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UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

WM Record File  
102

WM Project 11  
Docket No. \_\_\_\_\_  
PDR   
LPDR

DATE: November 20, 1985

FOR: Susan Bilhorn

FROM: Paul T. Prestholt

*PTP*

Distribution:  
Bilhorn Linehan  
(Return to WM, 623-SS) *af*

SUBJECT: Documents received from DOE, for delivery to you

Attached are the following documents:

- 1. Note from Jim Blaylock
- 2. Nevada Nuclear Waste Isolation Project Technical Contractors Organization Chart
- 3. Copy of letter dated November 4, 1985, Lawrence Livermore Lab to Don Vieth
- 4. Copy of agreement between Albuquerque Operations Office and Nevada Operations Office dated October 9, 1985

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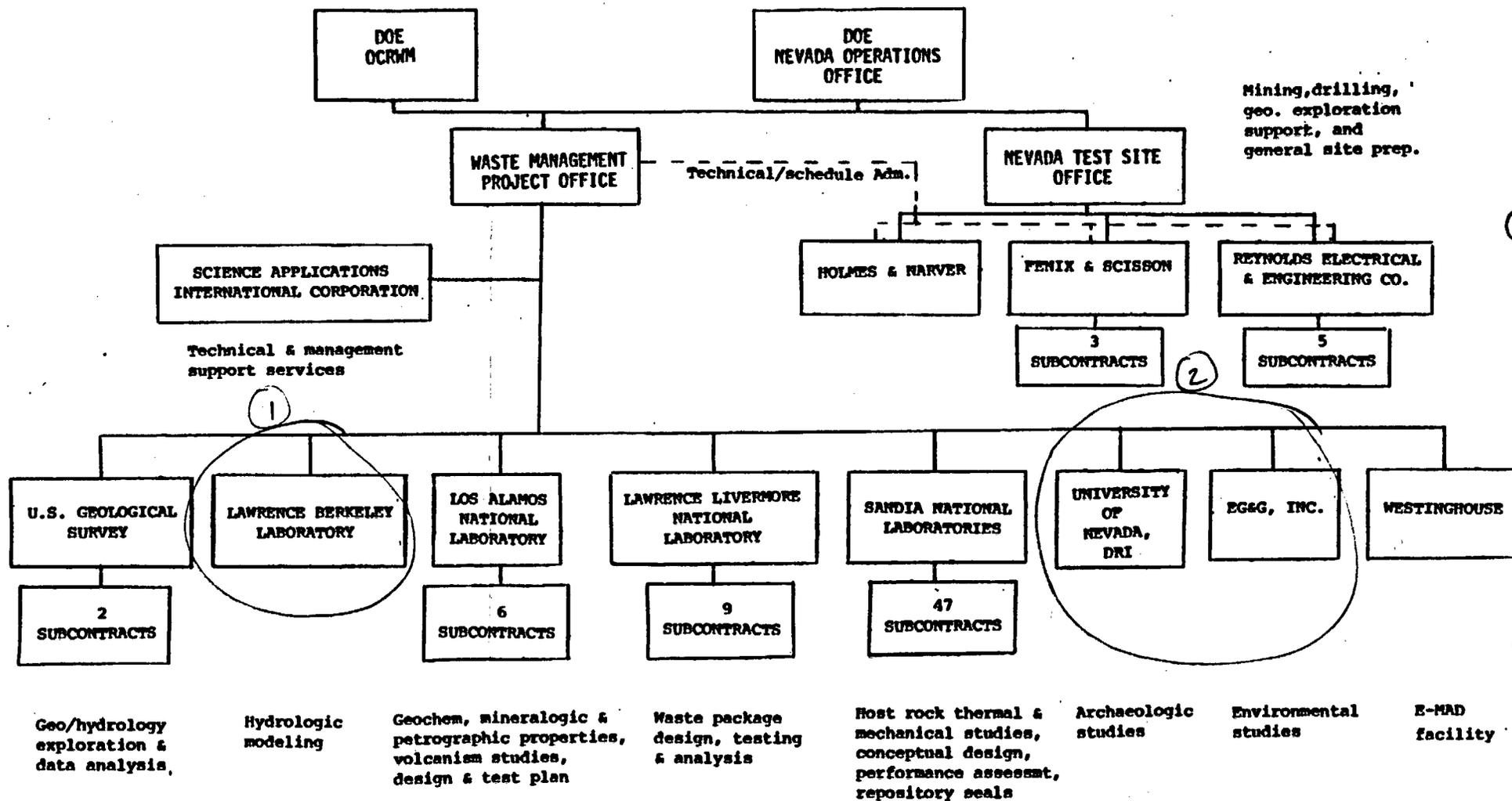
Susan,

