

APPENDIX E

LIST OF TYPICAL QA RECORDS

The following is a list of typical QA records. The nomenclature of these may vary for each Participating Organization and NTS Support Contractor. The NNWSI Project retention period is defined as lifetime. QA records will be submitted to the Project Records Center by the originating organization of the record.

1.0 SITE CHARACTERIZATION

- o Surveys of the underground facility excavations, shafts, and boreholes referenced to readily identifiable surface features.
- o Description of the materials encountered.
- o Geologic maps and geologic cross section.
- o Locations and amounts of seepage.
- o Instrument locations, readings, analysis, and reports for in situ testing.
- o Technical specifications.
- o Sample extraction location maps.
- o Site Characterization Report.
- o Environmental Assessment.
- o Peer review documentation.
- o Test plans and procedures, and results thereof.
- o Data reduction, evaluations, analyses, and reports for;
 - Geomorphology.
 - Stratigraphy.
 - Tectonics.
 - Seismicity.
 - Geoengineering.
 - Hydrology.
 - Geochemistry.
 - Climatology and Meteorology.

REV. NO.	ISSUED	SECTION TITLE	PAGE NO.
5	3-9-87	LIST OF TYPICAL QA RECORDS	E-1

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- o Environmental Impact Statement.
- o Environmental Report.

2.0 DESIGN RECORDS

- o Applicable codes and standards used in design.
- o Design drawings.
- o Design calculations and records of checks.
- o Approved design change requests.
- o Design deviations.
- o Design reports.
- o Design verification data.
- o Design specifications and amendments.
- o Safety analysis report.
- o Stress reports for code items.
- o Systems descriptions.
- o Systems process and instrumentation diagrams.
- o Technical analysis, evaluations, and reports.

3.0 PROCUREMENT RECORDS

- o Procurement specifications.
- o Purchase order including amendments.

4.0 MANUFACTURING RECORDS

- o Applicable code data reports.
- o As-built drawings and records (Note: As-built drawings and records shall correctly identify the installed condition of the item. The type of as-built drawings and records to be maintained shall be specified).
- o Certificate of compliance.

REV. NO.	ISSUED	SECTION TITLE	PAGE NO.
5	3-9-87	LIST OF TYPICAL QA RECORDS	E-2

- o Eddy-current examination final results.
- o Electrical control verification tests results.
- o Ferrite test results.
- o Heat treatment records.
- o Liquid penetrant examination final results.
- o Location of weld filler material.
- o Magnetic particle examination final results.
- o Major defect repair records.
- o Material properties records.
- o Nonconformance reports.
- o Performance test procedure and results records.
- o Pipe and fitting location report.
- o Pressure test (hydrostatic or pneumatic).
- o Radiographs (for in-service inspection applications).
- o Radiograph review records.
- o Ultrasonic examination final results.
- o Welding procedures.

5.0 INSTALLATION AND CONSTRUCTION RECORDS

5.1 RECEIVING AND STORAGE - NONCONFORMANCE REPORTS

5.2 CIVIL

- o Concrete cylinder test reports and charts.
- o Concrete design mix reports.
- o Concrete placement records.
- o Inspection reports for channel pressure tests.

REV. NO.	ISSUED	SECTION TITLE	PAGE NO.
5	3-9-87	LIST OF TYPICAL QA RECORDS	E-3



- o Material property reports on containment liner and accessories.
- o Material property reports on metal containment shell and accessories.
- o Material property reports on reinforcing steel.
- o Material property reports on reinforcing steel splice sleeve material.
- o Procedure for waste package vessel pressure proof test and leak rate tests and results.
- o Reports of high strength bolt torque testing.
- o Soil compaction test reports.
- o Location and description of structural support systems.
- o Details, methods of emplacement, and location of seals used.

5.3 WELDING

- o Ferrite test results.
- o Heat treatment records.
- o Liquid penetrant test final results.
- o Material property records.
- o Magnetic particle test final results.
- o Major weld repair procedures and results.
- o Radiographs (for in-service inspection application).
- o Radiograph review records.
- o Weld location diagrams.
- o Weld procedures.

