

Procedure Contains NMM REFLIB Forms: YES NO

Effective Date 1/28/08	Procedure Owner: Title: Site:	Oscar Limpias VP Engineering HQN	Governance Owner: Title: Site:	Oscar Limpias VP Engineering HQN
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Site and NMM Procedures Canceled or Superseded By This Revision
 Palisades Procedure FP-E-RTC-02
Process Applicability Exclusion) All Sites:
 Specific Sites: ANO BRP GGNS IPEC JAF PLP PNPS RBS VY W3 NP

Change Statement
 Revision 1 incorporates Palisades into the procedure. This includes the addition of Attachment 9.1 sh 3H of 3. Palisades will continue to use site specific interface procedures until the corresponding Entergy interface procedure is adopted for use at Palisades.

*Requires justification for the exception

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Classification of Structures, Systems, and Components				

1.0 **PURPOSE**

- [1] This procedure provides the criteria and methodology for determining and evaluating changes to, the safety and quality classification of Systems, Structures and Components (SSCs). The classification process defined by this procedure is intended to provide a consistent step-by-step approach to classification determinations.
- [2] This procedure applies to establishing/changing system safety functions. System safety functions are prepared, changed, reviewed, and approved per this procedure, in conjunction with site-specific reference documents associated with this procedure.
- [3] Classification of parts and sub-components is typically performed per EN-DC-308, but may be performed using this procedure.
- [4] This procedure does not apply to classification of equipment as Commercial Equipment. Refer to EN-DC-115 for the Commercial Equipment classification process.

2.0 **REFERENCES**

2.1 Common References

- [1] Entergy Quality Assurance Manual
- [2] Generic Letter 83-28 Required actions Based on Generic Implications of Salem ATWS Events dated July 8, 1983
- [3] ANSI N18.7 – 1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants
- [4] ANSI N45.2.11-1974, Quality Assurance Requirements for the Design of Nuclear Plants
- [5] ANSI/ANS 51.1-1983, Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactors
- [6] ANSI/ANS 52.1-1983, Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactors
- [7] ANS 22 N-212 Draft No 4 Rev 1 May 1973, Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants (VY Specific)
- [8] ANSI/ANS 56.2-1984, American Nuclear Society Containment Isolation Provisions for Fluid Systems after LOCA
- [9] ANSI/ANS 58.14-1993, Safety and Pressure Integrity Classification Criteria for Light Water Reactors

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- [10] EPRI 6895 (NCIG-17)-1991, Guidelines for the Safety Classification of Systems, Components, and Parts Used in Nuclear Power Plant Applications
- [11] 10 CFR 50.49, Environmental Qualification of Electric Equipment Important to Safety for Nuclear Power Plants
- [12] 10 CFR 50.55a, Codes and Standards
- [13] 10 CFR 50 Appendix A, General Design Criteria for Nuclear Power Plants
- [14] 10 CFR 50 Appendix B, General Quality Assurance Requirements for Nuclear Power Plants
- [15] 10 CFR 50 Appendix R / BTP 9.5-1 Appendix A, Fire Protection Program for Nuclear Power Facilities Operating Prior to 1/1/79
- [16] 10 CFR 100 Appendix A, Reactor Site Criteria
- [17] Reg. Guide 1.11 (Safety Guide 11, 3/71), Instrument Lines Penetrating Primary Reactor Containment
- [18] Reg. Guide 1.26 (Rev. 3, 2/76), Quality Group Classifications and Standards for Water, Steam and Radioactive Waste Containing Components of Nuclear Power Plants
- [19] Reg. Guide 1.29 (Rev. 3, 9/78), Seismic Design Classification
- [20] Reg. Guide 1.32 (Rev. 2, 2/77), Criteria for Safety-Related Electric Power Systems for Nuclear Power Plants
- [21] Reg. Guide 1.97 (Rev. 2, 12/80), Instruments for Light Water Cooled Nuclear Power Plants to Assess Plant and Environ Conditions During and Following an Accident
- [22] NUREG/CR-6407, Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety
- [23] Plant Specific Updated Final Safety Analysis Report (UFSAR)
- [24] 10 CFR50.67, Accident Source Term
- [25] 10 CFR72, Licensing Requirement for the Independent Storage of Spent Nuclear Fuel, High-Level Radioactive Waste and Reactor-Related Greater than Class C Waste
- [26] Regulatory Guide 7.10 - Administrative Guide for Packaging and Transporting Radioactive Material
- [27] Holtec HI-STORM 100 Cask System Final Safety Analysis Report

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2.2 IP2

- [1] Electrical Equipment Environmental Qualification Program for Indian Point Unit No. 2
- [2] EPRI Report NP-5652, Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications (NCIG-07)
- [3] EPRI Report NP-6406, Guidelines for the Technical Evaluation of Replacement Items in Nuclear Power Plants (NCIG-11)
- [4] IEEE Std. 603-1980, IEEE Standard Criteria for Safety Systems for Nuclear Power Generating Stations

2.3 IP3

- [1] IEEE-279-1971, Criteria for Protection Systems for Nuclear Power Generating Stations
- [2] BTP ICSB 26 (Rev. 2, 7/81), Requirements for Reactor Protection System Anticipating Trips
- [3] Reg. Guide 1.26 (Rev. 2, 6/75), Quality Group Classifications and Standards for Water, Steam and Radioactive Waste Containing Components of Nuclear Power Plants

2.4 JAF

- [1] MEL Project Licensing Commitment Report
- [2] JAF Safety Evaluation JAF-SE-88-052, JAF QA Classification Program Upgrade (Q-List)
- [3] Reg. Guide 1.26 (Rev 2, 6/75), Quality Group Classifications and Standards for Water, Steam and Radioactive Waste Containing Components of Nuclear Power Plants.

2.5 PNPS

- [1] FSAR Appendix G 'Station Nuclear Safety Operational Analyses'

2.6 VY

- [1] IEEE-279-1968, Criteria for Protection Systems for Nuclear Power Generating Stations
- [2] 10CFR50.63 Loss of All Alternating Current Power (Station Blackout)
- [3] 10CFR50.65 Requirement for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants

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[4] VYS 98/05 Design Basis Reconstitution of Hot Versus Cold Shutdown Bases Jan 19, 1998

[5] TE-2000-020 Applicability of IEEE 279 to Vermont Yankee

[6] TE-2002-037 Basis for Safety Classification for Instrument Lines in the Reactor Coolant Boundary

2.7 ANO

[1] 5010.004, Design Document Updates

[2] Regulatory Guide 1.120, Fire Protection Guidelines for Nuclear Power Plants

[3] Regulatory Guide 1.155, Station Blackout

[4] NUREG 0737, Clarification of TMI Action Plan Requirements

[5] IEB 79-01B, Environmental Qualifications for Class 1E Equipment

[6] EPRI NP-6406 – Guidelines for the Technical Evaluation of Replacement Items in Nuclear Power Plants

[7] ANO-1 and ANO-2 Safety Analysis Reports (SAR)

[8] ULD-0-TOP-22, Component Classification

[9] BNFL VSC-24, Dry Fuel Storage System Safety Analysis Report

2.8 Grand Gulf

[1] GGNS FSAR

[2] GGNS Q-List

[3] Plant Operating Manual, Administrative Procedure 01-S-02-4

[4] RG 1.33, Quality Assurance Program Requirements (Operation) – 2/78

[5] RG 1.53, Application of the Single Failure Criterion to Nuclear Power Plant Protection Systems – 6/73

[6] RG 1.64, Quality Assurance Requirements for the Design of Nuclear Power Plants – 6/76

[7] RG 1.75, Physical Independence of Electrical Systems – 1/76

[8] RG 1.89, Qualification of Class 1E Equipment – 11/74

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- [9] ANS 52.1, Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants, October 1981
 - [10] EPRI NP-6406, Guidelines for the Technical Evaluation of Replacement Items
 - [11] 10CFR20, Standards for the Protection Against Radiation
 - [12] 10CFR21, Reporting of Defects and Noncompliances
- 2.9 River Bend
- [1] USAR, section 3.11 Environmental Qualification of Mechanical and Electrical Equipment.
 - [2] Reg. Guide 1.97 (Rev. 3, 5/83), Instruments for Light Water Cooled Nuclear Power Plants to Assess Plant and Environ Conditions During and Following an Accident
 - [3] Reg. Guide 1.17 (Rev. 0, 6/73), Protection of Nuclear Power Plants Against Industrial Sabotage
 - [4] IEEE Standard 308 – 1974, Standard Criteria For Class 1E Power Systems for Nuclear Power Generating Stations
 - [5] EDP-EQ-20, Control and Maintenance of the River Bend Equipment Qualification Master Lists
 - [6] IEEE Standard 344 – 1975, Recommended Practice for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations
 - [7] IEEE Standard 384 – 1974, IEEE Trial- Use Standard Criteria for Separation of Class 1E Equipment and Circuits
 - [8] RBS USAR Table 3.2-1
 - [9] LI-101, 10 CFR 50.59 Review Program
- 2.10 Waterford 3
- [1] 10CFR21, Reporting of Defects and Noncompliances
 - [2] 10CFR100.11, Determination of Exclusion Area, Low Population Zone and Population Center Distance
 - [3] EPRI NP-5652, Guideline for the Utilization of Commercial Grade Items in Nuclear Safety Related Applications
 - [4] EPRI NP-6406, Guidelines for the Technical Evaluation of Replacement Items

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- [5] ASME Boiler and Pressure Vessel Code – Section III
- [6] IEEE Standard 303, Standard Criteria For Class 1E Power Systems for Nuclear Power Generating Stations
- [7] IEEE Standard 323, Qualifying Class 1E Equipment for Nuclear Power Generating Stations
- [8] IEEE Standard 344, Recommended Practice for Seismic Qualification of Class 1E Equipment for Nuclear Power Generating Stations
- [9] IEEE Standard 649, Standards for Qualifying Class 1E Motor Control Centers for Nuclear Power Generating Stations
- [10] IEEE Standard 382, Standard for Safety Related Valve Actuators
- [11] Final Safety Analysis Report Table 3.2-1
- 2.11 Palisades
 - [1] 10 CFR 50.62, ATWS
 - [2] 10 CFR 73, Security

3.0 DEFINITIONS

- [1] Boundary /Boundaries are defined below as to specific applications.
 - (a) A System Boundary is the point where the system nomenclature assigned to interfacing systems changes (e.g. from Condensate to Feedwater).
 - (a) A QA Boundary is the point at which quality assurance criteria applied to individual system components changes within a system boundary. Not all system boundaries are QA boundaries. Instances where all components in a system have identical QA classifications, then the system boundary and the QA boundary are the same point. Boundary components include physical separations, mechanical flow isolations (valves), and electrical power or signal isolations.
- [2] A Component is an item, assembled from parts that is viewed as piece of equipment that has a unique plant identification number. Components (pump, valve, relay etc.) may be combined with other components and support items to form an assembly, sub-system or system.
 - (a) An Active Component is a component that requires mechanical motion or change of state to fulfill its intended safety function.

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(b) A Passive Component is a component that does not require mechanical motion or change of state to fulfill its intended safety function.

