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## NUCLEAR WASTE MANAGEMENT PROCEDURE

### GLOSSARY Revision 12

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## 1.0 Definitions

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The definitions listed here are a compilation of the definitions used in the Nuclear Waste Management Procedures (NPs) and Activity/Project Specific Procedures (SPs). Included in parenthesis following each definition is the NP(s) and/or SP(s) where that particular definition is used.

**Access Control** - The methods established to permit authorized and prevent unauthorized access to software. Controls may consist of restricting access to the computer during off-hours or providing password security for the computer or the software. These controls may be provided on either a software-specific or a system-specific basis. (NP 19-1)

**Access Control Memorandum** - Memorandum which documents access control methods for one or more codes. (NP 19-1)

**Acquired Software** - Software brought into the SNL WIPP program, which was not created following the life cycle methodology defined in the DOE/CBFO Quality Assurance Program Document (QAPD). This type of software may have missing life cycle components, and therefore, it needs to be evaluated and qualified prior to use. (NP 19-1)

**Actions to Preclude Recurrence** – Actions necessary to prevent recurrence of the condition adverse to quality. (NP 16-1)

**Activity/Project Specific Procedure (SP)** - An SP is a quality assurance implementing procedure which specifies requirements for the performance of a specific activity, or for implementation of project specific QA requirements. An example of an SP for the performance of a specific activity would be an SP which directs how a specific piece of data collection equipment is to be set-up or operated. An SP for project specific QA implementation is exemplified by SP 13-1, which prescribes WIPP project specific sample control practices. (NP 5-1)

**Adequacy** - The adequacy of a Quality Assurance (QA) program being assessed is determined by evaluating (during an audit or surveillance) the auditees' compliance with upper-tiered requirements. (NP 18-1)

**Administrative Change** - With regard to procurement documents, a change made to a contract or a purchase requisition (PR) that does not affect the scope of work or the QA requirements specified in either of these documents. Administrative changes consist of changes to only the following aspects of procurement documents:

- period of performance (POP), with the exception of POP for suppliers whose approval status is based on a third party certification,
- ceiling price,
- funds availability,
- estimated cost reporting,
- allowable travel costs,
- allowable charges,
- Sandia points-of-contact,
- billing/invoicing instructions,
- information on Sandia work week, work hours, and holidays,
- safety, health, environment, property, and fire protection,
- government-furnished property/material,
- copyrights for Sandia directed technical performance,
- requirements concerning university employees,
- Contractor requests for Sandia restricted area access,
- wage determination,
- rate revisions,
- termination article--multi-year contracts. (NP 4-1)

With regard to QA records, administrative changes are those used to enhance legibility, correct typographical errors, make editorial changes, add or enhance title content, label privileged or proprietary records, and add or correct page counts or page numbering. (SP 17-1)

**Administrative Support Staff** - Personnel assigned responsibility for administrative support tasks. (NP 2-1)

**Analysis** - The rational investigation of a natural or artificial phenomenon to discover principles that underlie the phenomenon. More formally, analysis is the process of defining, investigating, validating, reviewing, and documenting the study of a system or component of a system. (NP 9-1, 9-2)

**Analysis Plan (AP)** - A document that defines the technical scope, approach, methodology, and requirements for conduct of a calculational or computational investigation. (NP 1-1, 9-1)

**Analyst** - Generally, personnel performing tasks defined in an Analysis Plan; or as defined in Appendix B of NP 2-1. (NP 2-1, 9-1)

**Annually** - An event that occurs once a year within three (3) months of the yearly date. (NP 2-1, 12-1, 13-1)

**Approved Users Memorandum** - Memorandum which lists approved users for a particular code. (NP 19-1)

**Archive** - When sample(s) are placed in a separate location than active samples undergoing investigation, until it is determined that further investigations are not required. (NP 13-1, SP 13-1)

**Assessment** - The act of reviewing, inspecting, testing, checking, conducting surveillances, audits or otherwise determining and documenting whether items, processes, or services meet specified requirements. Assessments are performed by or for management. Assessments may be internal or external. (NP 18-1)

**Assessment Task Lead** - The SNL WIPP QA individual who is responsible for the evaluation of work activities to determine audit and surveillance needs, establishing assessment schedules, and the coordination of available auditor and Lead Auditor resources. (NP 18-1)

**Audit** - A planned and documented independent assessment to determine by investigation, examination, or evaluation of objective evidence, the adequacy, and compliance with established procedures, codes, standards, instructions, drawings, and other applicable requirements; and the effectiveness of implementation. An audit should not be confused with surveillance or inspection activities performed for the sole purpose of process control or product acceptance. (NP 4-1, 18-1)

**Auditor** - An individual who is qualified to perform assigned portions of an audit. (NP 18-1)

**Audit Team** - An audit team consists of a Certified Lead Auditor and may include qualified auditors and technical specialists. (NP 18-1)

**Audit Team Leader (ATL)** - An audit team leader is a certified lead auditor who has been assigned to lead an audit team. (NP 18-1)

**Authentication** - The act of attesting that the information contained within a document or record package is accurate, complete, legible, and appropriate to the work accomplished. (NP 17-1)

**Author** - The individual responsible for preparing and revising NPs and SPs, coordinating reviews, and resolving comments on those documents. (NP 5-1)

**Authorized Users** - Laboratory and field staff that have been trained, qualified, and approved by the principal investigator/owner of the notebook to make entries in the subject scientific notebook. (NP 20-2)

**Baseline** - Software and associated documentation that has been placed under configuration control and approved for use. (NP 19-1)

**Baseline FEPs List (BFL)** - The most current listing of FEPs, their descriptions, arguments, and decisions. (SP 9-4)

**Budget/Procurement Specialist (BPS)** - SNL WIPP personnel responsible for the administrative processing of procurement documents. (NP 4-1)

**Buyer** - See the definition for Sandia Contracting Representative (SCR). (NP 4-1)

**Calibration** - A set of operations which establish, under specific conditions, the relationship between values indicated by a measuring instrument or measuring system, and the corresponding standard or known values derived from the standard. (NP 12-1, 13-1)

