

MAY 22 1990

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MINUTES OF THE 3/21/90 BIMONTHLY QUALITY ASSURANCE MEETING

The monthly meeting of the staff of the United States Nuclear Regulatory Commission (NRC), representatives of the United States Department of Energy (DOE) and the State of Nevada (NV) to discuss issues of mutual interest with regard to quality assurance (QA) was held on March 21, 1990 in Bethesda, Maryland. While representatives of the Affected Units of Local Government were notified of the meeting, none were in attendance. An attendance list is included as Attachment 1.

In opening remarks, the NRC staff discussed the need for resolution of the continuing disagreement between it and DOE over the meaning of the DOE Project Decision Schedule milestone of NRC acceptance of the DOE QA program. The NRC staff had assumed that this issue was settled during the February 1990 QA meeting with an agreement that the September date referred to acceptance of the DOE program participants' QA programs for further implementation. This was distinguished from removal of the NRC staff's QA objection in the Site Characterization Analysis which required that five conditions be met by each DOE program participant. The NRC staff described these five steps as: resolution of significant deficiencies identified by DOE auditors; identification of the extent of program implementation since the last NRC-observed DOE audit; a statement as to whether or not DOE can now determine the effectiveness of the QA program (and if so, what determination has been made); a statement of what areas of the QA program are still on hold (and the steps being taken to resolve the problems in these areas); and a statement of DOE's current position on the acceptability of the QA program.

DOE questioned whether or not NRC's five step approach precluded the approval of individual program participant's QA programs (i.e., the United States Geologic Survey (USGS)) before the QA objection was resolved. NRC indicated that individual programs could be approved. However, when DOE suggested that these conditions had been met for USGS, the NRC staff noted several outstanding concerns. These included the need for a letter from DOE stating that it finds the USGS QA program acceptable. There was a question as to whether or not Ralph Stein's March 12, 1990 letter to Robert E. Browning met this requirement. As the result of subsequent discussions between the NRC staff and DOE, NRC felt that it was clear that this letter did not meet the requirement. The DOE staff requested that further discussions of this subject be postponed until DOE management could consider it further.

Agreement on program schedules, some of which relate to the concerns about QA program qualification, was the next topic discussed. Attachment 2 was provided by DOE. Attachment 3 was used by the NRC staff. There was disagreement between the NRC staff and DOE over the status of the DOE audit of USGS. As depicted in Attachment 2, all activity related to the USGS audit has been completed. The NRC staff disagreed with this assessment, particularly since DOE had not notified NRC whether they find the program acceptable, nor spoken clearly to the five actions set down in the February meeting. DOE stated that this issue would also require further management decision and could not be

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ENCLOSURE

resolved at this meeting. Another scheduling issue which was initially discussed at the February QA meeting is the question of DOE's proposed changes to the lead times for NRC review of various DOE documents. The NRC staff indicated willingness to consider changes in the lead times for specific documents if the changes allowed NRC staff sufficient time to carry out a quality review of the documents.

Following the discussion of QA program schedule changes, DOE updated its audit/surveillance schedule (see attachments 4 and 5). It was noted that the audit schedule was unchanged but that changes to the surveillance schedule were necessary due to DOE staffing requirements for the Los Alamos National Laboratory (LANL) and Office of Civilian Radioactive Waste Management (OCRWM) Headquarters audits. DOE commented that it has been trying to ensure that the NRC staff and NV are notified of changes to the surveillance schedule via telephone and teletype. This was an issue which had been raised by NV at previous QA meetings.

An update on the DOE position on the qualification of existing data and the Q List was provided next. Yucca Mountain Project Office (YMPO) Administrative Procedure 5.9Q, "Qualification of Data or Data Analyses not Developed under the Yucca Mountain Project Quality Assurance Plan," has been reviewed by the NRC staff and DOE is in the process of revising the procedure. In addition, a paper on the quality of shaft construction data has been finalized and sent to the DOE Technical Project Officers (TPOs). Several questions were raised regarding DOE's position on what data needed to be qualified. It was noted by the NRC staff that DOE has stated that all existing data which will be used for licensing would be qualified before licensing. It was also mentioned that no standard techniques had been provided by DOE for the characterization of unsaturated zone hydrology. These questions will be considered further at the May 1990 QA meeting. Regarding the Q List, changes to the Quality Assurance Procedure and the YMPO Quality Assurance Program Plan were effective March 20, 1990. DOE is currently going through the grading process and it is anticipated that all activities will be under the new system by October 1990.

DOE provided its regular update on the Privacy Act issue (see attachment 6). The Federal Register notice describing the new record system for training records accessible to DOE, the NRC staff and NV for the repository program was still in official DOE concurrence. However, a temporary system called DOE System 2 which allows individual supervisors to maintain certain qualification and training records at their work stations. These records would be available to the NRC staff, but not to NV.