[3] The Quality Assurance Classification, for purposes of this procedure, is the Safety Class, or QA Category used to designate safety classification. Dry Fuel Storage components will have additional “levels” of classification consistent with the requirements of 10CFR72. Refer to the tables below for summaries of the EN classifications and associated classification levels. Also refer to Attachment 9.8 for a summary of the corresponding “legacy” classifications formerly used at each plant.

(a) Safety-related (SR) SSCs means those structures, systems and components that are relied upon to remain functional during and following design basis events to assure:

- (1) The integrity of the reactor coolant pressure boundary
- (2) The capability to shut down the reactor and maintain it in a safe shutdown condition; or
- (3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the applicable guideline exposures set forth in 10CFR50.34(a)(1), 10CFR50.67, or 10CFR100.11, as applicable.

(b) Augmented Quality Program (QP), also referred to as Augmented Quality Related (AQ), SSCs have been designated as requiring additional quality level oversight or as Important to Safety. This designation is an optional subset of the classification category non-safety related. It may be applied to any item that is subject to non-safety related regulatory requirement or special requirements imposed by the utility. The scope of the classification category is station specific.

(c) Non-Safety Related (NSR) SSCs are SSCs not considered safety related or important to safety.

(d) Commercial Equipment (COM) – see EN-DC-115.

(e) Dry Fuel Storage (DFS) Classification Levels - Per 10 CFR 72, Reg. Guide 7.10 and Holtec HI-STORM 100 FSAR, the following definitions apply to the “Important to Safety (ITS)” quality assurance classification levels for dry fuel storage components used at all Entergy sites, except PNPS and PLP.

- (1) ITS-A – Critical to Safe Operation - This 10CFR72 category includes structures, components, and systems whose failure could directly result in a condition adversely affecting public health and safety. The failure of a single item could cause loss of primary containment leading to release

of radioactive material, loss of shielding, or unsafe geometry compromising criticality control. This category is comparable to the Safety Related (SR) classification in 10CFR50.

- (2) ITS-B – Major Impact on Safety - This 10CFR72 category includes structures, components, and systems whose failure or malfunction could indirectly result in a condition adversely affecting public health and safety. The failure of a Category B item, in conjunction with the failure of an additional item, could result in an unsafe condition. This category is comparable to the Safety Related (SR) classification in 10CFR50.
- (3) ITS-C – Minor Impact on Safety - This 10CFR72 category includes structures, components, and systems whose failure or malfunction would not significantly reduce the packaging effectiveness and would not be likely to create a situation adversely affecting public health and safety. This category is comparable to the Augmented Quality (QP) classification in 10CFR50.
- (4) NITS – Not Important to Safety - This 10CFR72 category includes structures, components, systems, and consumable items whose failure or malfunction does not impact safety. This category is comparable to the Non-Safety Related (NSR) classification in 10CFR50.
- (5) Since all ENN sites, except PNPS and PLP, utilize common DFS components, the DFS system safety function sheet is provided in Attachment 9.7.

Table: Summary of EN Quality Assurance Classifications*

Classification	Description
SR	Safety Related
QP	Augmented Quality Program
NSR	Non-Safety Related
COM	Commercial Equipment
REQ	Requires Classification

*Lower tier classifications may be assigned as per site standards. For example, Safety Related may be divided into Class A, B, and C, based on RG 1.26, Quality Group Classifications and Standards for Water-, Steam-, and Radioactive-Waste-Containing Components of Nuclear Power Plants; Class 1E, based on RG 1.32, Criteria for Power Systems for Nuclear Power Plants; or SC-1, SC-2, SC-3, and SC-E, based on ANS 22, "Nuclear Safety Criteria For The Design Of Stationary Boiling Water Reactor Plants, etc.

Table: Summary of EN Dry Fuel Storage Classification Levels

Classification	DFS (Part 72) Classification Levels
Safety Related (SR)	ITS-A ITS-B
Augmented Quality Program (QP)	ITS-C
Non-Safety Related (NSR)	NITS

[4] A Commercial Grade Item is an item that:

- (a) When applied to nuclear power plants licensed pursuant to 10 CFR Part 50, commercial grade item means a structure, system, or component, or part thereof that affects its safety function, that was not designed and manufactured as a basic component. Commercial grade items do not include items where the design and manufacturing process require in-process inspections and verifications to ensure that defects or failures to comply are identified and corrected (i.e., one or more critical characteristics of the item cannot be verified).
- (b) When applied to facilities and activities licensed pursuant to 10 CFR Parts 30, 40, 50 (other than nuclear power plants), 60, 61, 70, 71, or 72, commercial grade item means an item that is:
 - Not subject to design or specification requirements that are unique to those facilities or activities;
 - Used in applications other than those facilities or activities; and
 - To be ordered from the manufacturer/supplier on the basis of specifications set forth in the manufacturer's published product description (for example, a catalog).

[5] The Containment is the principal structure of a plant that acts as the barrier, after the fuel cladding and reactor coolant pressure boundary, to control the release of radioactive material. A BWR containment structure is divided into two categories: primary containment and secondary containment.

- (a) **Primary Containment:** In a **BWR** this structure is also referred to as the Drywell and Torus (or Drywell and Wet-well) and includes access openings, penetrations, and appurtenances. It also includes those valves, pipes, closed systems and other components used to effectively isolate the containment atmosphere from the environment and those portions of systems that by their

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function extend the containment structure boundary and provide effective isolation.

- (b) Secondary Containment: The structure surrounding the primary containment (**BWR**) that acts as a further barrier to control release of radioactive material. This structure is commonly referred to as the Reactor Building.
- (c) In a **PWR** the Containment is also known as the Containment or Vapor Containment (VC). The principal plant structure that acts as a barrier to radioactive material release including the containment structure and those valves, pipes, closed systems and other components used to effectively isolate the containment atmosphere from the environment and those portions of systems that by their function extend the containment structure boundary and provide effective isolation.
- (d) Containment Isolation: Closure of mechanical barriers in appropriate piping and access openings penetrating containment to ensure an open path to the environment does not exist.

[6] A Design Basis Event is an event analyzed in the UFSAR giving design criteria for performance of systems or portions of systems. This includes anticipated operational occurrences, external events and natural phenomena that are not considered as normal plant operation.

- (a) Anticipated Operational Occurrences: Those transients expected to occur one or more times during the life of the plant, including but not limited to Loss of Power, Turbine Trip, and Load Rejection events. Each plant has a series of abnormal events or transients analyzed in the UFSAR.
- (b) Loss of Coolant Accident: The loss of reactor coolant, at a rate in excess of the normal coolant makeup capability, from breaks in the reactor coolant pressure boundary inside or outside of containment.
- (c) Normal Plant Operation: Those occurrences that are expected frequently or regularly in the course of power operation, refueling, maintenance or maneuvering of the plant. Examples include startup, shutdown, standby, power operation, refueling, operation with fuel clad defects within Technical Specification limits, and operation with specific items of equipment out of services or under test as permitted by Technical Specifications.

[7] Environmentally Qualified (EQ) components are safety related and post accident monitoring electrical and instrument components required to remain functional during and following design basis events, and which could directly experience harsh environmental conditions postulated to be caused by such events. These environmental conditions could include temperature, pressure, humidity, radiation, synergism, submergence, spray impingement, and ageing effects. Environmental requirements in accordance with 10CFR50.49 apply to this equipment.

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- [8] An Engineering Change Request (ECR) is a formally documented request for Engineering technical support.
- [9] An Engineering Change (EC) - is a formally documented response for engineering technical support.
- [10] Failure is the Inability of an item to accomplish its design function. Types of failures are as follows.
- (a) Active failure: the malfunction of an item that relies on mechanical movement or change of state to accomplish its function.
 - (b) Common Cause Failure: Multiple failures of SSC's as a result of a single phenomenon.
 - (c) Credible Failure Mode: Credible (e.g. plausible, possible, believable, real) ways by which an item could fail while in service under normal, transient, or accident conditions.
 - (d) Detectable Failure: a failure that can be identified through periodic testing or can be revealed by alarm or anomalous indication. Failures that are detected at the component, assembly or system level are detectable failures.
 - (e) Incredible Failure Mode: A way that an item is postulated to fail that does not have a basis in reality. Complex failure modes that may have a low probability of occurrence, but are possible, need to be considered as credible failures.
 - (f) Passive Failure: The blockage of a process flow path or failure of a component to maintain its integrity or state such that it cannot provide its intended safety function.
 - (g) Single Failure: A random failure and its consequential effects, in addition to an initiating occurrence, that results in the loss of capability of a component to perform its intended safety function(s).
- [11] Flow Path is a pathway for fluid flow consisting of pumps, pipe and valves to route a fluid from one point to another.
- (a) Primary Flow Path: Flow paths, which directly support the design operation of the system.
 - (b) Auxiliary Flow Path: Flow paths, which indirectly support the design operation of a system, (minimum flow recirculation lines, lubrication lines etc.)
 - (c) Boundary Flow Path: Flow paths connected to the primary or auxiliary flow paths, which could conduct process fluid to the atmosphere, or to a different system, or a flow path that includes containment isolation valves.

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- [12] Important to Safety (ITS) – A term used in different contexts to denote the significance of an item with respect to public health and safety.
- a) In the context of 10CFR50, “Important to Safety” typically denotes items which are not safety related, but have some impact or interaction with respect to safety, and are thus often classified as “Augmented Quality” (QP).
 - b) In the context of 10 CFR72, “Important to Safety” typically denotes Dry Fuel Storage items which are classified as safety-related, and are subject to specific levels of classification (i.e., ITS-A, ITS-B).
 - 1) 10CFR 72.3 defines important to safety for dry fuel storage (DFS) as follows:

Structures, systems, and components important to safety means those features of the ISFSI, MRS, and spent fuel storage cask whose functions are--

 - (1) To maintain the conditions required to store spent fuel, high-level radioactive waste, or reactor-related GTCC waste safely;
 - (2) To prevent damage to the spent fuel, the high-level radioactive waste, or reactor-related GTCC waste container during handling and storage; or
 - (3) To provide reasonable assurance that spent fuel, high-level radioactive waste, or reactor-related GTCC waste can be received, handled, packaged, stored, and retrieved without undue risk to the health and safety of the public.
- [13] Indus Asset Suite (IAS) – The software product used by the Entergy fleet for Work Management, Engineering Change, Materials Purchasing and Contracts and for the creation of new controlled documents and revisions to controlled documents (controlled document information populates EDMS via an interface).
- [14] An Isolation Device is a device such as a valve, breaker, or fuse, which serves to (1) physically separate fluid systems or portions of systems in order to assure proper operation of one or both of the separated systems/portions, or (2) electrically separate a non-1E load or circuit from its associated 1E power source or circuit to protect the 1E devices from electrical failure of non-1E devices.
- [15] An Item is an all-inclusive term used to denote any plant structure, system, component, or part.
- [16] Maloperation is failure to operate, operate in the wrong direction or at the wrong time, or insufficient operation to the extent required by the system function.
- [17] Part(s) are items from which a component is assembled (for example, capacitors, resistors, wires, connectors, lubricant, o-rings, springs bearings, gaskets, fasteners, seals, shafts, casings, etc.). Classification is based on application within the specific identified component and is accomplished per EN-DC-308.

