 1, 2, and 3 as they currently exist and stated that more information will be provided on this at subsequent meetings.

In its sixth summary, DOE reported on the "Status of QA Program for Borehole Testing/Prototype Activities" (Attachment 6). The discussion was concerned with the strategy for application of QA to these types of activities. The strategy has four steps: identify the activity; determine its importance and the importance of the task product; determine the QA management controls required to achieve the desired quality based on the activity's importance; determine the QA management controls required to demonstrate/verify the desired quality. The salient point was the need for appropriate QA controls commensurate with the importance of an activity to the program's mission objectives (including licensing objectives).

DOE's final presentation was on the "Status of Title II Quality Assurance Design Controls" (Attachment 7). The discussion included a review of hold points that have been established in the ESF Title II design process and the fact that the next hold point to be reached covers, among other things, the incorporation of the NUREG 1318 procedures into design documents. The status of the review and approval of design documentation was also presented by DOE. Surveillances of the design control process at several contractors was discussed. While aspects of design control were included in the April 1989 surveillance at Sandia National Laboratory (SNL), it was noted that the September 11 - 15, 1989 audit of SNL will also include a review of SNL's design control process.

The final topic discussed at the meeting was the staff's presentation on its review of QA open items (Attachment 8). The NRC staff clarified that Open Item number 24 referred only to the QA concerns contained in the SCA. DOE did not provide an immediate response to the NRC status report and indicated that it

would have to do a detailed review of the staff's presentation and respond later. The staff noted that discussions earlier in the meeting seemed to provide the information needed to close out some of the items.

The State of Nevada presented no additional items of interest.

It was agreed by the meeting participants that the next meeting would be scheduled for November 8, 1989 at NRC Headquarters. Possible agenda items discussed included:

- Report on the audits performed since the previous meeting (DOE/NRC/NV)
- A review/summary of the status of the DOE QA program after the completion of all audits (DOE)
- Overview of the DOE Audits from the State of Nevada's perspective (NV)
- Presentation of the USGS Computer Software Control Report (originally scheduled for 9/7/89) (DOE)
- Update on the Status of Revised Procedures on NUREG 1318 (DOE)
- Discussion of Criteria for Technical Aspects of Audits (DOE)
- Report on National Academy of Science QA Colloquium (DOE/NRC)
- Update on QA Open Items (NRC)

The State of Nevada did not submit a written statement for inclusion in these minutes.

  
Mark S. Delligatti  
Repository Licensing and Quality  
Assurance Project Directorate  
U.S. Nuclear Regulatory Commission

  
Steven H. Rossi  
Licensing Branch  
Office of Civilian Radioactive Waste  
Management  
U.S. Department of Energy

## Attachment 1

ATTENDANCE AT THE BI-MONTHLY QA MEETING  
SEPTEMBER 7, 1989

<u>NAME</u>	<u>ORGANIZATION</u>	<u>PHONE</u>
Joe Holonich	NRC/HLWM	FTS 492-3403
Mark Delligatti	NRC/HLWM	" 492-0430
Nancy Voltura	U. S. DOE	" 544-7972
Ed Wilmot	U. S. DOE	" 544-7137
Susan Zimmerman	State of Nevada	702-885-3744
Jim Kennedy	NRC/HLWM	301-492-3402
Charlotte Abrams	NRC/HLWM	301-492-0512
Keith McConnell	NRC/HLWM	301-492-0532
Neil Coleman	NRC/NMSS	301-492-0530
John Jardine	SAIC	FTS 544-7749
Rick Bahorich	TMSS/Westinghouse	" 544-7747
Stephen Metta	NMSS/SAIC	" 577-7745
Gary Faust	Weston/VE&C	202-646-6729
Mike Lugo	Weston/Jacobs	202-646-6756
Tom Colandrea	EEl/UWaste	619-437-7510
Sharon Skuchko	U. S. DOE OCRWM	202-586-8869
Bill Lemeshewsky	DOE	202-586-5969
Raymond H. Wallace, Jr.	USGS/HQ.-DOE/HQ	202-586-1244
Gene Roseboom	USGS Dir. Office	703-648-4423
J. R. Willmon	USGS - QA MGR.	FTS 776-1418
Dale Hedges	SAIC	FTS 544-7742
Pat Laplante	CNWRA	703-979-9129
Bill Belke	NRC	FTS 492-0445
Teek Verma	NRC	" 402-3465
Andrea R. Jennetta	TMSS/Westinghouse	" 544-7895
J. R. Caldwell	TMSS/Westinghouse	" 794-7559
Ken Hooks	NRC	301-492-0447
Dwight Shelor	DOE/RW-3	202-586-1238
Steve Rossi	DOE/HQ	202-586-9433
Ram Murthy	DOE/YMP	702-794-7968
Mario Diaz	DOE/YMP	702-794-7974
Jim Conway	NRC/HQ	301-492-0453
Joe Youngblood	NRC/DHLWM	301-492-3410
Bill Villanueva	DOE/HQ	202-587-2878
Chris Henkel	EEl/UWaste	202-778-6693

# STATUS OF DOE QA PROGRAM IMPLEMENTATION

QA PROGRAM PLAN					QUALIFIED QA PROGRAM		
ORGANIZATION	DOE SUBMITS	NRC COMMENTS	DOE REVISES	NRC ACCEPTS	QUALIFICATION AUDITS	DOE ACCEPTS <sup>4</sup>	NRC ACCEPTS
OCRWM <sup>1</sup> <sub>2</sub>	AUG. 26, 1988 SEP. 16, 1988	SEP. 28, 1988 NOV. 3, 1988	NOV. 29, 1988 DEC. 21, 1988	MAY 8, 1989 MAY 2, 1989	DEC. 1989 (TENTATIVE)	JAN. 1989	NO
YMP	AUG. 15, 1988	OCT. 14, 1988	DEC. 13, 1988	DEC. 30, 1988	NA	NA	NA
YMPO	OCT. 1989	NO	NO <sup>3</sup>	NO	DEC. 1989 (TENTATIVE)	JAN. 1989	NO
F&S	FEB. 21, 1989	MAR. 22, 1989	AUG. 11, 1989	NO	APR 10-14, '89 COMPLETE	SEP. 29, 1989	NO
H&N	MAR. 3, 1989	APR. 26, 1989	AUG. 11, 1989	NO	APR 24-26, '89 COMPLETE	SEP. 29, 1989	NO
SNL	APR. 14, 1989	JUN. 26, 1989	SEP. 7, 1989	NO	SEP. 11, 1989	OCT. 23, 1989	NO
USGS	APR. 14, 1989	JUN. 20, 1989	SEP. 7, 1989	NO	AUG. 14, 1989 COMPLETE	OCT. 13, 1989	NO
REEC <sub>o</sub>	FEB. 21, 1989	MAY 5, 1989	AUG. 11, 1989	NO	SEP. 25, 1989	NOV. 6, 1989	NO
LLNL	MAR. 3, 1989	JUN. 19, 1989	SEP. 7, 1989	NO	JUN 5-9, 1989 COMPLETE	SEP. 29, 1989	NO
LANL	MAR. 15, 1989	JUL. 19, 1989	SEP. 29, 1989	NO	OCT. 16, 1989	NOV. 27, 1989	NO

