



Department of Energy

Nevada Operations Office
P. O. Box 98518
Las Vegas, NV 89193-8518

WBS 1.2.9.3
QA

MAY 15 1990

Larry R. Hayes
Technical Project Officer for Yucca Mountain Project
U.S. Geological Survey
101 Convention Center Drive
Suite 860
Las Vegas, NV 89109

ACCEPTANCE OF RESPONSES TO OBSERVATIONS RESULTING FROM YUCCA MOUNTAIN
PROJECT OFFICE (PROJECT OFFICE) QUALITY ASSURANCE (QA) AUDIT 89-04 OF
U.S. GEOLOGICAL SURVEY (USGS)

The Project Office QA staff has evaluated the responses to Observations
89-04-01 through 06 and 08, generated as a result of Project Office QA
Audit 89-04 of USGS. The responses to these observations are acceptable.
A copy of the observations are enclosed for your information.

If you have any questions, please contact either Catherine E. Hampton at
794-7973 or Daniel A. Klimas at 794-7881 of the Yucca Mountain Project QA
staff.


Donald G. Horton, Director
Quality Assurance
Yucca Mountain Project Office

YMP:CEH-3272

Enclosures:
Observations 89-04-01 through 06 and 08

cc w/encls:
Ralph Stein, HQ (RW-30) FORS
D. E. Shelor, HQ (RW-3) FORS
T. H. Chaney, USGS, Denver, CO
S. W. Zimmerman, NWPO, Carson City, NV
K. R. Hooks, NRC, Washington, DC 

cc w/o encls:
N. J. Brogan, SAIC, Las Vegas, NV, 517/T-08
J. E. Clark, SAIC, Las Vegas, NV, 517/T-12
S. R. Dippner, SAIC, Las Vegas, NV, 517/T-08
D. A. Klimas, SAIC, Las Vegas, NV, 517/T-08
D. O. Porter, SAIC, Golden, CO
J. W. Gilray, NRC, Las Vegas, NV

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PDR WASTE PDC
WM-11

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WM-11
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YUCCA MOUNTAIN PROJECT OFFICE
1 YMPO OBSERVATION NO. 89-4-01

N-QA-012
4/89

| | | | |
|--|---|--|--|
| Completed by Originating Organization | 2 Noted During: AUDIT 89-4 (USGS) | 3 Identified By: J. E. CLARK | 4 Date: AUG. 22, 1989 |
| | 5 Organization: USGS | 6 Person(s) Contacted: R. SPAULDING, G. OTTO, R. LUCKEY | 7 Response Due Date is 20 Days from Date of Transmittal |
| | 8 Discussion: Records of field data are copied from notebooks on a quarterly basis and forwarded to the cognizant PI. The notebooks are not submitted as records to the LRC until the study is complete or the notebook is filled. Capture of records on a more frequent basis is required by AP-1.7Q; application to field data will be clarified in AP-5.1Q. USGS QMP-17.01 and other affected procedures need updating to ensure capture of field data in the LRC rather than in "hold files" in PI offices. Procedure update should include requirements for numbering pages in field notebooks to comply with records transmittal | | |
| Completed by Responder | 9 QAE/Lead Auditor <i>[Signature]</i> | Date <i>20/10/89</i> | 10 Branch Manager <i>[Signature]</i> for |
| | 11 Response: USGS QMP-17.01, R4, is presently in the final stages of preparation. This new revision will directly address the Project requirements for the submittal of Interim Records Packages (i.e., data records generated during on-going Project activities that must be collected and submitted to the Local Records Center at intervals not to exceed 45 days). Prior to approval of QMP-17.01, R4, the USGS will issue a letter to the Principal Investigators (PIs) to notify them that Interim Record Packages are required and that immediate actions must be implemented for Project compliance. It should be noted that the USGS policy on access to technical data is that only Director approved data will be transmitted outside the USGS, therefore the Interim Record Packages will not be applicable for data requests. Continued on page 2 | | |
| Completed by QA Org. | 12 Signature: <i>Larry R. Harman</i> TPO | | Date: <i>11/14/89</i> |
| | 13 Response Receipt Acceptable <input checked="" type="checkbox"/> | Initiator <i>JE Clark</i> | Date <i>11/20/89</i> |
| | QA/Lead Auditor <i>Daniel A. Klumpp</i> | Date <i>4/30/90</i> | |
| 14 Remarks: | | | |

ENCLOSURE

8 Discussion: (continued)
requirements.

Block 11 Response (continued from page 1)

Upon approval of QMP-17.01, R4, personnel instruction sessions will be held throughout the YMP-USGS operations to advise personnel as to the appropriate record management requirements.