The NRC staff provided its recommendation to DOE on the American Society of Mechanical Engineers ANSI/ASME QA Standard NQA-1-1989 (see attachment 7). It was stressed that the NRC staff was not placing a requirement on DOE regarding action on this standard. NQA-1-1989 is a revision of NQA-1-1986 which NRC has

endorsed. The primary reason for suggesting that DOE consider adoption of the 1989 document is that it contains new improved requirements and controls for computer software QA. DOE indicated that it is looking into adoption of this standard.

The status of the QA open items was presented by the NRC staff (attachment 8). The NRC staff is reviewing DOE's proposed resolution of Open Item 1-90. DOE has commented via telephone and electronic facsimile transmission (fax) on Open Item 7-90. This item will be formally closed by a letter. DOE will propose a solution to Open Item 9-90 by letter which NRC will review, and if appropriate, accept.

The NRC staff and DOE continued their discussion of the proposed NRC/DOE workshop on QA. It was agreed that an NRC/DOE management meeting on the workshop would be held in Mid-April to resolve issues of logistics and to broadly frame a potential agenda. It was suggested that a meeting also be held with the TPOs to discuss the focus of the workshop. NV suggested including the participants' QA managers in the meeting with the TPO's. The week of April 9, 1990 was proposed for the management meeting. This topic of the workshop was to be discussed at the April 1990 meeting.

The NV representative brought up an item of concern regarding the new QA manager for the USGS Denver Office. She noted that this individual did not have any background in QA and was only now receiving QA training. She said that this did not leave a very positive perception regarding the USGS commitment to QA. DOE stated that it is also concerned about this situation and has discussed it with the USGS. DOE will review this individuals qualifications and if the qualifications are not acceptable to DOE, a deficiency notice will be given to USGS. USGS commented that there were several issues to consider here. The individual has served as a District Chief for water resources for USGS and as such has been responsible for the quality of all products under his control. Further, USGS reiterated that the individual is receiving QA training. It was also noted that USGS had access to the QA expertise of the Scientific Applications International Corporation in Golden, CO.

The next NRC/DOE meeting was scheduled for April 27, 1990. The primary focus of the meeting will be on the waste glass form producers.

In closing remarks, DOE, NRC, and NV all recognized the NRC Division of High-Level Waste Management's outgoing QA Section Leader James Kennedy who has been involved with this QA program for the past 6 years.

NV did not submit a written statement to accompany these meeting minutes.



Mark S. Delligatti, Project Manager
Repository Licensing and Quality
Assurance Project Directorate
Division of High-Level Waste Management
Office of Nuclear Material Safety
and Safeguards
U.S. Nuclear Regulatory Commission



Corinne Macaluso
Repository Licensing Branch
Office of Civilian Radioactive
Waste Management
U.S. Department of Energy

ATTENDANCE
NRC/DOE QA MEETING
ORGANIZATION

March 21, 1990

NAME	ORGANIZATION	TELEPHONE
Tom Colandrea	EEl-UWASTE	(619)-487-7510
Jim Conway	NRC	(301)-492-0453
Mark Delligatti	NRC	(301)-492-0430
David C. Dobson	DOE/YMP	(702)-794-7940
Stan Echols	Bishop, Cook, Purcell & Reynolds	(202)-371-5777
Gary Faust	Weston/VE&C	(202)-646-6729
Norman Frank	DOE/CER	(703)-276-9300
Donald Horton	DOE/YMP	(702)-544-7504
Cecil E. Hughey	DOE/CER-RW-3	(703)-276-9300
Jim Kennedy	NRC/NMSS	(301)-492-3402
John Linehan	NRC	(301)-492-3387
Bruce Mabrito	CNWRA/SWRI	(512)-522-5149
Corinne Macoluso	OCRWM/Lic. Br.	(202)-586-2837
Ron B. Murray	DOE/YMP	(702)-749-7968
Bruce Nicoll	DOE-Richland, WA	(509)-586-2449
Bill Pearson	DOE/SR	(803)-557-1066
John Roedel	UERC-Catalytic	(509)-371-1972
Gene Roseboom	USGS-Dir. Off.	(703)-648-4423
Mark Senderling	DOE/RW-3	(FTS)-896-2878
Dwight Shelor	DOE/RW-3	(202)-586-7220
Teek Verma	NRC	(301)-492-3465
Ray Wallace	USGS-/DOE-HQ	(202)-586-1244
Joe Youngblood	NRC/DHLWM	(301)-492-3410
Susan Zimmerman	State of Nevada	(702)-687-3744