- 1) OARD                      2) QAPD                      3) 4 WEEKS AFTER RECEIPT OF NRC COMMENTS  
4) BASED ON RECEIPT OF NRC OBSERVATIONS WITHIN 30 DAYS AFTER AUDIT

## **QUALITY ASSURANCE REQUIREMENTS FOR HIGH-LEVEL WASTE FORM PRODUCTION**

**RW HAS ELECTED TO REVISE THE PRESENT VERSION (REV. 1) OF THE QUALITY ASSURANCE REQUIREMENTS (QAR) DOCUMENT TO INCORPORATE QA REQUIREMENTS FOR WASTE FORM PRODUCTION RATHER THAN TO ISSUE A REVISION TO THE OGR/B-14 DOCUMENT.**

**UPON ISSUANCE OF THE REVISED QAR DOCUMENT, THE EXISTING OGR/B-14 DOCUMENT WILL BE SUPERSEDED.**

**THE COMMENTS RECEIVED FROM NRC ON THE OGR/B-14 DOCUMENT WILL BE ADDRESSED IN THIS REVISION OF THE QAR DOCUMENT, RW WILL PROVIDE TO THE NRC:**

- 1. A MATRIX WHICH CORRELATES THE REQUIREMENTS FOUND IN THE QAR DOCUMENT WITH THE NRC REVIEW PLAN, REV. 2.**
- 2. A MATRIX WHICH CORRELATES THE REQUIREMENTS FOUND IN THE QAR DOCUMENT WITH THE OGR/B-14 DOCUMENT.**

## **SCHEDULE FOR REVISION OF QAR**

- AUGUST 24      CIRCULATE PRELIMINARY DRAFT QAR, REV. 2 FOR  
REVIEW AND COMMENT.**
- SEPTEMBER 12   CIRCULATE FORMAL REVIEW DRAFT QAR, REV. 2**
- OCTOBER 6      RESOLVE COMMENTS ON REVIEW DRAFT QAR, REV. 2.**
- OCTOBER 18     SUBMIT DRAFT QAR, REV. 2 FOR CONCURRENCE.**
- NOVEMBER 1     SUBMIT APPROVED QAR, REV. 2 TO NRC FOR  
ACCEPTANCE.**

# REVISED STRUCTURE OF QUALITY ASSURANCE REQUIREMENTS DOCUMENT

IN ADDITION TO INCORPORATING QA REQUIREMENTS FOR WASTE FORM PRODUCERS INTO THE QAR DOCUMENT, RW INTENDS TO RESTRUCTURE THE DOCUMENT. THE REVISED DOCUMENT STRUCTURE IS AS FOLLOWS:

FOREWORD

LIST OF ACRONYMS AND ABBREVIATIONS

INTRODUCTION

SECTION	1	
"	2	THESE SECTIONS WILL SET FORTH
"	3	NQA-1 REQUIREMENTS APPLICABLE TO ALL
"	.	ASPECTS OF THE RW PROGRAM, INCLUDING
"	.	ALL PROGRAM PARTICIPANTS.
"	18	

## **QUALITY ASSURANCE PROGRAM DOCUMENTS LISTING**

- APPENDIX A      AMPLIFICATION OF QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR THE MINED GEOLOGICAL DISPOSAL SYSTEM (MGDS)**
- APPENDIX A1     RATIONALE ON THE APPLICABILITY OF NRC REQUIREMENTS TO SCIENTIFIC INVESTIGATIONS**
- APPENDIX B      AMPLIFICATIONS OF THE OCRWM QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR HIGH-LEVEL WASTE FORM PROGRAM PARTICIPANTS**
- APPENDIX ?      AMPLIFICATION OF QUALITY ASSURANCE PROGRAM (FUTURE) REQUIREMENTS FOR THE TRANSPORTATION SYSTEM**
- APPENDIX ?      AMPLIFICATION OF QUALITY ASSURANCE PROGRAM (FUTURE) REQUIREMENTS FOR THE MONITORED RETRIEVABLE STORAGE FACILITY**

## **STATUS OF WASTE FORM PRODUCER QA PROGRAMS**

**QUALITY ASSURANCE PROGRAM DESCRIPTIONS (QAPD'S) FOR BOTH THE DEFENSE WASTE PROCESSING FACILITY (DWPF) WASTE FORM PRODUCER ORGANIZATION AND THE WEST VALLEY DEMONSTRATION PROJECT (WVDP) WASTE FORM PRODUCER ORGANIZATION ARE CURRENTLY UNDERGOING REVIEW BY RW.**

**THE REVIEW CRITERIA THAT IS BEING APPLIED TO THESE REVIEWS IS THE PRESENT VERSION OF THE QAR DOCUMENT (REV. 1) AND THE NRC REVIEW PLAN, REV. 2.**

U.S. DEPARTMENT OF ENERGY

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# YUCCA MOUNTAIN PROJECT

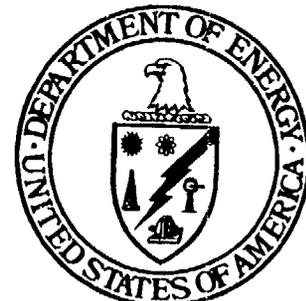
## YMP AUDIT 89-4 (USGS)

*Presented To*

**US NRC BIMONTHLY MEETING**

**SEPTEMBER 7, 1989**

UNITED STATES DEPARTMENT OF ENERGY  
NEVADA OPERATIONS OFFICE/YUCCA MOUNTAIN PROJECT OFFICE



# SUMMARY - YMP AUDIT 89-4 (USGS)

## STANDARD DEFICIENCY REPORTS ISSUED

<u>ISSUED TO</u>	<u>QUALITY ASSURANCE CRITERIA</u>			<u>TOTAL ISSUED</u>
USGS	$\frac{3}{1}$	$\frac{12}{2}$	$\frac{17}{1}$	4
YMP			1	$\frac{1}{5}$