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- [18] Quality Related (QR) – Any design activity that establishes the methods or means of performing activities associated with structures, systems, and components which are subject to quality requirements and are governed by the Quality Assurance Program, e.g. safety related or controlled by 10 CFR 72, or transportation packages controlled by 10 CFR 71, or other items or other activities as determined on a case-by-case basis. (Reference – QAPM Section A.1.c).
- [19] The Reactor Coolant System or Reactor Coolant Pressure Boundary (RCPB) consists of all those pressure-containing components, such as pressure vessels, piping, pumps, and valves that are:
- (a) Part of the reactor coolant system, or
 - (b) Connected to the reactor primary coolant system up to and including any or all of the following:
 - The outermost primary containment isolation valve in system piping that penetrates the primary containment,
 - The second of two valves normally closed during normal reactor operation in system piping that does not penetrate primary containment,
 - The reactor coolant system safety and relief valves.
- Note: For BWR's, the reactor coolant system extends to and includes the outermost primary containment isolation valve in the main steam and feedwater piping.
[ANSI/ANS 52.1]
- [20] Safe Shutdown is the design basis condition of Hot Shutdown. Hot shutdown condition is a state where:
- (a) The reactivity of the reactor is kept to a margin below criticality consistent with Technical Specifications,
 - (b) The core decay heat is being removed at a controlled rate sufficient to prevent core or reactor coolant system thermal design limits from being exceeded,
 - (c) Components and systems necessary to maintain these conditions are operating within their design limits and
 - (d) Components and systems necessary to keep doses within prescribed limits are operating properly.

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- [21] System Safety Function Sheet(s) (SSFS) An SSFS is derived from the licensing basis as identified in the UFSAR, Design Basis Documents, and applicable licensing commitments. The SSFS list the applicable safety functions of each system. In addition some non-safety functions may be listed for some systems based on the importance of the function to system operation. The SSFS are the major portion of the plant specific reference documents used for SSC classification under this procedure.
- [22] Structure is an item used to house, enclose mount, or support components.
- [23] System / Sub-system is a group of components (and possibly structures) that together perform one or more functions as a system. A system is typically designated with a unique system name and identifier (e.g., acronym or number).
- [24] System Interaction is one system acting upon one or more other systems typically in a manner not intended by design.

4.0 RESPONSIBILITIES

4.1 RESPONSIBLE ENGINEERING MANAGER/SUPERVISOR

- [1] The Site Design Engineering Manager has the overall technical responsibility for the classifications developed per this procedure.
- [2] The appropriate Site Engineering Supervisor approves all SSC classifications.
- [3] Engineering Supervisors are responsible for assigning qualified engineers to prepare and review SSC classifications and SSFS changes developed per this procedure and supporting site standard.

4.2 QUALIFIED PREPARERS AND REVIEWERS

Qualified preparers and reviewers are responsible for developing and reviewing SSC classifications and SSFS changes per the requirements of this procedure.

5.0 DETAILS

5.1 PRECAUTIONS AND LIMITATIONS

- [1] The electronic forms and associated approvals are documented in the Indus Asset Suite (IAS).
- (a) Since the forms in this procedure are identified as typical, other formats may be used as long as they contain the same information. IF the IAS forms do not contain at least the same information, THEN the forms from this procedure or equivalent must be attached to the associated EC and to IAS.

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- (b) When IAS is unavailable, attachments from this procedure may be used and filed using the EN-AD-103, Document Control and Records Management Activities process.

5.2 GENERAL GUIDELINES

- [1] This procedure is entered via the Engineering Change Request (ECR) process (EN-DC-112) when an item:
- Requires classification because it has not been previously classified or does not reside in the respective site databases.
 - Is over-classified and can be assigned a lower classification.
 - Is under-classified and requires reclassification and a condition report for configuration disposition and documentation purposes.
- [2] The safety classification process requires:
- Determining the safety function of a plant item (e.g. structure, system, component).
 - Determining if the failure of the item may impact the safety function of the host (parent) item. If impact exists, this procedure determines whether the item should be classified as Safety Related (SR) or Augmented Quality Related (QP).
 - Determining that if an item does not have a safety function and its failure or function does not impact safety-related equipment, it can be classified as Non-Safety Related (NSR).
 - Determining that if an item is not SR or QP, its functions do not impact the conclusions reached in the safety analysis, and it is not subject to other special considerations (e.g., Maintenance Rule, personnel safety, availability, PSA considerations, etc.), it can be classified as Commercial Equipment (COM).
 - Determining the classification levels (e.g., quality groups, Dry Fuel Storage) where applicable for the above-mentioned items.
- [3] The industry standards and regulatory guidelines utilized at each plant site depend on design requirements and licensing commitments made to address Generic Letter 83-28 on Salem ATWS. Additionally, each plant classifies systems differently with different System Safety Functions. As such, each plant uses site-specific reference documents to process safety classifications.

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- [4] The safety classification of an item is based on its function and any specific licensing commitments. It is independent of the quality assurance or quality controls that govern its manufacture, installation, maintenance or operation.
- [5] An item that is used to maintain or monitor the readiness of systems and components to perform a safety-related function is not safety-related when:
- credit is not taken for the item's function during or following a design basis accident or transient, and
 - failure of the item would not prevent surrounding safety related equipment from functioning.
- [6] An item that:
- does not perform a safety-related function, BUT
 - whose credible failure could prevent the satisfactory accomplishment of a safety-related function is classified as either safety-related (e.g. electrical components) or augmented quality related (e.g. seismic support for a non-safety related item).
- [7] Safety classification is the process of determining whether or not an item is safety-related, Important to Safety, or requires additional quality level oversight. It does not necessitate a review to verify previously established design.
- [8] All plant items are assumed to be present and properly maintained. The consequences of a missing or malfunctioning plant item are not within the scope of the safety classification process.
- [9] When performing safety classifications, the item being evaluated is the only item considered for credible failure modes and its effect on surrounding safety equipment.
- [10] All preparers should document engineering judgments so that another engineer, auditor or inspector could understand the rationale used, and inspect and retrieve supporting documents.
- [11] Attachment 9.1 is generally used for classifying a small number of items. Attachment 9.2 is generally used for processing a large number of items (e.g., components in a new system). Attachment 9.3 provides instructions for both attachments.

5.3 SAFETY CLASSIFICATION PREPARATION

- [1] The preparer completes the Safety Classification Worksheet as follows:
- Prepare an Engineering Change (EC) in accordance with EN-DC-115, using the applicable attachments below.

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- Use Attachment 9.1 when classifying a small number of items.
- Use Attachment 9.2 when classifying a large number of items (e.g., all the components in a new system).
- Use Attachment 9.3 for instructions when completing either attachment.

5.4 SAFETY CLASSIFICATION WORKSHEET REVIEW AND APPROVAL

- [1] The reviewer performs a review of the Safety Classification as per the instructions in Attachment 9.3.
- [2] The Engineering Supervisor approves the Safety Classification as per the instructions in Attachment 9.3.

5.5 SAFETY CLASSIFICATION WORKSHEET AND ENGINEERING CHANGE PROCESSING

- [1] The Safety Classification EC is processed in accordance with EN-DC-115 and as follows:
 - If the classification is associated with a Nuclear Change, then the classification form is typically attached to and referenced in the Nuclear Change EC.
 - If the classification is associated with an upgrade without a previously justified basis, then the classification form is attached to and referenced in the Engineering Evaluation EC. The evaluation must provide the upgrade basis, including such issues as Procurement traceability and design control, installation and testing documentation, and operability / reportability for the item(s).
 - If the classification is in support of a Commercial Equipment classification for an item that was not previously classified, then the classification form is attached to and referenced in the Engineering Evaluation EC. The evaluation must also include the Commercial Equipment Evaluation Form from EN-DC-115.
 - For all other classifications, the classification form is attached to and referenced in the Safety Classification Evaluation EC.
- [2] Affected documents, programs and equipment database records are identified and processed during EC development as per EN-DC-115, and are updated (or tracked for update) prior to EC closure per EN-DC-118.

5.6 SYSTEM SAFETY FUNCTION CHANGE FORM

- [1] If a System Safety Function Sheet requires alteration (e.g., change, addition or deletion), then the preparer completes Attachment 9.4, System Safety Function

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Change Form as part of an Engineering Change per EN-DC-115, and obtains the required reviews and approvals. Refer to the site-specific Reference Document (see Attachment 9.5) for complete details and guidance on completion of the System Safety Function Change Form.

- [2] System Safety Function Changes are tracked via Engineering Changes in the Indus Asset Suite (IAS), or via Attachment 9.6, System Safety Function Change Form Log. Refer to the Site-specific Reference Document (see Attachment 9.5) for complete details and guidance on tracking of System Safety Function Changes.

6.0 INTERFACES

- [1] EN-DC-112, Engineering Change Request and Project Initiation Process
- [2] EN-DC-115, Engineering Change Development
- [3] EN-DC-118, Engineering Change Closure
- [4] EN-DC-119, Equipment Database (EDB) Process and Controls
- [5] EN-DC-308, Safety and Quality Classification of Replacement Parts
- [6] EN-AD-103, Document Control and Records Management Activities
- [7] ENN-MS-S-009-JAF, JAF System Safety Function Sheets
- [8] ENN-MS-S-009-IP2, IP1/IP2 System Safety Function Sheets
- [9] ENN-MS-S-009-IP3, IP3 System Safety Function Sheets
- [10] ENN-MS-S-009-PNP, Pilgrim Safety Classification Site Specific Guidance and System Safety Function Sheets
- [11] ENN-MS-S-009-VY, VY System Safety Function Sheets
- [12] EN-MS-S-009-A, Site Specific Guidance and System Safety Function Sheets
- [13] EN-MS-S-009-G, Site Specific Guidance and System Safety Function Sheets
- [14] EN-MS-S-009-R, Site Specific Guidance and System Safety Function Sheets
- [15] EN-MS-S-009-W, Site Specific Guidance and System Safety Function Sheets
- [16] EN-MS-S-009-PLP, Palisades Site Specific Guidance and System Safety Function Sheets (Note: Palisades will use its source documents and guidance from the non-source document - Maintenance Rule Scoping Document, EGAD-EP-10 – until the Site Specific Engineering Standard is developed.)

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7.0 RECORDS

Note that approved Safety Classification Worksheets are processed with their associated Engineering Change per EN-DC-115.

