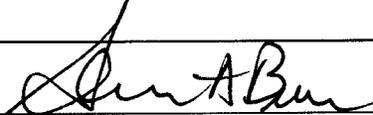


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Approval: Shannon Brennan   
Manager, National Spent Nuclear Fuel Program

Date: 02-13-08

## INTRODUCTION

The NSNFP Documents Manual contains the Quality Assurance Program Plan, the Quality Assurance Requirements and Description Document (QARD) Requirements Matrix, and the quality program implementing procedures applicable to the National Spent Nuclear Fuel Program (NSNFP). These documents implement the QARD, DOE/RW-0333P, as it applies to the line management activities and Quality Assurance (QA) organization activities of the NSNFP.

Together the Quality Assurance Program Plan and the QARD Requirements Matrix form a summary of the program implemented by the NSNFP. The procedure numbering system aligns with the most predominant QARD section addressed by the procedure.

The content of the NSNFP Documents Manual can be accessed from the NSNFP Homepage. NSNFP forms are accessed exclusively from the NSNFP Homepage.

A glossary of terms applicable to the NSNFP QA program follows.



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## GLOSSARY

The NSNFP Glossary is composed of QARD glossary terms and other terms used by NSNFP in QA Program implementing documents. In some cases the source of glossary terms are provided in parentheses after definition. These terms may appear in *italics* at the first usage within an implementing procedures or and an implementing documents followed by (see glossary).

***Acceptance (document)***. The documented determination by the receiving organization that work is suitable for the intended purpose.

***Acceptance Testing (Software)***—The process of exercising or evaluating a system or system component by manual or automated means to ensure that it satisfies the specified requirements and to identify differences between expected and actual results in the operating environment. (NQA-1-2000, Subpart 2.7, Section 102)

***Acceptance Spent Fuel Database***. The working database used by PSO Technical staff to update information. It allows access to all edit functions of individual records within the database,

***Action to Prevent Recurrence***. The actions taken to correct a specifically identified root cause of a significant adverse condition.

***Activity***. A distinct work effort segmented into actions associated with a performing organization. Also referred to as a task or subtask.

***Activities affecting quality***. Deeds, actions, processes, tasks, or work that influence the achievement or verification of program quality requirements and objectives.

***Acquisition***. A product or service obtained by or on behalf of the NSNFP for the program's possession, use, or consignment of use to others.

***Adverse Quality Trend***. An elevated frequency of a deficiency occurring within a calendar year; or an increase in frequency over time of the occurrence of a deficiency. The deficiencies shall meet one of the following criteria:

- Deficiencies indicate multiple occurrences of the same deficiency within one process or group of similar processes
- Occurrence of similar deficiencies by one or more individuals within one process.

***Alternate Calculations***. Calculations that are made with alternate methods to verify correctness of the original calculation.

***Application (Software)***. (1) Software designed to fulfill the specific needs of a user. (2) Software that is written where the user prescribes one or more instructions to generate data, manipulate data, or perform calculations.

**Application (Software)**—Includes software designed to fulfill the specific needs of a user and software that are written where the user prescribes one or more instructions to generate data, manipulate data, or perform calculations. (IEEE Std. 610.12-1990)

**Approval.** The documented determination by a responsible organization that work is suitable for the intended purpose and shall be used as required.

**Assessment.** An evaluation of a program or activity performed either by an audit, surveillance, or management assessment.

**Audit.** A planned and documented quality assurance program verification performed to determine by investigation of objective evidence the adequacy of and compliance with established implementing documents and the effectiveness of implementation.

**Audit**—A planned and documented activity performed to determine by investigation, examination, or evaluation of objective evidence the adequacy of and compliance with established procedures, instructions, drawings, and other applicable documents 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.(NQA-1-1983, Supplement S-1)

**Audit Team Leader.** A lead auditor who is assigned to direct the efforts of an audit team.

**Auditor.** An individual who is qualified to perform assigned portions of an audit.

**Baseline Element (Software).** An individual software component (e.g., requirements document, design document, or source code) that is under configuration management control.

**Certificate of Conformance**—A document signed by an authorized individual certifying the degree to which items or services meet specified requirements. (NQA-1-1983, Supplement S-1)

**Certification.** The act of determining, verifying, and attesting in writing to the achievement or compliance with specified requirements.

**Certification**—The act of determining, verifying, and attesting in writing to the qualifications of personnel, processes, procedures, or items in accordance with specified requirements. (NQA-1-1983, Supplement S-1)

**Characteristic.** A property or attribute of an item, process, or service that is distinct, describable, and measurable.

**Characterization.** Performance activities such as data collection, testing, inspections, document preparation, or analyses necessary to describe DOE SNF for acceptance, storage, transportation, and disposal (this includes preclosure and postclosure performance in the repository). (NSNFP)

**Code Data Report (ASME Section III)**—A report required by the ASME Boiler and Pressure Vessel Code, such as Form N-1, Certificate Holders' Data Report Ffor Nuclear Vessels, or Form N-3, Owners' Data Report for Nuclear Power Plant Components.