5.4 MECHANICAL

- o Cleaning procedures and results.
- o Code data reports.

REV. NO.	ISSUED	SECTION TITLE	PAGE NO.
5	3-9-87	LIST OF TYPICAL QA RECORDS	E-4

- o Installed lifting and handling equipment procedures, inspection, and test data.
- o Lubrication procedures.
- o Material properties records.
- o Pipe and fitting location reports.
- o Pipe hanger and restraint data.
- o Pressure test results (hydrostatic or pneumatic).
- o Safety valve response test procedures.

5.5 ELECTRICAL AND INSTRUMENTATION AND CONTROL

- o Cable pulling tension data.
- o Cable separation data.
- o Cable splicing procedures.
- o Cable terminating procedures.
- o Certified cable test reports.
- o Relay test procedures.
- o Voltage breakdown test results on liquid insulation.

5.6 GENERAL

- o As-built drawings and records.
- o Final inspection reports and releases.
- o Nonconformance reports.
- o Specifications and drawings.
- o Details of equipment, methods, progress, and sequence of work.
- o Construction problems.
- o Anomalous conditions encountered.

REV. NO.	ISSUED	SECTION TITLE	PAGE NO.
5	3-9-87.	LIST OF TYPICAL QA RECORDS	E-5



6.0 PRE-OPERATIONAL AND START-UP TEST RECORDS

- o Automatic emergency power source transfer procedures and results.
- o Final system adjustment data.
- o Pressure test results (hydrostatic or pneumatic).
- o Instrument alternating current (AC) systems and inverters test procedures and reports.
- o Offsite power source energizing procedures and test reports.
- o Onsite emergency power source energizing procedure and test reports.
- o Pre-operational test procedures and results.

7.0 OPERATION RECORDS

- o Records and drawing changes that identify repository design modifications made to systems and equipment described in the Final Safety Analysis Report.
- o Radioactive waste inventory, emplacement location, and transfer records.
- o Offsite environmental monitoring survey records.
- o Waste shipment records.
- o Repository radiation and contamination survey results.
- o Radiation exposure records for individuals entering radiation control areas.
- o Records of gaseous and liquid radioactive material released to the environment.
- o Records of transient or operational cycles for those repository components designed for a limited number of transients or cycles.
- o Training and qualification records for members of the repository operating staff.
- o In-service inspection records.
- o Records of reviews performed for changes made to procedures or equipment, or reviews of tests and experiments.

REV. NO.	ISSUED	SECTION TITLE	PAGE NO.
5	3-9-87	LIST OF TYPICAL QA RECORDS	E-6

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NNWSI PROJECT QA PLAN

N-QA-040
1/87

- o Meeting minutes of the Repository Nuclear Safety Committee and licensee nuclear review board.
- o Surveillance activities, inspections, and calibrations required by the technical documents.
- o Records of repository tests and experiments.
- o Changes made to Operating Procedures.
- o Sealed source leak-test results.
- o Records of annual physical inventory of all sealed source material.
- o Logs of repository operation.
- o Records and logs of maintenance activities, inspection, repair, and replacement of principal items of structures, systems, and components
- o Operational, shift supervisor, and control-room logs.
- o Licensee event reports.
- o Fire protection records.
- o Nonconformance reports.
- o Repository equipment operations instructions.
- o Security plan and procedures.
- o Emergency plan and procedures.
- o Quality Assurance and Quality Control Manuals.
- o Records of activities required by the security plan and procedures.
- o Applicable records noted in other section of this appendix for any modification or new construction applicable to structures, systems, or components.
- o Evaluation of results of reportable safety concerns as required by regulations.
- o Annual environmental operating report.
- o Annual repository operating report.
- o Location and description of dewatering systems.

REV. NO.	ISSUED	SECTION TITLE	PAGE NO.
5	3-9-87	LIST OF TYPICAL QA RECORDS	E-7