YUCCA MOUNTAIN PROJECT OFFICE
YMPO OBSERVATION NO. 89-4-02

N-QA-012
4/89

Completed by Originating Organization

2 Noted During: AUDIT 89-4
(USGS)

3 Identified By: J. FRIEND

4 Date:
AUG. 22, 1989

5 Organization: USGS

6 Person(s) Contacted: J. WILMON,
A. WHITESIDE, J. ZIEMBA

7 Response Due Date
is 20 Days from Date
of Transmittal

8 Discussion:

During the review of CAR-89-02 and CAR-89-04 several pieces of equipment were identified that had not been calibrated or had missed calibration. An addendum to the CAR's stated that no NCR would be generated for these nonconformances. However, this appears to be in conflict with QMP 15.01 since the CAR does not provide for "HOLD" tags on equipment, nor does it provide for the same type of dispositioning for corrective action. The use of CAR for tracking equipment problems should be reevaluated.

9 QAE/Lead Auditor

Date

J. A. Allwell 20 Sept 89

10 Branch Manager

Date

J. Friend for 9/20/89

Completed by Responder

11 Response:

The YMP-USGS QA Office has determined that Nonconformance Reports (NCRs) (QMP-15.01) will be used for tracking equipment problems. The discrepancies originally identified in the addenda to the USGS Corrective Action Reports (CARs) have been documented in USGS NCRs.

12 Signature: *J. Wilmon*

Date: 11/14/89

13 Response Receipt Acceptable

Initiator

J. E. Clark
for J. Friend

Date

12/4/89

QA/Lead Auditor

Daniel A. Kluman

Date

4/30/90

Completed by QA Org.

14 Remarks:

Page

1 of 1

YUCCA MOUNTAIN PROJECT OFFICE
YMPO OBSERVATION NO. 89-4-03

N-QA-012
4/89

| | | | |
|---|---|--|--|
| Completed by Originating Organization | 2 Noted During: AUDIT 89-4 (USGS) | 3 Identified By: S. L. CRAWFORD | 4 Date: AUG. 22, 1989 |
| | 5 Organization: USGS | 6 Person(s) Contacted: W. LANGER, W. CAUSSEUX | 7 Response Due Date is 20 Days from Date of Transmittal |
| | 8 Discussion: USGS prepared Study Plans (SP) include QA Level Assignment (QALA) sheets as required by YMP Administrative Procedure AP-1.10Q. Although the currently approved QALA sheets in the SPs are to be replaced with new QALAs and are considered obsolete, numerous minor discrepancies were noted during the review of the SPs: 1. Not all QALA pages included (SP 8.3.1.2.2.6, 3 QALAs) 2. QALA included twice in SP (SP 8.3.1.2.2.6, 3346G-01-01) 3A. QALA in Table 3.1-2, but not in Appdx 7.1.2 | | |
| Completed by Respondee | 9 QAE/Lead Auditor <i>AA Allwell</i> Date: <i>20 Oct 89</i> | 10 Branch Manager <i>J. P. ...</i> Date: <i>8/2/89</i> | |
| | 11 Response: During Audit 89-4, numerous minor discrepancies were noted relating to QALAS included with USGS Study Plans. NHP has carefully reviewed the subject Study Plan files and the following information summarizes the noted discrepancies and NHP actions: Items 1, 2, and 3A. - A complete set of QALAS for Study Plan 8.3.1.2.2.6 is on file with NHP. Upon receipt of DOE comments, the QALAS in Appendix 7.1.2 will be updated in the Study Plan prior to return to DOE. Item 3B. - QALAS 3331G-01-07 is identified in Table 3.2-2 and an unsigned (unapproved) copy had been included in the Appendix for information. The QALAS previously had been submitted to DOE for approval, and only will be added to the Study Plan 8.3.1.2.3.1 after DOE approval of the QALAS. (Continued on page 2) | | |
| Completed by QA Org. | 12 Signature: <i>KW Causseux</i> Date: <i>11/14/89</i> | | |
| | 13 Response Receipt Acceptable <input checked="" type="checkbox"/> Initiator <i>[Signature]</i> Date: <i>2/21/90</i> | QA/Lead Auditor <i>Daniel A. ...</i> Date: <i>4/30/90</i> | |
| 14 Remarks: Differences between observation items and USGS responses are due to incorrect QALA and SP references. Corrections made from auditor's checklist and caucus notes. The response, that USGS will include the applicable QALAS for the final SP submittals, is acceptable. SCC 2/21/90 | | | |