STATUS OF DOE QA PROGRAM IMPLEMENTATION

QA PROGRAM PLAN					QUALIFIED QA PROGRAM		
ORGANIZATION	DOE SUBMITS	NRC COMMENTS	DOE REVISES (1)	NRC ACCEPTS	QUALIFICATION AUDITS	DOE ACCEPTS (2)	NRC ACCEPTS
OCRWM	(QARD) APR 13, 1990	MAY 11, 1990	JUN 1, 1990	JUN 20, 1990	JUN 1990	AUG 1990	
OCRWM	(QAPD) APR 13, 1990	MAY 11, 1990	JUN 1, 1990	JUN 20, 1990	NA	NA	NA
YMPO	NA	NA	NA	NA	JUL 1990	AUG. 1990	
F&S	FEB. 21, 1989 COMPLETE	MAR. 22, 1989 COMPLETE	AUG. 11, 1989 COMPLETE	OCT. 24, 1989 COMPLETE	APR 10-14, '89 COMPLETE	PENDING	
H&N	MAR. 3, 1989 COMPLETE	APR. 25, 1989 COMPLETE	AUG. 11, 1989 COMPLETE	OCT. 3, 1989 COMPLETE	APR 24-26, '89 COMPLETE	PENDING	
SNL	APR. 14, 1989 COMPLETE	JUN. 29, 1989 COMPLETE	SEP. 7, 1989 COMPLETE	OCT. 24, 1989 COMPLETE	SEP. 11, 1989 COMPLETE	PENDING	
USGS	APR. 14, 1989 COMPLETE	JUN. 29, 1989 COMPLETE	SEP. 7, 1989 COMPLETE	OCT. 24, 1989 COMPLETE	AUG. 14, 1989 COMPLETE	MAR. 12, 1990 ACCEPTED	
REECO	FEB. 21, 1989 COMPLETE	MAY 5, 1989 COMPLETE	AUG. 11, 1989 COMPLETE	OCT. 3, 1989 COMPLETE	SEP. 25, 1989 COMPLETE	PENDING	
LLNL	MAR. 3, 1989 COMPLETE	JUN. 19, 1989 COMPLETE	SEP. 7, 1989 COMPLETE	OCT. 24, 1989 COMPLETE	JUN 5-9, 1989 COMPLETE	PENDING	
LANL	MAR. 15, 1989 COMPLETE	JUL. 19, 1989 COMPLETE	SEP. 29, 1989 COMPLETE	NOV. 1, 1989 COMPLETE	MAR 1990		

1) 3 WEEKS AFTER RECEIPT OF NRC COMMENTS

2) BASED ON RECEIPT OF NRC OBSERVATIONS WITHIN 20 WORKING DAYS AFTER AUDIT

USGS SUMMARY

1. WHAT'S NEEDED FOR AN NRC ACCEPTANCE LETTER AND RESOLUTION OF SCA OBJECTION (AS IT PERTAINS TO THE USGS)?

As we indicated in our presentation in the February 15, 1990 meeting, an additional DOE audit or surveillance of some implementation of the QA program is needed. An NRC independent audit may or may not be required, depending upon the results of the DOE reviews.

DOE would also need to address the five points given by the staff in the February 15, 1990 meeting concerning open items, deficiencies, etc.

2. WHAT IS OUR VIEW OF THE USGS QA PROGRAM NOW?

Our letter of March 16, 1990 addresses this point. We believe USGS has adequate controls in place to continue work and allow implementation of their program. We see no fatal flaws. We cannot "accept" until some implementation is completed.

PDS

STAFF CONCERN:

THAT "NRC ACCEPTANCE" IN SEPTEMBER 1990 IN THE PDS WILL BE MISINTERPRETED TO MEAN THAT THE SCA OBJECTION IS RESOLVED AND THAT WE AGREE THAT SITE WORK CAN BE INITIATED.

THE SEPTEMBER 1990 MILESTONE IS, AS WE UNDERSTAND IT, OUR ACKNOWLEDGMENT THAT THE OVERALL PROGRAM HAS ADEQUATE CONTROLS (PLANS AND PROCEDURES) IN PLACE TO CONTINUE WORK. IT IS NOT OUR ACCEPTANCE OF THE OVERALL PROGRAM, INCLUDING IMPLEMENTATION.

FY-90 AUDIT SCHEDULE

AUDIT #	ORG.	ATL	2/5	2/12	2/19	2/26	3/5	3/12	3/19	3/26	4/2	4/9	4/16	4/23	4/30	5/7	5/14	5/21	5/28	6/4
90-1	LANL	S. CRAWFORD	<input type="checkbox"/>			▽		○		◆	■		●							
90-2	LLNL	F. KRATZINGER							<input type="checkbox"/>				▽	○			◆	■		●
90-3	USGS	D. KLIMAS												<input type="checkbox"/>					▽	
90-4	SNL	S. CRAWFORD																		<input type="checkbox"/>
90-5	REECo	F. KRATZINGER																		
90-6	H&N	S. CRAWFORD																		
90-7	FSN	S. DANA																		

FY 90 AUDIT SCHEDULE, REVISION 2

Date:

1/22/90

Approval:

James Blaylock

Page 1 of 2

- | | |
|---|--|
| 1. <input type="checkbox"/> Scoping Visit | 4. <input checked="" type="checkbox"/> Perform Audit |
| 2. <input type="checkbox"/> Transmit Notification Letter/Plan | 5. <input checked="" type="checkbox"/> Transmit SDRs |
| 3. <input type="checkbox"/> Transmit Audit Manuals | 6. <input checked="" type="checkbox"/> Transmit Audit Report |

FULL TEXT ASCII SCAN

ATTACHMENT 4

FULL TEXT ASCII SCAN

FY-90 AUDIT SCHEDULE

AUDIT #	ORG.	ATL	6/11	6/18	6/25	7/2	7/9	7/16	7/23	7/30	8/6	8/13	8/20	8/27	9/3	9/10	9/17	9/24	10/1	
90-1	LANL	S. CRAWFORD																		
90-2	LLNL	F. KRATZINGER																		
90-3	USGS	D. KLIMAS	○	◆	◆	■			●											
90-4	SNL	S. CRAWFORD				▽		○	◆	■			●							
90-5	REECo	F. KRATZINGER			□				▽	○			◆	■			●			
90-6	H&N	S. CRAWFORD						□				▽		○			◆	■		●
90-7	FSN	S. DANA									□				▽		○			◆

FY 90 AUDIT SCHEDULE, REVISION 2

Date: 01/22/90

Approval:

Page 2 of 2

- | | |
|--|----------------------------|
| 1. □ Scoping Visit | 4. ◆ Perform Audit |
| 2. ▽ Transmit Notification Letter/Plan | 5. ■ Transmit SDRs |
| 3. ○ Transmit Audit Manuals | 6. ● Transmit Audit Report |

FULL TEXT ASCII SCAN

REPT	ACTIVITY DESCRIPTION	EARLY START	EARLY FINISH	1990																											
				FEB				MAR				APR				MAY				JUN				JUL							
				5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30		
	TITLE I & II DOCUMENTATION	30APR90	4MAY90	FENIX SCISSOR NEVADA																											
	SOFTWARE CONTROL	11JUN90	13JUN90	<input type="checkbox"/> FN08 <input type="checkbox"/> FN04																											
90-022	DEVELOPMENT OF DESIGN PACKAGE NO. 1	20FEB90A	23FEB90A	HOLMES AND MATYER																											
	SOFTWARE CONTROL			<input checked="" type="checkbox"/> HN04 <input type="checkbox"/> HN08 <input type="checkbox"/> HN10 <input type="checkbox"/> HN12																											
	RECORDS CONTROL	26MAR90	30MAR90	LOS ALAMOS NATIONAL LABORATORY																											
	CRITERIA 16 AND 18	4JUN90	8JUN90	<input type="checkbox"/> LA10 <input type="checkbox"/> LA08																											
	CRITERIA 2, 7, 12.	25JUN90	29JUN90	LOS ALAMOS NATIONAL LABORATORY																											
	SOFTWARE/CRITERIA 16, 17, 18.	23JUL90	27JUL90	<input type="checkbox"/> LL08 <input type="checkbox"/> LL06																											
	CRITERIA 2, 5, 6, 16, 17.			REYNOLDS ELECTRICAL AND ENGINEERING																											
	SOFTWARE/CRITERIA 4, 7, 12, 13, 18	2APR90	5APR90	<input checked="" type="checkbox"/> RE02 <input type="checkbox"/> RE04																											
90-020	CRITERIA 1, 2, 16, 17, 18.	12FEB90A	16FEB90A	SANDIA NATIONAL LABORATORIES																											
	CALIBRATION			<input checked="" type="checkbox"/> SN06 <input type="checkbox"/> SN12 <input type="checkbox"/> SN08 <input type="checkbox"/> SN10																											
	PROCUREMENT, TRAINING, AUDITS, AND SURV. CALIB.	29JAN90A	13FEB90A	PROJECT OFFICE/TCHRS																											
90-023	FOLLOW UP SORS/ESF ALTERNATIVES 4 AND 12.	5MAR90A	9MAR90A	<input checked="" type="checkbox"/> PO06 <input type="checkbox"/> PO10 <input type="checkbox"/> PO20 <input type="checkbox"/> PO14																											
	CRITERIA 5, 6, 12, 16.	23APR90	27APR90	U.S. GEOLOGICAL SURVEY																											
	CRITERIA 4, 7, 15, 17.	29MAY90	1JUN90	<input checked="" type="checkbox"/> US12 <input type="checkbox"/> US14 <input type="checkbox"/> US10																											
90-021	QA AUDITS AND SURVEILLANCES	26FEB90A	2MAR90A																												
	EPA (RADIOLOGICAL MONITORING)	2APR90	6APR90																												
	STUDY PLANS	4JUN90	8JUN90																												
	CRITERIA 1, 2, 5, 6.	18JUN90	20JUN90																												
90-019	SOFTWARE CONTROL	20FEB90A	23FEB90A																												
	CRITERIA 1, 5, 12, 16.	15MAR90	15MAR90																												
	STUDY PLANS/TECHNICAL REVIEW	16APR90	20APR90																												

◇ POSTPONED DUE TO AUDIT CONFLICT.

