



16 August 1988

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"NRC Technical Assistance
for Design Reviews"
Contract No. NRC-02-85-002
FIN D1016

Dear Naiem:

Enclosed is a trip report for Itasca's participation in the 2-3 August 1988 Meeting on Colloquium on Quality Assurance Practices for Underground Radioactive Waste Repositories. Please call me if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Roger D. Hart".

Roger D. Hart
Project Manager

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Office of the Director, NMSS
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ITASCA TRIP REPORT

DATE: 2-3 August 1988

SUBJECT: Colloquium on Quality Assurance Practices for
Underground Radioactive Waste Repositories

LOCATION: National Academy of Sciences Building
Washington, D.C.

PURPOSE: To bring together the various parties involved
with implementing a quality assurance program
during the planning, design, and construction of
an underground radioactive waste repository.

ATTENDEES: J. Daemen and J. Markham (Itasca)

PREPARED BY: J. Daemen and J. Markham

SUMMARY

A program of the colloquium is attached, as is a list of the participants. A meeting summary will be prepared by the organizers and forwarded to the participants.

The first group of presentations was made by high-level managers of NRC, DOE Headquarters, and DOE-Nevada Operations. They gave the QA perspective of their respective agencies. The second group of speakers were people who are actually implementing QA programs in laboratory and in-field rock mechanics testing. The next two speakers addressed QA issues for instrumentation and for incorporation of expert opinion in performance assessment. The last speaker of the first day presented, in considerable detail, the development of the new NQA-3 QA standard, a document that is likely to have a significant impact on repository QA programs.

The first two speakers of the second day discussed software QA—the first speaker presented DOD (Navy) requirements on software development and their implementation, The second speaker presented a repository code verification and validation approach. The third speaker gave an overview of the WIPP program. The final scheduled presentation was an overview of a general purpose earth sciences quality assurance approach being developed by the USGS.

COMMENTS AND OBSERVATIONS

Speakers for DOE-Nevada (C. Gertz and J. Blaylock) made a strong, explicit and wide-ranging commitment to the implementation of a Level I QA Plan for repository design and site characterization activities.

Members of the technical and scientific community continue to express strong reservations and, in some cases, strong opposition to the implementation of a rigorous QA program. The precise basis for the reservations or opposition frequently was not clear. Time available for discussions usually was too limited to permit much clarification in this regard. Among the factors that appear to be significant are the following:

- (1) fear of investigators that QA requirements might greatly reduce the flexibility required in their studies;
- (2) excessive paperwork burden;
- (3) increases in cost and time;
- (4) lack of understanding of the ultimate legal process in which their studies and results are likely to be used;
- (5) ambivalent attitude of DOE management, until recently, about QA requirements; and
- (6) resentment of the scientists about intrusion in their work.

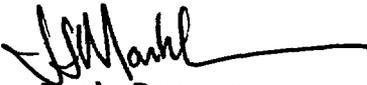
These many factors clearly will complicate the implementation of QA programs in many geotechnical areas, even with a strong management commitment.

The development of NQA-3 should assist considerably in guiding the geotechnical community and in developing an improved QA understanding. This orientation towards repository type investigations should reduce the resistance towards implementation of QA requirements which are frequently considered as being inappropriate.

ate because of having been developed for very different purposes. Although this is unlikely to eliminate all resistance, it should reduce it considerably.

Throughout the colloquium, it was evident that the emphasis of the various quality assurance programs was focused on data collection. Clearly, the elements of measurement techniques and procedures, precision, accuracy, and retrievability all can be accomplished within the current QA process. However, what is not clear is how a program's original objectives are affected by the QA process. Are we measuring what we need to measure? We can produce volumes of material that attest to how accurate the data are but very little to demonstrate that they are the right data. It appears that much more attention could be directed towards assuring the quality of model selection.

Respectfully submitted,


Jaak Daemen
John Markham

attach.
ljl/ks

Attachment A
Program

The Lecture Room
National Academy of Sciences Building
2101 Constitution Avenue N.W.