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**Clean Platform.** A computer that has never had the SFD loaded on it or has been configured to have software identical to a new computer from the factory. (NSNFP)

**Commercial Grade Item**—An item that is not subject to design or specification requirements that are unique to nuclear facilities or activities, is used in applications other than nuclear facilities or activities, and is to be ordered from the manufacturer/supplier on the basis of specifications set forth in the manufacturers published product description (e.g., catalog).(10 CFR 21.3)

**Commercial Grade Survey**—Activities conducted by the purchaser or its agent to verify that a principal contractor/supplier of commercial grade items controls through quality activities, the critical characteristics of specifically designated commercial grade items, as a method to accept those items for important to safety or important to waste isolation use. (EPRI NP-5652, 6/88-Modified)

**Commercial Off-The-Shelf Software**—Software items that can be purchased, ready-made, from a principal contractor's/supplier's/retailer's store shelf or manufacturer's virtual store shelf (e.g., through a catalog or from a price list) on the basis of specifications set forth in the manufacturer's published product description (e.g., a catalog or other published specification).

**Compliance-based Audit.** A planned and documented activity performed to determine by investigation, observation, examination, or evaluation of objective evidence the adequacy of and compliance with established procedures, instructions, drawings, and other applicable documents, and the effectiveness of implementation. (NSNFP)

**Computer Program.** A sequence of instructions suitable for processing by a computer.

**Computer Program**—A combination of computer instructions and data definitions that enable computer hardware to perform computational or control functions. Computer programs covered by this document are those used in quality affecting activities. (NQA-1-2000, Part I, Section 400, Modified)

**Conceptual Model**—A set of qualitative assumptions used to describe a system or subsystem for a given purpose. Assumptions for the model are compatible with one another and fit the existing data within the context of the given purpose of the model. (NUREG-1804, Section 3, Glossary)

**Concern.** Condition observed during a QA audit or surveillance that is not a condition adverse to quality but deserves management attention. (NSNFP)

**Condition Adverse to Quality.** A state of noncompliance with quality assurance requirements or implementing document; a failure, nonconformance, malfunction, deficiency, deviation or defect in material, components, or systems important to safety.

**Condition Adverse to Quality**—An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, and nonconformances. (NQA-1-1983, Supplement S-1)

**Conditioning.** Any process that prepares or treats DOE SNF for storage, transportation, or disposal in accordance with regulatory requirements. (NSNFP)



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**Confirmatory Testing.** An evaluation subject to implementing documents that investigates the properties of interest of data in an attempt to confirm the quality of the data.

**Confirmatory Testing**—Testing conducted under a 10 CFR 60, Subpart G, or 10 CFR 63, Subpart G, QA program that investigates the properties of interest (e.g., physical, chemical, geologic, or mechanical) of an unqualified database.

**Configuration Item (Software)**—A collection of hardware or software elements treated as a unit for the purpose of configuration control. (NQA-1-2000, Subpart 2.7, Section 102)

**Configuration Management (Software)**—The process of identifying and defining configuration items in a system (i.e., software and hardware), controlling the release and change of these items throughout the system's life cycle, and recording and reporting the status of configuration items and change requests. (NQA-1-2000, Subpart 2.7, Section 102)

**Confirmatory Testing**—Testing conducted under a 10 CFR 60, Subpart G, or 10 CFR 63, Subpart G, QA program that investigates the properties of interest (e.g., physical, chemical, geologic, or mechanical) of an unqualified database.

**Consumables**—Items that in the process of being used are consumed (e.g., weld rods).

**Control Point (Software)**—A point in the software life cycle at which specified agreements or controls (typically a test or review) are applied to the software configuration items being developed (e.g., an approved baseline or release of a specified document or computer program). (NQA-1-2000, Subpart 2.7, Section 102)

**Controlled Document.** A document that is prepared, reviewed, and approved in accordance with established implementing documents; subject to controlled distribution; and subject to a defined change process.

**Corrected During Audit (CDA).** A condition adverse to quality that is determined by the certified auditor or lead auditor to be an isolated condition and that is corrected by the responsible organization during an audit or surveillance. A corrective action is verified as complete by the auditor or lead auditor before concluding fieldwork. All CDAs will be documented in the CATTs database to allow trending. (NSNFP)

**Corrective Action.** Measures taken to rectify conditions adverse to quality and, where necessary, to preclude repetition.

**Corrective Action Coordinator (CAC).** An individual within NSNFP QAS designated to receive, coordinate, and track documentation that supports corrective action activities. (NSNFP)

**Corrective Action Tracking Trending System (CATTs).** Database used to track conditions adverse to quality and support trend analysis. (NSNFP)

**Data**—Information measured or derived from scientific investigation activities both in the field and the laboratory. Parameters that have been derived from raw data are sometimes themselves considered to be data. (QARD)



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**Data Reduction.** Processes that change the form of expression, quantity of data or values, or the number of data items.

**Database.** A collection of previously distinct data (not created by the database) that have been logically organized to facilitate data access.

**Data Reduction.** Processes that change the form of expression, quantity of data or values, or the number of data items.

**Deficiency Report (DR)/Corrective Action Request (CAR).** A form used to document conditions adverse to quality and significant conditions adverse to quality. The form provides a record of the identification and evaluation of remedial actions and actions to prevent recurrence, and verification of completion of corrective actions. (NSNFP)

**Design**—The term “design” includes specifications; drawings; design criteria; design bases; structures, systems, and components performance requirements for preclosure; and natural and engineered barriers of the repository system. It also includes inputs and outputs at each stage of design development (e.g., from conceptual design to final design). Design information and design activities also refer to data collection and analyses and computer software that are used in supporting design development and verification. Design information and activities include general plans and detailed procedures for data collection and analyses and related information such as test and analyses results. Data analyses include the initial step, data reduction, as well as broad system analyses (i.e., performance assessments) that integrate other data and analyses for individual parameters. (NUREG 1804, AC-3 [2])

**Design Bases.** Information that identifies the specific functions to be performed by items and the specific values or ranges of values chosen for controlling parameters as reference bounds for design.