⊙ SOFTWARE PROGRAM NOT IN PLACE YET.

Activity Bar/Early Dates
 Critical Activity
 Progress Bar

DEPARTMENT OF ENERGY
 YUCCA MOUNTAIN PROJECT OFFICE
 FY-90 REV 5 SURV SCH W/ORG

Project Start: 10CT89
 Project Finish: 15EP90

Sheet 1 of 1
 Date Date: 16MAR90
 Plot Date: 9JAN90

FY-90 REV 5 SURVEILLANCE SCH W/O		
DATE	REVISION	DATE

ATTACHMENT 5

FULL TEXT ASCII SVAN

ACTIVITY ID	ACTIVITY DESCRIPTION	ORIG DUR	EARLY START	EARLY FINISH	1990																									
					FEB				MAR				APR				MAY				JUN				JUL					
					5	12	19	26	5	12	19	26	2	9	16	23	30	7	14	21	28	4	11	18	25	2	9	16	23	30
SN06	PROCUREMENT, TRAINING, AUDITS, AND SURV. CALIB.	0	29JAN90A	13FEB90A	=====																									
RE02	CRITERIA 1, 2, 16, 17, 18.	5	12FEB90A	16FEB90A	=====																									
HN04	DEVELOPMENT OF DESIGN PACKAGE NO. 1	3	20FEB90A	23FEB90A	=====																									
US12	SOFTWARE CONTROL	3	20FEB90A	23FEB90A	=====																									
PO06	QA AUDITS AND SURVEILLANCES	5	26FEB90A	2MAR90A	=====																									
SN12	FOLLOW UP SORS/ESF ALTERNATIVES 4 AND 12.	5	5MAR90A	9MAR90A	=====																									
HN08	SOFTWARE CONTROL	0	16MAR90	15MAR90	=====																									
LL08	CRITERIA 2, 5, 6, 16, 17.	0	16MAR90	15MAR90	=====																									
RE04	CALIBRATION	0	16MAR90	15MAR90	=====																									
US14	CRITERIA 1, 5, 12, 16.	0	16MAR90	15MAR90	=====																									
HN10	RECORDS CONTROL	5	26MAR90	30MAR90	=====																									
LL06	SOFTWARE/CRITERIA 4, 7, 12, 16, 18.	5	2APR90	6APR90	=====																									
PO10	EPA (RADIOLOGICAL MONITORING)	5	2APR90	6APR90	=====																									
US10	STUDY PLANS/TECHNICAL REVIEW	5	16APR90	20APR90	=====																									
SN08	CRITERIA 5, 6, 12, 16.	5	23APR90	27APR90	=====																									
FN08	TITLE I & II DOCUMENTATION	5	30APR90	4MAY90	=====																									
SN10	CRITERIA 4, 7, 15, 17.	4	29MAY90	1JUN90	=====																									
HN12	CRITERIA 16 AND 18	5	4JUN90	8JUN90	=====																									
PO20	STUDY PLANS	5	4JUN90	8JUN90	=====																									
FN04	SOFTWARE CONTROL	3	11JUN90	13JUN90	=====																									
PO14	CRITERIA 1, 2, 5, 6.	3	18JUN90	20JUN90	=====																									
LA10	CRITERIA 2, 7, 12.	5	25JUN90	29JUN90	=====																									
LA08	SOFTWARE/CRITERIA 16, 17, 18.	4	23JUL90	26JUL90	=====																									