## OBSERVATIONS ISSUED

<u>ISSUED TO</u>	<u>QUALITY ASSURANCE CRITERIA</u>						<u>TOTAL ISSUED</u>
USGS	$\frac{1}{1}$	$\frac{2}{1}$	$\frac{3}{1}$	$\frac{12}{1}$	$\frac{16}{1}$	$\frac{17}{1}$	6
YMP		3					$\frac{3}{9}$

# **SYNOPSIS OF SDR's ISSUED**

## **AUDIT 89-4**

**SDR #414 ... CONTRARY TO THE REQUIREMENTS OF AP 1.7Q, USGS HAS NOT BEEN PERMITTED TO SUBMIT QA RECORDS TO THE CENTRAL RECORDS FACILITY (LAS VEGAS) PER WRITTEN DIRECTION FROM THE PROJECT OFFICE**

**SDR #415 ... CONTRARY TO THE REQUIREMENTS OF USGS QMP 12.01 REVISION 3, 7 DIFFERENT INSTRUMENTS WERE FOUND TO BE OUT OF CALIBRATION AND NO NCRs HAD BEEN WRITTEN IDENTIFYING THIS CONDITION**

**SDR #416 ... THERE WAS NO OBJECTIVE EVIDENCE THAT CALIBRATION QA FORMS HAD BEEN CHECKED BEFORE BEING PROCESSED AND RETAINED AS QA RECORDS AS REQUIRED BY USGS - QMP 17.04, REVISION 3**

# **SYNOPSIS OF SDR's ISSUED**

## **AUDIT 89-4**

**(CONTINUED)**

**SDR #417**

**... THE DOCUMENTATION OF TECHNICAL REVIEWS PERFORMED FOR THE STUDY PLANS REVIEWED DURING THE AUDIT DID NOT PROVIDE EVIDENCE OF RESOLUTION OF REVIEWERS COMMENTS NOR REVIEWER ACKNOWLEDGEMENT OF COMMENT RESOLUTION**

**SDR #418**

**NUMEROUS QA CALIBRATION FORMS WERE FOUND IN THE USGS LOCAL RECORDS CENTER THAT DID NOT COMPLY WITH THE REQUIREMENTS OF USGS - QMP 17.01, REVISION 3. EXAMPLES INCLUDE;**

- CORRECTIONS MADE WITHOUT REQUIRED DATE AND IDENTIFICATION OF PERSON(S) MAKING SAME**
- NO INDICATION OF WHEN RECORD WAS RECEIVED BY QA, THEREFORE MAKING IT IMPOSSIBLE TO DETERMINE IF RECORD WAS TRANSMITTED PRIOR TO EQUIPMENT USE**
- SERIAL NUMBER, CALIBRATION DATE, AND EXPIRATION DATE ARE MISSING FROM RECORD**

NRC OBSERVATIONS

DOE AUDIT OF USGS (AUGUST 14-23, 1989)

James T. Conway  
September 7, 1989

OVERALL ASSESSMENT

- ° USGS QA PROGRAM
- ° DOE AUDIT
- ° QUALITY AFFECTING ACTIVITIES

POSITIVE AREAS

- 0 PROGRAMMATIC CHECKLISTS
- 0 PROGRAMMATIC AUDITORS
- 0 ACTIVITIES
  - 0 SOFTWARE CONFIGURATION MANAGEMENT
  - 0 MONITOR CURRENT SEISMICITY
  - 0 STUDIES OF CALCITE AND OPALINE  
SILICA VEIN DEPOSITS
- 0 PIs

AREAS WHERE AUDIT COULD HAVE BEEN MORE EFFECTIVE

- o AUDIT SCOPE
  - STUDY PLANS
  - TECHNICAL AREAS
- o PRIVACY ACT
- o CONDUCT OF AUDIT
  - AUDIT FINDINGS
  - DAILY CAUCUSES

AREAS WHERE AUDIT COULD HAVE BEEN MORE EFFECTIVE (CONTINUED)

- o AUDIT OF TECHNICAL AREAS
  - TECHNICAL AND QA INTEGRATION
  - TECHNICAL PROCEDURES
  - CHECKLISTS

RECOMMENDATIONS

- o SURVEILLANCES BY DOE AND USGS
- o AUDITS BY DOE
- o AUDIT BY NRC

# CONSOLIDATION OF "Q-LIST" RELATED PROCEDURES

## EXISTING SITUATION

AP 6.9Q  
"IDENTIFICATION OF ITEMS  
AND ACTIVITIES SUBJECT  
TO THE QUALITY LEVEL  
ASSIGNMENT PROCESS"

AP 6.8Q  
"IDENTIFICATION OF ITEMS  
IMPORTANT TO WASTE  
ISOLATION"

AP 6.10 Q  
"IDENTIFICATION OF ITEMS  
IMPORTANT TO SAFETY"

AP 6.11Q  
"IDENTIFICATION OF  
ACTIVITIES TO BE PLACED  
ON THE QUALITY  
ACTIVITIES LIST"

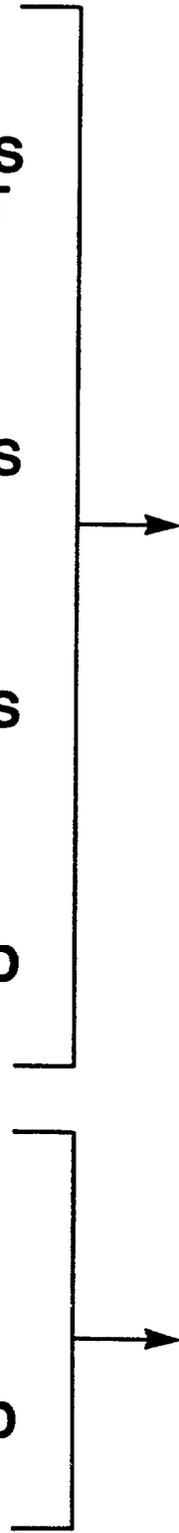
AP 5.4Q  
"ASSIGNMENT OF  
QA LEVELS"

AP 5.17Q  
"APPLICATION OF GRADED  
QUALITY ASSURANCE"

