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QA: N/A
Project No. WM-00011

MAY 28 2004

OVERNIGHT MAIL

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**TRANSMITTAL OF RESPONSES TO ADDITIONAL INFORMATION NEED REQUEST
FOR KEY TECHNICAL ISSUE (KTI) AGREEMENT PRECLOSURE (PRE) 6.01**

References: (1) Ltr, Schlueter to Ziegler, dtd 7/3/02 (Preclosure Agreement 6.01)
(2) Ltr, Brocoum to Schlueter, dtd 3/27/02 (Transmittal of Reports Addressing Key
Technical Issues)

This letter transmits in Enclosure 1 responses to the U.S. Nuclear Regulatory Commission's (NRC) comments included in the enclosure to Reference 1. These comments pertain to the technical basis for the U.S. Department of Energy's (DOE) process of identification and quality-level categorization of structures, systems, and components important to safety, as well as engineered and natural barriers important to waste isolation.

In Reference 2, DOE submitted procedure AP-2.22Q, Revision 0, *Classification Criteria and Maintenance of the Monitored Geologic Repository Q-List*, and the *Preclosure Safety Analysis Guide* as the basis for satisfying KTI Agreement PRE 6.01.

PRE 6.01 states the following:

"Provide the update to Quality Assurance Procedure QAP 2-3.

The DOE agreed to provide the procedure. The procedure will be available in February 2002."

In Reference 1, NRC stated that the NRC review found the guidance and criteria in AP-2.22Q to be inadequate and incomplete for determining if structures, systems, or components are important to safety and for assigning a quality-level category. A copy of the revised procedure, which incorporates changes responsive to NRC's comments in Reference 1, is included as Enclosure 2.

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The DOE responses and the revised procedure AP-2.22Q provide the NRC with the material required to satisfy the NRC's need for additional information under KTI Agreement PRE 6.01. AP-2.22Q is currently being revised to reflect the recent DOE reorganization. However, DOE considers that these changes are minor and should not impact the content of AP-2.22Q and, therefore, should not affect NRC's closure of the KTI agreement.

There are no new regulatory commitments in the body or the enclosures of this letter. Please direct any questions regarding this letter to Joe C. Price at (702) 794-1441 or e-mail joe_price@ymp.gov, or Paul G. Harrington at (702) 794-5415 or e-mail paul_harrington@ymp.gov.

OLA&S:JCP-0937

Joseph D. Ziegler, Director
Office of License Application and Strategy

Enclosures:

1. Responses to the U.S. Nuclear Regulatory Commission (NRC) Additional Information Needs on AP-2.22Q
2. *Classification Analyses and Maintenance of the Q-List, Revision 1, AP-2.22Q*

MAY 28 2004

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Enclosure 1

RESPONSES TO U.S. NUCLEAR REGULATORY COMMISSION (NRC) ADDITIONAL INFORMATION NEEDS ON AP-2.22Q

1. ***NRC Comment: Procedure AP-2.22Q should provide a description of the classification process or include information that indicates/explains:***

(1) NRC Comment: How DOE intends to determine whether an individual structure, system, or component is important to safety or waste isolation.

DOE Response—AP-2.22Q, *Classification Analyses and Maintenance of the Q-List*, has been revised. The revision adds a description of the classification process. Specifically, the revision includes as Attachment 2 the analyses that are prerequisites to identifying structures, systems, and components (SSCs) that are important to safety and important to waste isolation. The basic steps included in the procedure revision are the same as presented in the *Preclosure Safety Analysis Guide* (BSC 2003b). A flowchart, which is Attachment 2 to the revised procedure, shows the process for selecting SSCs important to safety and thereby illustrates the safety analysis process. In addition, the method for identification of SSCs important to waste isolation is included in the revision.

It has been decided to not implement a risk-significant categorization of SSCs important to safety on the Yucca Mountain Repository project. Therefore, the procedure revision also deleted the concept of quality levels QL-1, QL-2 and QL-3 for SSCs important to safety. Structures, systems, and components are classified as safety category if they are credited for prevention or mitigation in Category 1 and Category 2 event sequences so they meet the performance objectives in 10 CFR 63.111. Natural or engineered barriers are classified as safety category if they are important to meeting the performance objectives in 10 CFR 63.113. Structures, systems, and components are classified as non-safety category if they are not credited for compliance to the performance objectives in 10 CFR 63.111 and, natural/engineered barriers are classified as non-safety category if they are not important to meeting the performance objectives in 10 CFR 63.113.