- [1] Safety Classification Worksheets and their attachments
- [2] System Safety Function Change Forms and their attachments

8.0 OBLIGATIONS AND COMMITMENTS IMPLEMENTED BY THE PROCEDURE

8.1 OBLIGATIONS AND COMMITMENTS IMPLEMENTED OVERALL

None

8.2 SECTION SPECIFIC OBLIGATIONS AND COMMITMENTS

Step	Document	Document Section/Step	Commitment Number
[1]	QAPM	A.1.c	GGNS P-33615
[2]	QAPM	A.1.d	GGNS P-33616
[3]	QAPM	A.2.e8	GGNS P-33631
[4]	QAPM	A.3.f	GGNS P-33637
[5]	QAPM	B.1.a	GGNS P-33653
[6]	QAPM	B.1.c	GGNS P-33655
[7]	QAPM	B.1.d	GGNS P-33656
[8]	QAPM	B.14.a	GGNS P-33724
[9]	QAPM	B.15.a	GGNS P-33730

8.3 SITE SPECIFIC COMMITMENTS

Step	Site	Document	Commitment Number or Reference
[1]	IP2	Response to Generic Letter 83-28 "Required Actions Based on Generic Implications of Salem ATWS Events	NL-83-B44

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Step	Site	Document	Commitment Number or Reference
[2]	IP3	Required Actions Based on Implications of Salem ATWS Events (Generic Letter 83-28, dated July 8, 1983)	IPN-83-75, dated September 8, 1983
[3]	IP3	Required Actions Based on Implications of Salem ATWS Events (Generic Letter 83-28, dated July 8, 1983)	IPN-83-91, dated November 7, 1983
[4]	IP3	Required Actions Based on Implications of Salem ATWS Events (Generic Letter 83-28)	IPN-83-22, July 3, 1984
[5]	IP3	Additional Information Regarding Generic Letter 83-28 "Required Actions Based on Implications of Salem ATWS Events"	IPN-83-26, dated May 17, 1985
[6]	IP3	Generic Letter 83-28: Items 2.1 and 2.2 – Equipment Classification and Vendor Interface	IPN-83-40 dated August 25, 1986
[7]	VY	Engineering Process for Upgrade of Installed Plant Equipment not Aligned with NRC Commitment	CR-VTY-ER-2000-1811_01
[8]	VY	Generic Determination that Indicating Lights are NNS does not have Adequate Justification	CR-VTY-ER-2001-2390, 11/16/2001
[9]	VY	Improper Safety Function for Nuclear Boiler (NB) System in AP 6006, Appendix A	CR-VTY-ER-2001-0103, 3/19/2001
[10]	VY	Improper Safety Function assigned to the PRM System by AP 6006, Appendix A	CR-VTY-ER-2001-0013, 3/4/2001
[11]	VY	ER found in listed NNS Functions for ADS System in AP 6006, Appendix A	CR-VTY-ER-2001-0160, 3/27/2004
[12]	JAF	Inspection 92-81: Notice of Violation - ensure appropriate personnel are assigned to review safety classifications - provide guidance to ensure interfacing safety related systems are identified and evaluated during component classifications - provide training on the procedure used for classifications	JAFP-94-0117 dated 2/24/1994
[13]	ANO	"Response to Generic Letter 83-28, Salem ATWS Event", dated 11/5/83; Entire procedure implements this commitment	0CAN118302 (P6560/P6597) dated 11/5/83
[14]	W3	Determination of "Quality Related" vice "Safety Related", Implemented by Entire Procedure	P-40, IR 84-31
[15]	W3	Environmental Qualification of Electrical	P-1070, 10CFR50.49

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Step	Site	Document	Commitment Number or Reference
		Equipment Important to Safety, Implemented by Entire Procedure	
[16]	W3	Criteria Used To Identify Safety Related Equipment – MEL/Q-List Determination, Implemented by Entire Procedure	P-15279 & 15281, GL 83-28
[17]	W3	Equipment Classification – Information Handling Systems, Implemented by Entire Procedure	P-15280 & 15282, GL 83-28
[18]	W3	Notify Maintenance Planning when Safety Classification is Changed (implemented by Step 5.5[2] and Attachment 9.3.	P-17748, IR 90-04
[19]	RBS	"Response to Generic Letter 83-28, Salem ATWS Event", dated 11/5/83; Entire procedure implements this commitment	H-6532

9.0 ATTACHMENTS

- 9.1 SAFETY CLASSIFICATION WORKSHEET
- 9.2 SYSTEM ASSESSMENT SAFETY CLASSIFICATION WORKSHEET (FOR BULK PROCESSING)
- 9.3 SAFETY CLASSIFICATION INSTRUCTIONS
- 9.4 SYSTEM SAFETY FUNCTION CHANGE FORM
- 9.5 EN-DC-167 REFERENCE DOCUMENTS
- 9.6 SYSTEM SAFETY FUNCTION CHANGE FORM LOG
- 9.7 DRY FUEL STORAGE (DFS) SYSTEM SAFETY FUNCTION SHEET
- 9.8 SUMMARY OF LEGACY QUALITY ASSURANCE CLASSIFICATIONS



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 1 of 3

Summary Page

Engineering Change (EC) No.: _____

JAF IP1 IP2 IP3 Pilgrim VY ANO GG RB WF3 PLP

Item No.	Item ID	Basis [9.3[1](a)]	Prev. Class.	Discussion of System/Component Interactions, Safety Functions, Reasoning, and References (Attach add'l sheets as needed.) [9.3[1](b)], [9.3[1](c)], [9.3[2](b)], [9.3[4]]	SSFS [9.3[1](c)]		List Attachment 9.1 Sheet 2 Questions with Yes Answers [9.3[2](a)]	List Attachment 9.1 Sheet 3 Site Specific or DFS Questions with Yes Answers [9.3[3](a)]	New Safety Class [9.3[3](b)]	New Class. Level [9.3[3](b)]
					M/U Att.	No				
1	_____	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
2	_____	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____
3	_____	_____	_____	_____	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____

a) Attachment 9.3 instructions utilized as necessary----- Performed

b) Applicable System Safety Function Sheet (SSFS) reviewed. SSFS functions that apply to item clearly identified (e.g. SSFS marked up and attached, OR SSFS functions listed in worksheet) [9.3 [1] (c)]----- Completed SSFS Rev. Req'd

c) Item function, potential failure impact, and SSFS impact clearly linked to above SSFS functions and Sh. 2 analysis [9.3 [2] (b)]----- Completed

d) Pending SSFS changes examined Revised SSFS initiated on _____ if needed [9.3 [1] (c) (2)]----- Yes NA

Clarifying Remarks (Expanded explanation, Insight, Attachments)

Is any new classification higher than the previous classification? [9.3 [5]] Yes (CR initiated on _____) Yes (Design Related) No

Applicable Program Coordinator(s) contacted [9.3 [6]] Yes, contacted: _____ N/A

Prepared By (Print/Sign/Date): _____

Reviewed By (Print/Sign/Date): _____

Approved By* (Print/Sign/Date): _____

* For structure, system, and component downgrades, the appropriate design engineering supervisor approves. For other activities, the preparer's engineering supervisor should approve. Once approved, complete update of the site equipment database and any other affected documents per EN-DC-115, EN-DC-118, and EN-DC-119.



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 2 of 3

Safety Classification Evaluation

NOTES:

- If item is only mechanical, answer questions 1 through 7 only. Check "No electrical function here.
- If item is only electrical, answer questions 8 through 14 only. Check "No mechanical function here.
- Refer to Attachments 9.3 and 9.5 for guidance in answering the below questions.

Engineering Change No.:				Item ID:			
NO.	MECHANICAL / CIVIL/STRUCTURAL QUESTIONS	YES	NO	NO.	ELECTRICAL / I&C QUESTIONS	YES	NO
1	Does the item (e.g., pressure vessels, piping, pumps, valves or instrument) form part of a pressure boundary in a safety-related portion of the system?	<input type="checkbox"/>	<input type="checkbox"/>	8	Does the item actively operate (or change state) to accomplish or support operation of a safety-related system or component?	<input type="checkbox"/>	<input type="checkbox"/>
2	Does the item actively operate (or change states) in order to accomplish a safety function?	<input type="checkbox"/>	<input type="checkbox"/>	9	Does the item provide an isolation function to assure that credible failure of a non-safety-related system does not prevent the safety-related portion of a circuit from accomplishing its safety function?	<input type="checkbox"/>	<input type="checkbox"/>
3	Does the item have a credible failure mode (e.g., due to radiation, temperature, humidity, material compatibility, halogen attack, corrosion, etc.) that would prevent a safety function from being achieved? (Refer to Attachment 9.5 Site Specific Reference Document for typical failure modes.)	<input type="checkbox"/>	<input type="checkbox"/>	10	Does the item have a credible failure mode (including shorts and grounds) that would prevent a safety function from being achieved? (Refer to Attachment 9.5 Site Specific Reference Document for typical failure modes).	<input type="checkbox"/>	<input type="checkbox"/>
	If Yes, Explain:				If Yes, Explain:		
4	Does the item form part of a Structural Boundary? (Refer to Attachment 9.5 Site Specific Reference Document).	<input type="checkbox"/>	<input type="checkbox"/>	11	Does the item provide electrical power or protection of electric power necessary for safety-related equipment to accomplish a safety function?	<input type="checkbox"/>	<input type="checkbox"/>
5	Does the item house/protect, or physically support a safety-related system or component?	<input type="checkbox"/>	<input type="checkbox"/>	12	Does the item require an electrical power source to perform a safety-related function? If YES, is the power source safety classification consistent with the supported function classification? _____	<input type="checkbox"/>	<input type="checkbox"/>
6	Does the item (e.g., ductwork, damper, door, etc) form part of a boundary for a safety-related HVAC system or could its failure prevent a safety-related HVAC system from performing its safety function?	<input type="checkbox"/>	<input type="checkbox"/>	13	Does the item provide a signal to initiate, control or terminate the operation of a system in accomplishing its safety function?	<input type="checkbox"/>	<input type="checkbox"/>
7	Does the item perform as part of primary or secondary containment pressure boundary?	<input type="checkbox"/>	<input type="checkbox"/>	14	Does the item provide a Regulatory Guide 1.97, Category 1 (AND sometimes Category 2) indication function? (Refer to Attachment 9.5 Site Specific Reference Document).	<input type="checkbox"/>	<input type="checkbox"/>
<p>If any answer to any questions 1- 14 above is YES, THEN the item is Safety Related. Proceed to Sheet 3 for the appropriate site (3A through 3I).</p>							



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3A of 3(JAF and IPEC)

Safety Classification Evaluation

NOTES:

- If item is only mechanical, answer questions 1 through 7 only. Check "No electrical function here.
- If item is only electrical, answer questions 8 through 14 only. Check "No mechanical function here.
- Refer to Attachments 9.3 and 9.5 for guidance in answering the below questions.

