APPENDIX
TO
MATERIALS LICENSE NO. SNM-2513

TECHNICAL SPECIFICATIONS
FOR THE
PRIVATE FUEL STORAGE FACILITY

Docket 72-22

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1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications.

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
CANISTER	CANISTERs are the sealed spent nuclear fuel containers which consist of a honeycombed fuel basket contained in a cylindrical shell which is welded to a baseplate, lid with welded port cover plates, and closure ring. The CANISTER provides the confinement boundary for the contained radioactive materials, including one or more fuel assemblies.
CANISTER TRANSFER BUILDING (CTB)	The CANISTER TRANSFER BUILDING is a reinforced concrete and steel structure designed for the transfer of the CANISTER from the Shipping Cask to the STORAGE CASK.
LOADING OPERATIONS	LOADING OPERATIONS include all licensed activities associated with the vertical raising or lowering of a CANISTER into or out of a Shipping Cask, TRANSFER CASK, or STORAGE CASK, using the Canister Downloader of the TRANSFER CASK.

(continued)

1.1 Definitions (continued)

PRIVATE FUEL STORAGE FACILITY (PFSF)	The PFSF is a complex designed and constructed for the interim storage of spent nuclear fuel and other radioactive materials associated with spent fuel storage. The spent fuel is stored within STORAGE CASKs and CANISTERs.
STORAGE CASK	STORAGE CASKs are the casks which receive and contain the sealed CANISTERs for interim storage at the PFSF. They provide gamma and neutron shielding, and provide for ventilated air flow to promote heat transfer from the CANISTER to the environs.
STORAGE OPERATIONS	STORAGE OPERATIONS include all licensed activities that are performed at the PFSF while a STORAGE CASK and CANISTER are sitting on a storage pad within the PFSF perimeter. STORAGE OPERATIONS do not include CANISTER transfer between the TRANSFER CASK and the STORAGE CASK.
TRANSFER CASK	TRANSFER CASKs are containers designed to transfer the CANISTER between the Shipping Cask and the STORAGE CASK.
TRANSPORT OPERATIONS	TRANSPORT OPERATIONS include all licensed activities involving a STORAGE CASK or TRANSFER CASK loaded with a CANISTER when it is being moved within the PFSF using CTB cranes or the Cask Transporter. TRANSPORT OPERATIONS include transfer of the CANISTER between the Shipping Cask and the STORAGE CASK using the TRANSFER CASK and CTB cranes, and between the CTB and the Storage Pads using the STORAGE CASK and Cask Transporter. TRANSPORT OPERATIONS do not include the vertical raising and lowering of a CANISTER during LOADING OPERATIONS.

1.0 USE AND APPLICATION

1.2 Logical Connectors

PURPOSE

The purpose of this section is to explain the meaning of logical connectors.

Logical connectors are used in Technical Specifications (TS) to discriminate between, and yet connect, discrete Conditions, Required Actions, Completion Times, Surveillances, and Frequencies. The only logical connectors that appear in TS are AND and OR. The physical arrangement of these connectors constitutes logical conventions with specific meanings.

BACKGROUND

Several levels of logic may be used to state Required Actions. These levels are identified by the placement (or nesting) of the logical connectors and by the number assigned to each Required Action. The first level of logic is identified by the first digit of the number assigned to a Required Action and the placement of the logical connector in the first level of nesting (i.e., left justified with the number of the Required Action). The successive levels of logic are identified by additional digits of the Required Action number and by successive indentations of the logical connectors.

When logical connectors are used to state a Condition, Completion Time, Surveillance, or Frequency, only the first level of logic is used, and the logical connector is left justified with the statement of the Condition, Completion Time, Surveillance, or Frequency.

(continued)

1.2 Logical Connectors (continued)

EXAMPLES The following examples illustrate the use of logical connectors.

EXAMPLE 1.2-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Verify... AND A.2 Restore...	

In this example the logical connector AND is used to indicate that when in Condition A, both Required Actions A.1 and A.2 must be completed.

(continued)

1.2 Logical Connectors (continued)

EXAMPLES (continued)

EXAMPLE 1.2-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Stop... OR A.2.1 Verify... AND A.2.2.1 Reduce... OR A.2.2.2 Perform... OR A.3 Remove...	