I have two comments on the organization chart. (1) Lawrence Berkeley Laboratory is not directly in the structure as shown. Apparently LBL has been subcontracted by USGS for hydrologic modeling support and also ~~may~~ provide support to DOE/HQ. (2) DRI and EG+G provide the archaeological and environmental studies for the entire Nevada Test Site, not just the Yucca Mountain area. As such, WMPO does not directly interface with those organization in contractual matters.

If you have any questions, please call.

Jim

# NEVADA NUCLEAR WASTE ISOLATION PROJECT TECHNICAL CONTRACTORS





# Lawrence Livermore National Laboratory

November 4, 1985  
WP:152-85

Dr. Donald L. Vieth, Director  
Waste Management Project Office  
US Department of Energy  
Nevada Operations Office  
P.O. Box 14100  
Las Vegas, NV 89114-4100

Dear Don,

We recently received a copy of BNL-NUREG-51630, which contains a section related to some work being done at Brookhaven National Lab for the NRC. Upon reading the document, we discovered several problems with the work in matters related to sample identification and sample traceability.

The stated purpose is the work is to "assess the stress corrosion cracking susceptibility of the four alloys being considered by NNWSI". We are concerned that inadequate attention to quality assurance at Brookhaven may make it impossible for us to compare the results obtained at Brookhaven with those obtained as part of the NNWSI Project. Our concerns are summarized in the enclosed comments. The comments are not intended to be a complete technical review of the work; rather, they address only those issues directly related to quality assurance concerns.

If you have any questions concerning these comments, I would be happy to discuss them with you.

Sincerely yours,

Virginia M. Oversby  
Deputy Task Leader,  
Waste Package Task, NNWSI

ACTION

cc: L. Ballou  
L. Ramspott  
D. McCright

CC: Valentine  
CC: Blaylock  
CC: \_\_\_\_\_  
CC: \_\_\_\_\_

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Comments on NUREG/CR-3081, BNL-NUREG-51630, Vol. 6  
"Review of Waste Package Verification Tests"; semiannual  
report covering the period October 1984 - March 1985.

Section 4 of this document concerns "Testing for stress corrosion cracking of high level waste container materials in tuff repository environments".

This section presents a test plan, the stated goal of which is to "assess the stress corrosion cracking susceptibility of the four alloys being considered by NNWSI", and the results of some testing.

We have a number of reservations about the quality of the work and the lack of sample traceability for the materials used in some of the testing. In addition, the rock being used is not representative of the potential repository horizon being studied by NNWSI. This raises a serious question about the relevance of the tests being conducted.

On page 133, the terms "synthetic J-13", and "J-13 well water" are used interchangeably. This is an incorrect and misleading practice for two reasons. First, a water composition produced synthetically from chemicals may differ in important aspects from the natural water that it is meant to represent. This is because the trace constituents and organic content may be difficult to reproduce in the "synthetic" water. Second, the synthetic water and the actual well water are two different things. One needs to be very careful to adequately document exactly what is being referred to. For example, the "304L" data given in Table 4.1 on page 132 were obtained on a metal sample that had 0.035% carbon, which is outside the range allowed by the specification for 304L (maximum carbon 0.03%). This material would be more properly identified as 304 ss.