**Design Bases**—Information that identifies the specific functions to be performed by a structure, system, or component of a facility and the specific values or ranges of values chosen for controlling parameters as reference bounds for design. These values may be constraints derived from generally accepted “state-of-the-art” practices for achieving functional goals or requirements derived from analysis (based on calculation or experiments) of the effects of a postulated event under which the structure, system, or component must meet its functional goals. The values for controlling parameters for external events include:

- (1) Estimates of severe natural events to be used for deriving design bases that will be based on consideration of historical data on the associated parameters, physical data, or analysis of upper limits of the physical processes involved, and
- (2) Estimates of severe external human-induced events to be used for deriving design bases that will be based on analysis of human activity in the region, taking into account the site characteristics and the risks associated with the event. (10 CFR 63.2)

**Design Change.** Any revision or alteration of the technical requirements defined by approved and issued design output documents, and approved and issued changes thereto.



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**Design Documents**—Include, but are not limited to, specifications, calculations, associated computer software, system descriptions, and drawings, including flow diagrams, piping and instrument diagrams, control logic diagrams, electrical single line diagrams, structural systems for major facilities, site arrangements, and equipment locations. (NUREG-1804,AC-3[13][c])

**Design Input.** Those criteria, parameters, bases, or other design requirements upon which design output documents are based.

**Design Input**—Those criteria, parameters, bases, or other design requirements upon which detailed final design is based. (NQA-1-1983, Supplement S-1)

**Design Output.** Drawings, specifications, and other documents resulting from the translation of design input requirements of items.

**Design Output**—Documents, such as drawings, specifications, and other documents defining technical requirements of structures, systems, and components. (NQA-1-1983, Supplement S-1)

**Design Process.** Technical and management process that commences with identification of design input and ends with the issuance of design output documents.

**Design Process**—Technical and management processes that commence with identification of design input and that lead to and include the issuance of design output documents.(NQA-1-1983, Supplement S-1)

**Design Review.** A documented evaluation of design output during the design process to determine design adequacy and conformance to specified acceptance criteria.

**Design Review**—A critical review to provide assurance that the final design is correct and satisfactory. (NQA-1-1983, Supplement 3S-1, Paragraph 4.2.1)

**Deviation**—A departure from specified requirements. (NQA-1-1983, Supplement S-1)

**Direct Cause.** The apparent cause of a condition adverse to quality. (NSNFP)

**Direct Cause Code.** The direct cause code reflects the apparent and predominant cause of a condition adverse to quality. (NSNFP)

**DOE SNF Sites.** The Spent Nuclear Fuel Program DOE entities and their Management and Operations (M&O) or Management and Integration (M&I) contractor entities associated with the DOE Savannah River Operations Office, the DOE Oak Ridge Operations Office, the DOE Idaho Operations Office, and the DOE Richland Operations Office.

**Document Control**—The process for controlling documents that provides for adequacy review, approval for release by authorized personnel, and distribution for use at the prescribed work locations. (10 CFR 63.142[g])



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**Document Statusing.** The annotation on a document that includes the terms: Draft or Draft A, B, C, etc.; Preliminary; or Predecisional. The term Draft or Draft A, B, C, etc., may be used apart or in combination with the terms Preliminary or Predecisional. The term "Approved" may be used directly or implied as evidenced by approval signatures with the absence of the preceding terms above or with the inclusion of the term Final. Other document statusing terms may be defined in the document itself. (NSNFP)

**Editorial Corrections.** Editorial corrections are limited to those changes that correct grammar, spelling, section renumbering that does not alter the sequence of work, document titles, document numbers, or organizational titles that do not change roles and responsibilities within NSNFP interfacing organizations.

**Effective Date**—The date after approval that the document is required to be fully implemented.

**Embedded Software**—Software that is a part of a larger system and performs some of the functions of that system, such as keypad controls or function and control capabilities. (IEEE Std. 610.12-1990, Modified)

**End Users.** NSNFP personnel, by individual or functional position, who are responsible for accomplishing action steps within NSNFP implementing procedures or documents.

**Error (Software)**—A condition deviating from an established baseline, including deviations from the current approved computer program and its baseline requirements. (NQA-1-2000, Subpart 2.7, Section 102)

**Established Fact**—Information accepted by the scientific and engineering community as established fact (e.g., engineering handbooks, density tables, gravitational laws, etc.).

**Event Sequence**—A series of actions and/or occurrences within the natural and engineered components of a geologic repository operations area that could potentially lead to exposure of individuals to radiation. An event sequence includes one or more initiating events and associated combinations of repository system component failures, including those produced by an action or inaction of operating personnel. Those event sequences that are expected to occur one or more times before permanent closure of the geologic repository operations area are referred to as Category 1 event sequences. Other event sequences that have at least 1 chance in 10,000 of occurring before permanent closure are referred to as Category 2 event sequences. (10 CFR 63.2)

**Expedited Change**—An abbreviated method of revising a document at the work location where the document is used, when the normal change process would cause unnecessary delays. The management responsible for the work makes the expedited change.