This example represents a more complicated use of logical connectors. Required Actions A.1, A.2, and A.3 are alternative choices, only one of which must be performed as indicated by the use of the logical connector OR and the left justified placement. Any one of these three ACTIONS may be chosen. If A.2 is chosen, then both A.2.1 and A.2.2 must be performed as indicated by the logical connector AND. Required Action A.2.2 is met by performing A.2.2.1 or A.2.2.2. The indented position of the logical connector OR indicates that A.2.2.1 and A.2.2.2 are alternative choices, only one of which must be performed.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE

The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.

BACKGROUND

Limiting Conditions for Operation (LCOs) specify the lowest functional capability or performance levels of equipment required for safe operation of the facility. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).

DESCRIPTION

The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the facility is in a specified condition stated in the Applicability of the LCO. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the facility is not within the LCO Applicability.

Once a Condition has been entered, subsequent subsystems, components, or variables expressed in the Condition, discovered to be not within limits, will not result in separate entry into the Condition unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition.

(continued)

1.3 Completion Times (continued)

EXAMPLES The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Perform Action B.1 AND B.2 Perform Action B.2.	12 hours 36 hours

Condition B has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition B is entered.

The Required Actions of Condition B are to complete action B.1 within 12 hours AND complete action B.2 within 36 hours. A total of 12 hours is allowed for completing action B.1 and a total of 36 hours (not 48 hours) is allowed for completing action B.2 from the time that Condition B was entered. If action B.1 is completed within 6 hours, the time allowed for completing action B.2 is the next 30 hours because the total time allowed for completing action B.2 is 36 hours.

(continued)

1.3 Completion Times (continued)

EXAMPLES (continued)

EXAMPLE 1.3-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One system not within limit.	A.1 Restore system to within limit.	7 days
B. Required Action and associated Completion Time not met.	B.1 Complete action B.1. AND B.2 Complete action B.2.	12 hours 36 hours

When a system is determined not to meet the LCO, Condition A is entered. If the system is not restored within 7 days, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the system is restored after Condition B is entered, Conditions A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

(continued)

1.3 Completion Times (continued)

EXAMPLES (continued)

EXAMPLE 1.3-3

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each component.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Restore compliance with LCO	4 hours
B. Required Action and associated Completion Time not met.	B.1 Complete action B.1. AND B.2 Complete action B.2.	6 hours 12 hours

The Note above the ACTIONS table is a method of modifying how the Completion Time is tracked. If this method of modifying how the Completion Time is tracked was applicable only to a specific Condition, the Note would appear in that Condition rather than at the top of the ACTIONS Table.

The Note allows Condition A to be entered separately for each component, and Completion Times tracked on a per component basis. When a component is determined to not meet the LCO, Condition A is entered and its Completion Time starts. If subsequent components are determined to not meet the LCO, Condition A is entered for each component and separate Completion Times start and are tracked for each component.

IMMEDIATE COMPLETION TIME

When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

1.0 USE AND APPLICATION

1.4 Frequency

PURPOSE The purpose of this section is to define the proper use and application of Frequency requirements.

DESCRIPTION Each Surveillance Requirement (SR) has a specified Frequency in which the Surveillance must be met in order to meet the associated Limiting Condition for Operation (LCO). An understanding of the correct application of the specified Frequency is necessary for compliance with the SR.

The "specified Frequency" is referred to throughout this section and each of the Specifications of Section 3.0, Surveillance Requirement (SR) Applicability. The "specified Frequency" consists of the requirements of the Frequency column of each SR.

Situations where a Surveillance could be required (i.e., its Frequency could expire), but where it is not possible or not desired that it be performed until sometime after the associated LCO is within its Applicability, represent potential SR 3.0.4 conflicts. To avoid these conflicts, the SR (i.e., the Surveillance or the Frequency) is stated such that it is only "required" when it can be and should be performed. With an SR satisfied, SR 3.0.4 imposes no restriction.

(continued)

1.4 Frequency (continued)

EXAMPLES The following examples illustrate the various ways that Frequencies are specified.

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify pressure within limit.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the interval specified in the Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment or variables are outside specified limits, or the facility is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the facility is in a condition specified in the Applicability of the LCO, the LCO is not met in accordance with SR 3.0.1.