 Activity Bar/Party Dates
 Critical Activity
 Program Bar

Project Start: 10CT89
 Project Finish: 15EP90

DEPARTMENT OF ENERGY
 YUCCA MOUNTAIN PROJECT OFFICE
 FY-90 REV 5 SURV SCH W/ORG

Sheet 1 of 1

Date Dwg: 16MAR90
 Plot Date: 9JUN90

FY-90 REV 5 SURVEILLANCE SCH W/ORG

DATE	REVISION	REV. BY	DATE

STATUS OF FEDERAL REGISTER NOTICE OF NEW SYSTEM OF RECORDS IN ACCORDANCE WITH PRIVACY ACT OF 1974

- o TO DATE, NOTICE RECEIVED CONCURRENCES OF DOE OFFICES OF NUCLEAR ENERGY, DEFENSE PROGRAMS, AND ENVIRONMENTAL RESTORATION AND WASTE MANAGEMENT
- o NOTICE PRESENTLY WITH DOE OFFICE OF MANAGEMENT AND ADMINISTRATION (MA)
- o ESTIMATED FOR WEEK OF MARCH 26, 1990, NOTICE WILL BE SUBMITTED FOR PARALLEL CONCURRENCES BETWEEN DOE OFFICE OF MA AND GENERAL COUNSEL
- o ESTIMATED FOR WEEK OF APRIL 9, 1990, NOTICE WILL BE FORMALLY SUBMITTED TO THE CONGRESS (i.e., PRESIDENT OF THE SENATE, SPEAKER OF THE HOUSE OF REPRESENTATIVES, AND DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET) AND PUBLISHED IN THE FEDERAL REGISTER CONCURRENTLY
- o AS MANDATED BY THE PRIVACY ACT OF 1974, 60 CALENDAR DAYS MUST BE ALLOWED FOR CONGRESSIONAL AND GENERAL PUBLIC RESPONSE
- o INTERIM APPROACH WILL ALLOW SUPERVISORY VERIFICATION AND COLLECTION OF PERSONNEL QUALIFICATIONS RECORDS THROUGH USE OF 'DOE SYSTEM 2'

NRC STAFF PRESENTATION ON NQA-1-1989

**PREPARED BY: WILLIAM BELKE
MARCH 21, 1990**

PURPOSE

REVIEW CHANGES INCORPORATED INTO 1989 VERSION OF NQA-1

MAKE RECOMMENDATIONS TO DOE

BACKGROUND

- o DOE PROGRAM ENDORSES 1986 VERSION OF NQA-1
- o ANSI/ASME HAS RECENTLY ISSUED 1989 VERSION

CHANGES (SEE HANDOUT)

RECOMMENDATION

- o **DOE SHOULD *CONSIDER* ADOPTING NQA-1-1989 IN FUTURE REVISIONS TO QA PLANS.**

FOR INFORMATION ONLY

(ENTIRELY NEW
SUPPLEMENT - IC-88)

SUPPLEMENT 11S-2 SUPPLEMENTARY REQUIREMENTS FOR COMPUTER PROGRAM TESTING

1 GENERAL

This Supplement provides amplified requirements for testing of computer programs and associated computer systems. It supplements the requirements of Basic Requirement 11 of this Standard and shall be used in conjunction with that Basic Requirement when and to the extent specified by the organization invoking this Standard.

2 TEST REQUIREMENTS

Test requirements and acceptance criteria shall be provided or approved by the organization responsible for the design or use of the program to be tested unless otherwise designated. Required tests including (as appropriate) verification tests, hardware integration tests, and in-use tests shall be controlled. Test requirements and acceptance criteria shall be based upon applicable design or other pertinent technical documents.

2.1 Verification Tests

Verification tests shall demonstrate the capability of the computer program to produce valid results for test problems encompassing the range of permitted usage defined by the program documentation. Acceptable test problem solutions are as follows:

- (a) hand calculations;
- (b) calculations using comparable proven programs; or
- (c) empirical data and information from technical literature.

For programs used for operational control, testing shall demonstrate required performance over the range of operation of the controlled function or process.

Depending on the complexity of the computer program being tested, testing may range from a single

test of the completed computer program to a series of tests performed at various stages of computer program development to verify correct translation between stages and proper working of individual modules, followed by an overall computer program test. Regardless of the number of stages of testing performed, verification testing shall be sufficient to establish that test requirements are satisfied and that the computer program produces a valid result for its intended function.

2.2 In-Use Tests

Test problems shall be developed and documented to permit confirmation of acceptable performance of the computer program in the operating system. Test problems shall be run whenever the computer program is installed on a different computer, or when significant hardware or operating system configuration changes are made. Periodic in-use manual or automatic self-check routines shall be prescribed and performed for those applications where computer failures or drift can affect required performance.

3 TEST PROCEDURES

Test procedures or plans shall specify the following, as applicable:

- (a) required tests and test sequence
- (b) required ranges of input parameters
- (c) identification of the stages at which testing is required
- (d) criteria for establishing test cases
- (e) requirements for testing logic branches
- (f) requirements for hardware integration
- (g) anticipated output values
- (h) acceptance criteria
- (i) reports, records, standard formatting, and conventions

For INFORMATION ONLY

4 TEST RESULTS

Test results shall be documented. Verification test results shall be evaluated by a responsible authority to assure that test requirements have been satisfied.

- (5) tester or data recorder
- (6) simulation models used, where applicable
- (7) test problems
- (8) results and acceptability
- (9) action taken in connection with any deviations noted

5 TEST RECORDS

(a) Verification test records shall identify (1) through (10) below.

- (1) computer program tested
- (2) computer hardware used
- (3) test equipment and calibrations, where applicable
- (4) date of test

- (10) person evaluating test results
- (b) In-use test results shall identify (1) through (6) below.

- (1) computer program tested
- (2) computer hardware used
- (3) test equipment and calibrations, where applicable
- (4) date of test
- (5) tester or data recorder
- (6) acceptability

FOR INFORMATION ONLY

(b) Records shall be firmly attached in binders or placed in folders or envelopes for storage in steel file cabinets or on shelving in containers.