**External Documents.** Documents generated and approved by an entity other than the NSNFP. External documents include those documents submitted by NSNFP suppliers and those provided by Office of Civilian Radioactive Waste Management (OCRWM or RW) to NSNFP. (NSNFP)

**Field Surveying**—The process of determining the boundaries, area, elevation, and location of land, structures, reference points, or other designated features either on, above, or below the earth surface relative to a permanent system of horizontal and vertical controls.



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**Government Sector Supplier.** A government agency that provides products or services to the NSNFP. Government Sector Suppliers typically reside within the DOE complex and include M&O and M&I contractors performing work for the DOE SNF Program. Government Sector Suppliers may reside within another government agency. (NSNFP)

**Hold Point**—A step in a document that requires witnessing or inspection by the requesting individual or organization and beyond which work shall not proceed without the written consent of the requesting individual or organization. (NQA-1-1983, Supplement 10S-1, Paragraph 3)

**Implementation (Software).** The process of translating the software design into a computer program.

**Important to Safety**—With reference to structures, systems, and components, means those engineered features of the geologic repository operations area whose function is:

- (1) To provide reasonable assurance that high-level waste can be received, handled, packaged, stored, emplaced, and retrieved without exceeding the requirements of 10 CFR 63.111(b)(1) for Category 1 event sequences; or
- (2) To prevent or mitigate Category 2 event sequences that could result in radiological exposures exceeding the values specified at 10 CFR 63.111(b)(2) to any individual located on or beyond any point on the boundary of the site. (10 CFR 63.2)

**Important to Waste Isolation**—With reference to design of the engineered barrier system and characterization of natural barriers, means those engineered and natural barriers whose function is to provide reasonable expectation that high-level waste can be disposed of without exceeding the requirements of 10 CFR 63.113(b) and (c). (10 CFR 63.2)

**Indoctrination.** A method of training designed to familiarize personnel in fundamental criteria, program elements, responsibilities, and authority applicable to assigned tasks.

**Information**—A representation of data, facts, concepts, or instructions in a manner suitable for communication, interpretation, or processing by individuals or by automatic means.

**Information-Only Copies.** As status or marking given to copies of controlled documents that are sent to individuals or functional positions that have no action steps to be performed in the document and are not required to be trained in the document. (NSNFP)

**In-process lead auditor qualification records.** For individuals permanently assigned to the NSNFP that perform lead auditor functions, the lead auditor qualification records are retained as in-process records until the individual terminates from the NSNFP. Training and qualification records for lead auditors, auditors, and technical specialists assigned to perform a single audit or surveillance are captured and processed as part of the audit or surveillance record. (NSNFP)

**In-process training records.** Training records stipulated by NSNFP procedures are held as in-process until the employee terminates from the NSNFP. (NSNFP)



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**Inspection.** A quality assurance program verification that is used to verify whether an item conforms to specified technical criteria.

**Inspection**—Examination or measurement to verify whether an item or activity conforms to specified requirements. (NQA-1-1983, Section II, Basic Requirement 10)

**Interagency Agreement.** A financial and working interface with another federal agency prior to initiating procurement requests with the agency. (NSNFP)

**Internal Documents.** Documents generated by the NSNFP in accordance with NSNFP procedures. (NSNFP)

**Interoffice Work Order (IWO).** (Also known as an Interdepartmental Work Order [IDWO])—DOE’s method for transferring funds and associating the funds with a scope of work. The IWO system is used when one DOE contractor performs work for another contractor or field office. Other methods for transferring funds are available. (NSNFP)

**Item.** An all-inclusive term used in place of any of the following: appurtenance, assembly, component, equipment, material, module, part, structure, subassembly subsystem, system, or unit.

**Lead Auditor.** An individual who is certified to organize, perform, and direct an audit; report audit results; and evaluate related corrective actions.

**Limited Use**—A disposition permitted for a nonconforming sample when it can be established that a sample has potential value to the project even though the sample has been determined to be nonconforming in respect to its original obtained condition. For example, samples contaminated by water may still hold value for rock mechanic studies, but hold no value for water infiltration investigations. Conditions for Limited Use will be established and set forth in the disposition of the nonconforming sample.

**Macro.** Single computer instructions invoked by a symbol, name, or key that represents commands, actions, or keystrokes.

**Management Assessment.** A quality assurance program verification that is conducted by management above or outside the Quality Assurance organization and that evaluates the scope, status, adequacy, programmatic compliance, and implementation effectiveness of the quality assurance program.

**Management Assessment**—An OCRWM QA program verification that is conducted by management above or outside the OCRWM QA organization and that evaluates the scope, status, adequacy, programmatic compliance, and implementation effectiveness of the OCRWM QA program.

**Measuring and Test Equipment.** Devices or systems used to calibrate, measure, gauge, test, or inspect in order to control or acquire data to verify conformance to specified requirements.

**Model.** A representation of a process, system, or phenomenon, along with any hypotheses required to describe the process or system, or explain the phenomenon, often mathematically

**Model**—A depiction of a system, phenomenon, or process including any hypotheses required to describe the system or explain the phenomenon or process. (NUREG-1804, Section 3, Glossary).

**Model, Abstraction.** A product of the abstraction process that meets the definition of a mathematical model.

**Model, Abstracted**—A model that reproduces, or bounds, the essential elements of a more detailed process model and captures uncertainty and variability in what is often, but not always, a simplified or idealized form. (NUREG-1804, Section 3, Glossary)

**Model, Conceptual.** A set of hypotheses consisting of assumptions, simplifications, and idealizations that describes the essential aspects of a system, process, or phenomenon.