(2) NRC Comment: [Procedure AP-2.22Q should include information that explains] How the classification process will be implemented.

DOE Response—AP-2.22Q, Revision 1, Section 4.2, states that the License Application Project Manager and the Preclosure Safety Analysis project engineer have the responsibility for the safety classification of SSCs for the Yucca Mountain Repository. Section 5.1 of the revised procedure describes the safety analysis process and how the safety classification of SSCs is included in that process. In addition, Section 5.3 of the procedure provides instructions for revision of the *Q-List* (BSC 2003a) to reflect the results of the classification analyses, in accordance with implementing procedure AP-3.11Q, *Technical Reports*.

(3) NRC Comment: *[Procedure AP-2.22Q should include information that explains] The steps of the classification process.*

DOE Response—AP-2.22Q was revised to include more detailed steps of the classification process. The prerequisite analyses that are described in the procedure revision and basic steps of the classification process are the same as described in Chapter 12 of the *Preclosure Safety Analysis Guide* (BSC 2003b).

(4) NRC Comment: *[Procedure AP-2.22Q should include information that explains] References to the implementing procedures, where applicable.*

DOE Response—AP-2.22Q was revised to include references to applicable implementing procedures. These references include the following procedures: AP-3.12Q, *Design Calculations and Analyses*, cited in Section 5.2.2 a); AP-2.14Q, *Document Review*, cited in Section 5.2.3 a); AP-3.11Q, *Technical Reports*, cited in Section 5.3.2 a); and AP-17.1, *Records Management*, cited in Section 6.0.

2. **NRC Comment:** *Procedure AP-2.22Q should address how the deterministic factors identified in the Preclosure Safety Analysis Guide, (pages 12-10 and 12-11) and other deterministic factors will be considered and consistently incorporated into the classification process when evaluating the risk significance of an event sequence and classification.*

DOE Response—The *Preclosure Safety Analysis Guide* (BSC 2002) has been revised (BSC 2003b) and the factors included on pages 12-10 and 12-11 of Revision 0 have been deleted. The *Preclosure Safety Analysis Guide* (BSC 2003b) provides examples of approaches to evaluate the risk significance of an event sequence. Procedure AP-2.22Q was written to support the risk-informed, performance-based approach for the development of the preclosure safety analysis. Compliance with AP-2.22Q will ensure the safety category screening criteria are consistently incorporated into the classification process.

3. **NRC Comment:** *Section 5.1, paragraph 2 of procedure AP-2.22Q, should provide a better explanation of how the quality assurance controls are applied, consistent with their importance to safety. DOE document DOE/RW-0333P should include the necessary provisions to allow for the classification of important to safety structures, systems, and components.*

DOE Response—Paragraph 2 of Section 5.1 as referenced by the NRC is from Revision 0 of the procedure and concerns quality assurance controls to be applied on a graded basis to SSCs that are classified as quality levels QL-1, QL-2 or QL-3. Revision 1 eliminated the quality levels and simplified the classification categories to be either safety category or non-safety category. Applicable criteria of 10 CFR 63.142 are applied to SSCs identified as safety category. Revision 1 of AP-2.22Q clarifies that SSCs determined to be safety category are not subject to graded quality requirements.

4. ***NRC Comment: Procedure AP-2.22Q should indicate where the quality assurance records are generated and the applicable procedure(s).***

DOE Response—Text was added to Section 6.0 to state that the classification analyses and *Q-List* (BSC 2003a) are submitted to the Records Processing Center in accordance with AP-17.1Q, *Records Management*, as individual records or are included in a records package, as specified in the appropriate implementing procedure. The applicable procedures for performing calculations and technical reports contain the requirements for generating and submitting quality assurance records to the Records Processing Center.

5. ***NRC Comment: Procedure AP-2.22Q should either indicate how the requirements identified in 10 CFR 63.44 will be addressed, with respect to the reclassification of important to safety structures, systems, and components (due to the introduction of new information or design changes), or clearly reference the procedure(s) that will satisfy the requirements identified in 10 CFR 63.44.***

DOE Response—Section 5.3 addresses revisions to the *Q-List* (BSC 2003a). The *Q-List*, as the case for other design and analysis documents, is a controlled document and subject to change control. It is not appropriate for the implementing procedure for each type of design or analysis document to address the safety evaluation process for changes. The project will implement, at the appropriate point in the licensing process, a procedure that addresses 10 CFR 63.44. Changes, whether they trigger the thresholds in 10 CFR 63.44 or not, will be made in a controlled fashion and the affected design and analysis documents, including the *Q-List*, will be updated via change notices or revisions as appropriate.