If the interval as specified by SR 3.0.2 is exceeded while the facility is not in a condition specified in the Applicability of the LCO for which performance of the SR is required, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the specified condition. Failure to do so would result in a violation of SR 3.0.4

(continued)

1.4 Frequency (continued)

EXAMPLES
(continued) EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours prior to starting activity AND 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time the example activity is to be performed, the Surveillance must be performed within 12 hours prior to starting the activity.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the 25% extension allowed by SR 3.0.2.

"Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performance in this example). If the specified activity is canceled or not performed, the measurement of both intervals stops. New intervals start upon preparing to restart the specified activity.

2.0 FUNCTIONAL AND OPERATING LIMITS

2.1 Functional and Operating Limits

The spent nuclear fuel to be stored in STORAGE CASKs at the PFSF shall meet the Approved Contents requirements in Section 2.0 of Appendix B to NRC Certificate of Compliance No. 72-1014, Amendment 0, for the HI-STORM 100 Storage Cask System.

2.2 Functional and Operating Limits Violations

If any Fuel Specifications or Loading Conditions of 2.1 are violated, the following actions shall be completed:

a. The affected CANISTER shall be placed in a safe condition.

b. Within 24 hours of discovering the event, notify the NRC Operations Center of the violation.

c. Within 30 days, submit a special report which describes the cause of the violation, and actions taken to restore compliance and prevent recurrence.

3.0 LIMITING CONDITIONS FOR OPERATION (LCO) APPLICABILITY

LCO 3.0.1 LCOs shall be met during specified conditions in the Applicability, except as provided in LCO 3.0.2.

LCO 3.0.2 Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required, unless otherwise stated.

LCO 3.0.3 Not applicable.

LCO 3.0.4 When an LCO is not met, entry into a specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in specified conditions in the Applicability that are required to comply with ACTIONS.

LCO 3.0.5 Equipment removed from service or not in service in compliance with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate it meets the LCO or that other equipment meets the LCO. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing.

3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

SR 3.0.1	SRs shall be met during the specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on equipment or variables outside specified limits.
SR 3.0.2	The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met. For Frequencies specified as “once,” the above interval extension does not apply. If a Completion Time requires periodic performance on a “once per...” basis, the above Frequency extension applies to each performance after the initial performance. Exceptions to this Specification are stated in the individual Specifications.
SR 3.0.3	If it is discovered that a Surveillance was not performed within its specified Frequency, then compliance with the requirement to declare the LCO not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified Frequency, whichever is less. This delay period is permitted to allow performance of the Surveillance. If the Surveillance is not performed within the delay period, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered. When the Surveillance is performed within the delay period and the Surveillance is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.
SR 3.0.4	Entry into a specified condition in the Applicability of an LCO shall not be made unless the Surveillances associated with the LCO have been met within their specified Frequency. This provision shall not prevent entry into specified conditions in the Applicability that are required to comply with ACTIONS.

3.1 STORAGE CASK INTEGRITY

3.1.1 STORAGE CASK Heat Removal System

LCO 3.1.1 The STORAGE CASK Heat Removal System shall be OPERABLE.

APPLICABILITY: During STORAGE OPERATIONS.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each STORAGE CASK.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. STORAGE CASK Heat Removal System inoperable.	A.1 Restore STORAGE CASK Heat Removal System to OPERABLE status.	8 hours
B. Required Action A.1 and associated Completion Time not met.	B.1 Perform SR 3.2.2.1. AND	Immediately and every 12 hours thereafter
	B.2.1 Restore STORAGE CASK Heat Removal System to OPERABLE status. OR	48 hours
	B.2.2 Transfer the CANISTER into a TRANSFER CASK.	48 hours

(continued)

3.1 STORAGE CASK INTEGRITY

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.1.1.1	Verify all STORAGE CASK inlet and outlet air ducts are free of blockage. OR For STORAGE CASKs with installed temperature monitoring equipment, verify the difference between the average STORAGE CASK air outlet temperature and PFSF ambient temperature is $\leq$ 99° F (for the PWR CANISTER) and $\leq$ 105° F (for the BWR CANISTER).	24 hours 24 hours

3.2 STORAGE CASK RADIATION PROTECTION

3.2.1 CANISTER and TRANSFER CASK Removable Contamination

LCO 3.2.1 Removable contamination on the accessible exterior surfaces of the CANISTER and accessible interior surfaces of the TRANSFER CASK shall not exceed:

a. 22,000 dpm/100 cm^2 from beta and gamma sources, and

b. 2,200 dpm/100 cm^2 from alpha sources.