(c) Provisions shall be made for special processed records (such as radiographs, photographs, negatives, microform, and magnetic media) to prevent damage from excessive light, stacking, electromagnetic fields, temperature, and humidity.

4.3 Safekeeping

Measures shall be established to preclude the entry of unauthorized personnel into the storage area. These measures shall guard against larceny and vandalism.

Measures shall be taken to provide for replacement, restoration, or substitution of lost or damaged records.

4.4 Facility

Records shall be stored in facilities constructed and maintained in a manner which minimizes the risk of damage or destruction from the following:

- (a) natural disasters such as winds, floods, or fires;
- (b) environmental conditions such as high and low temperatures and humidity;
- (c) infestation of insects, mold, or rodents.

There are two satisfactory methods of providing storage facilities, single or dual.

4.4.1 Single Facility. Design and construction of a single record storage facility shall meet the criteria of (a) through (i) below:

- (a) reinforced concrete, concrete block, masonry, or equal construction;
- (b) floor and roof with drainage control. If a floor drain is provided, a check valve (or equal) shall be included.
- (c) doors, structure and frames, and hardware shall be designed to comply with the requirements of a minimum 2 hr fire rating;
- (d) sealant applied over walls as a moisture or condensation barrier;
- (e) surface sealant on floor providing a hard wear surface to minimize concrete dusting;
- (f) foundation sealant and provisions for drainage;
- (g) forced air circulation with filter system;
- (h) fire protection system;
- (i) only those penetrations used exclusively for fire protection, communication, lighting, or temperature/humidity control are allowed; all such penetrations shall be sealed or dampered to comply with the minimum 2 hr fire protection rating.

The construction details shall be reviewed for adequacy of protection of contents by a person who is competent in the technical field of fire protection and fire extinguishing.

If the facility is located within a building or structure, the environment and construction of that building can provide a portion or all of these criteria.

4.4.2 Alternate Single Facilities. The following are acceptable alternatives to the criteria of para. 4.4.1 above for a single facility:

- (a) 2 hr fire rated vault meeting NFPA 232-1986 or NFPA 232AM-1986 or both;
- (b) 2 hr fire rated Class B file containers meeting the requirements of NFPA 232-1986 or NFPA 232AM-1986 or both;¹ or
- (c) 2 hr fire rated file room meeting the requirements of NFPA 232-1986 or NFPA 232AM-1986 or both¹ with the following additional provisions:

- (1) early warning fire detection and automatic fire suppression capability with electronic supervision at a constantly attended central station;
- (2) records storage in fully enclosed metal cabinets;
- (3) adequate access and aisle ways;
- (4) prohibition in the room of work not directly associated with record storage or retrieval;
- (5) prohibition in the room of smoking, eating, or drinking;
- (6) 2 hr fire rated dampers or doors in all boundary penetrations.

4.4.3 Temporary Storage. When temporary storage of records (such as for processing, review, or use) is required by an organization's procedures, the records shall be stored in a 1 hr fire rated container. The procedures shall specify the maximum allowable time limit for temporary storage. The container shall bear a UL label (or equivalent) certifying 1 hr fire protection or be certified by a person competent in the technical field of fire protection.

4.4.4 Dual Facilities. If storage at dual facilities for each record is provided, the facilities shall be at locations sufficiently remote from each other to eliminate the chance of exposure to a simultaneous hazard. Each facility is not required to satisfy the requirements of either para. 4.4.1 or para. 4.4.2 above, but shall meet the other requirements of this Standard.

¹ NFPA 232-1986 and NFPA-232AM-1986 are published by the National Fire Protection Association, Batterymarch Park, Quincy, MA 02269.

NEW IC-86

IC-8



APPENDIX 17A-1 NONMANDATORY GUIDANCE ON QUALITY ASSURANCE RECORDS

1 GENERAL

This Appendix provides nonmandatory guidance on records as specified in Basic Requirements 17 and Supplement 17S-1.

1.1 Records System

A procedure describing the records system(s) should include control of records withdrawn from storage which may be required during the completion of work activity.

1.2 Generation of Records

Documents which may later become records should be maintained and processed in a prudent manner to avoid unnecessary delay and/or expense when the record is needed.

1.3 Records Stored on Magnetic or Optical Media

Provisions should be made for the capability to retrieve information stored on magnetic or optical media. Compatible processing systems should be available, or information should be transferred to other readable media.

2 LOST OR DAMAGED RECORDS

If replacement or restoration of lost or damaged records is not practical, action should be taken to assure the quality of items or activities affecting quality, e.g., reexamination or investigation by alternate means.

3 LIST OF TYPICAL LIFETIME RECORDS

The following is a list of typical lifetime records. The nomenclature of these may vary. Records not identified on this list are nonpermanent.