8 Discussion: (continued)

- (SP 8.3.1.2.2.6, 3346G-01-01) SLC
2/21/90
- 3B. QALA in Table 3.1-2, but not in Appdx 7.1.2
(SP 8.3.1.2.3.1, 3331G-01-07)
- 4A. QALA not in Table 3.X-2, but in Appdx 7.1.2
(SP 8.3.1.2.3.1, 8 QALAs)
- 4B. QALA not in Table 3.X-2, but in Appdx 7.1.2
(SP 8.3.1.2.1.2, 3310G-01-01(1)) SLC
2/21/90
- 5. QALA incorrectly numbered in Table 3.1-3
(SP ~~8.3.1.2.2.6~~, 3331G-01-01) (SP 8.3.1.2.3.1) SLC
2/21/90
- 6. QALAs not approved by YMP* (SP ~~8.3.1.2.2.6~~, 3332G series) (SP 8.3.1.2.3.1) SLC
- 7A. Superseded QALAs in Appdx 7.1.2 (SP ~~8.3.1.2.3.1~~, 4 QALAs) (SP 8.3.1.16.1.1) SLC
- 7B. Superseded QALAs in Appdx 7.1.2 (SP 8.3.1.2.1.2, 7 QALAs) 2/21/90

The lack of a Technical Review of the final version of the Study Plans, identified by SDR NO. 417, is considered to be a contributing factor to the above discrepancies.

* Approved copies of QALA-3332-01-XX were available at USGS, but unsigned copies were attached to SP 8.3.1.2.2.6

BLOCK 11 Response (Continued from page 1):

- Item 4A. - DOE comments have been received for Study Plan 8.3.1.2.3.1. The comments will be addressed in a Study Plan revision anticipated to be completed in the first quarter 1990. The Tables and QALAs discrepancies will be corrected as needed in the Study Plan revision.
- Item 4B. - QALAs 3310G-01-01 is already included in Table 3.1-3 for Study Plan 8.3.1-2.1.2.
- Item 5. - There is no Table 3.1-3 in Study Plan 8.3.1.2.2.6, and this Study Plan contains 3346G series QALAs. The complete set of QALAs is in the Study Plan per item 1, 2, and 3A.
- QALAs 3331G-01-01 is included in Table 3.1-3 of Study Plan 8.3.1.2.3.1. A review of this Table does not indicate an incorrectly numbered QALA.
- Item 6. - As indicated in Item 5, Study Plan 8.3.1.2.2.6 includes 3346G series QALAs. (Refer to Items 1, 2, and 3A.)
- 3332G series QALAs are part of Study Plan 8.3.1.2.3.1 and approved QALAs are included with the NHP files. This Study Plan will be revised as noted in Item 4A., and approved QALAs will be added as needed in the next revision.
- Item 7A. - Refer to Item 4a. The appropriate QALAs will be included with the Study Plan 8.3.1.2.3.1 upon revision.
- Item 7B. - The superseded copies of the QALAs will be replaced with the appropriate QALAs during the Study Plan revision to address DOE comments. It is anticipated that this revision will be completed in the first quarter of 1990.

The actions described above will correct the QALAs discrepancies noted in the Observation. As a direct result of the actions associated with this Observation, personnel involved with reviews have become aware of these types of discrepancies. Greater care will be taken during upcoming management and/or QA