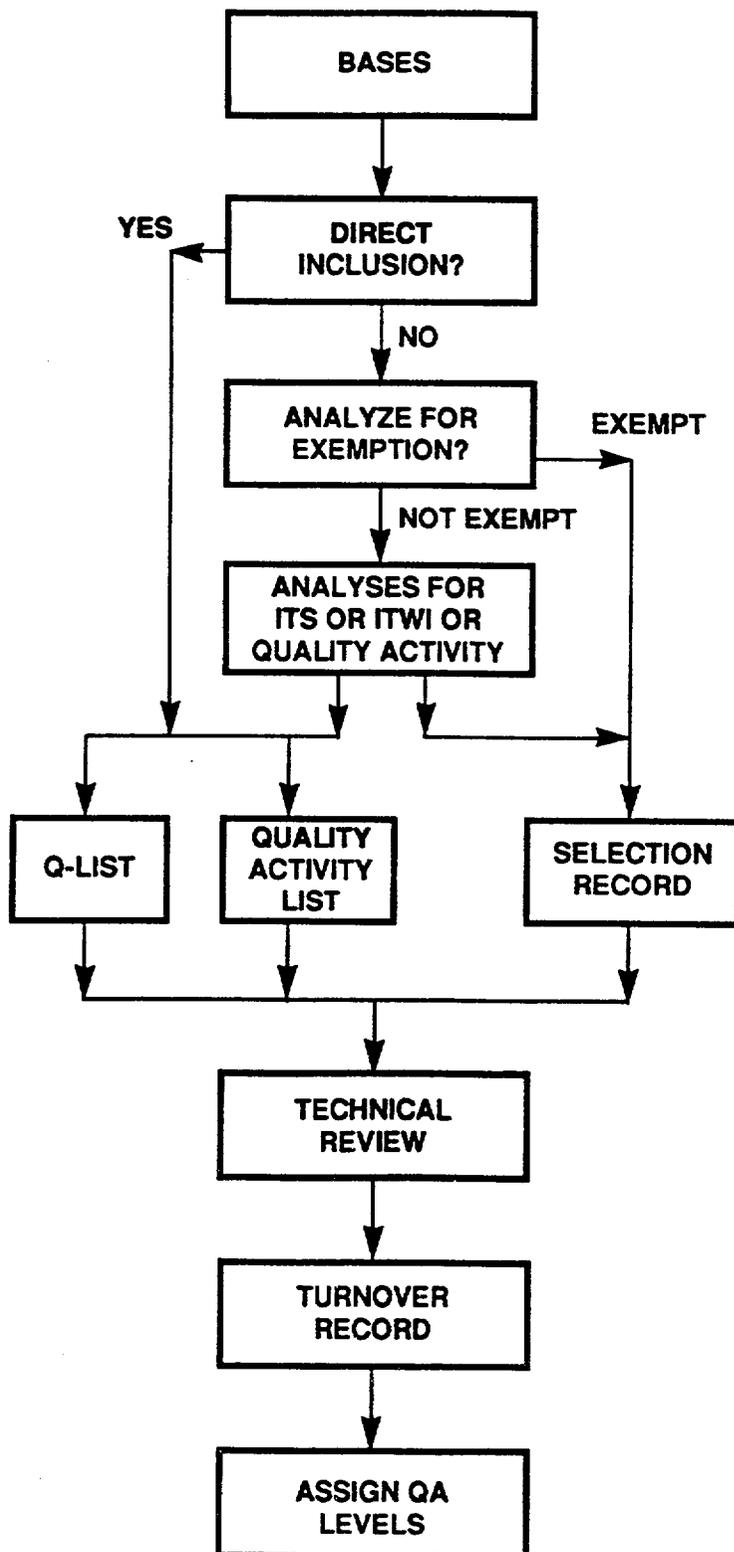
## IN PROCESS

AP 6.17Q  
"DETERMINATION OF THE  
IMPORTANCE OF ITEMS  
& ACTIVITIES"  
(IN YMPO REVIEW)

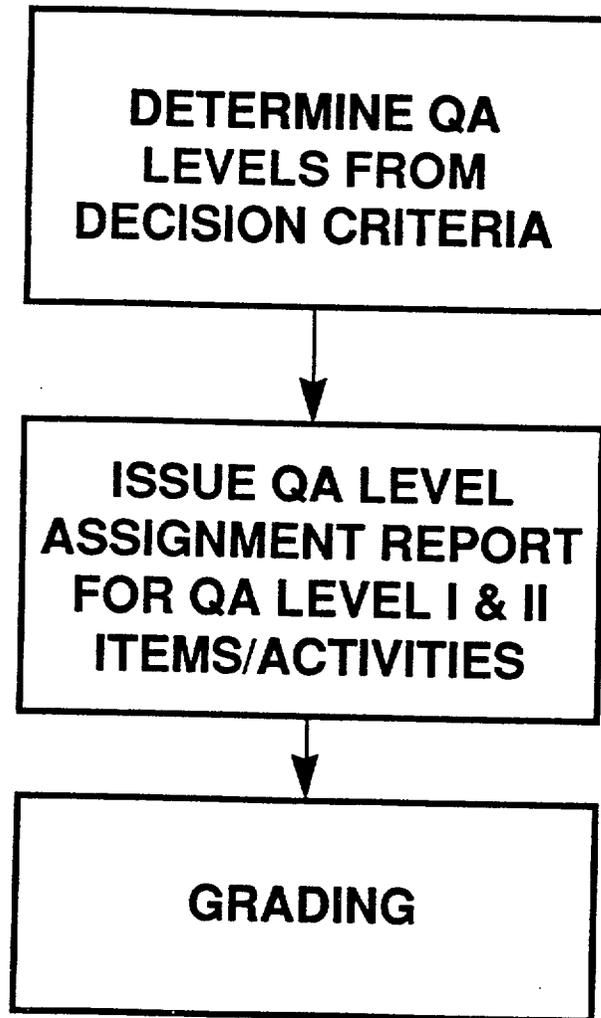
AP 5.28Q  
"ASSIGNMENT OF QA  
LEVELS, QA CRITERIA  
AND GRADING"  
(IN T&MSS REVIEW)