6. ***NRC Comment: Procedure AP-2.22Q should indicate how the independent verification of design outputs required by 10 CFR 63.142(d)[assumed 2](i) and DOE document DOE/RW-0333P, Section 3.2.4, will be accomplished and documented.***

DOE Response—AP-3.13Q, *Design Control*, describes the complete programmatic design control process for engineering activities to be followed by the project to ensure that design and design changes, from conceptual design to final design, are defined, configuration controlled, verified (as applicable), approved, and revised (when required). Procedure AP-2.22Q does not require a revision to indicate how the independent verification and check of design outputs is accomplished. The classification of each SSC important to safety or important to waste isolation is documented in accordance with appropriate procedures (i.e., procedure AP-3.12Q, *Design Calculations and Analyses*) and the result is then combined with the conclusions of other classification calculations and summarized to become the *Q-List* (BSC 2003a) in accordance with procedure AP-2.22Q. Use of procedure AP-3.12Q requires an independent check and verification by a qualified individual performing alternate calculations or mathematical checks of the classification method and results and fully meets the intent and requirements of 10 CFR 63.142(d)(2)(i) and the *Quality Assurance Requirements and Description* (DOE 2003, Section 3.2.4).

References:

AP-2.14Q, Rev. 3, ICN 0. *Document Review*. Washington, D.C.: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: DOC.20030827.0018.

AP-2.22Q, Rev. 0, ICN 1. *Classification Criteria and Maintenance of the Monitored Geologic Repository Q-List*. Washington, D.C.: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: DOC.20030422.0009.

AP-2.22Q, Rev. 1, ICN 0. *Classification Analyses and Maintenance of the Q-List*. Washington, D.C.: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: DOC.20030807.0002.

AP-3.11Q, Rev. 4, ICN 1. *Technical Reports*. Washington, D.C.: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: DOC.20040217.0001.

AP-3.13Q, Rev. 3, ICN 3. *Design Control*. Washington, D.C.: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: DOC.20040202.0006.

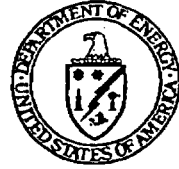
AP-17.1Q, Rev. 3, ICN 1. *Records Management*. Washington, D.C.: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: DOC.20031117.0004.

BSC (Bechtel SAIC Company) 2002. *Preclosure Safety Analysis Guide*. TDR-MGR-RL-000002 REV 00. Las Vegas, Nevada: Bechtel SAIC Company. ACC: MOL.20020429.0297.

BSC 2003a. *Q-List*. TDR-MGR-RL-000005 REV 00. Las Vegas, Nevada: Bechtel SAIC Company. ACC: DOC.20030930.0002.

BSC 2003b. *Preclosure Safety Analysis Guide*. TDR-MGR-RL-000002 REV 01. Las Vegas, Nevada: Bechtel SAIC Company. ACC: DOC.20031028.0002.

DOE (U.S. Department of Energy) 2003. *Quality Assurance Requirements and Description*. DOE/RW-0333P, Rev. 13. Washington, D.C.: U.S. Department of Energy, Office of Civilian Radioactive Waste Management. ACC: DOC.20030422.0003.



Office of Civilian Radioactive Waste Management

QA: QA

PROCEDURE

**CLASSIFICATION ANALYSES AND MAINTENANCE OF
THE Q-LIST**

AP-2.22Q

Revision 1 ICN 0

Effective Date: 08/11/2003

Preparer: Dennis Richardson 8/5/2003
D.C. Richardson Date

Approval: James T. Barlow For V. Iorri 8/5/03
V. Iorri Date
Director
Repository Engineering and Design Division
Office of Repository Development