PROGRAM

August 2, 1988
(morning session)

8:00 Coffee

8:30 *Introductions and
Opening Remarks*

Howard J. Pincus

Dr. Pincus is head of the Steering Group for the Colloquium. He has recently retired from the University of Wisconsin, Departments of Geological Sciences and Civil Engineering.

8:40 *QA--Perspective of the Nuclear
Regulatory Commission*

James Taylor

Mr. Taylor is the Deputy Director for Operations, Nuclear Regulatory Commission.

9:10 *QA--Perspective of DOE
Headquarters*

Edward Kay and Dwight Shelor

Mr. Kay is the Acting Director of the Office of Civilian Radioactive Waste Management, U.S. Department of Energy.

Mr. Shelor is the Deputy Director, Office of Quality Assurance, Civilian Radioactive Waste Management, U.S. Department of Energy.

9:40 *QA at the Nevada Site*

Carl Gertz and James Blaylock

Mr. Gertz is the Project Manager, Waste Management Project Office, Nevada Operations Office, U.S. Department of Energy

Mr. Blaylock is the Project Quality Manager, Waste Management Project Office, Nevada Operations Office, U.S. Department of Energy.

10:10 Break

10:20 *Lab Testing*

Paul E. Senseny

Dr. Senseny is a Senior Staff Scientist, RE/SPEC, Inc.

11:05 *In-Situ Testing*

Roger M. Zimmerman

Dr. Zimmerman is a Member of the Technical Staff of Sandia National Laboratories.

11:50 Discussion

12:15 Buffet Lunch (NAS Refectory)

(afternoon session)

1:15 *Instrumentation*

Gordon Green

Dr. Green is a private consultant and has worked with the Richland Operations Office, U.S. Department of Energy.

2:00 *Incorporation of Expert Opinion
in the QA Process of Performance
Assessment*

David Pentz

Mr. Pentz is a Principal with Golder Associates, Inc.

2:45 Discussion

3:15 Break

3:30 *NQA-3*

Clarence Williams, Jr.

Mr. Williams is Vice President for Quality, Battelle Project Management Division of Battelle Research Institute.

4:00 Discussion

5:00 Adjourn

*These sessions are being
recorded for purposes of
producing a meeting summary.
No attribution will be given
to statements or remarks.*

August 3, 1988
(morning session)



8:30 *Software Quality Assurance--
Experiences Outside of the Waste
Repository Program*
Michael Kirchner

Mr. Kirchner is in Software Quality Assurance, Systems Integration Division, IBM.

9:00 *Code Verification, Validation
and Bench Marking--Experiences
Within the Repository Program*
Arlo Fossum

Dr. Fossum is a Senior Staff Scientist, RE/SPEC, Inc.

9:30 *Experience in the WIPP Program*
Wendell D. Weart

Mr. Weart is Manager, Waste Management Technology, Waste Isolation Pilot Project, Sandia National Laboratories.

10:00 *Group Discussion*

10:20 *Coffee Break*

10:30 *USGS Earth Sciences Quality
Assurance Team*
Ray Watts

Dr. Watts is the Deputy Assistant Director for Research, U.S. Geological Survey.

11:00 *Discussion--What Should the
Geotechnical Community Do Next?*
Howard J. Pincus

12:00 *Closing Remarks*

12:15 *Adjourn*

COLLOQUIUM
on
QUALITY ASSURANCE PRACTICES
for
**UNDERGROUND RADIOACTIVE
WASTE REPOSITORIES**

August 2-3, 1988

sponsored by
The Geotechnical Board
and
The Board on Radioactive
Waste Management

National Research Council

Attachment B
Participants

COLLOQUIUM ON QUALITY ASSURANCE
for
UNDERGROUND RADIOACTIVE WASTE REPOSITORIES
National Research Council
August 2-3, 1988

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