**Model, Conceptual**—A set of qualitative assumptions used to describe a system or subsystem for a given purpose. Assumptions for the model are compatible with one another and fit the existing data within the context of the given purpose of the model. (NUREG-1804, Section 3, Glossary)

**Model, Mathematical.** A mathematical representation of a conceptual model (system, process, or phenomenon) that is based on established scientific and engineering principles and from which the approximate behavior of a system, process, or phenomenon can be calculated within determinable limits of uncertainty.

**Model, Mathematical**—A mathematical description of a conceptual model. (NUREG-1804, Section 3, Glossary)

**Model, Process.** A mathematical model that represent an event, phenomenon, process, component, etc., or series of events, phenomena, processes, or components, etc. A process model may undergo an abstraction for incorporation into a system model.

**Model, Process**—A depiction or representation of a process, along with any hypotheses required to describe or to explain the process. (NUREG-1804, Section 3, Glossary)

**Model, System.** A collection of interrelated mathematical models that represents the overall geologic repository or overall component subsystem of the geologic repository.

**Model Validation.** A process used to establish confidence that a mathematical model and its underlying conceptual model adequately represents with sufficient accuracy the phenomenon, process, or system in question.

**NRC-licensed Activities.** Those activities that directly support analyses covered under 10 CFR 63, 71, or 72. (NSNFP)

**NSNFP Direct Support Organizations.** Consist of the NSNFP Program Support Organization (PSO) and the NSNFP Quality Assurance Staff (QAS) Organization. (NSNFP)

**Nonconformance.** A deficiency in characteristics or record that renders the quality of an item or sample unacceptable or indeterminate.



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**Nonconformance**—A deficiency in characteristic, documentation, or procedure that renders the quality of an item, sample, or activity unacceptable or indeterminate. (NQA-1-1983, Supplement S-1)

**Objective Evidence.** Any documented statement of fact, other information, or record, either quantitative or qualitative, pertaining to the quality of an item or activity based on observations, measurements, or test which can be verified.

**Organizational Interface.** The relationship between organizations when one organization prescribes an activity or requirement to, or shares an activity or requirement with, another organization.

**Organizational Interface**—The relationship between organizations in which one organization prescribes an activity or requirement to, or shares an activity or requirement with, another organization.

**Peer.** A person having technical expertise in the subject matter to be reviewed to a degree at least equivalent to that needed for the original work.

**Peer Review.** A documented, in-depth critique of work by a group of peers independent from the work being reviewed.

**Performance Assessment (Total System Performance Assessment)**—An analysis that:

- (1) Identifies the features, events, processes (except human intrusion), and sequences of events and processes (except human intrusion) that might affect the Yucca Mountain disposal system and their probabilities of occurring during 10,000 years after disposal;
- (2) Examines the effects of those features, events, processes, and sequences of events and processes upon the performance of the Yucca Mountain disposal system; and
- (3) Estimates of the dose incurred by the reasonably maximally exposed individual, including the associated uncertainties, as a result of releases caused by all significant features, events, processes, and sequences of events and processes, weighted by their probability of occurrence. (10 CFR 63.2)

**Performance-based Audit.** An audit methodology in which processes or activities are evaluated based on their expected results to allow subsequent conclusions to be drawn about the adequacy of the products and the adequacy and effectiveness of the processes or activities associated with those products.

**Performance Confirmation**—The program of tests, experiments, and analyses that is conducted to evaluate the adequacy of the information used to demonstrate compliance with the performance objectives in 10 CFR 63, Subpart E. (10 CFR 63.2)

**Personnel Qualification**—See Qualification (Personnel).

**Preclosure Safety Analysis**—A systematic examination of the site; the design; and the potential hazards, initiating events, and event sequences and their consequences (e.g., radiological



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exposure to workers and the public). The analysis identifies structures, systems, and components important to safety. (10 CFR 63.2)

**Principal Contractors**—Organizations that provide items or services in accordance with an appropriate contractual document and that perform the functions of Management and Operating contractor, Management and Integration contractor, Construction contractor or Lead Laboratory.

**Process.** A series of actions that achieves an end result or accomplishes work.

**Procurement Document.** Purchase orders, contracts, specifications, or other documents used to define technical and quality assurance requirements for the procurement of items or services.

**Procurement Document**—Purchase requisitions, purchase orders, drawings, contracts, specifications, or instructions used to define requirements for purchase. (NQA-1-1983, Supplement S-1)

**Purchaser**—The organization responsible for establishment of procurement requirements and for issuance, administration, or both, of procurement documents. (NQA-1-1983, Supplement S-1)

**Production Spent Fuel Database.** The released version of the database used by various individuals to view information and storage details about specific spent nuclear fuels. This database, maintained by PSO, only allows users to view information, no editing of records is allowed. All user queries are made against the Production SFD.

**Program Support Organization (PSO).** Consists of technical and support staff reporting to the PSO Manager. (NSNFP)

**PSO Quality Engineer (QE).** Individuals who are matrixed from QAS to PSO. [NSNFP][TLM1]

**QAS Organization.** Consists of QA auditors, lead QA auditors, Quality [Engineers][TLM2], and corrective action coordinators reporting to the QAS Manager. (NSNFP)

**QAS (Personnel).** Serve as points of contact between the NSNFP and DOE SNF sites and interact with the NSNFP QAPM through the QAS Manager.