All tests will be conducted in the presence of crushed tuff. The source of the rock to be used is given on p. 136 together with a description of the material. The rock was obtained from Ward's Natural Science Establishment, Inc. and is stated to be a sample of Paintbrush tuff formation collected from a surface outcrop at Fran Ridge. We have strong reservations about whether there is sufficient documentation to assure the identity of the sample. The description given on p. 136 states that "The rock is a welded vitric tuff ..." that contains tridymite and caliche-like calcite. Based on this description, we can conclude that the rock is not representative of the welded, devitrified section of Topopah Spring Member tuff that is being studied by NNWSI as the potential repository horizon. Vitric tuff would be expected to be much more reactive than completely devitrified tuff. Also, caliche-like material is a feature of arid zone outcrop material and would be very unlikely to occur at depth.

If BNL staff wish to fulfill the stated goal of their testing program, we would strongly suggest that they obtain drill core Topopah Spring tuff samples from the appropriate part of the section and J-13 well water. These samples could be obtained from NNWSI with sufficient documentation to ensure that quality assurance requirements for sample traceability are met.

DEPARTMENT OF ENERGY  
MANAGEMENT AGREEMENT  
BETWEEN  
NEVADA OPERATIONS OFFICE  
AND  
ALBUQUERQUE OPERATION OFFICE  
FOR  
TECHNICAL SUPPORT TO THE OFFICE OF CIVILIAN RADIOACTIVE WASTE  
MANAGEMENT  
AND THE  
NEVADA NUCLEAR WASTE STORAGE INVESTIGATIONS PROJECT

1. **PURPOSE.** The purpose of this MA is to set forth agreements and understandings between AL and NV, and establish guidelines for their authorized representatives in the conduct of their respective responsibilities concerning SNL and LANL activities on the NNWSI Project. NV has primary responsibility for management control and technical direction for the NNWSI Project. AL has primary DOE administrative responsibility and contractual authority for SNL and LANL. This MA has been established to define AL and NV management controls for these contracts in a manner that provides certain authorities to the assigned NV personnel responsible for management and control of specific aspects of the SNL and LANL activities on the NNWSI Project.

2. **BACKGROUND.** The NWPA of 1982 assigns certain responsibilities and authorities to the DOE and the NRC with regard to geologic disposal of commercial high-level radioactive waste. NV has been assigned responsibility for management and technical direction of the NNWSI Project by the DOE Headquarters Program Office, OCRWM. SNL and LANL are two of the participating organizations, which perform technical support work on the NNWSI Project. These two major NNWSI Project participating organizations are under contract to DOE, and these contracts are administered by the AL.

The NNWSI Project has been established for the purpose of evaluating Yucca Mountain, on and adjacent to the NTS, as a potential location for a geologic repository for commercial and defense high-level radioactive waste. As specified in the Energy Reorganization Act of 1974 and the NWPA of 1982, a construction authorization and license will be required from the NRC in order for DOE to construct and operate a geologic repository. A major regulatory requirement established by the NRC on potential licensees is to assure documented direction of the QA program. Clear management controls, effective lines of communication, and authority must be established by the licensee over all participating organizations and contractors performing quality-related work applicable to licensee actions. The office within NV assigned responsibility for the NNWSI Project is the WMPO. The Director, WMPO, has been designated as the pertinent representative for all NV contracts and agreements, which principally provide support to the NNWSI Project. NV will be the licensee.

\* Attachment No. 1 provides a definition of terminology used in this agreement.

3. GENERAL. The NNWSI Project has been designated as part of a MSA Project (First Commercial Radioactive Waste repository) under the programmatic direction of the OCRWM. The DOE Orders applicable to MSA Projects are being implemented by NV, and the Project participants performing work on the NNWSI Project are subject to all applicable provisions of those orders. NVO-196-17, NNWSI Project Quality Assurance Plan, defines QA requirements for the NNWSI Project. Its application to work performed by DOE and contractors on the NNWSI Project is considered mandatory to meet NRC requirements. NVO-196-18, WMPO Quality Assurance Program Plan, defines the policies and methods to be used by the DOE personnel and NV's Quality Assurance Support Contractor on the conduct of quality related activities. Its application on the work performed on the NNWSI Project is also considered mandatory.