3.1 Design Records

Applicable codes and standards used in design
 Computer programs or corresponding mathematical model
 Design drawings
 Design calculations and record of checks
 Approved design change requests
 Design deviations
 Design reports
 Design verification data
 Design specifications and amendments
 Safety analysis report
 Stress reports for code items
 Systems descriptions
 Systems process and instrumentation diagrams
 Technical analysis, evaluations, and reports

3.2 Procurement Records

Procurement specification
 Purchaser order (unpriced) including amendments

3.3 Manufacturing Records

Applicable code data reports
 As-built drawings and records
 Certificate of compliance
 Eddy current examination final results
 Electrical control verification test results
 Ferrite test results
 Heat treatment records
 Liquid penetrant examination final results
 Location of weld filler material
 Magnetic particle examination final results
 Major defect repair records
 Material properties records
 Nonconformance reports
 Performance test procedure and results records
 Pipe and fitting location report
 Pressure test results (hydrostatic or pneumatic)

STATUS OF DOE QA OPEN ITEMS
MARCH 21, 1990

ITEM	DESCRIPTION	STATUS	RECOMMENDATION FOR CLOSURE/REMARKS
x 1-90 (i) QA-F-1 (ii) QA-F-2	DOE WASTE GLASS QA PROGRAM	Open	2/15/90 QA Meeting - DOE indicated that the NRC comments on OGR B-14 would be addressed in Rev. 2 of the QAR document which was received by the NRC staff on March 7, 1990. DOE will be developing a draft position on OCRWM/NRC overview/verification activities. Development of a Memorandum of Understanding (MOU) among DOE-RW, NE, and DO is in question as the idea of an MOU has not been settled among the 3 DOE offices.
2-90 NRC Items 9 & 11	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.
3-90 NRC Item 7	NNWSI Core Handling Procedures	Open	DOE submitted the Core Handling Procedures to the NRC staff in a 8/11/89 transmittal (Gertz to Stein). The issues raised in the YMP QA Surveillance Report (YMP-SR-89-134) will need to be resolved before this item can be closed. NRC will determine acceptability of implementation and adequacy of procedures in a forthcoming audit of the Sample Management Facility.
4-90 QA-A-1	Qualified QA Program before	Open	DOE has made a commitment to having a qualified QA Program before the start

QA-B-1d (1)
QA-G-3
QA-G-4
QA-G-5

start of new
site character-
ization
activities

of new site characterization
activities. However, this item remains
open up until the NRC staff accepts the
start of new site characterization
activities.

5-90
NRC Item 1
from enc.6
of the
minutes

Definitions Closed
Conceptual,
Title I, II, &
III design

At the 12/13/89 QA mtng., DOE provided
NRC with DOE Order 4700.1. Also, SCP
Section 8.3.2.1 acceptably defines
these design phases. (Title III used
for BWIP).

* 6-90
NRC Item 13

Access to Open
Project
Participant's
Personnel Files
for NRC-DOE

DOE is working with General Counsel and
personnel managers to initiate a
mutually acceptable system. At the
2/15/90 QA meeting, DOE indicated that
the Federal Register notice was
scheduled to be published 3/90/. This
would permit QA directors to maintain
separate records on personnel
qualification and allow access to NRC,
DOE, NV, and local governments.

* 7-90

Qualification Open
of Existing
Data

DOE has provided the NRC with procedure
for qualifying existing data. This
procedure was reviewed by the NRC staff
for consistency with NUREG-1298 and
comments were given to DOE via a
January 1990 telecon. The NRC staff is
waiting for the DOE response to its
comments.

8-90

SCA comments Open

DOE should provide a response to the
7/31/89 NRC SCA QA comments on the DOE
SCP.

9-90

DOE reponse Open
(Stein to

NRC letter (Linehan to Stein dated
6/2/89) lists open items DOE needs to

Youngblood
dated 12/28/88)
to 7 NRC concerns
for DOE Audit
88-01 of Pacific -
Northwest Lab.
Material Character-
ization Center

respond to.

10-90 . . .
QA-G-1;
a and d

Response to NRC
Observation QA
Audit

DOE should 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 Programs.
DOE should respond for the observation
report for the following Yucca Mountain
Project Office Audits:

a.

Holmes & Narver Audit
89-1, 11/1/88
-11/4/88

Open

3 observations in NRC Observation Audit
Report (Linehan to Stein dated 3/23/89)

x b.

Holmes & Narver Audit
89-2,
4/24/89-4/28/89

Closed

DOE responses (2/22/89 Appel to
Linehan) discussed at the 2/15/90 QA
meeting. NRC will monitor DOE
corrective actions future audits of
H & N.

x c.

Sandia Natl
Laboratory
Audit 89-3,
9/11/89-9/15/89

Closed

DOE responses (12/28/89 Appel to
Linehan) are acceptable.