**Quality Disputes.** Differences of opinion involving the QA program that originate through normal work processes or emergent conditions. (NSNFP)

**Qualification (Personnel).** The capabilities gained through education, training, or experience that qualify an individual to perform a required function.

**Qualification (Personnel)**—The characteristics or abilities gained through education, training, or experience, as measured against established requirements, such as standards or tests, that qualify an individual to perform a required function. (NQA-1-1983, Supplement S-1)

**Qualification of Data.** A formal process that is intended to provide a desired level of confidence that data are suitable for its intended use.



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**Qualification Testing.** A test that is intended to provide a desired level of confidence that an item meets specified criteria.

**Qualification of Data** –A formal process that is intended to provide a desired level of confidence that data are suitable for their intended use.

**Qualified Data**–Data collected under an approved QA program that meets the requirements of 10 CFR 63.142 (or previously implemented 10 CFR 60 QA program) (i.e., qualified from origin) or unqualified data that have undergone the qualification process. (NUREG-1298, 2/88)

**Quality Assurance.** All those planned and systematic actions necessary to provide adequate confidence that an item will perform satisfactorily in service.

**Quality Assurance (QA)**–All those planned and systematic actions necessary to provide adequate confidence that the geologic repository and its structures, systems, and components important to safety, the design and characterization of engineered and natural barriers important to waste isolation, and activities related thereto will perform satisfactorily in service. Quality assurance includes quality control, which comprises those quality assurance actions related to the physical characteristics of a material, structure, system, or component that provide a means to control the quality of the material, structure, system, or component to predetermined requirements. (10 CFR 63.141)

**Quality Assurance (QA) of OCRWM Organization**–The Office of Quality Assurance organization for activities performed by the OCRWM and reviews owned documents, the Management and Operating contractor (M&O) QA organization for activities performed by the M&O and reviews of M&O owned documents; the Lead Laboratory QA organization for activities performed by the Lead Laboratory and reviews of Lead Laboratory owned documents; and the Office of Quality Assurance organization, the M&O QA organization, and the Lead Laboratory QA organization for the review of documents implemented by the OCRWM, the M&O, and/or the Lead Laboratory jointly.

**Quality Assurance Record.** A completed document (or other medium) that furnishes evidence that items or work comply with requirements.

**Quality Assurance (QA) Record**–A completed document (or other medium) that furnishes evidence of the quality of items and/or activities affecting quality. (NQA-1-1983, Supplement S-1)

**Quality-affecting Activity.** Any aspect of NSNFP work that may affect the safety and protection of workers, the public, or the environment or the verification of the work. (NSNFP)

**Readiness Review**–A systematic assessment of the preparedness of an organization to start or continue a process or project phase.

**Regression Testing**–Selective retesting of a system or component to verify that modifications have not caused unintended effects and that the system or component still complies with its specified requirements. (IEEE Std. 610.12-1990)



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**Release (Software).** The formal notification and distribution of approved software.

**Relevant Experience.** Relevant work experience is composed of performing similar functions with similar responsibilities within the nuclear industry to include work in commercial nuclear power generation, nuclear fuel production, nuclear fuel reprocessing, nuclear fuel storage, or transportation of nuclear fuel, or work at a DOE Laboratory. Where an academic degree is required or credited for work experience, the type of degree must support the individual's functional responsibility within the NSNFP. (NSNFP)

**Remedial Action.** The actions taken to correct specifically identified conditions adverse to quality.

**Repair**—*The process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired even though that item still does not conform to the original requirement. (NQA-1-1983, Supplement S-1)*

**Requisition.** A document within the INEEL M&O contractor's procurement system used to communicate work scope and requirements from a project or program to the procurement organization and ultimately to the prospective suppliers. (NSNFP)

**Responsible Organization (Corrective Action).** The organization responsible to correct a condition adverse to quality. (NSNFP)

**Responsible PSO Technical Lead.** As used in NSNFP procedures, an individual trained as an NSNFP PSO technical lead who is assigned to manage the day-to-day work associated with a control account depicted in the NSNFP Program Management Plan. (NSNFP)

**Rework**—The process by which an item is made to conform to original requirements by completion or correction. (NQA-1-1983, Supplement S-1)

**Right of Access.** The procurement requirement that permits the purchaser or designated representative to enter the premises of a supplier for verification purposes.

**Right of Access**—The right of a purchaser or designated representative to enter the premises of a principal contractor/supplier for the purposes of inspection, surveillance, or quality assurance audit. (NQA-1-1983, Supplement S-1)

**Root Cause (Root Cause Code).** The identified cause of a condition adverse to quality that, if corrected, will preclude recurrence or greatly reduce the probability of recurrence of the same or a similar condition adverse to quality.

**Sample.** (Physical). A physical part of a whole whose properties are studied to gain information about the whole.

**Scientific Investigation.** Any observation, identification, description, experimental study, or analysis and explanation of natural phenomena.



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**Scientific Investigation**—An analysis consisting of an explanation, observation, identification, description, or experimental study either of natural phenomena or of engineered materials that describe the post closure repository system or its performance.

**Scientific Notebook.** A record of the methodology and results of scientific investigations that is used when the work involves a high degree of professional judgment or trial and error methods or both.

**Service.** The performance of activities such as design, fabrication, inspection, nondestructive examination, repair, or installation.