Engineering Change No.:				Item ID:			
NO.	MECHANICAL/CIVIL/STRUCTURAL QUESTIONS	YES	NO	NO.	ELECTRICAL/I&C QUESTIONS	YES	NO
1	Does the item (e.g., pressure vessels, piping, pumps, valves or instruments) form part of a pressure boundary in an Augmented Quality (QP) portion of the system?	<input type="checkbox"/>	<input type="checkbox"/>	7	Does the item function to support operation of an Augmented Quality system?	<input type="checkbox"/>	<input type="checkbox"/>
2	Does the item actively operate (or change states) in order to accomplish an Augmented Quality function?	<input type="checkbox"/>	<input type="checkbox"/>	8	Does the item provide electrical power or protection of an electrical power supply necessary to ensure accomplishment of an Augmented Quality function?	<input type="checkbox"/>	<input type="checkbox"/>
3	Does the item have a credible failure mode (e.g., due to radiation, temperature, humidity, material compatibility, halogen attack, corrosion, etc.) that would prevent an Augmented Quality function from being achieved? If Yes, Explain:	<input type="checkbox"/>	<input type="checkbox"/>	9	Does the item require an electrical power source to perform an Augmented Quality function? If YES, is the power source QA classification consistent with the supported function classification? _____	<input type="checkbox"/>	<input type="checkbox"/>
4	Does the item house/protect, or physically support an Augmented Quality system or component?	<input type="checkbox"/>	<input type="checkbox"/>	10	Does the item have a credible failure mode (including shorts and grounds) that would prevent an Augmented Quality function from being achieved? IF Yes, Explain:	<input type="checkbox"/>	<input type="checkbox"/>
5	Does the item comprise a 10 CFR 50 Appendix R or BTP 9.5-1 Appendix A fire area boundary?	<input type="checkbox"/>	<input type="checkbox"/>	11	Does the item provide a signal to initiate, control or terminate the operation of a system in accomplishing its Augmented Quality function?	<input type="checkbox"/>	<input type="checkbox"/>
6	Does the item (e.g., ductwork, damper, door, etc) form part of a boundary for an Augmented Quality HVAC system or could its failure prevent an Augmented Quality function?	<input type="checkbox"/>	<input type="checkbox"/>	12	Does the item provide a Regulatory Guide 1.97, Category 2 indication function?	<input type="checkbox"/>	<input type="checkbox"/>
<p>IF the item is Safety Related per Sheet 2, THEN the item is classified as Safety Related (SR) on Sheet 1.</p> <p>IF the item is NOT Safety Related per Sheet 2 AND any answer to questions 1-12 above is YES, THEN the item is classified as Augmented Quality Related (QP) on Sheet 1.</p> <p>IF the item is NOT Safety Related per Sheet 2 AND applicable questions 1-12 above are all answered NO, THEN the item is classified as Non-Safety Related (NSR) on Sheet 1.</p>							



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3B of 3 (PNPS)

Safety Classification Evaluation

NOTES:

Refer to Attachments 9.3 and 9.5 for guidance in answering the below questions.

Engineering Change No.:				Item ID:			
NO.	MECHANICAL/CIVIL/STRUCTURAL QUESTIONS	YES	NO	NO.	ELECTRICAL/I&C QUESTIONS	YES	NO
1	Does the item fall within the Class I PBO portion of the RBCCW system? Refer to ENN-MS-S-009-PNP Attachment 7.4.	<input type="checkbox"/>	<input type="checkbox"/>	6	Does the item provide a Reg Guide 1.97 category II function? Refer to ENN-MS-S-009-PNP Attachment 7.4	<input type="checkbox"/>	<input type="checkbox"/>
2	Does the item provide Fire Protection functions ie, FPQ classification or 10 CFR 50 Appendix R or BTP 9.5-1 Appendix A fire area boundary? Refer to ENN-MS-S-009-PNP Attachment 7.4	<input type="checkbox"/>	<input type="checkbox"/>	7	Does the item provide electrical protection to primary containment Penetrations? Refer to ENN-MS-S-009-PNP Attachment 7.4	<input type="checkbox"/>	<input type="checkbox"/>
3	Does the item fall into structural class II where failure may impact structural class I Components (II/I)? Refer to ENN-MS-S-009-PNP Attachment 7.4	<input type="checkbox"/>	<input type="checkbox"/>	8	Does the item involve devices or components related to ATWS Mitigation? Refer to ENN-MS-S-009-PNP Attachment 7.4	<input type="checkbox"/>	<input type="checkbox"/>
4	Does the item involve devices or components related to ATWS Mitigation? Refer to ENN-MS-S-009-PNP Attachment 7.4	<input type="checkbox"/>	<input type="checkbox"/>	9	Does the item relate to Station Blackout equipment (SBO Diesel and associated switchgear)? Refer to ENN-MS-S-009-PNP Attachment 7.4	<input type="checkbox"/>	<input type="checkbox"/>
5	Does the item house/protect, or physically support an Augmented Quality (Class FPQ or MQCI) system or component?	<input type="checkbox"/>	<input type="checkbox"/>	10	Does the item provide a signal to initiate, control or terminate the operation of a system in accomplishing its Augmented Quality (Class FPQ or MQCI) function?	<input type="checkbox"/>	<input type="checkbox"/>

Generic Exclusions and Specific Exclusions are contained within ENN-MS-S-009-PNP Attachment 7.1. The user shall consider such exclusions as part of this determination

Does a Generic or specific exclusion apply to the item(s) under review for this determination? __Yes --__NO. If the item is excluded then a safety category does not apply.

IF the item is Safety Related per Sheet 2, THEN the item is classified as **Safety Related (SR)** on Sheet 1.

IF the item is NOT Safety Related per Sheet 2 AND any answer to questions 1-10 above is YES, THEN the item is classified as **Augmented Quality Related (QP)** on Sheet 1.

IF the item is NOT Safety Related per Sheet 2 AND all questions 1-10 above are answered NO, THEN the item is classified as **Non-Safety Related (NSR)** on Sheet 1.



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3C of 3 (VY)

Safety Classification Evaluation

Engineering Change No.:		Item ID:			
	Yes	No	Yes	No	
<p>Does the item perform a Mechanical function? IF "yes", check appropriate box AND proceed to Part I. IF "no", check the appropriate box AND the item does not have a mechanical function. Parts I through III are all "no". Proceed to Part IV.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>IV. Is the item Electrical/I&C related? IF "yes", proceed to Part V AND Part VI. IF "no", THEN item does not have an electrical/I&C function. Parts V and VI are all "no". Proceed to Part VI.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>I. Does the item perform any of the following functions? a. Form part of the reactor coolant pressure boundary such that credible failure could result in leakage of reactor coolant greater than that from a 3/4" nominal pipe size. b. Provide mechanical support to any portion of the reactor coolant pressure boundary. IF either response is checked "yes", THEN the item is classified as Safety Related (SR), and the Classification Level is Safety Class 1 (SC1). Enter in the spaces provided on sheet 1 AND proceed to Part IV. IF both responses are "no", proceed to Part II.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>V. Is the item essential in performing (or permitting an associated component to perform) a safety function? Is the instrument used for a Post Accident Monitoring function required to be Safety Related? IF any of the responses above is checked "yes", THEN the item is classified as Safety Related (SR). Enter the safety classification in the space provided on sheet 1 AND proceed to Part IV. IF both responses are "no", proceed to Part VI.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>II. Does the item perform (or could its credible failure prevent) any of the following functions? a. Insert negative reactivity to shut down the reactor. b. Prevent rapid insertion of positive reactivity. c. Maintain core geometry appropriate to all plant conditions. d. Provide or maintain primary or secondary containment integrity. e. Remove residual heat from the reactor and reactor core. f. Store spent fuel or prevents uncovering spent fuel. g. Piping and components that form part of the reactor coolant pressure boundary but whose rupture would not result in leakage greater than that from a 3/4" nominal pipe size. h. Provide mechanical support to any of the above. (II. a-g) IF any response (II.a-h) is checked "yes", THEN the item is classified as Safety Related (SR), and the Classification Level is Safety Class 2 (SC2). Enter in the spaces provided on sheet 1 AND proceed to Part IV. IF all responses are "no", proceed to Part III.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>VI. Is the item Augmented Quality Related? IF the item is determined not to have a safety function, it still needs review to determine IF it can be classified "Augmented Quality Related" (QP) (e.g. optional subset of Non_Safety Related). IF the component is subject to non-safety related regulatory requirements or other special requirements (e.g., Fire Protection or Seismic III Criteria), THEN enter the safety classification Augmented Quality Related (QP) in the applicable space provided on sheet 1. Identify special requirements in Section IX below. Proceed to Part VII.</p>	<input type="checkbox"/>	<input type="checkbox"/>
<p>III. Does the item perform (or could its credible failure prevent) any of the following functions? a. Process or house radioactive wastes where credible failure of that single component or structure would result in: 1) a whole body dose of 170 mrem, or 2) an equivalent of 500 mrem to any part of the body, to a person at the site boundary. b. Provide or support any safety system function. c. Remove decay heat from the spent fuel pool. d. Provide mechanical support to any of the above (III.a-c) IF any response (III.a-d) is checked "yes", the item is classified as Safety Related (SR), and the Classification Level is Safety Class 3 (SC3). Enter in the spaces provided on sheet 1 AND proceed to Part IV. IF all responses to the above questions are "no", THEN proceed to Part VI for further mechanical assessment, AND THEN Part IV for electrical assessment.</p>	<input type="checkbox"/>	<input type="checkbox"/>	<p>VII. IF it has been determined that the item has a mechanical or electrical function, and the responses in Parts I through VI (excluding Part IV) are all "no", THEN the component is Non-Safety Related (NSR). Enter the safety classification in the space provided on sheet 1.</p> <p>VIII. IF the item has been determined to be Safety Related for structural purposes only, identify the applicable Classification Level (safety class) AND isometric drawing in section IX below AND in the additional remarks/references section on sheet 1 of the worksheet. _____</p>		
	<input type="checkbox"/>	<input type="checkbox"/>	<p>IX. Additional Comments/Remarks: _____</p>		



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3D of 3(ANO)

Safety Classification Evaluation

Engineering Change No.: _____		Item ID: _____	
<p>I. Is the item required to:</p> <p>a. after any design basis event, achieve and maintain the reactor core in a subcritical safe shut down condition? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>b. ensure the integrity of components whose failure would have no direct affect on the accomplishment of a required safety function but whose structural failure (i.e., physical collapse) could impair a supported component's ability to perform a safety function? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>c. maintain the integrity of the reactor coolant pressure boundary during and after any design basis event to prevent a LOCA condition or unplanned system leakage? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>d. maintain acceptable internal and external environmental conditions for those systems which are required to function during and after and design basis event? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>e. ensure the availability of instrumentation which provides the primary information required to permit the control room operator to take specific manually controlled actions for which no automatic control is provided and that is required to achieve plant safety functions during and after any design basis event. Primary information is information that is essential for the direct accomplishment of a specified safety function; it does not include those variables those are associated with contingency actions that may also be identified in written procedures? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>f. provide and maintain a heat sink for removing decay and sensible heat from the reactor coolant system during and after any design basis event? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>g. ensure the integrity of the containment during and after any design basis event by controlling temperature and pressure within the structure's design limits? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>h. maintain acceptable environmental control in areas of the plant which are required for access to perform pre-planned manual actions necessary to achieve plant safety functions during and after any design basis event? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>i. maintain acceptable reactor core geometry during and after any design basis event to ensure the ability to achieve core cooling and core reactivity control? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>j. ensure isolation between non-safety related and safety-related systems that are connected together via a common power source or signal path; for example, circuit breakers for non-safety related components that connect the component to a safetyrelated power source can be assured of protection by tripping of the breaker to the nonsafety related load on a fault in that load? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>k. ensure that the design thermal and subcriticality margins are maintained in the spent fuel pool during and after any design basis event? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>l. control gas concentrations within the containment below combustible limits during and after any design basis event? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>m. control the leakage or release of radioactive materials to the environment from systems or structures other than the RCS containment during and after any design basis event, such that the exposure limits of 10CFR100 are not exceeded? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>n. contain and control radioactive material leakage or releases from sources located within the containment during and after any design basis event to assure compliance with the exposure limits of 10CFR100. Encompassed by this safety function are mechanisms which contain and isolate iodine from the post-accident containment atmosphere? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>o. provide and maintain sufficient reactor coolant inventory for core cooling during and after any design basis event <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>p. ensure the availability of an electrical power supply to those components and systems which are required to function during and after any design basis event <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>IF any of the items in section I above are checked Yes, THEN the item is classified as safety related (SR). Use engineering standard EN-MS-S-009-A, as required, to determine the complete safety classification.</p>	<p>II. Is the item not safety-related, and:</p> <p>a. The component applies to NUREG 0737? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>b. The component is classified Quality Group A, B, or C (ASME Section III or USASB 31.7) per R.G. 1.26, but is not classified safety related or fire protection? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>c. The component has Commitments (including SAR) or Docketed NRC Correspondence? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>d. The component has sound engineering and financial justification provided to invoke the requirements for business reasons? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>e. The component is an essential part of the Alternate AC Power Source (10CFR50.63 Station Blackout Rule) the quality guidelines of R.G. 1.155 (8/88) are applicable. Suppliers of these components shall have a documented Quality Control Program. New parts from the original supplier or any of its authorized agents are acceptable? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>f. The component is Environmentally Qualified (EQ) electric equipment important to safety (10CFR50.49)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>g. The component has NUREG 0737 Supplement 1 or R.G. 1.97 Category 1 requirements (Unit 1 or Unit 2)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>h. The component is a R.G. 1.97 component requiring it to be environmentally qualified (R.G. 1.97, Category 2)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>i. The component is subjected to 10CFR50 Appendix R, Fire Protection Program? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>k. The component is wired as part of a Class 1E system and is provided with Class 1E power, but is not classified as safety related and is not connected to any component that is classified safety related (except an isolation device)? <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>IF any of the items in section II above are checked Yes, THEN the item is classified as Augmented Quality Related (OP).</p> <p>IF the items has no Yes answers from sections I or II above, THEN the item is classified as Non Safety Related (NSR)</p>		
<p>IX. Additional Comments/Remarks: _____</p>			