APPLICABILITY: During LOADING OPERATIONS.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each CANISTER and TRANSFER CASK.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CANISTER or TRANSFER CASK removable surface contamination limits not met.	A.1 Restore CANISTER and TRANSFER CASK removable surface contamination to within limits	72 hours
B. Required Action A.1 and associated Completion Time not met.	B.1 Return the CANISTER to the originating nuclear power plant for decontamination. AND B.2 If the TRANSFER CASK exceeds contamination limits, it shall not be used for CANISTER transfer operations until decontaminated to within limits.	21 days Prior to TRANSFER CASK use

(continued)

3.2 STORAGE CASK RADIATION PROTECTION

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
SR 3.2.1.1	Verify that the removable contamination on the accessible exterior surfaces of the CANISTER is within limits.	Once, prior to TRANSPORT OPERATIONS for movement from CTB to Storage Pads
SR 3.2.1.2	Verify that the removable contamination on the accessible interior surfaces of the TRANSFER CASK do not exceed limits.	Once, prior to TRANSPORT OPERATIONS for movement from CTB to Storage Pads

3.2 STORAGE CASK RADIATION PROTECTION

3.2.2 STORAGE CASK Average Surface Dose Rates

LCO 3.2.2 The average surface dose rates of each STORAGE CASK shall not exceed:

a. 40 mrem/hour (neutron + gamma) on the side

b. 10 mrem/hour (neutron + gamma) on the top

c. 16 mrem/hour (neutron + gamma) at the inlet and outlet vent ducts

APPLICABILITY: During STORAGE OPERATIONS.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each STORAGE CASK.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. STORAGE CASK average surface dose rate limits not met.	A.1 Administratively verify correct fuel loading. AND A.2 Perform analysis to verify compliance with the PFSF offsite radiation protection requirements of 10 CFR Part 20 and 10 CFR Part 72.	7 days 7 days

(continued)

ACTIONS (continued)

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. The A.1 verification confirms the correct fuel loading, but the Analysis performed in A.2 indicates that shielding afforded by the STORAGE CASK is inadequate or suspect.	B.1 Transfer the CANISTER to a different STORAGE CASK	7 days
C. The A.1 verification confirms the fuel loading is incorrect, or the Analysis performed in A.2 indicates that, while the shielding afforded by the STORAGE CASK is performing as expected, the dose rates exceed at least one of the limits.	C.1 Implement radiation protective measures that limit personnel exposure. OR C.2 Provide temporary shielding until the ACTION required by C.3 has been completed. AND C.3 Return the CANISTER to the originating nuclear power plant.	Immediately 8 hours 21 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.2.1	Verify average surface dose rates of the STORAGE CASK loaded with a CANISTER are within limits. Dose rates shall be measured at locations shown in Figure 3.2.2-1.	Once, within 24 hours after beginning STORAGE OPERATIONS

SURVEILLANCE REQUIREMENTS (continued)