**Significant Condition Adverse to Quality. NSNF Program—SNF sites**—A condition adverse to quality that, if uncorrected, could have a serious effect on safety or the ability to isolate waste. The following criteria are recommended to be used to determine if a condition is considered significant:

- A condition determined to be repetitive in nature that could impact SNF acceptance activities by DOE/RW
- A condition indicating a QA program breakdown
- A condition that, were it to remain uncorrected, could have an adverse impact on the ability to meet SNF acceptance criteria of DOE/RW-Waste Acceptance Systems Requirements Document (WASRD)
- A condition that could result in invalid or indeterminate SNF qualification data
- A condition that could result in invalid or indeterminate SNF records.

**Significant Condition Adverse to Quality**—A condition adverse to quality that, if uncorrected, could have a serious effect on safety, operability, or the ability to isolate waste. Significant conditions adverse to quality include, but are not limited to (1) loss, or potential loss, of a safety or waste-isolation function to the extent that there is a reduction in the degree of protection provided to the public health and safety; (2) loss, or potential loss, of a safety or waste-isolation function to the extent that there is a reduction in the degree of protection provided for worker safety; (3) common-cause failures; and (4) any adverse quality trends. Additionally, repetitive conditions that are less significant but when taken collectively (1) indicate programmatic failure to properly implement the QA program, (2) may be precursors for a significant technical deficiency or problem or, (3) may reduce the margin of safety are considered to be significant conditions adverse to quality. (NQA-1-1983, Supplement S-1, Modified)

**Site Characterization.** The program of exploration and research both in the laboratory and the field that is undertaken to establish the geologic conditions and the ranges of parameters of a particular site that are relevant to the implementing documents.

**Site Characterization**—The program of exploration and research, both in the laboratory and in the field, undertaken to establish the geologic conditions and the ranges of those parameters of the



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Yucca Mountain site, and the surrounding region to the extent necessary, relevant to the procedures under 10 CFR 63. Site characterization includes borings, surface excavations, excavation of the exploratory shafts and/or ramps, limited subsurface lateral excavations and borings, and in situ testing at a depth needed to determine the suitability of the site for a geologic repository. (10 CFR 63.2)

**Software**—Computer programs and associated documentation, and data pertaining to the operation of a computer system. (NQA-1-2000, Part I, Section 400)

**Software.** Computer programs, procedures, rules, and associated documentation pertaining to the operation of a computer system.

**Software Baseline.** A specification or product that has been formally reviewed and agreed upon, that thereafter is the basis for further development, and that can be changed only through formal change procedures.

**Software Baseline**—A specification or product that (i) has been formally reviewed and agreed upon, (ii) thereafter is the basis for further development, and (iii) can be changed only through formal change procedures

**Software Control Point.** Milestones in the software life cycle when controls are applied to the software in which they are baselined prior to proceeding with the software project.

**Software Design Verification**—The process of determining if the product of the software design activity fulfills the software design requirements. (NQA-1-2000, Subpart 2.7, Section 102)

**Software Development Cycle**—The activities that begin with the decision to develop a software product and end when the software is delivered. The software development cycle typically includes the following activities: (1) software design requirements, (2) software design, (3) implementation, (4) test, and sometimes (5) installation. (NQA-1-2000, Subpart 2.7, Section 102)

**Software Engineering**—(a) The application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of software, that is, the application of engineering to software; and (b) the study of the approaches as in (a). (NQA-1-2000, Subpart 2.7, Section 102)

**Software Item.** Source code, object code, job control code, control data, or a collection of these items that function as a single unit.

**Software Life Cycle.** A series of activities that begins when the software product is conceived and ends when the software product is no longer available for routine use.

**Software Life Cycle**—The activities that comprise the evolution of software from conception to retirement. The software life cycle typically includes the software development cycle phases and the activities associated with operation, maintenance, and retirement. (NQA-1-2000, Subpart 2.7, Section 102)

**Software Routine.** A collection of computer macros or script files, a spreadsheet application, or other stand-alone software application (either acquired or developed) that generally operates within another program, such as a spreadsheet, and must be independently verified by visual inspection and/or hand calculation.

**Software Life Cycle Element**—A fundamental, constituent part of a life cycle phase. For example, the requirements phase consists of the individual requirements, the design phase consists of the individual design elements and the individual test cases, the implementation phase consists of source code and user instructions, and the testing phase consists of documented test results.

**Software Operating Environment**—A collection of software, firmware, and hardware elements that provide for the execution of computer programs. (NQA-1-2000, Subpart 2.7, Section 102)

**Software Tool**—A computer program used in the development, testing, analysis, or maintenance of a program or its documentation. Examples include comparators, cross-reference generators, compilers, Computer Aided Software Engineering (CASE) tools, configuration and code management software, decompilers, disassemblers, editors, flowcharts, monitor test case generators, and timing analyzers. (NQA-1-2000, Subpart 2.7, Section 102)

**Software Validation.** The testing and evaluation of completed software to ensure compliance with software requirements.

**Software Verification.** The process of determining whether or not the product(s) of a given phase of the software development cycle fulfills the requirements imposed by the previous phase.

**Special Process.** A process, the results of which are highly dependent on the control of the process or the skill of the operators, or both, and in which the specified quality cannot be readily determined by inspection or test of the product.