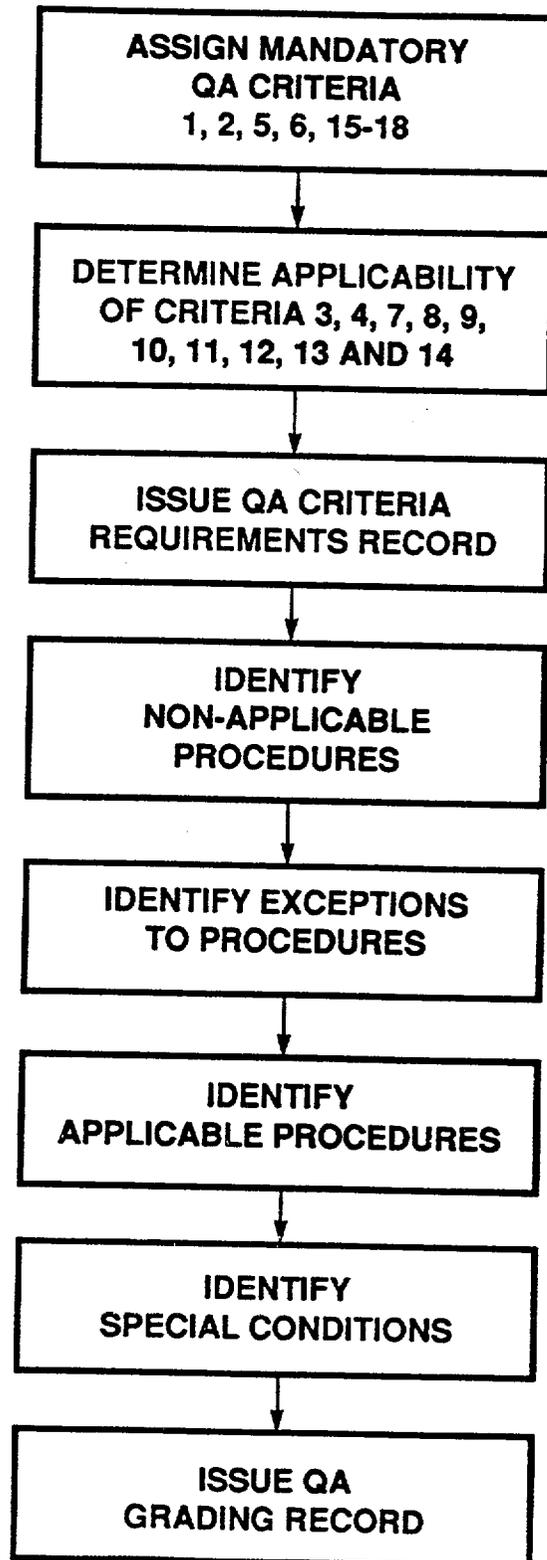
# SIMPLIFIED LOGIC DIAGRAM YMPO APPROACH TO NUREG 1318



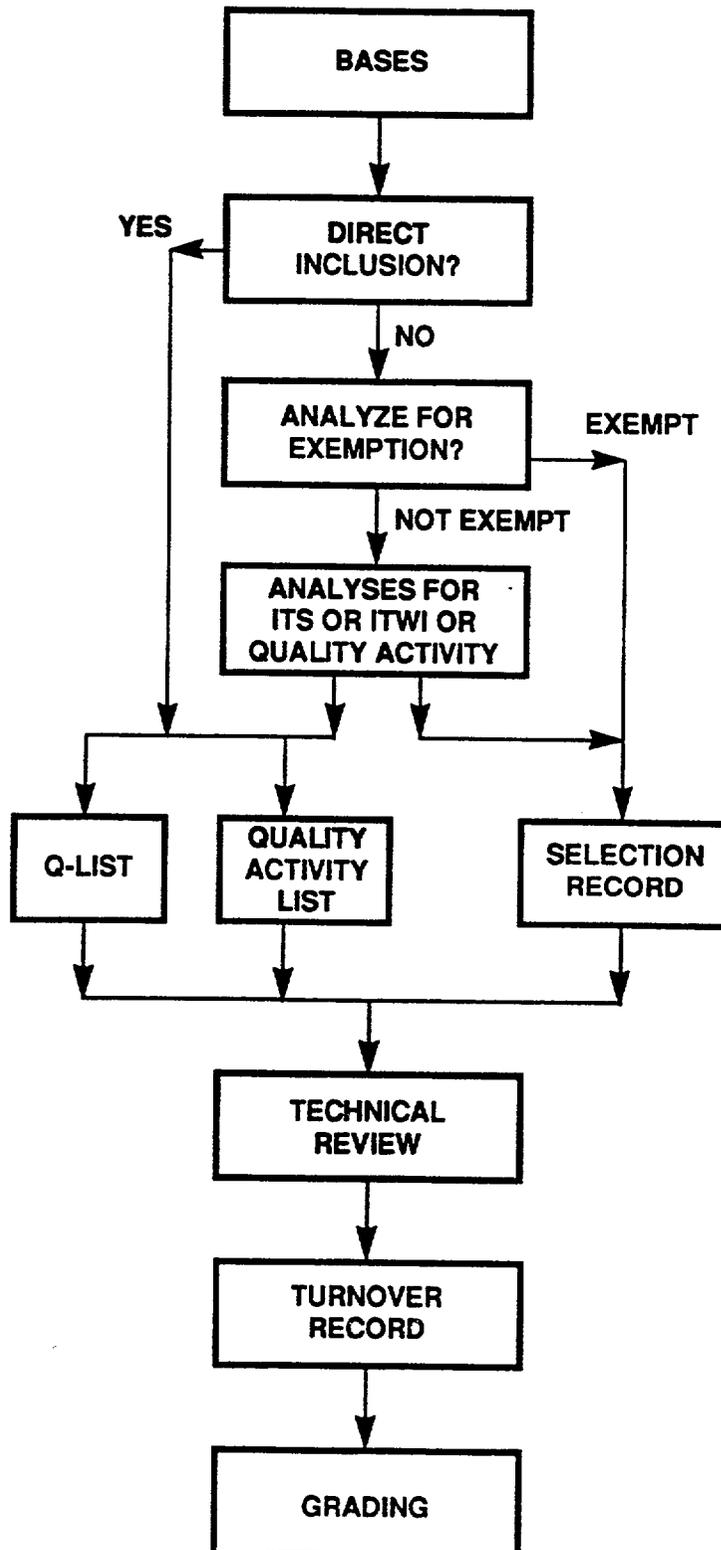
# SIMPLIFIED LOGIC DIAGRAM FOR QA LEVEL ASSIGNMENTS



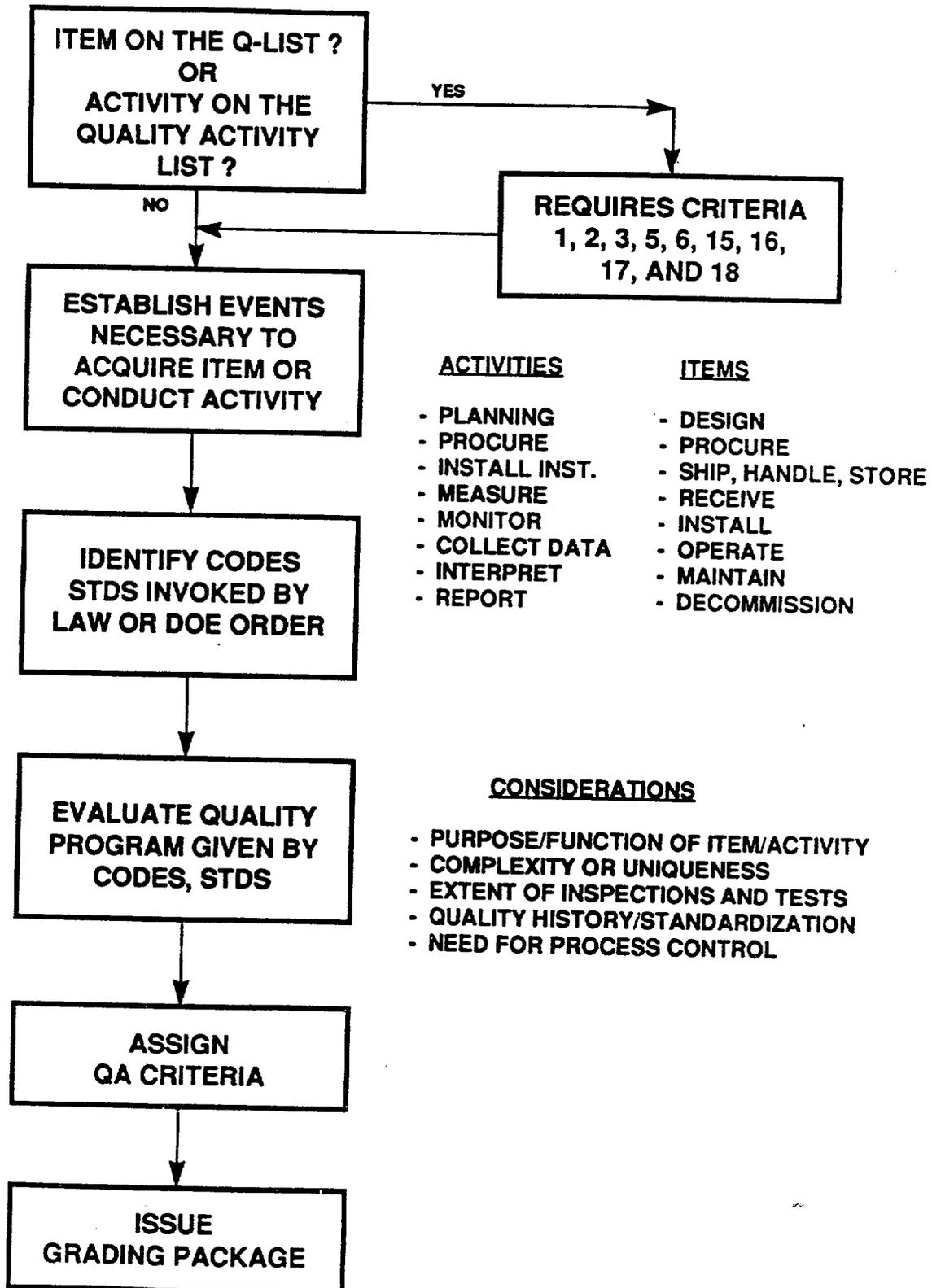
# SIMPLIFIED LOGIC DIAGRAM FOR GRADING PROCESS



# SIMPLIFIED LOGIC DIAGRAM YMPO APPROACH TO NUREG 1318



# SIMPLIFIED LOGIC DIAGRAM YMP GRADING PROCESS



**DOE/NRC MANAGEMENT MEETING**

**STRATEGY FOR APPLICATION OF  
QA TO PROTOTYPE ACTIVITIES**

*PRESENTED BY*

**DOE/PROJECT OFFICE QUALITY ASSURANCE**

**SEPTEMBER 7, 1989**

# STRATEGY FOR APPLICATION OF QA TO PROTOTYPE AND OTHER ACTIVITIES

## OBJECTIVE:

APPLY THE NECESSARY QA MANAGEMENT CONTROLS TO THE EXTENT NECESSARY. THE CONTROLS SHOULD BE CONSISTENT WITH THE ACTIVITIES IMPORTANCE TO THE PROGRAM MISSION OBJECTIVES (THIS INCLUDES LICENSING OBJECTIVES)

## METHOD:

- IDENTIFY THE ACTIVITY