YUCCA MOUNTAIN PROJECT OFFICE
1 YMPO OBSERVATION NO. 89-4-04

N-QA-012
4/89

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| Completed by Originating Organization | 2 Noted During: AUDIT 89-4 (USGS) | 3 Identified By: D. A. KLIMAS, R. M. C. KLIMIST | 4 Date: AUG. 18, 1989 |
| | 5 Organization: USGS | 6 Person(s) Contacted: L. HAYES, J. WILLMON | 7 Response Due Date is 20 Days from Date of Transmittal |
| | 8 Discussion: The TPO and QAM depicted the USGS organizational interfaces for the audit team. The depiction differs from the current representations in QAPP Section 1 and QMP 1.01. The depiction incorporated the recently established QA Support Units being assigned to technical program elements. This approach is intended to provide in-line QA to the technical processes. | | |
| | 9 QAE/Lead Auditor <i>AA Caldwell</i> Date: <i>20 Sept 89</i> | 10 Branch Manager <i>J. Hayes</i> Date: <i>9/20/89</i> | |
| Completed by Respondee | 11 Response: The Quality Assurance Manager and the Technical Project Officer were describing anticipated organization changes. As depicted in the YMP-USGS-QAPP-01, R5, the QA Office staff are independent from the in-line technical processes and perform the required independent QA program functions of approvals, audits, surveillances, and verifications. Both the Nuclear Hydrology Program and the Geologic Division utilize QA Implementation Specialists as part of the in-line technical process. The QA Implementation Specialists coordinate with the QA Manager but are not responsible for any of the QA Office responsibilities requiring independence from the technical activities. | | |
| | 12 Signature: <i>J. Willmon</i> Date: <i>11/14/89</i> <i>Larry R. Hayes</i> Date: <i>11/14/89</i> | | |
| Completed by QA Org. | 13 Response Receipt Acceptable <input checked="" type="checkbox"/> | | |
| | Initiator <i>Daniel Klimas</i> Date: <i>12/11/89</i> | QA/Lead Auditor <i>Daniel A Klimas</i> Date: <i>4/30/90</i> | |
| 14 Remarks: | | | |

8 Discussion: (continued)

The approach is also configured such that a QA staff under the QAM will provide the verification activities. This will most likely need to be analyzed and/or expanded to ensure: (a) that in-line QA support activities do not become absorbed in the technical processes such that independence is abrogated, (b) that the program is being implemented and actively supported by technical personnel as well as QA personnel, and (c) that the QAM at least quarterly interview those assigned to QA Unit Support to discuss the administrative functionality of their work position.

YUCCA MOUNTAIN PROJECT OFFICE
YMPO OBSERVATION NO. 89-4-05

N-QA-012
4/89

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| Completed by Originating Organization | 2 Noted During: AUDIT 89-4 (USGS) | 3 Identified By: J. FRIEND | 4 Date: AUG. 22, 1989 |
| | 5 Organization: USGS | 6 Person(s) Contacted: J. WILLMON, A. WHITESIDE, J. ZIEMBA | 7 Response Due Date is 20 Days from Date of Transmittal |
| | 8 Discussion: During the review of USGS NCR's and CAR's, a concern was identified in that it is not apparent the TPO, PI's or other technical personnel are adequately involved in the resolution and correction of deficiencies that affect them. Several examples of corrective action documents (eg. CAR 89-13 and NCR 89-23) were issued to the TPO for resolution, however, the documents reflect that the deficiencies were issued and dispositioned by QA, and it appears QA is mainly responsible for correcting the deficiencies. Additionally, during the audit process it was noted that calibration deficiencies were not being identified by | | |
| | 9 QA/Lead Auditor <i>[Signature]</i> | Date 20 Sept 89 | 10 Branch Manager <i>[Signature]</i> |
| | | | Date 9/20/89 |
| Completed by Respondee | 11 Response: The USGS management is aware of the concern expressed in this Observation. The early stages of the YMP-USGS program relied a great deal on the QA Office, as evidenced by the number and types of deficiency documents generated primarily during QA verifications. Implementation of the present USGS program relies heavily on the participation of the technical personnel. The technical personnel are becoming increasingly involved in the overall program, including the corrective action system. The active participation of the technical personnel during the YMPO Audit contributed significantly to the successful outcome of the Audit. The technical personnel continue to stay involved with the corrective action system through the Open Items Committee. This Committee is led by the Technical Project Officer or delegate, and includes representatives from the Technical Project Office, the Nuclear Hydrology Program, the Geologic Division, and the QA Office. The Committee meets weekly to discuss and resolve external and internal open items. As the USGS continues to maintain this level of participation, the effectiveness and adequacy of the corrective action process will continue to improve. | | |
| | 12 Signature: <i>[Signature]</i> | | |
| Completed by QA Org. | 13 Response Receipt Acceptable <input checked="" type="checkbox"/> | | |
| | Initiator <i>[Signature]</i> for J. Friend | Date 12/4/89 | QA/Lead Auditor <i>[Signature]</i> |
| 14 Remarks: | | | |

8 Discussion: (continued)

technical personnel on a timely basis. In these examples it is apparent that the TPC and other technical personnel were not actively involved in the corrective action process.