**Calibration Check** - Verifies that an instrument is calibrated. A calibration check is a set of operations which verify, under specific conditions, the agreement between values indicated by a measuring instrument or measuring system, and the corresponding standard or known values derived from the standard. (NP 12-1, 13-1)

**Calibration Provider** - The person or organization responsible that performs calibration of M&TE. (NP 12-1)

**Causal Codes** - A code letter from Appendix D of NP 16-1 used to identify the cause of a deficiency by origin and root cause representing elements of NQA-1. (NP 16-1)

**Carlsbad Field Office (CBFO)** -The DOE field office responsible for oversight of the WIPP project. (NP 9-1)

**Certify** - To confirm formally in writing as true, accurate, or genuine. (NP 2-1)

**Chain-of-Custody (CoC)** - Chain-of-custody is the process of documenting the possession of samples from the time they are collected or created until sample disposition. (NP 13-1, SP 13-1)

**Cited Reference** - Any document referenced in final reports. (NP 17-1)

**Code** - A computer software item ("code" is used interchangeably with "software"). (NP 19-1)

**Code Developer** - This individual develops or modifies specific codes at the direction of a subject matter expert. (NP 19-1)

**Code Team/Sponsor** - Individual(s) who oversees the Software Quality Assurance (SQA) process for a particular software item. (NP 19-1)

**Commercial Off-the-Shelf Software (COTS)** - Software procured from the commercial sector (e.g., EXCEL, LOTUS, etc.). A characteristic of off-the-shelf software is that it is available for general public use. (NP 19-1)

**Complementary Cumulative Distribution Function (CCDF)** - One minus the cumulative distribution function. (NP 9-2)

**Complete** - With regard to records, the point at which no additional information is added to a record or record package. Authentication by signature (or potentially by electronic means) or clear issuance by an organization (e.g., SAND Report cover) is the final act to signify the condition of completeness. Complete also refers to "appropriate to the work accomplished." (NP 17-1)

**Compliance Decision (CD)** - Compliance, certification, or recertification analyses whose output is relied upon to make design, analytical, operational, or compliance-based decisions with respect to the performance of the waste confinement system. These results will be used:

- in supporting an application for certification or recertification, or
- in a DOE/CBFO planned change request to activities or conditions contained in the most recent compliance determination, or
- an analysis requested by EPA (e.g., performance assessment, impact assessments, data analysis, parameter justifications). (NP 9-1, 9-2, 19-1)

**Compliance Decision Software** - Software that is used to demonstrate compliance with disposal regulations or whose output is relied upon to make design, analytical, operational, or compliance-based decisions with respect to the performance of the waste confinement processes. (NP 19-1)

**Compliance/Recertification Analyses** - Analyses which generate results that will be used in supporting an application for or recertification of a permit or license (e.g., performance assessment, parameter development). (NP 9-1)

**Conceptual Model Parameters** – Those parameters that may implement a Features, Events, and Processes (FEPs) or conceptual models and may be based on data resulting from experiments conducted for the WIPP project (e.g., physical, chemical, or hydrologic properties of the rock formations, seals, backfills, waste form, or other natural or engineered feature of the WIPP; or they may be based on information derived from appropriate literature). (NP 9-2)

**Condition Adverse to Quality (CAQ)** - An all-inclusive term used in reference to any of the following: deviations, findings, malfunctions, deficiencies, and technical inadequacies. Adverse conditions include those identified during the performance of specified work affecting quality as well as during verification, surveillance, audit, trending, and management assessment activities. (NP 1-1, 16-1, 18-1)

**Consistency** - Individual requirements are not in conflict with each other. (NP 19-1)

**Contract** - A document issued by the Sandia Contract Representative (SCR) that:

- includes the requirements of a Purchase Requisition (PR) and
- specifies the terms and conditions governing and controlling the performance of the Statement of Work (SOW). (NP 4-1)

**Controlled Document (CD)** - A document that contains or specifies technical or quality requirements, prescribes the conduct of processes, or establishes the design of systems important to waste isolation, or demonstration of regulatory compliance. Examples include, but are not limited to, Procedures (NPs), Test Plans (TPs), Analysis Plans (APs), Activity/Project Specific Procedures (SPs), Glossary, and drawings. (NP 5-1, 6-1, 6-2)

**Controlled Documents Database** - The database used for tracking the status of controlled documents. (NP 6-2)

**Corrective Action** - Measures taken to remediate, investigate and preclude the repetition of conditions adverse to quality. (NP 16-1, 18-1)

**Corrective Action Request (CAR)** - The mechanism used to document, track, and correct conditions adverse to quality. (NP 16-1)

**Corrective Action Tracking System** - A database used to document the status of all CARs initiated by SNL. This system will be maintained through the end of the project. (NP 16-1)

**Corrected During the Audit/Surveillance** - An isolated condition or finding that only requires remedial action and verification prior to audit/surveillance closeout. (NP 16-1, 18-1)

**Cumulative Distribution Function** - The sum (or integral as appropriate) of the probability of those values of a random variable that are less than or equal to a specified value. (NP 9-2)

**Data Acquisition System (DAS) Software** - Software used to control test equipment, obtain electrical readings from the equipment, convert the readings to scientific or engineering units. (NP 19-1, 20-1, SP 12-4)

**Database Administrator (DBA)** - The individual responsible for maintaining the Performance Assessment Parameter Database (PAPDB), including its security and maintenance of the data entered into it. The DBA is responsible for the creation, retrieval, and update rules for the database that make it possible to enter and retrieve values correctly. (NP 9-2)

**Delta Distribution** - The delta distribution is used to assign probabilities to the elements of some finite set of objects. (Tierney, 1996 ERMS 35268) (NP 9-2)

**Design Constraints** - Describe any functional requirements that will later restrict design options. Examples of this may include operating system, database management system, language, etc. This is often an optional functional requirement category. (NP 19-1)

