



CENTER FOR NUCLEAR WASTE REGULATORY ANALYSES QUALITY ASSURANCE SURVEILLANCE REPORT

PROJECT NO.: 20-5702-154

REPORT NO.: 93-13

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SURVEILLANCE SCOPE:

Fourteen scientific notebooks were selected to verify compliance to applicable procedural requirements. Thirteen of the fourteen notebooks reviewed were being used primarily for software development and analysis activities. Initial entries, in-process entries, and documentation of routine calculations were evaluated.

REFERENCE DOCUMENTS:

QAP-001, Revision 1, "Scientific Notebook Control"
QAP-014, Revision 0, "Documentation and Verification of Routine Calculations"

STARTING DATE: October 22, 1993

ENDING DATE: October 27, 1993

QA REPRESENTATIVE: R. W. Folck, SwRI Institute QA

PERSONS CONDUCTING TEST/EXAM/ACTIVITY:

David Turner
Gordon Wittmeyer

Ross Bagtzoglou
Renner Hofmann

Jose Menchaca
Steve Young

Bill Murphy
Randall Manteufel

SATISFACTORY FINDINGS:

Three of the fourteen scientific notebooks were found to be in general compliance with procedural requirements. One notebook was found to contain only minor data entry errors, (e.g. missed initial and date). See Page 2 for noted good practices.

UNSATISFACTORY FINDINGS:

Errors were noted in eleven of the fourteen scientific notebooks selected for review. See Page 2 for a list of typical discrepancies.

NONCONFORMANCE REPORT NO.: CAR 93-4

ATTACHMENTS: none

RECOMMENDATIONS/ACTIONS

- In-process review of notebook(s) by immediate supervisor.
- Review applicability of procedural requirements to software development and analysis activities.
- Assign a scientific notebook to only one definable function, task, or computer code.

APPROVED: _____

CENTER DIRECTOR OF QUALITY ASSURANCE

DATE: _____

11/15/93

DISTRIBUTION:

ORIGINAL - CENTER QA DIRECTOR
ORIGINATOR

PRINCIPAL INVESTIGATOR - R. Manteufel/R. Green
ELEMENT MANAGER - B. Sagar/R. Baca

Distribution AT CNWRA To all Directors/EMs.

Satisfactory Findings:

- Entries made on a regular basis.
- Data file downloaded onto diskette and secured in notebook.
- Charts secured with tape and the boundary initialled and dated.
- Signatures and initials documented on first page of notebook.
- Title, scope, and objectives clearly documented as headers.
- Index developed for notebook entries and structure.
- Entries generally readable and in ink.

Unsatisfactory Findings:

Initial Entries:

- No title or clear objectives identified.
- The equipment, e.g. computer, to be used was not specifically identified. Model numbers were not noted as well as operating system(s).
- No special training or qualification requirements. Summer students were used on several tasks.
- Potential source of uncertainty or error not identified.

In-process Entries

- Prerequisites not identified and/or noted as being verified.
- References made to future events were unverifiable, e.g. Codes will be copied.
- Referenced documents not verifiable. SPR noted without corresponding number. Report without corresponding date or number.
- Entries indicate satisfactory testing without supporting test data.
- Reference made to test data on local hard drives and on LAN.
- Test I/O included but, no reference as to "how" testing was done. Test procedure not documented.
- No indication that output was evaluated or checked.
- Code version numbers under test or analysis not documented.
- Calculations performed by spreadsheet not verified by hand calculation.
- Step-by-step process of the analysis not clear. Unable to determine how conclusions were derived.
- Data entries made without supporting description or explanation.
- Notebooks used as journals/diaries to document meetings, schedules, time accounting, etc.

Documentation

- Entries not signed or dated.
- Corrections not made with single line, initialled, and dated.
- "White-out" used.
- Same notebook copy number issued to two different individuals. Corrected during surveillance.