The FMFIA of 1982 requirements are applicable to DOE. Vulnerability Assessments and Internal Controls Reviews are required to be performed by the responsible Field Offices as defined in this agreement. AL is responsible for compliance with the FMFIA with respect to administrative and financial control systems at SNL and LANL. NV is responsible for compliance with FMFIA with respect to programmatic management and direction for activities performed by SNL and LANL in support of this NNWSI Project funded from the NWF.

#### 4. ADMINISTRATION OF AGREEMENT.

a. The Manager, AL, or such other persons whose names or titles shall be communicated to NV by the Manager, AL, in writing, will administer this MA for AL.

b. The Manager, NV, or such other persons whose names or titles shall be communicated to AL by the Manager, NV, in writing, will administer this MA for NV.

#### 5. DELEGATION OF AUTHORITY AND RESPONSIBILITIES.

a. Manager, AL, is responsible for the following:

(1) Provide documented authority to the Director, WMPO/NV, for the SNL and LANL contracts by taking the necessary contractual and other actions to enable the Director, WMPO/NV to represent the Contracting Officer and perform the administrative functions over SNL and LANL for only that work funded from the NWF for the NNWSI Project as defined in 5.b.(1) below. For the purposes of this agreement, this authority is referred to as Contracting Officers Technical Representative authority (COTR/NV).

(2) While AL does not plan to conduct its own QA audits of SNL and LANL on NNWSI Project activities or participate in NV conducted QA audits of same, AL may, at its direction:

(a) Provide observers on NV conducted QA audits of SNL and LANL.

(b) Conduct its own QA audits to meet its own requirements.

If an AL QA audit is NNWSI Project specific QED/AL will provide an invitation to the PQM/NV to send an observer, and the audit report will be provided to the PQM/NV for information at the time of issuance.

b. Manager, NV, is responsible for the following:

(1) Provide notification in writing to the Manager, AL, of the name of the individual currently assigned to the position of Director, WMPO, who will act as the NV authorized representative (COTR/NV) of the AL Contracting Officer and assume the responsibilities and authority to perform the functions as specified below:

(a) Act as principal point of contact between NV and the SNL and LANL TPO's for the technical direction of all NNWSI Project sponsored work assigned to those Laboratories.

(b) Ensure the performance of all necessary actions for effective SNL and LANL performance and compliance with DOE policies and quality requirements, laws and regulations, and DOE and NRC Agreements, established by appropriate authority, applicable to the NNWSI Project. The policies and quality requirements include, but are not limited to, applicable DOE Orders, NVO-196-17, and NVO-196-18, and Laboratory NNWSI Project Quality Assurance Program Plans and Procedures. The DOE/NRC agreements are the Procedural Agreement and Site Specific Agreement and latest revisions. Laws and Federal Regulations are those applicable to geologic repositories such as the NWPA of 1982, 10CFR50 Appendix B, 10CFR60, 10CFR960, 40CFR191 and others.

(c) Ensure identification and resolution of variances between NV and AL policies, if and where they might exist, in their application to Laboratory operations.

(d) Manage and coordinate the allocation of NWF resources provided for the NNWSI Project, and direct and support the technical work performed by SNL and LANL at the NTS, at the respective Laboratories, or other appropriate locations.

(e) Establish priorities involving NWF resources provided to the SNL and LANL and resolve conflicts in plans, funding allocations, and Project requirements.

(f) Provide administrative direction and instructions in accordance with administrative policies and procedural requirements established for the NNWSI Project.

(g) Request and approve work assignments, special Project assignments, and other items requiring approval of a DOE Project Manager (Director, WMPO) to expend NWF resources on the NNWSI Project.