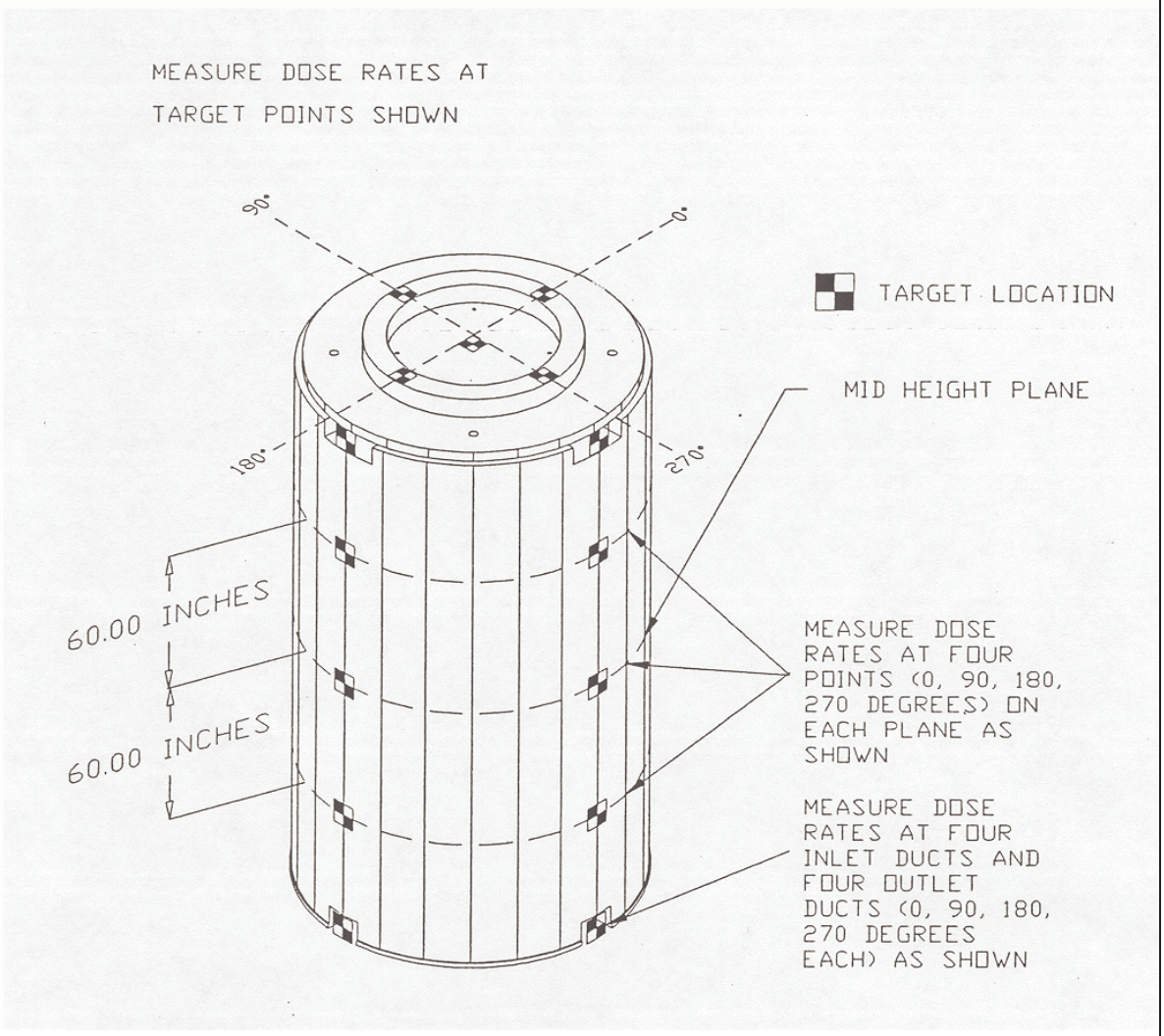

Figure 3.2.2-1 STORAGE CASK Dose Rate Measurement Locations

4.0 DESIGN FEATURES

4.1 Site

The PFSF is located on the Skull Valley Indian Reservation in Tooele County, Utah, approximately 27 miles west-southwest of Tooele City and approximately 50 miles southwest of Salt Lake City, Utah.

4.2 Storage Features

4.2.1 Storage System

The PFS is licensed to store spent fuel in the HI-STORM 100 Spent Fuel Storage System in a maximum of 4,000 STORAGE CASKs. Each STORAGE CASK contains one PWR or BWR fuel CANISTER. Each CANISTER shall be loaded at a Part 50 licensee's facility in accordance with 10 CFR 72 Certificate of Compliance (CoC) No. 1014, Amendment 0, and shipped to the PFSF site in a 10 CFR 71 certified shipping package. The CANISTER shall be transferred into the STORAGE CASK at the PFSF CTB and moved to its storage location on a Storage Pad.

4.2.2 Storage Capacity

The total storage capacity of the PFSF is limited to 40,000 MTU. This total capacity of spent fuel is in the form of intact fuel, damaged fuel, and fuel debris, as defined in 10 CFR 72 CoC No. 1014, Amendment 0.