The audit team is concerned that the effectiveness of the corrective action system is questionable when the personnel responsible for deficient activities depend solely on QA to resolve those problems in a timely manner.

YUCCA MOUNTAIN PROJECT OFFICE
1 YMPO OBSERVATION NO. 89-4-06

N-QA-012
4/89

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| Completed by Originating Organization | 2 Noted During: AUDIT 89-4 (USGS) | 3 Identified By: R. M. KLIMIST, D. KLIMAS | 4 Date: AUG. 18, 1989 |
| | 5 Organization: USGS | 6 Person(s) Contacted: M. SIMPSON, J. WILLMON, L. HAYES | 7 Response Due Date is 20 Days from Date of Transmittal |
| | 8 Discussion: The USGS training and indoctrination is being performed to unapproved, unsigned position papers that do not meet or comply with existing, approved USGS QA program documents. Indoctrination is being treated as essentially an informal process that does not require development, review and approval of lesson plans that cover QA Program and detailed USGS QA procedures. As a result, objective evidence is inadequate and forms are being completed as "Training" without approved lesson plans as | | |
| Completed by Respondee | 9 QAE/Lead Auditor <i>AA Adull</i> | Date <i>20 Sept 89</i> | 10 Branch Manager <i>[Signature]</i> |
| | 11 Response: New draft revisions of QMPs-2.02, 2.07, and 2.08 that respond to the above concerns were developed and presented to the auditors during the audit. The auditors indicated at that time that the new QMP texts, when issued as approved revisions, would be satisfactory to correct the areas of concern. The agreement to revise the QMPs in response to the auditor's concerns afforded the opportunity for the USGS to make the other changes already being discussed and anticipated. The QMP revision process is currently underway. At present drafts have been developed and are in the review stage. Because of the sensitive issues relating to "Privacy Act" concerns, it is anticipated that the review and approval stages of the revision process will require USGS Headquarter's review. At this time, approval is planned before the end of December 1989, with instruction and effective date assignment subsequent to that time. It should be noted that at no time has the USGS qualifications and training program been out of compliance with the DOE QAP (NNWSI/88-9. R2). The revisions to QMPs 2.02, 2.07, and 2.08 will reflect guidance provided by DOE representatives to the USGS immediately prior to Audit 89-4. | | Date <i>9/20/89</i> |
| Completed by QA Org. | 12 Signature: <i>Larry R. H...</i> | | Date: <i>11/14/89</i> |
| | 13 Response Receipt Acceptable <input checked="" type="checkbox"/> | Initiator <i>Daniel Klimas</i> | QA/Lead Auditor <i>Daniel A Klimas</i> |
| | Date <i>12/11/89</i> | Date <i>4/30/90</i> | |
| 14 Remarks: | | | <div style="border: 1px solid black; padding: 5px; text-align: center;"> Page <u>1</u> of <u>2</u> </div> |

8 Discussion: (continued)
required by QMP 2.07.

This condition is being identified as an observation based on USGS presenting modification to QMP's 2.02, 2.07, and 2.08, the governing indoctrination and training procedures.

YUCCA MOUNTAIN PROJECT OFFICE
1 YMPO OBSERVATION NO. 89-4-08

N-QA-012
4/89

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|---------------------------------------|--------------------------------------|-----------------------------------|---|
| Completed by Originating Organization | 2 Noted During: AUDIT 89-4 (USGS) | 3 Identified By: J. BLAYLOCK | 4 Date: AUG. 15, 1989 |
| | 5 Organization: USGS | 6 Person(s) Contacted: J. WILLMON | 7 Response Due Date is 20 Days from Date of Transmittal |

8 Discussion:

The USGS must annually conduct a Management Assessment of its Quality Assurance Program. This assessment was not conducted for 1988; the deficiency was noted and written as AFR No. USGS 8903-03. In the discussion and recommended action (Block 9 of the USGS form) the auditor identified that the TPO does not have the authority to waive the requirement, but such dispensation must come from the Assistant Director of Engineering Geology. This recommendation is incorrect; waiver of the requirement must come from Yucca Mountain Project Office, not USGS.