**Design Document (DD)** - A document that describes the major features of the software design: theoretical basis, embodied mathematical model, control flow, control logic, data structure(s), functionalities and interfaces of objects, components, functions, and subroutines used in the software, and the allowed or prescribed ranges for data inputs and outputs in a manner that can be implemented. (NP 19-1)

**Developed Software** - Software developed or modified by SNL following life cycle methodology defined in the DOE/CBFO QAPD, as opposed to acquired software. (NP 19-1)

**Deviation** - A departure from SNL WIPP QA program requirements (i.e., a "shall" or "will" activity specified in a procedure). An adverse finding that does not comply with established policies, procedures, instructions, drawings, or other program requirements. (NP 16-1)

**Document Control Staff** - Personnel responsible for the issuance, distribution, and recall of Controlled Documents. (NP 6-2)

**Dual Storage** - Records stored at facilities at locations sufficiently remote from each other to eliminate the chance of exposure to a simultaneous hazard. (NP 17-1)

**Editorial Changes** - The following items are considered editorial or minor changes:

- correcting grammar or spelling
- renumbering sections or attachments
- updating organizational titles (no change in responsibility)
- changing nonquality affecting schedules
- revising or reformatting forms, providing the original intent of the form has not been altered
- changing attachments marked "Example", "Sample", or exhibits that are clearly intended to be representative only
- incorporating clarification changes that don't affect the purpose of the document

(NP 6-1, 6-2)

**Effective Date** - The date on a controlled document indicating when implementation begins. (NP 5-1, 6-2)

**E-Mail Record** - Any information transmitted or received by the electronic mail system that meets the definition of a QA record. All header/address information must be included and authenticated. (NP 17-1)

**Features, Events, Processes (FEPs)** - A FEPs analysis documents the screening process and decision for natural, waste- and repository-induced and human-initiated features, events, and processes (FEPs). Those that are retained (not screened out) are included in the conceptual models of repository performance. (SP 9-4)

**Finding** - An adverse condition that is a deviation from established policies, procedures, instructions, drawings, or other required documents and compels documented corrective action by the organization subject to the assessment. (NP 18-1)

**Functionality** - Functional requirements define what the software product must accomplish. They should describe, as applicable: how inputs are transformed into outputs, what inputs are necessary, what outputs are produced, what equations or mathematical techniques are to be implemented by the software, what ranges of inputs can be handled by the software. (NP 19-1)

**Grading of QA** - The process by which the extent of management and QA controls applied to an activity is commensurate with the importance of that activity to program objectives, safety, or other relevant factors. (NP 1-1)

**Historic, Current, and Near-Future (HCN)** - A term used to describe the timeframe that a given FEP is applicable. Generally implies that the FEP has happened in recorded history, is happening currently, and/or may happen in the foreseeable future. (SP 9-4)

**Implementation Document (ID)** - A document which contains the source listing (the source code can be stored in a configuration management tool) and documentation of the process used to convert the source code to an executable. (NP 19-1)

**Initial WIPP QA Program Training** - Provided initially, this training consists of an overview of the source of SNL WIPP QA requirements, defines basic QA requirements, defines QA roles and responsibilities for Managers, Staff and the QA Team and provides an overview of SNL WIPP NPs. (NP 2-1)

**Initiator** - The individual who originates a CAR, Form NP 16-1-1, identifying an adverse condition. This may be any individual performing activities in support of the SNL WIPP scope of work for the WIPP (e.g., SNL personnel, Lead Auditor, SNL QA personnel, suppliers). (NP 16-1)

**Installation and Checkout (I&C)** - The phase of software development where the validated executable code is installed on the production computer and regression testing is conducted to ensure the software performs in the same manner as documented in the Validation Document. (NP 19-1)

**Instrument Logbook** - The record of the use and maintenance of a specific instrument. (NP 20-2)

**Interface** - The boundaries of responsibilities for each organization when organizations interact. (NP 5-1)

**Inventory Parameters** – Represent the inventory of waste to be emplaced in the WIPP. (NP 9-2)

**Investigative Action** – Assessment of the extent and impact of the condition adverse to quality. (NP 16-1)

**Job Description** - The characterization of a job by position and area (see Form NP 2-1-1) for which personnel must qualify based on education and previous experience. (NP 2-1)

**Just-in-Time (JIT) Procurements** - SNL's procurement system for commercial items (products). (NP 4-1)

**Lead Auditor** - An individual trained, qualified, and certified to organize and direct an audit, report audit findings, and evaluate corrective actions. (NP 18-1)

**Life-Cycle** - A model for software development that starts when a software product is conceived and ends when the software is retired. This model consists of and ensures documentation of technical adequacy. (NP 19-1)

**Lifetime Records** - Records required to be maintained for the useful life of the items to which they pertain while the items are installed in the plant or facility (life of the item), or for the lifetime of the equipment, facilities, or programs to which the records apply. (NP 17-1)

**Lognormal Distribution** - A probability distribution in which the logarithm of the variable in question follows a normal distribution. (NP 9-2)

**Loguniform Distribution** - A probability distribution in which the logarithm of the variable in question follows a uniform distribution. (NP 9-2)

**Machine Readable Media** - Records media such as computer discs or tape, videotape, optical discs, etc., that require the use of a device (computer system, videotape player/television) for the records content to be viewed by humans. (NP 17-1)

**Machine Readable Records** - Records that are recorded on machine-readable media. (NP 17-1)

**Major Change** – Change with an appreciable effect on the operational characteristics and reliability of the product and its fitness for the intended purpose, relative to the previous version. Major changes typically warrant full re-qualification at least in the areas of code affected. (NP 19-1)

**Management Review** - A review to confirm acceptance of the document being reviewed and to assess any impacts on the SNL Project. (NP 5-1, 6-1, 9-1, 19-1, 20-1)

**Managing and Operating Contractor (MOC)** - The Department of Energy (DOE) contractor responsible for managing and operating the WIPP site. (NP 5-1)