4.2.3 STORAGE CASK Spacing

4.2.3.1 The STORAGE CASKs shall be stored in a 2 x 4 array (up to 8 STORAGE CASKs per pad). During STORAGE OPERATIONS, the STORAGE CASK centerline shall be a nominal distance of 7.5 feet from the sides of the Storage Pad and 9.5 feet from the ends of the Storage Pad, with any two adjacent STORAGE CASKs spaced a nominal distance of 16.0 feet centerline-to-centerline in the pad length direction (north-south), and 15.0 feet centerline-to-centerline in the pad width direction (east-west). Storage cask center points shall be located within 3 inches of these nominal locations.

4.2.3.2 The individual columns of PFSF Storage Pads shall be located such that parallel columns of STORAGE CASKs on separate

(continued)

Storage Pad columns are no closer than 50 feet plus or minus 3 inches centerline-to-centerline. The end casks on adjacent pads along the pad length (North-South direction) shall be located no closer than 24 feet plus or minus 3 inches centerline-to-centerline.

4.2.4 Site Temperature Limits

LOADING OPERATIONS and TRANSPORT OPERATIONS shall only be conducted if the working area ambient temperature is $\geq 0^{\circ}F$.

4.2.5 Cask Transporter

4.2.5.1 Transfer of a loaded STORAGE CASK to an PFSF Storage Pad shall be conducted using the Cask Transporter.

4.2.5.2 The quantity of fuel in the Cask Transporter shall be $\leq$ 50 gallons.

4.2.5.3 The Cask Transporter shall be designed to mechanically limit the lifting height of a STORAGE CASK to a maximum of 9 inches.

4.2.5.4 The Cask Transporter shall be designed to ensure that its dimensions, center of gravity, and weight when carrying a loaded STORAGE CASK are such that the loaded transporter will not tip-over, nor will the STORAGE CASK temporarily rise above its analyzed drop height of 9 inches, or tip-over in the event of: 1) the PFSF design basis earthquake ground motions, and 2) a design basis tornado-driven missile impacting the Cask Transporter or storage cask being carried by the Cask Transporter.

4.2.6 Storage Pads

The Storage Pads and underlying foundation shall be verified by analysis to limit STORAGE CASK deceleration during design basis drop and hypothetical tip-over events to $\leq$45 g's at the top of the CANISTER fuel basket. Analyses shall be performed using methodologies consistent with those described in the HI-STORM 100 FSAR. A lift height above the Storage Pads is not required to be established if the STORAGE CASK is lifted with a device designed in accordance with ANSI N14.6, 1993, and having redundant drop protection features.

(continued)

4.0 DESIGN FEATURES

4.3 CANISTER TRANSFER BUILDING (CTB)

4.3.1 TRANSFER CASK and CANISTER Lifting Devices

Lifting of a loaded TRANSFER CASK and CANISTER shall be performed in the CTB in accordance with the guidelines of NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," July 1980. The CTB and lifting devices shall be designed, fabricated, tested, inspected, and maintained in accordance with the guidelines of NUREG-0612, and the following clarifications.

4.3.2 CTB Structure and Stationary Lifting Devices Requirements

a. The CTB is a reinforced concrete and steel structure. The design of the structure shall be in accordance with ANSI/ANS 57.9, 1992; ACI-349, 1990; and ANSI/AISC N690, 1994. Load factors and allowable stresses used in the design shall be in accordance with ACI-349 and ANSI/AISC N690.

b. The CTB cranes (overhead bridge crane and the semi-gantry crane) shall be classified as Type I cranes in accordance with ASME NOG-1, 1995. Allowable stresses used in the crane designs shall be in accordance with ASME NOG-1. These cranes, and the CANISTER lifting device (CANISTER Downloader), shall be of single-failure-proof design and meet the requirements of NUREG-0554, "Single-Failure-Proof Cranes for Nuclear Power Plants," May 1979, and NUREG-0612.

c. The TRANSFER CASK and CANISTER lifting devices used with the CTB shall be designed, fabricated, operated, tested, inspected and maintained in accordance with NUREG-0612, Section 5.1.

d. The structural connection between the seismic support struts and the casks (TRANSFER CASK, STORAGE CASK, and Shipping Cask) must be sufficiently rigid to resist the design basis ground motion. Prior to commencing LOADING OPERATIONS within the CTB: 1) the design of the seismic support strut connection to the casks and the necessary engineering analyses of the design must be completed, and 2) the licensee shall provide written confirmation to the U.S. Nuclear Regulatory Commission that the design and engineering analyses are complete prior to receipt of spent fuel.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

The PFSF General Manager shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

The PFSF General Manager, or his designee, shall approve prior to implementation and, subject to the provisions of 10 CFR 72.48, each proposed test, experiment, or modification to structures, systems, or components that are important to safety as defined in 10 CFR 72.3.