CHANGE HISTORY

<u>Revision Number</u>	<u>Interim Change No.</u>	<u>Effective Date</u>	<u>Description of Change</u>
0	0	03/14/2002	Initial issue. This procedure incorporates a new process for the identification of structures, systems, or components that are important to safety. This procedure supersedes QAP-2-3, <i>Classification of Permanent Items</i> , and YAP-2-7Q, <i>Item Classification and Maintenance of the Q-List</i> , and incorporates outstanding Document Action Requests.
0	1	04/22/2003	Interim Change Notice to reflect Office of Civilian Radioactive Waste Management reorganization of October 2002.
1	0	08/11/2003	Extensive revision throughout the procedure that includes addition of a description of the classification process; addition of a description to identify the analysis steps required to determine the safety category of structures, systems, or components; addition of a process overview flowchart; redefinition of classification levels and replacement with the term "safety category"; revision of the procedure title; revision of maintenance and approval responsibility for the procedure; and revision of approval authority for classification analyses and the <i>Q-List</i> .

1.0 PURPOSE

This procedure establishes the responsibilities, criteria, and process for the preparation, revision, and approval of the classification analyses used as references for the Yucca Mountain Project (YMP) list of structures, systems, or components (SSCs) that are determined to be important to safety, and natural or engineered barriers that are determined to be important to waste isolation (i.e., *Q-List*, YMP/90-55Q). This procedure also establishes the responsibilities, criteria, and process for the revision and approval of the *Q-List*. The process includes safety category assignments for individual items (SSCs and natural/engineered barriers) and maintenance of the *Q-List*.

2.0 APPLICABILITY

This procedure applies to Office of Civilian Radioactive Waste Management and Bechtel SAIC Company, LLC personnel who prepare, change, review, and approve the classification analyses and who change, review, and approve the *Q-List* for the YMP.

Classifications contained in the existing *Q-List* will remain in effect until it is revised to conform to the criteria of this procedure.

3.0 DEFINITIONS

- 3.1 **Barrier**—Any material, structure, or feature that, for a period to be determined by the U.S. Nuclear Regulatory Commission, prevents or substantially reduces the rate of movement of water or radionuclides from the Yucca Mountain repository to the accessible environment, or prevents the release or substantially reduces the release rate of radionuclides from the waste. For example, a barrier may be a geologic feature, an engineered structure, a canister, a waste form with physical and chemical characteristics that significantly decrease the mobility of radionuclides, or a material placed over and around the waste, provided that the material substantially delays movement of water or radionuclides (Title 10, Code of Federal Regulations [CFR] Part 63.2, Energy: Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada).
- 3.2 **Beyond Category 2**—Event sequences that have less than one chance in 10,000 of occurring before permanent closure of the geologic repository operations area.
- 3.3 **Category 1 Event Sequences**—Those event sequences that are expected to occur one or more times before permanent closure of the geologic repository operations area (10 CFR 63.2, definition of event sequence).
- 3.4 **Category 2 Event Sequences**—Other event sequences that have at least one chance in 10,000 of occurring before permanent closure of the geologic repository operations area (10 CFR 63.2, definition of event sequence).
- 3.5 **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 the action or inaction of operating personnel (10 CFR 63.2).

- 3.6 *Important to Safety***—With reference to SSCs, 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).
- 3.7 *Important to Waste Isolation***—With reference to design of the engineered barrier system and characterization of natural barriers, those engineered and natural barriers whose function is to provide a 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).
- 3.8 *Preclosure Safety Analysis (PSA)***—A systematic examination of the site; the design; and the potential hazards, initiating events and event sequences and their consequences (e.g., radiological exposures to workers and the public). The analysis identifies SSCs important to safety (10 CFR 63.2).
- 3.9 *Project Engineer, PSA***—The management position responsible for PSAs.
- 3.10 *Q-List***—A controlled document produced and approved by Bechtel SAIC Company, LLC, whose purpose is to list SSCs and barriers with their safety category as determined by classification analyses.
- 3.11 *Safety Category (SC)***—The assigned designation of whether an SSC or natural/engineered barrier requires quality assurance program control activities. Safety categories are identified based on the criteria presented in Attachment 1, Safety Category Screening Criteria.
- 3.12 *Total System Performance Assessment***—A risk assessment that quantitatively estimates how the proposed Yucca Mountain disposal system will perform in the future under the influence of specific features, events, and processes, incorporating uncertainty in the models and data. The assessment identifies natural and engineered barriers that are important to waste isolation.