**Manual Inspection** - Manual activities which do not involve numerical manipulations. These include visual inspection of output values, table reformatting or plotting, and concurrence with qualitative acceptance criteria such as trends in results due to input parameter variations. (NP 19-1)

**May** - Denotes an action that is completed at the discretion of the person implementing the procedure or instruction. (All NPs and SPs)

**Mean** - The expectation of a random variable: i.e., the sum (or integral) of the product of the variable and the probability distribution function (PDF) over the range of the variable. There is sample mean and mean: the mean,  $\mu$ , of a distribution is one measure of the central tendency of a distribution, analogous to the arithmetic average of a series of numbers. The sample mean,  $\bar{x}$ , is the arithmetic average of values in an empirical data set. (NP 9-2)

**Median** - The value of a random variable at which its cumulative distribution function (CDF) takes the value 0.5; i.e., the 50<sup>th</sup> percentile point. (NP 9-2)

**Measuring and Test Equipment (M&TE)** - Equipment used to indicate, measure and acquire data, as well as equipment used as standards in verifying the performance of other M&TE. (NP 12-1)

**Minor Change** – Change with no appreciable negative effect on the operational characteristics and reliability of the product and its fitness for the intended purpose relative to the previous version. (NP 19-1)

**MOC Manager of Industrial Safety** - The individual or designate responsible for reviewing procedures from the standpoint of safety for all tasks to be performed at the WIPP site, regardless of the employee's organization. (NP 5-1)

**Mode** - The value of a random variable at which its probability distribution function (PDF) takes its maximum value. The mode of a set of data is the value in the set that occurs most often. (NP 9-2)

**Modeling Software** - Qualified software which models physical phenomena, usually by implementation of a system of complex equations. (NP 19-1)

**Non-Quality Assurance Record (NQ)** - A record that meets the definition of a record, but does not meet the criteria of a quality assurance (QA) record. (NP 17-1)

**Normal Distribution** - A probability distribution in which the PDF is a symmetric, bell shaped curve of bounded amplitude extending from minus infinity to plus infinity. (Tierney, 1990) (NP 9-2)

**Nuclear Audit** - An audit of a QA program with requirements derived from 10 CFR 50, Appendix B, ASME NQA-1, or other similar nuclear QA standards. (NP 18-1)

**Numerical Code Parameters** – Those data/values/parameters required for implementation of numerical modeling codes. (NP 9-2)

**Object Library** – A collection of object files that can be linked to other object files to produce codes. Generally, if a subroutine is used by more than one code, its object is stored in a library to avoid redundancy. Object libraries do not require separate validation because their subroutines are validated when the code into which they are linked is validated. (NP 19-1)

**Observation** - Documentation of marginally acceptable conditions that, if not controlled, might later escalate into a deviation or finding. Observations are not findings and are normally considered closed at the end of the audit or surveillance. A response may be requested. (NP 18-1)

**Online Document** - The on-line version of a controlled document maintained in electronic format with the equivalent protection and controls required for documents subject to controlled distribution and access control measures to prevent unauthorized alterations or modifications of such document. (NP 6-2)

**Oracle PR Worksheet** - Sandia form, number SF 6430-RDO, for use by procurement requesters to capture information regarding their intended procurement action (new purchase or procurement change) to be passed on to a Budget/Procurement Specialist for preparation and submittal of an Oracle electronic purchase requisition. This form is available on the SNL "Corporate Forms" website. (NP 4-1)

**Parameter Error** - When incorrect data are used for a parameter in a PA calculation. (NP 9-2)

**Parameter Problem** - When an incorrect parameter value or values are approved and entered into the parameter database but are remedied before the data are used in a calculation, or when another problem related to a parameter record occurs but can be corrected before the parameter(s) in question are accessed in a calculation. (NP 9-2)

**Parameter Record** - A value or set of values associated with a parameter in the database. Each parameter record must be assigned to a particular analysis when its values are entered in the WIPP PA Parameter Database (PAPDB). (NP 9-2)

**Parameters** - All numbers or distributions of numbers used as initial input to a PA numerical model. Many are stored in the PAPDB, where a parameter is defined by its material name and property name. (NP 9-2)

**Patch Change** - A change that is of low complexity and easy to verify its implementation (e.g., a change to re-compile and link to a modified include file without changing the source, a change to a database view to expand a field from 8 to 10 characters, etc.). (NP 19-1)

**Performance** - For software, performance refers to time-related software operations issues, e.g., speed, recovery time, response time. (NP 19-1)

**Performance Assessment (PA)** - A term used to denote all analysis activities carried out to (1) evaluate the long-term ability of a repository system to effectively isolate waste by complying with applicable regulatory performance objectives; and (2) to provide the basis for demonstrating regulatory compliance. (NP 9-2)

**Primitive Baseline** - Software and existing documentation placed under configuration control prior to approval for use. (NP 19-1)

**Principal Investigator (PI)** - The technical staff member responsible for the completion of a particular investigation, design, or analysis. (NP 2-1, 9-1, 20-1, 20-2, SP 5-1)

**Probability Density Function** - A real-valued function whose integral over any set gives the probability that a random variable has values in this set. (NP 9-2)

**Product** - An all-inclusive term commonly used to mean any of the following: structure, system, component, material, or equipment. This can also be a document, a report, or test results. (NP 4-1)

**Production Baseline/Production Software** - Baseline software that has been installed and checked out per NP 19-1, and therefore approved for use. (NP 19-1)

**Program Description** - A document which describes the organizational structure and mission of the SNL WIPP project. It defines internal and external organizational interfaces to include management, performance, and assessment responsibilities. (NP 1-1)

**Programmatic Decision (PD)** - Programmatic, scoping, or sensitivity analyses associated with programmatic decisions. These analyses may be considered as *scoping* or screening in that they apply to development, implementation, and testing of improvements to the existing methodology. Scoping calculations include evaluative efforts regarding features, events, and processes (FEPs) screening, conceptual/mechanistic model evaluation, or assessment of grid adequacy. *Sensitivity* analyses can focus on testing the impact of alternative modifications for improving capabilities for conducting performance assessments (PAs) and for communicating and explaining the results of a PA. (NP 9-1, 9-2, 19-1)