(h) Issue "suspension of work orders" to the Laboratory Technical Project Officer responsible for directing NNWSI Project work on a specific activity, such as structures, systems and components important to safety or isolation. Work may be halted consistent with NNWSI Project QA requirements for prompt corrective action to respond to audit findings and for the control of nonconformances. Since there are no standard suspension of work clauses in Laboratory contracts, it is understood by NV that the issuance of "suspension of work orders" by the COTR/NV will not establish the basis nor create an unallowable cost.

(i) Issue letters rescinding "suspension of work orders" issued to the affected Laboratory including authority to determine acceptability of corrective action.

(j) Provide the names of any individuals authorized to act for the Director in the absence of the Director, WMPO.

(k) The foregoing NV authorities do not include the authority reserved by the AL Contracting Officer to issue or accept changes in scope, price, terms or conditions of the SNL and LANL contracts, or to sign contractual documents.

(2) Provide notification in writing to the Manager, AL, of the name of the individual currently assigned to the position of NNWSI Project Quality Manager for NV. Also, provide the names of any individuals authorized to act for the PQM/NV in his absence.

(3) Provide the Director, QED/AL, as a minimum, controlled copies of the approved NNWSI Project QA Plan and Standard Operating Procedures (NVO-196-17), WMPO QA Program Plan and Quality Management Procedures (NVO-196-18), and all approved changes upon issuance for information. Additional copies of the current approved QA Plan and Procedures will be provided upon request of the Director, QED/AL.

(4) Provide the Manager, AL, copies of the approved DOE/NRC Procedural Agreement (Morgan-Davis Agreement) and DOE/NRC Site Specific Agreement and appendices and all approved changes at the time of issuance or when otherwise available to NV. Additional copies of the approved DOE/NRC Agreements will be provided by NV upon request by AL.

(5) Provide the Contracting Officer, AL, a copy of all "suspension of work orders" issued by the COTR/NV to SNL or LANL. A copy of the audit finding or the Nonconformance Report, which establishes the basis for the action will accompany all "suspension of work orders." A copy of letters rescinding "suspension of work orders" will also be provided to the Contracting Officer, AL, at the time of issuance, and will include a copy of the dispositioned and approved Nonconformance Report.

(6) Provide and maintain the annual NNWSI Project QA audit schedule, and any approved changes, designating the month audits are planned for SNL and LANL. Audit schedules will be provided to QED/AL, MSD/AL and LAAO as appropriate and in a timely manner. QA audit checklists, audit reports, and audit close-out letters will be provided by NV to QED/AL, MSD/AL and LAAO as appropriate, at the time of issuance.

(7) Provide qualified lead auditor, and conduct all NNWSI Project scheduled QA audits of SNL and LANL. Lead auditors will be qualified in accordance with the requirements specified in NVO-196-18.

(8) All NNWSI Project QA audits of SNL and LANL will be conducted to a checklist and scope developed and established by the NV. The PQM/NV will have final approval authority to close out the NNWSI Project audit findings. Audit planning, reporting, and close out documentation will be originated by NV and be considered NV QA records. Copies of all documentation will be provided to QED/AL in a timely, efficient, and appropriate manner.

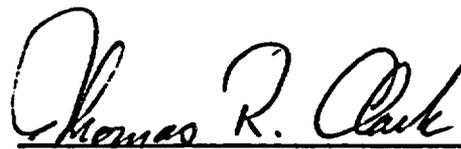
(9) Provide qualified QA audit team members and/or observers for the conduct of NNWSI Project QA audits as considered sufficient or appropriate by the PQM/NV. All audit team members will be qualified in accordance with the requirements specified in NVO-196-18.

(10) Provide qualified QA surveillance personnel and conduct NNWSI Project QA surveillance on SNL and LANL technical activities as considered sufficient or appropriate by the PQM/NV.