5.2 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for facility operation and corporate management, respectively. The onsite and offsite organizations shall include appropriate positions for controlling activities affecting safety at the PFSF.

a. Lines of authority, responsibility, and communication shall be defined and established throughout the highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements, including site-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the Final Safety Analysis Report (FSAR) or the PFSF Quality Assurance Program;

b. The PFSF General Manager shall be responsible for overall safe operation of the facility and shall have control over those onsite activities necessary for safe operation and maintenance of the facility;

c. A designated corporate executive shall have corporate responsibility for overall facility nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the facility to ensure nuclear safety; and

d. The individuals who train the PFSF specialists, perform health physics functions, or perform quality assurance functions may report to the PFSF General Manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.

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5.0 ADMINISTRATIVE CONTROLS

5.3 PFSF Staff Qualifications

Each member of the PFSF staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions. The PFSF General Manager and PFSF Specialists shall be trained and certified in accordance with the PFSF Training Program.

5.4 Procedures

Written procedures shall be established, implemented, and maintained covering the following activities that are important to safety:

a. Administrative controls;

b. Routine PFSF operations;

c. Alarms and annunciators;

d. Emergency operations;

e. Design control and facility change or modification;

f. Control of surveillances and tests;

g. Maintenance;

h. Health physics, including ALARA practices;

i. Special nuclear material accountability;

j. Quality assurance, inspection, and audits;

k. Physical security and safeguards;

l. Records management;

m. Reporting; and

n. All programs specified in Specification 5.5.

(continued)

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs

The following programs shall be established, implemented, and maintained.

5.5.1 Technical Specification Bases Control Program

This program provides a means for processing changes to the Bases of these Technical Specifications.

a. Changes to the Bases of the Technical Specifications shall be made under appropriate administrative controls and reviews.

b. Changes to the Bases may be made without prior NRC approval provided the change would not:

1. require a change in the Technical Specification incorporated in the license,

2. meet the criteria provided in 10 CFR 72.48(c)(2),

3. result in a significant increase in occupational exposure, or

4. result in a significant unreviewed environmental impact.

c. The Bases Control Program shall contain provisions to ensure that the Bases are maintained consistent with the FSAR.

d. Proposed changes that do not meet the criteria of 5.5.1b above shall be reviewed and approved by the NRC prior to implementation. Changes to the Bases implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 72.48 (d) (2).

(continued)

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs (continued)

5.5.2 Radioactive Effluent Control Program

This program implements the requirements of 10 CFR 72.44 (d).

a. The PFSF does not create any radioactive materials or have any radioactive waste treatment systems. Therefore, specific operating procedures for the control of radioactive effluents are not required. The HI-STORM 100 Cask System Technical Specification sealing requirements (see Specification 3.1.1 in Appendix A for CoC No. 72-1014), provides reasonable assurance that there are no radioactive effluents from the PFSF.

b. This program includes an environmental monitoring program. The environmental monitoring program helps ensure that the annual dose equivalent to any real individual located outside the PFSF controlled area does not exceed regulatory limits.

c. An annual report shall be submitted pursuant to 10 CFR 72.44(d)(3) specifying the quantity of each of the principal radionuclides released to the environment in liquid and gaseous effluents during the previous calendar year of operation.

5.5.3 Radiation Protection Program

The Radiation Protection Program will establish administrative controls to limit personnel exposure to As Low As Reasonably Achievable (ALARA) in accordance with 10 CFR 20.

a. As part of the LOADING OPERATIONS and TRANSPORT OPERATIONS, radiation monitoring of the TRANSFER CASKs and STORAGE CASKs will be performed to ensure the surface dose rates do not exceed the limits.

b. A monitoring program to help ensure that the annual dose equivalent to any real individual located outside the PFSF controlled area does not exceed regulatory limits is incorporated as part of the environmental monitoring program in the Radioactive Effluent Control Program of Specification 5.5.2.