**Programmatic Decision Software** - Software that is used to make programmatic decision such as scoping or screening analyses to develop, implement, or test potential improvements to existing methodology. This type of software does not fall under the life-cycle process. (NP 19-1)

**Purchase Order (PO)** - A contract negotiated between a supplier and a Sandia Contract Representative (SCR) for commercial products or services. (NP 4-1)

**Purchase Requisition (PR)** - The SNL form used to request procurement action. It is also the form used to document a Change Requisition. (NP 4-1)

**QA Record** - An authenticated record that provides objective evidence of the quality of items or activities. (NP 1-1, 17-1)

**QA Section** - In the Statement of Work (SOW), the QA section prescribes the requirements of the QA Program, such as appropriate QA Procedures, and other applicable orders and documents to which the supplier must comply. The QA section may also require the supplier to develop their own QA Program or to follow SNL WIPP QA procedures. (NP 4-1)

**Qualification (Personnel)** - The characteristics or abilities gained through education, training and/or experience as measured against established minimum requirements specified, such as standards or tests, that qualify an individual to perform a required function. (NP 2-1, NP 18-1)

**Qualified User** - A person named in a Qualified User Memo for a specific product baseline Code. (NP 19-1)

**Quality** - The condition achieved when an item, service, or process meets or exceeds applicable requirements and user's expectations. (NP 1-1)

**Quality Assurance (QA)** - The governing program dictating planned and systematic actions taken during planning and completion of project tasks to provide the required degree of confidence in the final product. (NP 1-1)

**Quality Assurance (QA) Program** - The program established to assign responsibilities and authorities, define policies and requirements, and provide for the performance and assessment of work. (NP 1-1)

**Quality Assurance (QA) Review** - A review to provide assurance that the document or activity being reviewed is consistent with QA procedures, that appropriate quality assurance (QA) requirements have been met, and that specified quality requirements have been incorporated into the document or activity. (NP 4-1, 5-1, 6-1, 9-1, 20-1, SP 5-1)

**Quality Assurance Tracking System Coordinator (QATSC)** - The SNL staff member responsible for the Corrective Action Request (CAR) tracking system. (NP 16-1)

**Readily Available** - Refers to documents that may be obtained from libraries or commercial establishments (does not mean immediately accessible). (NP 17-1)

**Readiness Review** - An evaluation performed at the direction of management to ensure that prerequisites for critical work have been met, for example, implementing documents and management controls are available and approved, personnel have been suitably trained and qualified, and required equipment is available and ready for use. (NP 1-1)

**Recalled Document** - A Controlled Document and its unique document control number that has been removed from use. (NP 6-2)

**Recommendation** - Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing quality program requirements. (NP 18-1)

**Record Package** - An informal term referring to a collection of records supporting one topic. (NP 17-1)

**Record Source** - Any individual performing SNL WIPP activities who generates QA records (also non-QA) for submittal into the SNL WIPP Records Center. (NP 17-1)

**Record Submitter** - Any person who submits QA or NQ records into the SNL WIPP Records Center. (NP 17-1)

**Records** - Books, papers, maps, photographs, machine readable materials or other documentary materials, regardless of physical form or characteristics, made or received by an agency of the United States Government under Federal law or in connection with the transaction of public business and preserved or appropriate for preservation by that agency or its legitimate successor as evidence of the organization, functions, policies, decisions, procedures, operations or other activities of the government or because of the informational value of the data in them. (All NPs and SPs)

**Recurring Condition Adverse to Quality** – Condition adverse to quality (same process deviation or activity deviation) occurring three or more times in an eighteen (18) month period. (NP 16-1)

**Reference Parameters** – Represent precisely known, tabulated physical constants, such as the half-life of a radionuclide or the gravitational constant. They are obtained from standard engineering or reference science books. (NP 9-2)

**Regression Testing** - Software testing conducted to verify that the software produces the same results for a given set of inputs as previously documented. (NP 19-1)

**Relational Database** – Comprised of a database engine (e.g., Access, MySQL, etc.) and one or more sets of data, and possibly including management tools such as queries, macros, forms, etc. (NP 19-1)

**Remedial Action** – Actions necessary to resolve the initial problem. (NP 16-1)

**Request for Quotation (RFQ)** - A document issued to potential contractors by the Sandia Contract Representative (SCR) which requests a proposal on defined work or items. (NP 4-1)

**Requester** - With regard to procurement, the Sandia employee who requests products or services by initiating a procurement. With regard to parameters, the requester is an inclusive term used for anyone who generates a parameter distribution and is responsible for the use of the parameter. (NP 4-1, NP 9-2)

**Requirements Document (RD)** - A software document that contains the requirements that the product must satisfy, including functionality, design constraints, attributes (including acceptance criteria), and external features. (NP 19-1)

**Research Activity** - A subset of a research project. A research activity consists of a single procedure, experiment, or closely related subset of experiments that are carried out to accomplish one or more goals of the research project. Examples of research activities include sample preparation and analysis, measurement of physical or chemical properties by chemical or instrumental analysis, and hydraulic well tests. (NP 20-2)

**Research Project** - A set of related activities that is designed to provide data describing the phenomenological behavior of a physical or chemical system. The research project must be described in a Test Plan. The experiments that are carried out to satisfy the goals of the research project are defined as research activities. (NP 20-1, 20-2)

**Responsible Manager (RM)** - The SNL manager or their designees that have direct responsibility for the affected activity(ies) and for assuring corrective action implementation. (NP 16-1, 19-1)

**Reviewer** - An independent, qualified person who is competent to perform a review (e.g., technical, QA, Management, ES&H). (NP 4-1, 5-1, 6-1, 9-1, 19-1, 20-1, 20-2, SP 5-1)