- DETERMINE THE IMPORTANCE OF THE ACTIVITY AND THE OUTPUT OF THE ACTIVITY
- DETERMINE THE QA MANAGEMENT CONTROLS REQUIRED TO ACHIEVE THE DESIRED QUALITY BASED ON IMPORTANCE
- DETERMINE THE QA MANAGEMENT CONTROLS REQUIRED TO DEMONSTRATE/VERIFY THE DESIRED QUALITY BASED ON IMPORTANCE

# EXAMPLE

- **ACTIVITY:**           **PROTOTYPE DRILLING**
- **PHASE ONE:**
  - **OBJECTIVE:**           **CONDUCT PROTOTYPE DRILLING OUTSIDE OF THE PROPOSED REPOSITORY BLOCK FOR THE PURPOSE OF EQUIPMENT DEVELOPMENT**
  
  - **GOALS:**
    - \* **DETERMINATION OF BEST METHOD FOR CORE RECOVERY**
    - \* **ESTABLISH PENETRATION RATES OF EQUIPMENT**
    - \* **DETERMINE BEST BITE CONFIGURATION**
    - \* **OPERATIONABILITY OF DRILL RIG**
  
  - **IMPORTANCE:**
    - \* **NO IMPACT ON NATURAL BARRIERS**
    - \* **NO DATA PROVIDED FOR LICENSING**
    - \* **NEEDED TO SUPPORT MISSION OBJECTIVES**
  