4.0 RESPONSIBILITIES

- 4.1** The Director, Repository Engineering and Design Division, Office of Repository Development, is responsible for the preparation, change, and approval of this procedure.

4.2 The following organizations or positions are responsible for activities identified in Section 5.0 of this procedure:

- a) Project Engineer, PSA
- b) Originator
- c) License Application Project Manager

5.0 PROCESS

A brief overview of the safety analysis process, which includes classification analyses, is depicted in the flowchart shown in Attachment 2, Identification of Importance to Safety and Waste Isolation Flowchart, and described in the text of Subsection 5.1. Acronyms and abbreviations used in this procedure are defined in Attachment 3, Acronyms and Abbreviations. The Safety Category Screening Criteria is shown in Attachment 1.

PROCESS OUTLINE

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5.1 OVERVIEW

This procedure provides screening criteria for identifying SSCs important to safety and natural/engineered barriers important to waste isolation, and documenting their safety category classifications on the *Q-List*.

Because 10 CFR Part 63 was developed as a risk-informed, performance-based rule, the YMP has adopted a risk-informed, performance-based approach for the development of the PSA. Attachment 2 illustrates the overall conceptual process for developing a PSA and defining the event sequences for a high-level radioactive waste repository.

The development of the PSA is an iterative process that evolves as the design develops, as site characteristics are more fully defined, and as operational features are identified. As this evolution progresses, potential internal and external hazards are identified, event sequences are developed, frequency assessments are performed, event sequences are categorized, safety strategies are implemented, and potential public and worker dose consequences are calculated and evaluated.

If the dose consequences of an event sequence do not meet the regulatory performance objectives, preventive or mitigative design features and administrative controls are implemented until the event sequence probability or dose is reduced to meet the performance objectives. Where practicable, the safety analysis may use mean values to assess the frequencies (or probabilities) and consequences of event sequences with respect to demonstrating compliance with 10 CFR Part 63 and classification of SSCs. The mean values of input parameters may be used when uncertainty distributions are available and the output of analyses are expressed as means. If mean frequency values are not used,

other techniques may be used to address frequency uncertainties. Where appropriate, such as in estimating normal releases and Category 1 doses, best-estimate parameters may be used. Otherwise, conservative values may be used for the input parameters to account for uncertainties that are propagated to the output of analyses. In instances where special treatment of uncertainties is warranted, sensitivity and/or uncertainty analyses may be performed, as required, to demonstrate that Category 1 and Category 2 event sequences meet the preclosure performance objectives. Important to safety SSCs credited for compliance to the performance objectives are identified from the Category 1 and Category 2 event sequences. In addition, SSCs credited for ensuring an event sequence is beyond Category 2 are identified as important to safety. The safety category classifications applied to the important to safety SSCs are identified through the use of the screening criteria shown in Attachment 1. The SSCs required to meet normal operating dose limits, but not credited for Category 1, Category 2, or beyond Category 2 event sequences, are not important to safety.

The steps that must be performed before the classification of SSCs in Category 1 event sequences include the following:

- Identify normal operating doses from surface and subsurface normal releases (from previously completed analyses).
- Identify each Category 1 event sequence dose (from previously completed analyses).
- Identify the annual aggregate Category 1 dose (from previously completed analyses).
- Identify event sequences that include the SSC being classified (from previously completed analyses).
- To determine compliance with the performance objectives of 10 CFR 63.111, examine (1) the dose from each Category 1 event sequence, (2) the dose from the normal operations and the annual aggregate frequency-weighted dose from Category 1 event sequences, and (3) the dose from any combination of Category 1 event sequences whose combined frequency places the combination in Category 1.
- Classify the SSC as directed in Subsection 5.2.

The steps that must be performed before the classification of SSCs in Category 2 event sequences include the following:

- Identify each Category 2 event sequence dose (from previously completed analyses).
- Identify event sequences that include the SSC being classified (from previously completed analyses).
- Classify the SSC as directed in Subsection 5.2.

Postclosure Total System Performance Assessments are performed to demonstrate compliance with the postclosure objectives. Engineered barrier systems and natural

barriers whose functions are credited to provide a reasonable expectation that high-level radioactive waste can be disposed of without exceeding the postclosure performance objectives are identified as important to waste isolation, and the safety category is identified using the screening criteria shown in Attachment 1.

Both the classification analyses and the *Q-List* are subject to independent checking and review.