**Review Requester** - The individual (Department Manager, Principal Investigator, Project Manager, or Author/Sandia Contact) who initiates a review process. (NP 6-1)

**Revision** - A version of a document that is used to implement changes to that document. (NP 5-1, 6-1, 9-1, 20-1, SP 5-1)

**Root Cause (RC)** - A problem that causes an undesirable event or condition. A valid root cause must meet the following three conditions:

1. Event or condition would not have occurred if the problem had not been present.
  2. Event or condition probably will not recur due to the same cause if the problem is corrected.
  3. Correcting or eliminating the problem probably will prevent similar conditions from occurring.
- (NP 16-1)

**Root Cause Determination** - The systematic process used to identify the most basic reason(s) for an adverse condition, which, if corrected, will preclude recurrence or greatly reduce the probability of recurrence, or similar adverse condition. (NP 16-1)

**Routine Calculations** - Simple data manipulations (e.g., unit conversions, interpolations, translations, rotations, or simple analytic solutions). (NP 9-1)

**Sample** - A physical representative part of a whole or population whose properties are studied to gain information that can be inferred to provide information about the whole or population. Samples include:

- Created samples - materials that are fabricated such as engineered materials (e.g., concrete), simulated brines, mixtures of chemicals and so on;
- Natural samples - materials collected from the natural environment such as rocks, minerals, soils, fluids, and gases. (NP 13-1, SP 13-1)

**Sample Collector** - The Principal Investigator (PI) or his designee who creates, collects, and/or submits samples under a sample management system. (NP 13-1)

**Sample Description** - This refers to the type of material being transferred using the CoC form. Type of material could include the sample matrix (e.g., soil, water, certified reference material) or the types of sample (grab, composite, liquid, or brine), a box of files, notebooks, computer disks, or QA records. (SP 13-1)

**Sample Possession/Custody** - Material that is in the physical control of an individual or testing laboratory. (NP 13-1, SP 13-1)

**Sample Transfer** - The act of physically releasing and taking possession of sample material from one individual or testing laboratory to another person or testing laboratory. (NP 13-1, SP 13-1)

**SAND Document/Report** - An official SNL technical publication authorized for outside distribution. It may be a full technical report, abstract, conference paper, journal article, or presentation materials. (NP 6-1)

**Sandia Contact** - For a contractor publishing a SAND document, the Sandia staff member knowledgeable about the technical content of the report. (NP 6-1)

**Sandia Contracting Representative (Buyer)** - Specific SNL Purchasing Department staff who has the authority to obligate SNL to contracts for items/services; often referred to as the "buyer". (NP 4-1, 16-1)

**Sandia Delegated Representative (SDR)** - A Sandia employee authorized by the Sandia Contracting Representative (SCR) to administer certain aspects of a contract and who serves as the technical contact for the procurement. Often, but not necessarily, the same person as the Requester. (NP 4-1, 18-1)

**Scientific Notebook (SN)** - A record of the methodology and results of a scientific investigation when the work involves a high degree of professional judgment, sample collection, a trial-and-error method, or a descriptive activity. (NP 13-1, 20-1, 20-2, SP 13-1)

**Scientific Notebook Coordinator (SNC)** - Assigned by the Technical Manager will record the opening of new notebooks, the closure of completed notebooks, facilitate the completion of independent technical and QA reviews, monitor and control custody of notebooks, and update the SND. (NP 20-2)

**Scientific Notebook Database (SND)** - An informational database used to provide information on the status of scientific notebooks. A SNC assures the accuracy and currency of the SND. (NP 20-2)

**Scientific Notebook Supplement (SNS)** - A record, or collection of records, created while conducting the work covered in the scientific notebook that cannot be conveniently included in the scientific notebook, including, but not restricted to computer listings, floppy disks, compact disks, or large plots. A scientific notebook supplement may also be a loose-leaf binder containing the items that cannot be conveniently included in the scientific notebook. (NP 20-2)

**SCM Coordinator** - Person responsible for overseeing the operation of the SCM system. (NP 19-1)

**Scoping Analyses** - Analyses associated with programmatic decisions and applied to the development, implementation or testing of improvements to the existing methodology. Scoping calculations include evaluative efforts regarding features, events, and process (FEPS) screening, conceptual/mechanistic model evaluation, and assessment of grid adequacy. (NP 9-1)

**Screened in – Disturbed Performance (DP)** - A FEP retained and accounted for in disturbed performance scenarios. (SP 9-4)

**Screened in – Undisturbed Performance (UP)** - A FEP retained and accounted for in undisturbed performance scenarios. (SP 9-4)

**Screened Out – Consequence (SO-C)** - A screening decision that excludes a FEP from consideration in PA scenarios based on no, or low consequence to the disposal system. FEPs may also be SO-C due to *beneficial* consequence. That is, a FEP that has a positive or beneficial effect to the disposal system may be screened out because the difficulty of accurately representing the FEP in PA scenarios and models may be such that not accounting for the FEP is a conservative alternative to undergoing the expense and additional modeling complexity to accurately represent the FEP. (SP 9-4)

**Screened Out – Probability (SO-P)** - A screening decision that excludes a FEP from consideration in PA scenarios based on very low probability of occurrence. (SP 9-4)

**Screened Out – Regulation (SO-R)** - A screening decision that excludes a FEP from consideration in PA due to a regulatory directive. (SP 9-4)

**Secure Area** - An area (e.g. secure facility) where access to samples and standards is limited and controlled. (NP 13-1)

**Sensitivity Analyses** - Analyses associated with programmatic decisions and focused on testing the impact of alternative modifications for improving capabilities for conducting performance assessments (PAs) and for communicating and explaining the results of a PA. (NP 9-1)

**Services** - An all-inclusive term for performance of activities that include, but are not limited to, site characterization and assessment, site data acquisition, design, fabrication, investigation, analysis, support activities, repair, or installation of equipment. (NP 4-1)