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3E of 3(GG)

Safety Classification Evaluation

Engineering Change No.: _____		Item ID: _____	
<p>I. Is the item:</p> <p>a. Required to maintain the reactor coolant pressure boundary such that credible failure could result in leakage of reactor coolant greater than makeup or 10CFR100.11 offsite exposures? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. Required to ensure the capability to shut down the reactor and maintain control of reactivity, inventory, temperature, pressure, etc. in a safe condition? <input type="checkbox"/> <input type="checkbox"/></p> <p>c. Required to ensure the capability to prevent or mitigate the consequences of accidents, which could result in offsite exposures comparable to the guidelines in 10CFR100? <input type="checkbox"/> <input type="checkbox"/></p> <p>d. Required to assure adequate water level in the spent fuel pool? <input type="checkbox"/> <input type="checkbox"/></p> <p>e. Heating, Ventilation, and Air Conditioning (HVAC) required to support safety related functions of safety related equipment during or following design basis accidents and transients? <input type="checkbox"/> <input type="checkbox"/></p> <p>f. HVAC required to assure the habitability of areas that contain safety related equipment requiring the presence of personnel during or following design basis accidents and transients? <input type="checkbox"/> <input type="checkbox"/></p> <p>g. Relied upon to control or limit the environmental conditions (humidity, pressure, radiation and temperature) resulting from a design basis accident or transient to the parameters used in the environmental qualification of components subject to 10CFR50.49? <input type="checkbox"/> <input type="checkbox"/></p> <p>h. Required to provide electrical power or the protection of electric power necessary for safety related items to accomplish their safety related function? <input type="checkbox"/> <input type="checkbox"/></p> <p>i. A support or supporting element necessary for safety related items to accomplish their safety related functions? <input type="checkbox"/> <input type="checkbox"/></p> <p>j. An instrumentation and control loops required to initiate or control any safety related function. This includes instrumentation that provides indication required by Operations personnel to take specific manual actions credited in the accident analyses? <input type="checkbox"/> <input type="checkbox"/></p> <p>k. A Panel, cabinet, enclosure, or structure required for the protection of safety related items or to which safety related supports or supporting elements are attached? <input type="checkbox"/> <input type="checkbox"/></p> <p>l. Within safety related system functional boundaries that do not perform a safety related function, but whose failure could prevent other items of the system from accomplishing their safety related functions? <input type="checkbox"/> <input type="checkbox"/></p> <p>m. Required to provide auxiliary services or the protection of auxiliary services such as cooling water, compressed air, nitrogen, diesel fuel, or lubricating oil necessary for safety related items to accomplish their safety related functions? <input type="checkbox"/> <input type="checkbox"/></p> <p>n. Items that are required to be safety related by the safety related/nonsafety related interface criteria of EN-MS-S-009-G? <input type="checkbox"/> <input type="checkbox"/></p> <p>IF any of the items in section I above are checked Yes, THEN the item is safety related (SR). Use engineering standard EN-MS-S-009-W, as required, to determine the complete safety classification.</p>		<p>II. Is the item not safety-related, and:</p> <p>a. A potential sources of internally generated missiles or projectiles? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. A meteorological monitoring items subject to Regulatory Guide 1.23 requirements that are used to assess the potential dispersion of radioactive materials from the plant? <input type="checkbox"/> <input type="checkbox"/></p> <p>c. Required to respond to or mitigate an Anticipated Transient Without Scram (ATWS) in accordance with 10CFR50.62 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>d. A post-accident monitoring instrument subject to Regulatory Guide 1.97 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>e. Required to handle, store, or cool new and spent fuel that are subject to 10CFR50, Appendix A, Criterion 61, and Regulatory Guide 1.13 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>f. Required to respond to or mitigate the consequences of station blackout per Regulatory Guide 1.155 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>g. Required to be seismically supported and structural failure during postulated seismic events could impair the capability of adjacent safety related items from accomplishing their safety related function? <input type="checkbox"/> <input type="checkbox"/></p> <p>h. Required for radwaste management subject to Regulatory Guide 1.143 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>i. Required for plant security subject to 10CFR73? <input type="checkbox"/> <input type="checkbox"/></p> <p>k. Subject to 10CFR50 Appendix R fire protection requirements, such as fire suppression, fire detection, emergency lighting, electrical power for fire detection and suppression systems, fire barriers and propagation control features, and items required to achieve safe shutdown? <input type="checkbox"/> <input type="checkbox"/></p> <p>l. A post-accident monitoring instruments subject to Regulatory Guide 1.97 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>IF any of the items in section II above are checked Yes, THEN the item is quality related.</p> <p>IF the items has no Yes answers from sections I or II above, THEN the item is classified as Non Safety Related (NSR)</p>	
<p>IX. Additional Comments/Remarks: _____</p>			



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3F of 3(RB)

Safety Classification Evaluation

Engineering Change No.: _____		Item ID: _____	
<p>I. Is the item:</p> <p>a. Required to ensure the integrity of the reactor coolant pressure boundary? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. Required to ensure the capability to shut down the reactor and maintain it in a safe shutdown condition? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>c. Required to ensure the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposures comparable to the guidelines exposure of 10CFR50.67? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>d. Required in order for any other component or system to accomplish a safety-related function? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>e. Is the component's function relied upon to maintain the pressure boundary of a safety related system? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>f. Is the component's function relied upon to maintain the containment pressure boundary of a safety related system? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>g. Supplied with class 1E(Divisional) power and not isolated and separated from Class 1E circuit? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>h. Required to provide a signal to initiate, control, or terminate the safety-related function of a system or component? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>i. Relied upon to provide an indication function identified as RBS Category 1 or 2 Reg. Guide 1.97 compliance and committed to use of a safety-related component? (Ref USAR 7.5.2) Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>j. Part of a General Electric supplied system and identified on the Master Parts List (MPL) having an Ec (Equipment Classification) of A, C, M or P? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>k. Is the component used to maintain or monitor the readiness of safety related systems and components to perform a safety-function? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>l. Within safety related system functional boundaries that do not perform a safety related function, but whose failure could prevent other items of the system from accomplishing their safety related functions? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>m. If the item has a failure mode (e.g. due to radiation, temperature, humidity, material compatibility, corrosion, etc.) that would prevent an SSC to perform its intended safety function? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>n. Required to house/protect, or physically support an SSC to perform its intended safety function? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>o. Required to maintain a 10CFR50 Appendix R of BTP 9.5-1 Appendix A Fire area boundary? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>p. Required for a safety related HVAC system or its failure would prevent an SSC to perform its intended safety function? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>IF any of the items in section I above are checked Yes, THEN the item is safety related (SR). Use engineering standard EN-MS-S-009-W, as required, to determine the complete safety classification.</p>		<p>II. Is the item not safety-related, and:</p> <p>a. A potential sources of internally generated missiles or projectiles? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. A meteorological monitoring items subject to Regulatory Guide 1.23 requirements that are used to assess the potential dispersion of radioactive materials from the plant? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>c. Required to respond to or mitigate an Anticipated Transient Without Scram (ATWS) in accordance with 10CFR50.62 requirements? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>d. A post-accident monitoring instrument subject to Regulatory Guide 1.97 requirements? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>e. Required to handle, store, or cool new and spent fuel that are subject to 10CFR50, Appendix A, Criterion 61, and Regulatory Guide 1.13 requirements? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>f. Required to respond to or mitigate the consequences of station blackout per Regulatory Guide 1.155 requirements? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>g. Required to be seismically supported and structural failure during postulated seismic events could impair the capability of adjacent safety related items from accomplishing their safety related function? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>h. Required for radwaste management subject to Regulatory Guide 1.143 requirements? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>i. Required for plant security subject to 10CFR73? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>k. Subject to 10CFR50 Appendix R fire protection requirements, such as fire suppression, fire detection, emergency lighting, electrical power for fire detection and suppression systems, fire barriers and propagation control features, and items required to achieve safe shutdown? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>l. A post-accident monitoring instruments subject to Regulatory Guide 1.97 requirements? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>IF any of the items in section II above are checked Yes, THEN the item is Augmented Quality related (QP).</p> <p>IF the items has no Yes answers from sections I or II above, THEN the item is classified as Non Safety Related (NSR)</p>	
<p>IX. Additional Comments/Remarks: _____</p>			



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3G of 3(WF3)