**Staff Augmentation.** An individual trained in accordance with NSNFP implementing procedures who performs action steps within NSNFP implementing procedures but is not otherwise assigned to NSNFP. Staff augmentation personnel do not appear on NSNFP organization charts. Staff augmentation sources include private sector suppliers or Government Sector Suppliers. (NSNFP)

**Stop Work Order.** A formal directive issued by management that work must be stopped until resolution of the related significant condition adverse to quality.

**Subject Code.** The subject code reflects the predominant QARD requirement violated in a DR/CAR. Each subject code represents a QARD requirement. (NSNFP)

**Supplier**—Any individual or organization (except principal contractors) that furnishes items or services in accordance with a procurement document. An all-inclusive term used in place of any of the following: vendor, seller, contractor, subcontractor, fabricator, consultant, and their sub-tier levels.

**Support Software**—Software that aids in the development and maintenance of other software (e.g., compilers, loaders, and other utilities), including software tools and system software. (IEEE Std. 610.12-1990)



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**Surveillance.** The act of observing real-time activities and/or reviewing documentation to verify conformance with specified requirements and to evaluate their adequacy and effectiveness.

**Surveillance**—The act of monitoring or observing to verify whether an item or activity conforms to specified requirements. (NQA-1-1983, Supplement S-1)

**System Software**—Software designed to enable the operation and maintenance of a computer system and its associated computer programs (e.g., operating systems, assemblers, and utilities). (NQA-1-2000, Subpart 2.7, Section 102)

**Technical Assessment**—When used for data qualification, an evaluation of the technical merit of unqualified data against established criteria.

**Technical Report**—As it pertains to scientific investigation, a document that presents scientific information such as data, analyses, interpretations, or conclusions.

**Technical Baseline Documents.** Documents as defined in the Comprehensive Memorandum of Agreement (CMOA) between DOE Office of Environmental Management and OCRWM for Acceptance of Department of Energy Spent Nuclear Fuel and High-Level Radioactive Waste. Refer to Appendix C of the CMOA.(NSNFP)

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

**Technical Work.** The DOE SNF-related work of engineers, scientists, technicians, operators, QA professionals, and others that contributes to the content of designs, studies, tests, or scientific investigations or represents the execution of actions within NSNFP Program implementing procedures. Technical work does not include budget and schedule preparation, office support, stakeholder interaction, or other general administrative tasks. (NSNFP)

**Test Case.** A specific set of test data and associated procedures developed for a particular objective, such as to exercise a particular program path or to verify compliance with a specific requirement.

**Test Case**—A set of test inputs, execution conditions, and expected results developed for a particular objective, such as to exercise a particular program path or to verify compliance with a specific requirement. (NQA-1-2000, Subpart 2.7, Section 102)

**Test Plan (procedure)**—A document that describes the approach to be followed for testing a system or component. Typical contents identify items to be tested, tasks to be performed, and responsibilities for the testing activities. (NQA-1-2000, Subpart 2.7, Section 102)

**Testing.** An element of verification for the determination of the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating conditions.

**Testing (Software)**—The process of operating a system (i.e., software and hardware) or system component under specified conditions, observing and recording the results, and making an evaluation of some aspect of the system (i.e., software and hardware) or system component in

order to verify that it satisfies specified requirements and to identify errors. (NQA-1-2000, Subpart 2.7, Section 102)

**Traceability.** The ability to trace the history, application, or location of an item, data, or sample using recorded documentation.

**Traceability**—The ability to trace the history, application, or location of an item and like items or activities by means of recorded identification. (NQA-1-1983, Supplement S-1)

**Training.** A systematic process provided to personnel so that they achieve proficiency, maintain proficiency, and adapt to changes in technology, methods, processes, or responsibilities as necessary to perform assigned tasks.

**Transparent.** A document is transparent if it is sufficiently detailed as to purpose, method, assumptions, inputs, conclusions, references, and units, such that a person technically qualified in the subject can understand the document and ensure its adequacy without recourse to the originator.

**Transparent**—A document sufficiently detailed as to purpose, method, assumptions, inputs, conclusions, references, and units such that a person technically qualified in the subject can understand the document and ensure its adequacy without recourse to the originator.

**Trend Analysis.** The periodic structured review process applied to deficiencies identified through assessments performed by the NSNFP; assessments of the NSNFP performed by external organizations; and inputs received from DOE SNF sites. This trending process includes tabulating deficiencies, assigning a cause code for each deficiency, correlating deficiencies by areas, identifying elevated frequencies of codes, identifying an increases in the frequency that a deficiency occurs over time, validation of the assigned codes, and determining adverse trends that require correction. (NSNFP)

Unqualified Data (Existing Data)—

A. Unqualified data includes:

- (i) Data developed prior to the implementation of a 10 CFR 60, Subpart G, or 10 CFR 63, Subpart G, Quality Assurance program, or
- (ii) Data developed outside the Yucca Mountain Project, such as by oil companies, national laboratories, or universities, or
- (iii) Data published in technical or scientific publications. (NUREG-1298, 2/88).

**Use-As-Is.** A disposition permitted for a nonconforming item when it can be established that the item is satisfactory for its intended use.

**Verification.** The act of reviewing, inspecting, testing, checking, auditing, or otherwise determining and documenting whether items, processes, services, or documents conform to specified requirements.



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***Witness Point***—A step in a document that requires notification to the specifying individual or organization that the activity is scheduled to take place. Work may proceed after notification.

***Work***. Activities that are subject to the *Quality Assurance Requirements and Description*.