5.2 CONDUCTING THE CLASSIFICATION ANALYSIS

5.2.1 Project Engineer, PSA:

Assign a qualified Originator to perform the classification analysis.

5.2.2 Originator:

- a) Perform and document the classification analysis of the important to safety SSCs and important to waste isolation barriers in accordance with AP-3.12Q, *Design Calculations and Analyses*.
- b) Using the event sequences that demonstrate compliance to the performance objectives, determine the consequences of the event sequence using the assumption that the particular SSC being considered has been removed from the event sequence (i.e., do not credit the SSC for any prevention or mitigation function when determining the consequences). SSCs credited to show reasonable assurance that compliance to the performance objectives are met for Category 1 and Category 2 event sequences are important to safety.
- c) The basic steps to perform the classification of SSCs in event sequences (using the output from applicable categorization and consequence analyses) are as follows:
 - 1) Determine the event sequences and their categorization that include the SSC being classified (from previously completed analyses).
 - 2) Review the compliance analyses and identify the SSCs that were credited for each event sequence that includes the SSC being classified.
 - 3) Using the results obtained in the review of Category 1, Category 2, and beyond Category 2 event sequences, determine the safety category of the SSC in accordance with the screening criteria provided in Attachment 1.
- d) If the barrier being analyzed for classification is credited as a natural or engineered barrier in the Total System Performance Assessment for prevention or mitigation of postclosure release of radioactive material, determine the safety category of the barrier in accordance with the screening criteria provided in Attachment 1.

5.2.3 Originator with Project Engineer, PSA:

- a) Determine the disciplines or functional areas affected by the classification analysis.
- b) Initiate an interdisciplinary review in accordance with AP-2.14Q, *Review of Technical Products and Data*.
- c) Ensure reviews and approvals required by AP-3.12Q and AP-2.14Q have been completed.

5.2.4 Project Engineer, PSA:

Approve the analysis.

5.3 REVISION OF THE Q-LIST

5.3.1 Project Engineer, PSA:

Assign a qualified Originator to revise the *Q-List*.

5.3.2 Originator:

- a) Revise the *Q-List* to reflect the results of the classification analyses of the important to safety SSCs and important to waste isolation barriers in accordance with AP-3.11Q, *Technical Reports*.
- b) Ensure reviews and approvals required by AP-3.11Q have been completed.

5.3.3 Project Engineer, PSA, and License Application Project Manager:

Approve the *Q-List*.

5.4 CHANGE CONTROL

Changes are controlled in the same manner as the original.

6.0 RECORDS

The records listed in Subsection 6.1 shall be collected and submitted to the Records Processing Center in accordance with AP-17.1Q, *Record Source Responsibilities for Inclusionary Records*, as individual records or included in a records package, as specified, and as specified in the appropriate implementing procedure (i.e., AP-3.11Q or AP-3.12Q).

6.1 QA RECORDS

Individual Records:

Classification analysis (submitted per AP-3.12Q)

Q-List (submitted per AP-3.11Q)

6.2 NON-QA INCLUSIONARY RECORDS

None

6.3 NON-QA EXCLUSIONARY RECORDS

None

7.0 REFERENCES

- a) 10 CFR 63, Energy: Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada
- b) *Quality Assurance Requirements and Description*, DOE/RW-0333P
- c) AP-2.14Q, *Review of Technical Products and Data*
- d) AP-3.11Q, *Technical Reports*
- e) AP-3.12Q, *Design Calculations and Analyses*
- f) AP-17.1Q, *Record Source Responsibilities for Inclusionary Records*
- g) *Q-List*, YMP/90-55Q

8.0 ATTACHMENTS

Attachment 1 - Safety Category Screening Criteria

Attachment 2 - Identification of Importance to Safety and Waste Isolation Flowchart