**Shall** - Denotes a requirement. (All NPs and SPs)

**Should** - Denotes a guideline action that is a suggested practice. These actions include good practices that are desirable for achieving uniformity or consistency of administration, but are not mandatory for ensuring quality. "Should" is implied when no auxiliary verb (shall or will) is used. (All NPs and SPs)

**Significant Condition Adverse to Quality (SCAQ)** - A condition adverse to quality, if uncorrected, could have serious effect on safety, operability, waste isolation, regulatory compliance demonstration, consistent lack of attention to corrective action, or effective implementation of the WIPP Quality Assurance Program. (NP 16-1)

**SNL WIPP Records Center** - The SNL WIPP facility located in Carlsbad, New Mexico, which receives and manages all SNL WIPP generated or received records. The facility provides acceptance, processing, dual storage protection, and retention or disposition of records. (NP 17-1, SP 17-1)

**Software Baseline** - An item or product that has been formally reviewed and agreed upon, that serves as the basis for further development, and that can be changed only through formal change control procedures. (NP 19-1)

**Software Change Control** - The process of proposing, approving, performing, testing, and documenting modifications to production software, system software, and hardware. (NP 19-1)

**Software Configuration Management (SCM)** - A system that tracks the software by unique identification, enables the release and retrieval of the software, tracks status and changes to the software and its associated documentation, and defines the code retirement process. (NP 19-1)

**Software Configuration Management Coordinator (SCM Coordinator)** - Person responsible for overseeing the operation of the SCM system described in NP 19-1. (NP 19-1)

**Software Problem Closure Report (SPCR) Process** – The process of closing an SPR. The SPCR process ensures that problems with software are reported as closed when the SPR has reached resolution. (NP 19-1)

**Software Problem Report (SPR) Process** - The process of identifying, reporting, and evaluating errors in software. The SPR process ensures that problems with software are identified and documented, all affected parties are notified, and all affected work is identified, evaluated, and revised as necessary. (NP 19-1)

**Software QA Plan (SQAP)** - A plan for the development of software products necessary to provide adequate confidence that the software conforms to established requirements. (NP 19-1)

**Software Verification and Validation** - Verification is the process of determining whether or not the product of a given phase of the software development cycle fulfills the requirements imposed by the current and/or previous phase. Validation is the test execution and evaluation process for determining whether the requirements for a software system or component are complete and correct, and the final system or component complies with specified requirements. (NP 19-1)

**Special Processed Records** - Records that require unique handling because they cannot be duplicated or microfilmed due to their physical form (one-of-a-kind records) or cannot be filmed on 16-mm roll film. (NP 17-1)

**Standard** - A standard is a solution containing analytes of known parameters (e.g. concentration, mineralogy) specifically intended for the calibration or calibration check of instruments. (NP 13-1)

**Standards** - With regard to measuring devices, those devices used to calibrate M&TE or other measurement standards and provide traceability. Measurement standards may be items that are used to provide basic units of measure, such as standard resistors and gauge blocks. (NP 12-1)

**Statement of Work (SOW)** - The portion of a Request for Quotation or contract that states the requirements or tasks to be performed by the supplier to fulfill contractual obligations. (NP 4-1)

**Stop Work Order (SWO)** - A directive to immediately stop an activity. (NP 16-1)

**Student's-t Distribution** - A distribution for the unknown mean value of a parameter (CCA 1996). The distribution of the random variable which is (very loosely) the "best" that we can do when the variance or true standard deviation is unknown and the sample size is small. (NP 9-2)

**Superseded Document** - A Controlled Document that is no longer in effect because it has been revised and reissued under the same document number with a new revision number. (NP 6-2)

**Supplier (Contractor)** - An organization or individual that has agreed, by contract or purchase order, to provide products or services to SNL or designated recipient. (NP 4-1)

**Support Staff** - Personnel assigned to activities such as secretarial or records management support. Also included are temporary personnel, such as students, assigned to work for the purpose of acquiring work experience. (NP 2-1)

**Surveillance** - The act of monitoring or observing real-time activities and/or reviewing documentation to verify whether an item, activity, system, or process conforms to specified requirements. (NP 18-1)

**Surveillance Team Leader (STL)** - A surveillance team leader is an individual designated to lead the conduct of a surveillance and shall be a qualified auditor. (NP 18-1)

**System Administrator (SA)** - Individual responsible for setting up and maintaining computer hardware, system software, and some application software. (NP 19-1)

**System Software** - Software which is used exclusively in the preparation, installation, or operation of executable software applications. Examples of such software include operating systems, administrative and management systems, system utilities, compilers, assemblers, translators, interpreters, automated protocols, utilities and tools, and teleprocessing managers. (NP 19-1)

**Technical Information Documents** - Documents containing information derived from basic or applied research, development, engineering, technological demonstration, economic and social research, or scientific inquiry into phenomena or technology applications. (NP 6-1)

**Technical Review** - A documented, critical evaluation of documents, activities, materials, or data conducted to determine the applicability, correctness, adequacy, and completeness of the information submitted for review. Technical reviews must be performed by one or more qualified personnel who are independent of the work being reviewed and who, collectively, have technical expertise equivalent to those who performed the original work. (NP 4-1, 5-1, 6-1, 9-1, 19-1, 20-1, 20-2, SP 5-1)

**Technical Specialist** - An individual who is assigned to an audit or surveillance team when the scope, complexity, or special nature of the work to be audited warrants assistance from a technical standpoint. (NP 18-1)

**Termination** - The sample(s) are no longer under the prescribed experimental conditions. (NP 13-1)

**Test Plan (TP)** - A document that defines the technical scope and the technical requirements of an individual test, experiment, study or major design activity. (NP 1-1, 20-1)

**Traceability** - The ability to trace the history and application of an item, data, sample, standard, or calibration using recorded documentation and associated implementing procedures or other controlling documents. (NP 9-2, 12-1, 13-1, 17-1, 19-1)

**Training Coordinator** - Individual responsible for tracking the Qualification and Training of staff working on the WIPP project. (NP 2-1)