Safety Classification Evaluation

Engineering Change No.: _____		Item ID: _____	
<p>I. Is the item:</p> <p>a. Required to maintain the reactor coolant pressure boundary such that credible failure could result in leakage of reactor coolant greater than 44 gpm or 10CFR100.11 offsite exposures? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. Required to ensure the capability to shut down the reactor and maintain control of reactivity, inventory, temperature, pressure, etc. in a safe condition? <input type="checkbox"/> <input type="checkbox"/></p> <p>c. Required to ensure the capability to prevent or mitigate the consequences of accidents, which could result in offsite exposures comparable to the guidelines in 10CFR100? <input type="checkbox"/> <input type="checkbox"/></p> <p>d. Required to assure adequate water level in the spent fuel pool? <input type="checkbox"/> <input type="checkbox"/></p> <p>e. Heating, Ventilation, and Air Conditioning (HVAC) required to support safety related functions of safety related equipment during or following design basis accidents and transients? <input type="checkbox"/> <input type="checkbox"/></p> <p>f. HVAC required to assure the habitability of areas that contain safety related equipment requiring the presence of personnel during or following design basis accidents and transients? <input type="checkbox"/> <input type="checkbox"/></p> <p>g. Relied upon to control or limit the environmental conditions (humidity, pressure, radiation and temperature) resulting from a design basis accident or transient to the parameters used in the environmental qualification of components subject to 10CFR50.49? <input type="checkbox"/> <input type="checkbox"/></p> <p>h. Required to provide electrical power or the protection of electric power necessary for safety related items to accomplish their safety related function? <input type="checkbox"/> <input type="checkbox"/></p> <p>i. A support or supporting element necessary for safety related items to accomplish their safety related functions? <input type="checkbox"/> <input type="checkbox"/></p> <p>j. An instrumentation and control loops required to initiate or control any safety related function. This includes instrumentation that provides indication required by Operations personnel to take specific manual actions credited in the accident analyses? <input type="checkbox"/> <input type="checkbox"/></p> <p>k. A Panel, cabinet, enclosure, or structure required for the protection of safety related items or to which safety related supports or supporting elements are attached? <input type="checkbox"/> <input type="checkbox"/></p> <p>l. Within safety related system functional boundaries that do not perform a safety related function, but whose failure could prevent other items of the system from accomplishing their safety related functions? <input type="checkbox"/> <input type="checkbox"/></p> <p>m. Required to provide auxiliary services or the protection of auxiliary services such as cooling water, compressed air, nitrogen, diesel fuel, or lubricating oil necessary for safety related items to accomplish their safety related functions? <input type="checkbox"/> <input type="checkbox"/></p> <p>n. Items that are required to be safety related by the safety related/nonsafety related interface criteria of EN-MS-S-009-W? <input type="checkbox"/> <input type="checkbox"/></p> <p>IF any of the items in section I above are checked Yes, THEN the item is safety related (SR). Use engineering standard EN-MS-S-009-W, as required, to determine the complete safety classification.</p>		<p>II. Is the item not safety-related, and:</p> <p>a. A potential sources of internally generated missiles or projectiles? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. A meteorological monitoring items subject to Regulatory Guide 1.23 requirements that are used to assess the potential dispersion of radioactive materials from the plant? <input type="checkbox"/> <input type="checkbox"/></p> <p>c. Required to respond to or mitigate an Anticipated Transient Without Scram (ATWS) in accordance with 10CFR50.62 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>d. A post-accident monitoring instrument subject to Regulatory Guide 1.97 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>e. Required to handle, store, or cool new and spent fuel that are subject to 10CFR50, Appendix A, Criterion 61, and Regulatory Guide 1.13 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>f. Required to respond to or mitigate the consequences of station blackout per Regulatory Guide 1.155 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>g. Required to be seismically supported and structural failure during postulated seismic events could impair the capability of adjacent safety related items from accomplishing their safety related function? <input type="checkbox"/> <input type="checkbox"/></p> <p>h. Required for radwaste management subject to Regulatory Guide 1.143 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>i. Required for plant security subject to 10CFR73? <input type="checkbox"/> <input type="checkbox"/></p> <p>k. Subject to 10CFR50 Appendix R fire protection requirements, such as fire suppression, fire detection, emergency lighting, electrical power for fire detection and suppression systems, fire barriers and propagation control features, and items required to achieve safe shutdown? <input type="checkbox"/> <input type="checkbox"/></p> <p>l. A post-accident monitoring instruments subject to Regulatory Guide 1.97 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>IF any of the items in section II above are checked Yes, THEN the item is quality related.</p> <p>IF the items has no Yes answers from sections I or II above, THEN the item is classified as Non Safety Related (NSR)</p>	
<p>IX. Additional Comments/Remarks: _____</p>			



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 3H of 3 (PLP)

Safety Classification Evaluation

Engineering Change No.: _____		Item ID: _____	
<p>I. Is the item:</p> <p>a. A Reg Guide 1.29 Category 1 and CPCO Design Class 1 structure as identified in Table 5.2-2 of the FSAR? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. A Reg Guide 1.29 Category 1 and CPCO Design Class 1 or 2 mechanical component identified in Table 5.2-3 of the FSAR? <input type="checkbox"/> <input type="checkbox"/></p> <p>c. A 1E Safety Class electrical component identified in Table 5.2-4 of the FSAR? <input type="checkbox"/> <input type="checkbox"/></p> <p>d. A 1E Safety Class instrument and control component identified in Table 5.2-5 of the FSAR? <input type="checkbox"/> <input type="checkbox"/></p> <p style="margin-top: 20px;">IF any of the items in section I above are checked Yes, THEN the item is safety related (SR).</p> <p style="margin-top: 20px;">IX. Additional Comments/Remarks: _____</p>	<p>II. Is the item not safety-related, and:</p> <p>a. A potential sources of internally generated missiles or projectiles? Yes No <input type="checkbox"/> <input type="checkbox"/></p> <p>b. A meteorological monitoring items subject to Regulatory Guide 1.23 requirements that are used to assess the potential dispersion of radioactive materials from the plant? <input type="checkbox"/> <input type="checkbox"/></p> <p>c. Required to respond to or mitigate an Anticipated Transient Without Scram (ATWS) in accordance with 10CFR50.62 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>d. A post-accident monitoring instrument subject to Regulatory Guide 1.97 Category 2 or 3 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>e. Required to handle, store, or cool new and spent fuel that is subject to 10CFR50, Appendix A, Criterion 61, and Regulatory Guide 1.13 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>f. Required to respond to or mitigate the consequences of station blackout per Regulatory Guide 1.155 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>g. Required to be seismically supported and structural failure during postulated seismic events could impair the capability of adjacent safety related items from accomplishing their safety related function? <input type="checkbox"/> <input type="checkbox"/></p> <p>h. Required for radwaste management subject to Regulatory Guide 1.143 requirements? <input type="checkbox"/> <input type="checkbox"/></p> <p>i. Required for plant security subject to 10CFR73? <input type="checkbox"/> <input type="checkbox"/></p> <p>k. Subject to 10CFR50 Appendix R fire protection requirements, such as fire suppression, fire detection, emergency lighting, electrical power for fire detection and suppression systems, fire barriers and propagation control features, and items required to achieve safe shutdown? <input type="checkbox"/> <input type="checkbox"/></p> <p style="margin-top: 10px;">IF any of the items in section II above are checked Yes, THEN the item is augmented quality related (QP).</p> <p style="margin-top: 10px;">IF the items has no Yes answers from sections I or II above, THEN the item is classified as Non Safety Related (NSR)</p>		



Classification of Structures, Systems and Components

ATTACHMENT 9.1

SAFETY CLASSIFICATION WORKSHEET (TYPICAL)

Sheet 31 of 3

Safety Classification Evaluation for DFS (10 CFR72)

NO.	DRY FUEL STORAGE SAFETY CLASSIFICATION QUESTIONS	YES	NO
1	If the component/part is: a) Listed as ITS-A in Reference 27, Table 2.2.6 OR b) Deemed as Safety Related from Sheet 2 evaluation above, AND c) Categorized as Safety Related (IST-A) per system safety functions listed on the DFS-SSFS, THEN the item is classified as Safety Related (SR) , and the Classification Level is "ITS-A". Enter in the spaces provided on sheet 1.	<input type="checkbox"/>	<input type="checkbox"/>
2	If the component/part is: a) Listed as ITS-B in Reference 27, Table 2.2.6 OR b) The Holtec DFS Pad OR c) Deemed as Safety Related from Sheet 2 evaluation above, AND d) Categorized as Safety Related (IST-B) per system safety functions listed on the DFS-SSFS, THEN the item is classified as Safety Related (SR) , and the Classification Level is "ITS-B". Enter in the spaces provided on sheet 1.	<input type="checkbox"/>	<input type="checkbox"/>
3	If the component/part is: a) Listed as ITS-C in Reference 27, Table 2.2.6 OR b) Deemed as being non safety-related from Sheet 2 evaluation above, AND c) Is judged by the evaluator/reviewer/supervisor as meriting additional quality THEN the item is classified as Augmented Quality Related (QP) , and the Classification Level is "ITS-C". Enter in the spaces provided on sheet 1.	<input type="checkbox"/>	<input type="checkbox"/>
4	If the component/part is: a) Listed as NITS in Reference 27, Table 2.2.6 OR b) Deemed as having no safety function from Sheet 2 evaluation above AND c) Is judged by the evaluator/reviewer/supervisor as meriting commercial quality d) Does not fall in any of the above categories THEN the item is classified as Non-Safety Related (SR) , and the Classification Level is "NITS". Enter in the spaces provided on sheet 1.	<input type="checkbox"/>	<input type="checkbox"/>

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- [1] The Preparer should:
- (a) Compile the requested administrative information in Attachment 9.1, noting that:
 - (1) The "Basis" entry is used to determine why an item might require re-evaluation. Typical reasons include that it is new, it was not originally classified, or was an original classification that is being revisited.
 - (b) Identify any system or component in the "System/Component Interactions" whose classification may have the potential to be impacted. For example:
 - (1) WHEN classifying a heat exchanger both tube side and shell side systems should be considered, OR
 - (2) WHEN classifying a flow transmitter, components within the remainder of the loop should be considered unless it can be determined that appropriate isolation is provided OR
 - (3) When classifying ECCS equipment with connections to safety-related power and/or instrumentation.
 - (c) Review and identify the applicable system safety functions associated with each system per EN-DC-167 Reference Document (see Attachment 9.5) and:
 - (1) Use engineering judgment/experience to ensure all safety functions and interactions have been captured and are included in the assessment.
 - (2) Ensure that the latest System Safety Function information (e.g. including pending changes) is utilized via the appropriate site reference document.
 - (3) Attach and mark up the applicable System Safety Function Sheet, OR list applicable SSFS functions in worksheet.
 - (4) Check the "No SSFS" box IF a structure/system/component has no supporting system safety function information (note that this does not necessarily mean that the item is non-safety related).

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- [2] To determine whether the item(s) is safety-related, the Preparer should:
- (a) Answer the questions on sheet 2 of Attachment 9.1 keeping in mind the applicable functions identified under Step 1 above.
 - (b) Add brief "thought-process" notes on the applicable safety function listing compiled in Step 1 above. This discussion should identify which specific safety functions apply for the item AND why.
 - (c) For Vermont Yankee only - Provide (as necessary) additional investigation to determine whether an item is part of a safety-related structural boundary associated with the interfacing portion of a safety-related system interface (see Attachment 9.5 Site-Specific Reference Document).

[3] Next, the Preparer should :

- (a) Answer the questions listed on the appropriate Sheet 3 of Attachment 9.1:
 - JAF and IPEC-----Sheet 3A
 - PNPS-----Sheet 3B
 - VY-----Sheet 3C
 - ANO-----Sheet 3D
 - GG-----Sheet 3E
 - RB-----Sheet 3F
 - WF3-----Sheet 3G
 - PLP-----Sheet 3H
 - Dry Fuel Storage (DFS)-----Sheet 3I (only for DFS components, not applicable to PNPS or PLP)
- (b) Document the appropriate safety classification in the "Safety Classification" space provided on sheet 1 of Attachment 9.1. Also, document the classification level on the Classification Level space provided on Sheet 1 of Attachment 9.1 (For DFS components or sub-classifications per site-specific references).