  - **QA CONTROLS**
    - FOR QUALITY ACHIEVEMENT**
      - \* **DEVELOP PLANNING DOCUMENT FOR THE ACTIVITY (TPO AND YMP PM APPROVAL)**
      - \* **SELECT COMPETENT PERSONNEL TO IMPLEMENT (TPO APPROVAL)**
      - \* **UTILIZE CALIBRATED EQUIPMENT (YMP QAP SECTION XII REQUIREMENT APPLY)**
      - \* **DOCUMENTATION OF FIELD RESULTS IN FIELD LOG BOOK**
    - FOR QUALITY DEMONSTRATION/VERIFICATION**
      - \* **FINAL REPORT OF RESULTS AND RECOMMENDATION (AUTHOR. PI, APPROVAL TPO, SUBMITTAL TO YMP PM)**
      - \* **NO VERIFICATION REQUIRED**

# EXAMPLE

(CONTINUED)

## ● PHASE TWO:

- **OBJECTIVE:** DEVELOP A PROCEDURE FOR THE USE OF THE EQUIPMENT FROM PHASE ONE. THIS PHASE WILL BE CONDUCTED IN SIMILIAR OR THE SAME GEOLOGIC FORMATION AS THE PROPOSED REPOSITORY
  
- **GOALS:** VERIFY THE EQUIPMENT WILL PRODUCE THE DESIRED RESULTS, e.g.
  - \* DEMONSTRATE RETRIEVABILITY OF CORE
  - \* VERIFY DESIRED BOREHOLE SURFACES FOR ADDITIONAL TESTING PURPOSES
  - \* VERIFY THAT DRILLING WILL NOT CREATE ADDITIONAL PATHWAYS IN THE GEOLOGIC FORMATIONDEVELOP PROCEDURES INDICATING HOW THE EQUIPMENT IS TO BE USED TO PRODUCE THE ABOVE
  
- **IMPORTANCE:**
  - \* NO DATA PROVIDED TO LICENSING
  - \* SUPPORTS MISSION OBJECTIVE
  - \* PROCEDURES WILL DIRECT DRILLING ACTIVITIES PENETRATING THE NATURAL BARRIERS WITHIN THE PROPOSED REPOSITORY BLOCK
  
- **QA CONTROLS**
  - FOR QUALITY ACHIEVEMENT**
    - \* DEVELOP PLANNING DOCUMENT FOR THE ACTIVITY (TPO, YMP PM/QA APPROVAL)
    - \* TRAINING AND QUALIFICATION OF PERSONNEL (YMP QAP SECTION II)
    - \* UTILIZE CALIBRATED EQUIPMENT (YMP QAP SECTION XII APPLY)
  - FOR QUALITY DEMONSTRATION/VERIFICATION**
    - \* CONTROL OF RECORDS (YMP QAP SECTION XVIII APPLY)
    - \* SURVEILLANCES (YMP QAP SECTION XVIII APPLY)
    - \* PREPARE PROCEDURES (YMP QAP SECTION V AND VI APPLY)

## **TITLE II ESF DESIGN STATUS**

### **o HOLMES & NARVER**

- SITE PREP AND MOBILIZATION**
  - OVERALL PLAN & ARRANGEMENT OF SURFACE FACILITIES**
  - 50% COMPLETE AS OF AUGUST 21, 1989**
  
- MAIN PAD**
  - PLAN & ARRANGEMENT OF ESF PAD**
  - START OF DESIGN SCHEDULED SEPTEMBER 18, 1989**

**o FENIX & SCISSON**

**- ES-1 COLLAR**

- GENERAL ARRANGEMENTS IN PROGRESS**
- DETAILS OF COLLAR BEGINS OCTOBER, 1989**

**o LOS ALAMOS/EG&G**

**- INTEGRATED DATA SYSTEM**

- UPDATING PROCEDURES**
- READINESS REVIEW TARGETED FOR OCTOBER, 1989**
- TITLE II DESIGN TARGETED TO START NOVEMBER, 1989**

**QUALITY LEVEL ASSIGNMENTS RELATIVE TO ESF  
UPPER TIER QALA RECORDS & GRADING ISSUED:**

<u>ITEM/ACTIVITY</u>	<u>QUALITY LEVEL</u>
o ESF DESIGN	I
o ESF SITE	I
o SURFACE UTILITIES	I
o SURFACE FACILITIES	I
o FIRST SHAFT	I
o SECOND SHAFT	I
o UNDERGROUND EXCAVATIONS	I
o UNDERGROUND SUPPORT SYSTEMS	I
o INTEGRATED DATA SYSTEM	I

# STATUS OF TITLE II QA CONTROLS

- **HOLD POINTS**
  - **RELEASED HOLD POINTS RELATED TO START OF TITLE II (AP-5.20Q)**
  - **NEXT HOLD POINT (SDRD, RIB, NUREG 1318 PROCEDURE)**
  
- **REVIEW & APPROVAL OF DESIGN DOCUMENTATION**
  - **A/E'S BASIS FOR DESIGN DOCUMENTS**
  - **A/E'S ENGINEERING PLANS**
  - **SDRD**
  
- **SURVEILLANCES OF DESIGN CONTROL PROCESS**
  - **SNL (APRIL 1989)**
    - \* **QUALITY LISTS & QALA'S**
    - \* **RIB**
    - \* **RECORDS**
    - \* **ESF DESIGN & INTERFACE CONTROL**
  - **(SEPTEMBER 11-15, 1989 AUDIT WILL INCLUDE DESIGN CONTROL)**
  
  - **H&N (AUGUST 22-25, 1989)**
  
  - **FSN (AUGUST 28 THROUGH SEPTEMBER 1, 1989)**

STATUS OF DEPARTMENT OF ENERGY QUALITY ASSURANCE OPEN ITEMS

During the past six years, the DHLWM staff has identified quality assurance (QA) concerns needing resolution between DOE and NRC. In the July 7, 1988 meeting between DOE and NRC, 130 open items from the previous five years were reviewed and discussed. During this meeting, DOE and NRC decided to close or close with commitments all but 11 of these open items. These 11 items are documented in the meeting minutes of July 7 - 8, 1988, meeting between the DOE and NRC. The status of these open items, and the items that were closed with commitments during the July 7 - 8, 1988 meeting, was discussed during the July 11, 1989, meeting between the DOE and NRC. An updated status of each of these is provided in the attached.