**Trend Analysis** - The analysis of data to determine repetitive conditions, whether positive or negative, that may constitute a trend. (NP 16-1)

**Triangular Distribution** - A distribution useful for random variables constrained to lie between two fixed limits. This distribution peaks at some value between two limits and is characterized by three parameters: Lower Limit, Central Value (Mode), and Upper Limit. The triangular distribution is defined on the range (a, c) and has mode b. The mode can equal either of the two boundary values. (Iman and Shortencarier 1984) (NP 9-2)

**Uniform Distribution** - A probability distribution in which the probability distribution function (PDF) is constant over the range of variable values. (NP 9-2)

**Unique Records** - Records that require unique handling because they cannot be duplicated or microfilmed due to their physical form (one-of-a-kind records) or cannot be scanned. (NP 17-1)

**User** - With regard to M&TE, the organization which either owns or is the primary user of the M&TE. This can also include individuals temporarily using equipment maintained by other organizations. The intent is that ultimate responsibility for ensuring that equipment is calibrated and maintained properly rests with the individual using the M&TE. (NP 12-1)

**User's Manual** - A document intended for use by a user of the software. The User's Manual contains, as applicable, the software name and version identifier, the platform(s), a statement of functional limitations, instructions that describe the user's interaction with the software, the identification and description of input and output specifications and formats, the valid ranges of input data, descriptions of user messages initiated as a result of improper input and how the user can respond, a description of any required training necessary to use the software, and an explanation of the mathematical model(s). (NP 19-1)

**Validation Document (VD)** - A software document that contains the results of the performance verification and validation tests defined in the Verification and Validation Plan (VVP) and evaluation of the outputs of those tests to demonstrate that the software produces valid results for problems encompassing the range of permitted usage as defined by the User's Manual. (NP 19-1)

**Variance** - The square of the standard deviation of the probability distribution; the standard deviation is a measure of the amount of spread of a distribution about its mean. The variance is a measure of the spread in the data. It is computed as the average squared deviation of each number from its mean. (NP 9-2)

**Verification and Validation Plan (VVP)** - A software document that delineates the test processes and associated acceptance criteria to be performed during validation phase. (NP 19-1)

**Will** - Interchangeable with "Shall". (All NPs and SPs)

## 2.0 Acronyms

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The following is a compilation of the acronyms used in the NPs and SPs.

**ANSI** - American National Standards Institute

**AP** - Analysis Plan

**ASTM** - American Society for Testing and Materials

**ATL** - Audit Team Leader

**BFL** - Baseline FEPs List

**BPS** - Budget/Procurement Specialist

**CAP** - Corrective Action Plan

**CAQ** - Condition Adverse to Quality

**CAR** - Corrective Action Request

**CAV** - Corrective Action Verification

**CBFO** - Carlsbad Field Office

**CD** - Controlled Document

**CDA** - Corrected During the Audit

**CDS** - Corrected During the Surveillance

**CMS** - Configuration Management System

**CoC** - Chain-of-Custody

**CPU** - Central Processing Unit

**DAS** - Data Acquisition System

**DBA** - Database Administrator

**DD** - Design Document

**DOE** - Department of Energy

**DP** – Screened in – Disturbed Performance

**DRC** - Document Review and Comment Form

**ES&H** - Environmental Safety and Health

**ERMS** - Electronic Record Management System

**FEP** - Features, Events, and Processes

**HCN** - Historic, Current, and Near-Future

**HTML** - HyperText Markup Language

**ICP-AES** - Inductively Coupled Plasma Atomic Emission Spectroscopy

**ISRM** - International Society for Rock Mechanics

**JIT** - Just-in-Time

**M&TE** - Measurement and Test Equipment

**MOC** - Managing and Operating Contractor  
**NCSL** - National Conference of Standard Laboratories  
**NEPA** - National Environmental Policy Act (of 1969)  
**NP** - Nuclear Waste Management Procedure  
**NQ** - Non-quality Assurance  
**NQA** - An ANSI Standard designator  
**NWM** - Nuclear Waste Management  
**PA** - Performance Assessment  
**PAPDB** - Performance Assessment Parameter Database  
**PDE** - Parameter Data Entry  
**PI** - Principal Investigator  
**PM** - Project Manager  
**PR** - Purchase Requisition  
**QA** - Quality Assurance  
**QAPD** - Quality Assurance Program Document  
**QATSC** - Quality Assurance Tracking System Coordinator  
**R&A** - Review and Approval  
**RC** - Root Cause  
**RCC** - Run Control Coordinator  
**RD** - Requirements Document  
**RFQ** - Request for Quotation  
**RM** - Responsible Manager  
**ROM** - Read Only Memory  
**RS** - Record Source  
**SCAQ** - Significant Condition Adverse to Quality  
**SCM** - Software Configuration Management  
**SCR** - Sandia Contracting Representative  
**SDR** - Sandia Delegated Representative  
**SN** - Scientific Notebook  
**SNC** - Scientific Notebook Coordinator  
**SND** - Scientific Notebook Database  
**SNL** - Sandia National Laboratories  
**SNS** - Scientific Notebook Supplement  
**SO-C** - Screened Out - Consequence  
**SO-P** - Screened Out - Probability

**SO-R** - Screened Out - Regulation  
**SOW** - Statement of Work  
**SP** - Activity/Project Specific Procedure  
**SPCR** - Software Problem Closure Report  
**SPR** - Software Problem Report  
**SQA** - Software Quality Assurance  
**SQL** - Structured Query Language  
**STA** - Software Test Analyst  
**STL** - Surveillance Team Leader  
**SW** - Software  
**SWO** - Stop Work Order  
**TP** - Test Plan  
**TR** - Technical Reviewer  
**T-SQL** - Transact-SQL  
**UM** - User's Manual  
**UP** - Screened in – Undisturbed Performance  
**VD** - Validation Document  
**VVP** - Verification & Validation Plan  
**WBS** - Work Breakdown Structure  
**WIPP** - Waste Isolation Pilot Plant  
**XRD** - X-ray Diffractometer

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