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- [4] To add any additional pertinent documentation and additional clarifying remarks to Attachment 9.1, the Preparer should:
- (a) List all applicable references used in the Discussion space provided on the worksheet or on attached pages.
 - (b) Emphasize any additional bases/thought processes that were used to arrive at the answers on Sheets 2 and 3 to assist future users.
 - (c) If applicable, list any earlier assessments that are now superseded for historical needs.
- [5] If the new classification is higher than the previous classification, the Preparer may need to document this condition via a Condition Report (CR), unless the item is a new SSC being installed in the plant, or the higher classification results from a new safety function being added to an existing item as part of a design change. The Preparer should:
- a. Document the basis for the need to upgrade. A YES answer on Sheet 1 of Attachment 9.1, will not require a CR for a justified basis (e.g., design change), but will require a CR for an unjustified basis (e.g., error).
 - b. Initiate the CR if necessary, and documenting the CR number on Sheet 1 of Attachment 9.1.
- [6] If the new classification has changed from the previous classification due to a previously unjustified basis, the potential exists that a specific program (e.g., EQ, R.G. 1.97, Maintenance Rule, ISI, IST, Procurement Qualification, CRs, Model Work Orders, etc.) may be impacted. The preparer should:
- a. Review the site engineering programs and contact the applicable coordinator(s) to discuss ramifications of the change in safety classification.
 - b. If applicable, list the program coordinators contacted in the appropriate space on Sheet 1 of Attachment 9.1 or identify as "N/A."
 - c. Print name, sign AND date in the "Prepared By" space provided on Sheet 1 of Attachment 9.1 and forward the worksheet to the qualified reviewer.

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- [7] The Reviewer should:
- (a) Ensure that the administrative data on each sheet of the worksheet such as Item ID, Discussion, etc., are correct.
 - (b) Ensure that the previous safety class information and basis and system/component interactions have been identified correctly on sheet 1.
 - (c) Ensure that the safety functions for host system/component are accurately identified on sheet 1 by reviewing site-supporting safety function listings and applicable Attachment 9.1 references.
 - (d) Use engineering judgment/experience to ensure that all applicable safety functions have been captured (even if not listed on the System Safety Function listing).
 - (e) Ensure the new classifications are correct and that the classified item(s) have been accurately correlated to their respective functions on sheets 2 and 3.
 - (f) Ensure that applicable pending System Safety Function listing changes do not involve safety functions that impact Attachment 9.1. Process the Safety Classification Worksheet after all applicable System Safety Function listings are approved.
 - (g) Ensure that adequate details and/or bases are provided in the applicable spaces on each sheet of the worksheet and/or attached function sheet, so that future users can understand the bases for classification.
 - (h) Confirm that necessary continuation sheets are provided.
 - (i) Ensure that applicable references are listed and are accurate.
 - (j) Ensure classifications resulting in a higher safety class are documented and a CR has been initiated, if applicable. (See Step [5] for guidance).
 - (k) Ensure applicable Program Coordinators have been contacted and are accurately listed in the space provided if a change in classification has occurred.
 - (l) Ensure concurrence with the preparer.

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- (m) Print name, sign and date in the “Reviewed By” space provided on sheet 1 of the worksheet.
- [8] The approver should:
 - (a) Ensure that all required information is properly entered on the worksheet.
 - (b) Print name, sign and date in the “Approved By” space provided on sheet 1 of the worksheet.
 - (c) For downgrades, the appropriate Design Engineering Supervisor should approve the worksheet. For all other activities, the preparer’s engineering supervisor should approve.
- [9] After approval, complete update of the site equipment database and any other affected documents per EN-DC-118.

LARGE ADDITIONS OF MULTIPLE COMPONENTS

Attachment 9.2 addresses management of very large additions of multiple components including major design changes or database population efforts. When such additions are required, the Preparer should:

- [10] Complete Attachment 9.1, as per instructions above, using Attachment 9.2 as a continuation sheet for additional components.



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ATTACHMENT 9.4

SYSTEM SAFETY FUNCTION CHANGE FORM

System Designation:		Description:		Change Number:	
Type of Change:		Safety Related Function <input type="checkbox"/> Added <input type="checkbox"/> Deleted <input type="checkbox"/> Changed Augmented Quality Related Function <input type="checkbox"/> Added <input type="checkbox"/> Deleted <input type="checkbox"/> Changed Non-Safety Related Function <input type="checkbox"/> Added <input type="checkbox"/> Deleted <input type="checkbox"/> Changed Safety Class Information & Bases <input type="checkbox"/> Added <input type="checkbox"/> Deleted <input type="checkbox"/> Changed			
Identify the new, deleted or changed function/safety class information. Provide text below as it will appear on the System Safety Function Sheets OR attach a marked up copy.					
Identify the reasons for the new, deleted or changed function/safety class information AND potential effects of the change.					
Identify any other System/Structure/Component potentially affected by the change.					
References:					
Is a process applicability determination, 50.59 screening, or 50.59 evaluation required? Attach as applicable <input type="checkbox"/> YES <input type="checkbox"/> NO			Evaluation Number:		Date:
Preparation and Review	Name (Print)	Signature		Date	
Prepared:					
Reviewed:					
Reviewed (Programs): (multiple signatures, IF applicable)					
Reviewed (Licensing):					
Approved (Design Engineering Supervisor):					
EN-DC-167 Reference Document Updated? <input type="checkbox"/> YES <input type="checkbox"/> NO			Initials:		Date:

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ATTACHMENT 9.5

EN-DC-167 REFERENCE DOCUMENTS

Associated with this procedure are Site Specific EN-DC-167 Reference Documents, which are controlled and treated as separate Engineering Standards in accordance with EN-DC-146, as well as the guidance contained in the site-specific attachment itself. Each site-specific Engineering Standard requires reviews and approvals of that site only.

These Reference Documents include the following information for each site:

System Safety Function Sheets

Process for Updating System Safety Function Sheets

Classification Rules

Site Specific Engineering Standards:

ENN-MS-S-009-JAF

ENN-MS-S-009-IP2

ENN-MS-S-009-IP3

ENN-MS-S-009-PNP

ENN-MS-S-009-VY

EN-MS-S-009-A

EN-MS-S-009-G

EN-MS-S-009-R

EN-MS-S-009-W

EN-MS-S-009-PLP (Note: Palisades will use its source documents and guidance from the non-source document - Maintenance Rule Scoping Document, EGAD-EP-10 – until the Site Specific Engineering Standard is developed.)

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Sheet 1 of 2

NOTE: Numbers included in [] below indicate the specific references in Section A which follows. ITS designations in parentheses below indicate the DFS Classification Levels for the respective safety functions.

Safety-Related Functions (ITS-A)

1. Provide a confinement/containment barrier (including required structural integrity) for dry spent fuel. [1][2]
2. Provide criticality control for dry spent fuel [1][2]
3. Provide an effective heat removal environment for dry spent fuel. [1][2]

Safety-Related Functions (ITS-B)

1. Provide operations support (including loading, unloading, lifting, maintenance, monitoring, transporting) for handling spent fuel from within the spent fuel pool (SFP) to the ISFSI, with equipment that helps ensure mechanical integrity during processing. [1][2][4]
2. Provide an ISFSI pad that meets 10 CRF72 requirements for acceptable dose rates, standoff distances, cask support, and cask tip-over events. [1][2][3]
3. Provide radiation shielding and structural protection from various external events during storage. [1][2][4]

Augmented Quality Related Functions (ITS-C)

1. Provide temperature monitoring capability of each HI-STORM 100 module. [1][2]
2. Provide structural support via miscellaneous HI-STORM small-support hardware. [1][2]

Non-Safety Related / Not Important to Safety Functions (NITS)

1. Providing operational support for the MPC after fuel loading and removal from the spent fuel pool (e.g. vacuum drying, water draining/totalizing, helium backfilling, hydrostatic testing, annulus sealing, cool down, weld removal system) [1]
2. Transporting the overpack to MPC receiving area (via rail car, air bearing pads, transporter, etc.) using transport paths (including roadways, rail, within lift height limitations of Cask license). [1]
3. Collecting miscellaneous data on MPC/HI-STORM status (e.g. fiber optic monitoring of vent space and associated hardware and software) [1]

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Safety Class Information and Bases:

A. References

1. Holtec Report HI-2002444, Final Safety Analysis Report for the HI-STORM 100 Cask System, as updated
2. NUREG/CR-6407, Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety
3. NUREG.1567, Standard Review Plan For Spent Fuel Dry Storage Facilities
4. NUREG-1536, Standard Review Plan for Dry Cask Storage Systems
5. 10 CFR72, Subpart F (Paragraph 72.3 & 72.122) and Subpart G
6. HI-STORM 100 System 10CFR72 Certificate of Compliance and Safety Evaluation Report, NRC, Docket Number 72.1014, current amendment when implemented
7. Entergy Quality Assurance Program

B. Notes

HOLTEC DFS Pad Classification Level – ITS-B versus NITS – The Holtec FSAR (Section 2.0.4) indicates that the ISFSI pad can be qualified as NITS. The governing concrete codes for design of the DFS pad for free standing cask systems, to be used at the discretion of the ISFSI owner are ACI-318 or ACI-349. This meets the requirements of Reference 4 for NITS pads. However, each ENN plant that has examined the HOLTEC ISFSI system, has concluded based on the specific requirements of the pad design and construction to meet non-mechanistic cask tip-over and cask drop events, an ITS-B classification level is warranted due to the QA record retention requirements necessary to document that the specified requirements are met. This classification level of ITS-B does not negate the ISFSI owner’s discretion as to which concrete code is used for its design and construction.

C. Holtec FSAR Qualification List

Table 2.2.6 of the Holtec FSAR provides a classification table which identifies components, parts, safety functions, and corresponding safety classification levels. This table can be directly referenced when performing DFS safety classification assessments.

Summary of Legacy Quality Assurance Classifications

EN Classification	IP2 Legacy Classification	IP3 Legacy Classification	JAF Legacy Classification	PNPS Legacy Classification	VY Legacy Classification	ANO Legacy Classification	GG Legacy Classification	RB Legacy Classification	WF3 Legacy Classification	PLP Legacy Classification
Safety Related (SR)	Class A Class AD* Class AS* EQ, WRN, 1E	Category I	Category I	Safety Related or Q	Safety Related (SR)	1, 2, 3, 1E, and SR	1, 2, 3, 1E, and SR	SR	1, 2, 3, 1E, and SR	SR
Augmented Quality Related (QP)	Class FP Class MET	Category M	Category M	FPQ MQCI	OQA	Q-Group = Y	Q-Group = Y	Q Group = Y	Q-Group = Y	AQ
Non-Safety Related (NSR)	Non-Class A	Non-Category I	Category II/III	Non-Q	NNS	4	4	NSR or N	4	N
Commercial Equipment (COM)	Commercial Equipment (C)	Commercial Equipment (C)	Commercial Equipment	Commercial Equipment	Commercial Equipment	C	C	C	C	No Previous Classification

* Indicates both Class A and Non-Class A interfaces