6. PUBLIC INFORMATION. NV will perform the lead public affairs responsibilities for the NNWSI Project in accordance with the NNWSI Project Public Affairs Plan, as may be revised from time to time. SNL and LANL may deal directly with NV on activities associated with public hearings, public meetings, and other public affairs activities on the NNWSI Project. NV Office of Public Affairs (OPA/NV) will be responsible to inform OPA/AL on actions taken, as appropriate.

7. COMMENCEMENT, CHANGE, AND TERMINATION. This MA shall be effective upon signature of both parties. This MA will remain in effect until terminated or as may be modified from time to time by mutual agreement in writing.

  
R. G. Romatowski, Manager  
Albuquerque Operations Office

  
T. R. Clark, Manager  
Nevada Operations Office

October 9, 1985  
Date

October 9, 1985  
Date

## DEFINITION OF TERMINOLOGY

### TERMINOLOGY

### DEFINITION

|  |   |
|--|---|
| AL                                       | Albuquerque Operations Office, Department of Energy   |
| DOE                                      | Department of Energy  |
| DOE/NRC<br>Procedural<br>Agreement       | A procedural agreement between the Nuclear Regulatory Commission and the Department of Energy identifying guiding principles for interface during site investigations and site characterization for geologic repositories. This document was executed and published in the Federal Register on August 25, 1983 (FR48:38701). The document is sometimes referred to as the Morgan-Davis Agreement.   |
| DOE/NRC<br>Site<br>Specific<br>Agreement | An agreement between the Department of Energy's Office of Site Geologic Repository Deployment Projects (including the NNWSI Project) and the Nuclear Regulatory Commission during the site investigation and characterization programs and prior to the submittal of an application for authorization to construct a repository. This document was transmitted to DOE personnel by memorandum from William J. Bennett, dated September 15, 1984. The document contains several appendices and may be revised from time to time. |
| FMFIA                                    | Federal Managers' Financial Integrity Act of 1982.  |
| LAO                                      | Los Alamos Area Office  |
| LANL                                     | Los Alamos National Laboratory  |
| MA                                       | Management Agreement  |
| MSA                                      | Major Systems Acquisition as defined in DOE Order 4240.1  |
| MSD/AL                                   | Management Support Division, Albuquerque Operations Office  |
| NNWSI                                    | Nevada Nuclear Waste Storage Investigations   |
| NRC                                      | Nuclear Regulatory Commission   |
| NTS                                      | Nevada Test Site  |
| NV                                       | Nevada Operations Office, Department of Energy  |
| NVO-196-17                               | A Nevada Operations Office document defining the NNWSI Project Quality Assurance Plan and Standard Operating Procedures, latest revision  |
| NVO-196-18                               | A Nevada Operations Office document defining Waste Management Project Office Quality Assurance Program Plan and Quality Management Procedures, latest revision  |
| NWF                                      | Nuclear Waste Fund as established by Congress in the Nuclear Waste Policy Act of 1982   |
| NWPA                                     | Nuclear Waste Policy Act of 1982  |
| OCRWM                                    | Office of Civilian Radioactive Waste Management, Department of Energy, Headquarters   |
| OPA                                      | Office of Public Affairs  |
| PQM/NV                                   | Project Quality Manager. A matrix support individual assigned to manage and implement the NNWSI Project QA activities and reports to the Director, QAD/NV   |
| QA                                       | Quality Assurance   |

**DEFINITION OF TERMINOLOGY**  
**(continued)**

| <b>TERMINOLOGY</b> | <b>DEFINITION</b>   |
|--------------------|---|
| <b>QED/AL</b>      | <b>Quality Engineering Division, Albuquerque Operations Office</b>  |
| <b>QAD/NV</b>      | <b>Quality Assurance Division, Nevada Operations Office</b>   |
| <b>SNL</b>         | <b>Sandia National Laboratories</b>   |
| <b>TPO</b>         | <b>Technical Project Officer. The title used in reference to the Lead Manager of a technical participating contractor organization on the Nevada Nuclear Waste Storage Investigations Project</b> |
| <b>WMPO</b>        | <b>Waste Management Project Office, DOE/NV</b>  |