STATUS OF DOE QA OPEN ITEMS

ITEM	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
1. QA-C-2 (NRC Item 3)	CDSCP comments on QA	Closed	DOE Letter from S. Rousso to H. Thompson Jr. dated December 28, 1989. Superseded by NRC staff comments on SCP, dated July 31, 1989. DOE to respond before NRC staff can accept DOE QA program site characterization activities at Yucca Mountain.
2. (i) QA-F-1 (ii) QA-F-2 (iii) QA-F-3	DOE Defense Waste QA Program	Open	DOE to respond to NRC comments on OGR/B-14, dated February 7, 1989, and to send to NRC plans and schedules for qualification of Defense Waste QA Program. DOE also to develop draft position on OCRWM/NRC overview/verification activities.
3. QA-G-1; a and d	Response to NRC Observation of DOE QA audits	Open	DOE is to respond within 30 days after the NRC Observation Audit Report transmittal. These DOE responses are to be reviewed and considered by NRC staff in accepting DOE QA Program. DOE is to respond for the observation reports from the Yucca Mountain Project Office audits 89-01 (Fenix & Scisson, issued May 18, 1989), 89-02 (Holmes & Narver, issued July 31, 1989) and 89-04 (LLL, issued August 1, 1989).
4. QA-B-2, 3, 4, 5 and 6 (NRC Item 8)	OCRWM QA Program Plans	Closed	NRC staff reviewed and accepted DOE-OCRWM QA Program Plans. NRC forwarded the safety evaluation to DOE in a letter from J. Linehan to R. Stein dated May 2, 1989.

STATUS OF DOE QA OPEN ITEMS

	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
Items 9 and	ESF Q-List and QA Measures	Open	DOE should meet with NRC to discuss and resolve concerns related to Q-List for the ESF and ESF conceptual design.
Item 7	NNWSI Core Handling Procedures	Open	DOE is to send their Core Handling Procedures to the NRC staff.
i-1 i-1d (1) i-3 i-4 i-5	Qualified QA Program before start of new site characterization activities	Open	DOE has made a commitment to having a qualified QA Program before the start of new site characterization activities. However, these items remain open up until the NRC staff accepts the DOE QA Program as qualified for the start of new site characterization activities.
i-6a C	Distribution of Corrective Action Response to NRC.	Closed	DOE and NRC staff have discussed and agreed for appropriate distribution for the Corrective Action Responses to NRC staff.
Item 1 Enclosure July 7, minutes	Definitions for conceptual, Title I, Title II, and Title III	Open	DOE is to provide definitions for different types of designs.
i-1c	Documents related to NRC Inspection Programs and Readiness Review Programs	Closed	DOE sent a letter to NRC on January 23, 1989 requesting these documents. NRC staff provided the requested information to DOE in a letter from Linehan to Stein, dated March 14, 1989.

STATUS OF DOE QA OPEN ITEMS

ITEM	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
11. NRC Item 10	Rights of Access between PNL and LLNL	Closed	DOE provided DOE-RL response on rights of access between PNL and LLNL in a letter from R. Stein to B. J. Youngblood, dated December 28, 1988. NRC staff reviewed the information and found it acceptable; transmitted to DOE in a letter from Linehan to Stein, dated June 2, 1989.
12. QA-B-1d (14)	Explanation of YMP's QA Authority over Project Participants	Open	DOE to transmit an explanation of YMP's QA Authority of Project Participants. DOE needs to provide the information for NRC accepting the DOE qualified QA Program.
13. QA-B-10	DOE Response to NRC Comments on LANL QA Program Plan	Closed	Comments are incorporated into LANL QA Program Plan transmitted to NRC on March 10, 1989. NRC staff has reviewed the LANL QA Program Plan and has transmitted their review comments to DOE on July 19, 1989.
14. NRC Items 1 and 2, and QA-C-1	QA Level for Preparation of Study Plans and QA Level for preparation of the SCP	Closed	SCP Management Plan and AP 1.10Q, "Preparation, Review and Approval of SCP SCP Study Plans" were sent to NRC on January 23, 1989. NRC staff has reviewed the information and has not identified any problems.
15. QA-E-2	Approach to Planning and Implementing Rock Mechanics Experiments	Closed	DOE transmitted "Approach to Experiment Planning and Data Management" on December 29, 1988. NRC staff reviewed the information and transmitted comments to DOE on May 31, 1989.

STATUS OF DOE QA OPEN ITEMS

ITEM	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
16. QA-G-2	Corrective Action for LANL Audit	Open	Status Reports sent to NRC on March 3, 1989, April 13, 1989 and April 28, 1989. NRC response to be provided.
17. QA-G-8	List of YMP Contractors and their scopes of work	Closed	DOE provided the list of YMP contractors and their scopes of work, dated June 23, 1989.
18. QA-G-8	List of OCRWM Contractors and their scopes of work	Closed	In a letter from Appel to Linehan, dated January 23, 1989, it was indicated that the desired information was available in the OCRWM QAPP. DOE was advised in a letter from Linehan to Stein, dated March 14, 1989.
19. NRC Item 2 Enclosure 6 of July 7, 1988 meeting minutes	YMP QA Training for its contractor personnel	Closed	DOE, through a letter dated December 29, 1988, from Appel to Linehan, transmitted the YMP Training Management Plan. NRC Staff has reviewed the information and finds it satisfactory. DOE was advised in a letter from J. Linehan to R. Stein, dated March 14, 1989.
20. QA-A-2 QA-A-3 QA-B-1a QA-B-1b QA-B-1d (12) QA-G-12	OCRWM QA Program should be consistent with 88-9 QA Plan	Closed	NRC staff has reviewed and accepted OCRWM QAPD May 2, 1989 and QARD May 8, 1989.

STATUS OF DOE QA OPEN ITEMS

ITEM	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
21. NRC Item 11 Enclosure 6 of July 7, 1988 minutes	Adequacy of DOE-RL Pre-Audit Training	Closed	DOE, in a letter dated December 28, 1988, from Stein to Youngblood transmitted DOE-RL response regarding adequacy of Pre-Audit Training. NRC Staff has reviewed this information and finds it acceptable, letter dated June 2, 1989, from Linehan to Stein.
22. NRC Item 13	Access to Contractor Personnel Qualification files for NRC-DOE	Open	DOE is working with General Counsel and Personnel Managers to initiate mutually acceptable system and should have it for NRC review by mid-October 1989.
23. QA-E-1	Qualification of Existing Data	Open	DOE is to provide to the NRC a procedure for qualifying existing data. This procedure should follow NRC's GTP on Qualification of Existing Data.
24.	SCA comments	Open	DOE is to provide response to the NRC SCA comments.