(continued)

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs (continued)

c. As part of LOADING OPERATIONS, TRANSPORT OPERATIONS and STORAGE OPERATIONS, external contamination monitoring of the TRANSFER CASKs, and STORAGE CASKs prior to their relocation to the PFSF Storage Pads, will be performed to ensure that removable surface contamination levels do not exceed 22,000 dpm/100 cm^2 from beta and gamma sources and 2,200 dpm/100 cm^2 from alpha sources in accordance with the Radiation Protection Program.

5.5.4 Onsite Cask Transport Evaluation Program

This program provides a means for evaluating various transport configurations and transport route conditions to ensure that the design basis drop limits are met. This program is not applicable when the TRANSFER CASK or a STORAGE CASK is being handled by a device providing support from underneath (i.e., on a rail car, heavy haul trailer, air pads, etc.).

This program shall evaluate the site-specific transport route conditions.

a. The lift height of the STORAGE CASK above surfaces on the transport route shall not exceed the limit in Table 5-1. Also, the program shall ensure that the transport route conditions (i.e., surface hardness, pad thickness, and hardness of the underlying foundation) are equivalent to or less limiting than those established for design basis drop and hypothetical tipover of a STORAGE CASK onto a storage pad, for which analyses have determined decelerations $\leq$45 g's at the top of the CANISTER fuel basket.

b. For STORAGE CASK transport conditions that are not bounded by the storage pad hardness characteristics, the program may evaluate the site-specific conditions to ensure that the impact loading due to site-specific vertical end drop events does not exceed 45 g at the top of the CANISTER fuel basket. Maximum permissible STORAGE CASK lift heights shall be established for the surfaces that are not bounded by the vertical end drop analysis performed for the storage pads. The maximum permissible STORAGE CASK lift height for these transport route surfaces shall be determined using methods consistent with those described in the HI-STORM 100 FSAR. This alternative analysis shall be

(continued)

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs (continued)

commensurate with the vertical end drop analyses described in the HI-STORM 100 FSAR. The program shall ensure that these alternative analyses are documented and controlled.

c. Alternatively, the STORAGE CASK, when loaded with a CANISTER, may be lifted above its lifting height limit or over a hardened surface for which a postulated drop accident could result in decelerations exceeding the 45 g criteria during TRANSPORT OPERATIONS, provided the lifting device (e.g., Cask Transporter) is designed in accordance with ANSI N14.6 and has redundant drop protection features.

d. The TRANSFER CASK and CANISTER may be lifted to those heights necessary to perform cask handling operations, including CANISTER transfer, provided the lifts are made with structures and components designed in accordance with the criteria specified in Specification 4.3, as applicable.

Table 5-1

TRANSFER CASK and STORAGE CASK Lifting Requirements

ITEM	ORIENTATION	LIFTING HEIGHT LIMIT
TRANSFER CASK	Horizontal	Not Permitted
TRANSFER CASK	Vertical	None Established (Note 1)
STORAGE CASK	Horizontal	Not Permitted
STORAGE CASK	Vertical	9 inches

Note: 1. See Technical Specification 5.5.4d.

(continued)

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs (continued)

5.5.5 Pre-Operational Testing and Training Exercise of HI-STORM 100 Casks (Rev. 0) with Lid Shims

Before the initial receipt of spent nuclear fuel at the facility, the licensee shall conduct dry operational training exercises of the transfer and handling of the HI-STORM 100 CANISTER and STORAGE CASK (Rev. 0) using the cranes and casks described in licensee's FSAR and such other necessary or appropriate ancillary equipment. The operational dry run training exercises may be performed in an alternative step sequence from the actual procedures, but all steps must be performed. The operational dry run training exercise shall include, but are not limited to, the following:

a. Transfer of the CANISTER from the HI-STAR 100 Shipping Cask to the HI-STORM 100 STORAGE CASK.

b. Movement of the HI-STORM 100 STORAGE CASK from the CANISTER TRANSFER BUILDING out to a Storage Pad, and placement of the STORAGE CASK onto a Storage Pad.

c. Reverse transfer operations of taking the HI-STORM 100 STORAGE CASK from the Storage Pad into the Canister Transfer Building and transferring the CANISTER from the HI-STORM 100 STORAGE CASK into the HI-STAR 100 Shipping Cask.

The dry run training exercises specified in a, b, and c above shall be conducted by the licensee two times.