| | | | |
|---|---------------------------|---|------------------------|
| 9 QA/Lead Auditor <i>A.A. Howell</i> | Date <i>20 Sept 89</i> | 10 Branch Manager <i>X [Signature]</i> | Date <i>9/20/89</i> |
|---|---------------------------|---|------------------------|

11 Response: NNWSI/88-9, Rev.2, Section II, Para. 4.2 states in part: "Each organization is to develop its internal procedures for planning, organizing, performing, and documenting the management assessment...Management above or outside the OA organization shall be responsible for the management assessment activity."

USGS Management has interpreted the cited reference as guidance for the performance of an annual assessment. The stated requirement is that of responsibility for the assessment. This responsibility is assigned to "management above or outside the OA organization", not the Project Office.

No YMP Office approval is required for the USGS management assessment. A copy of the completed and approved document is provided to the Project Office for information purposes and inclusion in the overall assessment of the Project. The responsibility for performing or not performing the annual assessment lies with the USGS upper management as stated in the cited reference.

12 Signature: *J. Willmon* Date: *11/14/89*

Signature: *Larry R. Ham* Date: *11/14/89*

| | | | | |
|--|---------------------------------|------------------------|--------------------------------------|-----------------------|
| 13 Response Receipt Acceptable <input checked="" type="checkbox"/> | Initiator <i>J. Blaylock</i> | Date <i>3/12/90</i> | QA Lead Auditor <i>Mr. Thomas</i> | Date <i>5/1/90</i> |
|--|---------------------------------|------------------------|--------------------------------------|-----------------------|

14 Remarks:



United States Department of the Interior



GEOLOGICAL SURVEY
BOX 25046 M.S. 425
DENVER FEDERAL CENTER
DENVER, COLORADO 80225

WBS: 1.2.9.3
QA: QA

IN REPLY REFER TO:

February 23, 1990

Carl P. Gertz, Project Manager
Yucca Mountain Project Office
U. S. Department of Energy
P. O. Box 98518
Las Vegas, Nv 89193-8518

QA RECEIVED

MAR 01 1990

ATTENTION: D. G. Horton, Director of Quality Assurance

SUBJECT: Amended Response to YMPO Observation 89-4-08

Dear Carl:

An amended response for the subject observation is enclosed. If you have any questions please contact Tom Chaney, Acting Quality Assurance Manager at FTS 776-1418.

Sincerely,

Larry R. Hayes, Technical
Project Officer, Yucca
Mountain Project Branch

MHM/LRH/klh
Enclosure

cc: E. H. Roseboom, USGS/Reston
V. R. Schneider, USGS/Reston
M. W. Reynolds, USGS/Reston
T. H. Chaney, USGS/Denver
R. B. Raup, USGS/Denver
D. C. Gillies, USGS/Denver
J. Blaylock, DOE/YMP, Las Vegas
R. W. Gray, IMD, NV
S. Berkel, IMD, NV
J. J. Brogan, SAIC/Las Vegas
A. M. Whiteside, SAIC/Golden
LRC File 3.18.01 (YMPO 89-4)

AMENDED RESPONSE TO YMPO OBSERVATION NO. 89-4-08

NOTE: This amended response is to replace the original response dated 11/14/89.

The referenced USGS AFR dealt with required levels of internal management approval for performing or requesting exemption from the Management Assessment requirement, whereas this observation deals with the need for YMPO concurrence with deviations or exceptions to YMPO-level requirements. The AFR recommendation was not intended to replace the YMPO concurrence, but to define the proper level of USGS authority for proposing the waiver.

The USGS AFR identified that the USGS Assistant Director for the USGS should have been involved in the decision to request a waiver of the 1988 Management Assessment. A March 10, 1989 letter from Larry Hayes to Carl Gertz provided the justification with a request for waiver. The AFR resulted in the USGS Assistant Director concurring with this request.

Larry R. Hayes

2/23/90

Larry R. Hayes, Technical Project Officer

Date

Thomas H. Chaney

2/23/90

Thomas H. Chaney, Acting Quality Assurance Manager

Date

Ltr dtd 2/23/90 - Hayes to Gertz