Attachment 3 - Acronyms and Abbreviations

SAFETY CATEGORY SCREENING CRITERIA

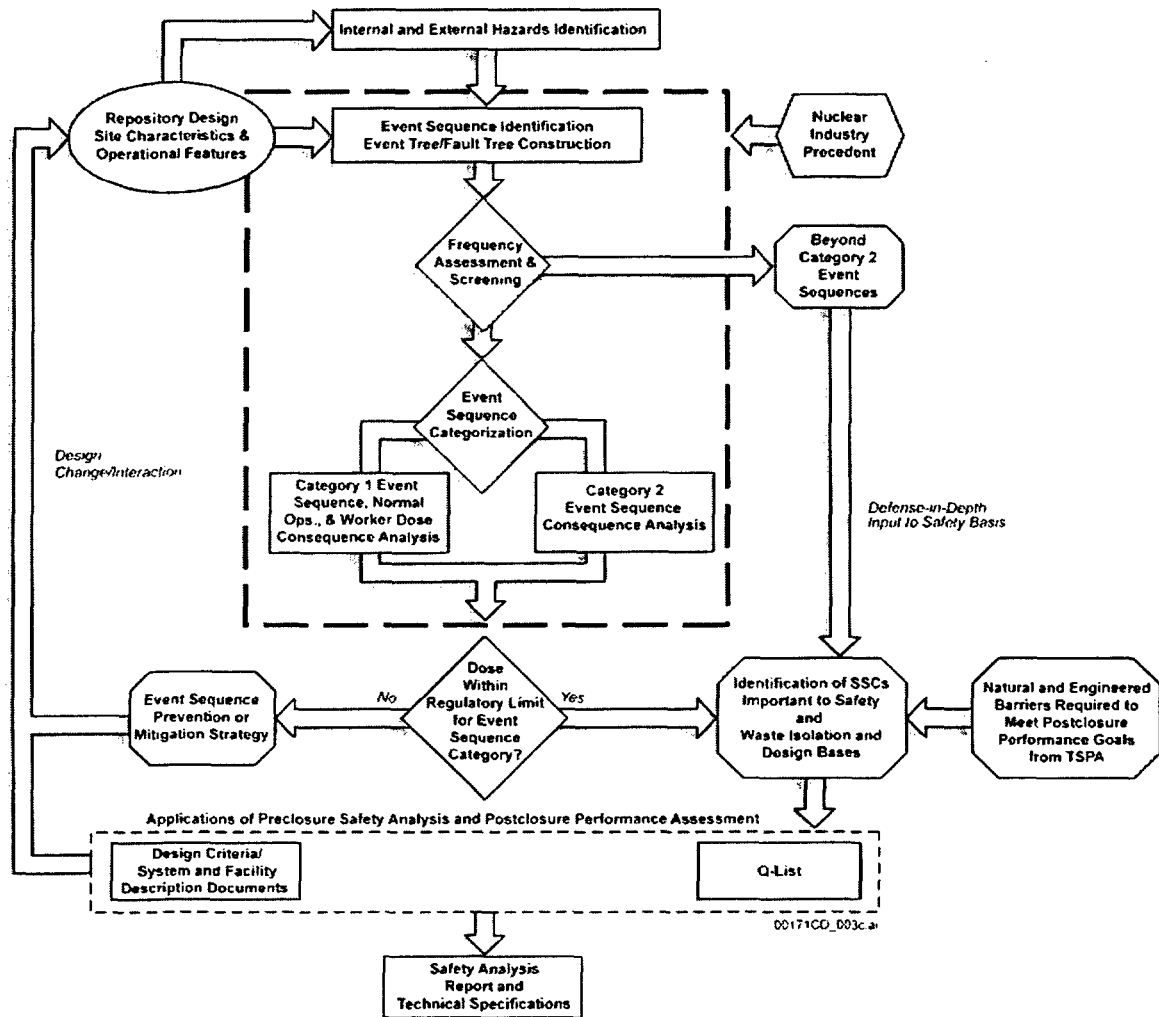
Safety Category (SC):

SSCs that are credited for prevention or mitigation in Category 1 and Category 2 event sequences so they meet the performance objectives in 10 CFR 63.111.

Natural or engineered barriers that are important to meeting the performance objectives in 10 CFR 63.113.

Non-Safety Category (Non-SC):

SSCs not credited for compliance to the performance objectives in 10 CFR 63.111 and natural/engineered barriers that are not important to meeting the performance objectives in 10 CFR 63.113.



Attachment 2 - Identification of Importance to Safety and Waste Isolation Flowchart

OCRWM Procedure

Title: Classification Analyses and Maintenance of the Q-List

Procedure No.: AP-2.22Q/Rev. 1/ICN 0

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CFR	Code of Federal Regulations
PSA	Preclosure Safety Analysis
SC	safety category
SSC	structure, system, or component
TSPA	Total System Performance Assessment
YMP	Yucca Mountain Project