TECHNICAL SPECIFICATIONS

FOR

THREE MILE ISLAND - UNIT 2

INDEPENDENT SPENT FUEL STORAGE INSTALLATION

TABLE OF CONTENTS

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 and Bases.

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.
DRY SHIELDED CANISTER (DSC)	The DSCs are used to contain the spent fuel stored within the HSMs and transported from the ISFSI. The DSC is designed to meet the design requirements for STORAGE and TRANSFER OPERATIONS.
HORIZONTAL STORAGE MODULE (HSM)	Each HSM is designed to provide protection for a DSC and to provide radiation shielding to personnel during STORAGE OPERATIONS.
INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)	The facilities within the perimeter fence around the HSMs that are licensed for the storage of spent fuel.
LOADING OPERATIONS	LOADING OPERATIONS refer to activities that are performed in the TAN Hot Shop. Specifications associated with LOADING OPERATIONS are included as prerequisites for certain licensed activities occurring during TRANSFER OPERATIONS and STORAGE OPERATIONS.
OPERABLE-OPERABILITY	A system, subsystem, division, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, division, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).

(continued)

1.1 Definitions (continued)

OS-197 CASK	The NRC 10 CFR Part 72-approved OS-197 CASK may be used to transport the DSC from TAN to the ISFSI and used to transfer the DSC to the HSM at the ISFSI.
MP-187 CASK	The NRC 10 CFR Part 71 certified MP-187 CASK may be used to transport the DSC from TAN to the ISFSI and used to transfer the DSC to the HSM at the ISFSI.
STORAGE OPERATIONS	STORAGE OPERATIONS include all licensed activities performed at the ISFSI while spent fuel is contained in approved storage within the HSMs. STORAGE OPERATIONS begin after the DSC is loaded into an HSM and end when the DSC is being removed from the HSM.
TMI-2 CANISTER	The TMI-2 CANISTER contains the TMI-2 core debris removed from the damaged TMI Unit 2 during defueling operations. The TMI-2 CANISTER will be stored in the DSC at the ISFSI.
TRANSFER OPERATIONS	TRANSFER OPERATIONS include all licensed activities performed on a DSC containing spent fuel when it is being moved to and from the ISFSI. TRANSFER OPERATIONS comprise those licensed activities involving a loaded DSC between the TAN Hot Shop and the HSM, including those activities inserting the DSC into or withdrawing the DSC out of the HSM.

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.

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)

EXAMPLE12-2
ACTIONS

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

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 used 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 indicated 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 minimum requirements for ensuring safe operation of the ISFSI. 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., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the ISFSI 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 ISFSI is not within the LCO applicability. Once a Condition has been entered, subsequent divisions, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or 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)

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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 to not 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, Condition 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.	7 days
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, as well as certain NOTES in the Surveillance column that modify performance requirements.

Sometimes special situations dictate when the requirements of a Surveillance are to be met, unless otherwise stated in the SR, as allowed by SR 3.0.1. They may be stated as clarifying Notes in the Surveillance, as part of the Surveillance, or both.

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.

The use of “met” or “performed” in these instances conveys specific meanings. A surveillance is “met” only when the acceptance criteria are satisfied. Known failure of the requirements of a Surveillance, even without a Surveillance specifically being “performed,” constitutes a Surveillance not “met.” “Performance” refers only to the requirement to specifically determine the ability to meet the acceptance criteria. SR 3.0.4 restrictions would not apply if both the following conditions are satisfied.

a. The Surveillance is not required to be performed, and

b. The Surveillance is not required to be met or, even if required to be met, is not known to be failed.

(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 leak rate 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 is inoperable, a variable is outside specified limits, or the ISFSI 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, and the performance of the Surveillance is not otherwise modified by a specific NOTE, then the LCO is not met in accordance with SR 3.0.1 and SR 3.0.3 becomes applicable.

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 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" performed in this example). If the specified activity is cancelled 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

2.1.1 Spent Fuel Stored At ISFSI

The spent nuclear fuel to be stored in DSCs at the Three Mile Island Unit 2 (TMI-2) ISFSI shall meet the following requirement:

The spent fuel is the TMI-2 core debris resulting from the partial melting of the TMI-2 reactor core (1979). The TMI-2 core debris shall be contained in the stainless steel TMI-2 CANISTERs. The core debris includes severely damaged spent fuel assemblies, partially intact spent fuel assemblies, and various core components and in-core instruments recovered from the damaged TMI-2 reactor. The core debris was loaded into the TMI-2 CANISTERs during the 1986 TMI-2 reactor defueling and transported to the Idaho National Laboratory for underwater storage.

2.2 Functional and Operating Limit Violations

If the Functional and Operating Limits in 2.1.1 are violated, the following actions shall be completed:

2.2.1 The affected TMI-2 CANISTERs shall be placed in a safe condition.

2.2.2 Within 24 hours, notify the NRC Operations Center.

2.2.3 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 to an ISFSI.
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 declared inoperable to comply with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.
LCO 3.0.6	Not applicable to an ISFSI.
LCO 3.0.7	Not applicable to an ISFSI.

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 LCO's Surveillances 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 DSC INTEGRITY

3.1.1 Leak Testing DSC Vent Housing Seals

LCO 3.1.1 The leak rate of the vent housing seals shall not exceed 1×10^{-2} standard cc/sec.

APPLICABILITY: During STORAGE OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. The vent housing seal leak rate is exceeded during STORAGE OPERATIONS	A.1 Perform contamination survey at affected DSC-vent housing interfaces. AND A.2.1 Reseat or replace seals. AND A.2.2 Perform leak check on seals.	24 Hours 7 Days 7 Days
B. The vent housing seal leak rate is not restored within 7 days during STORAGE OPERATIONS	B.1 Perform contamination survey at affected DSC-vent housing interfaces. AND B.2 Submit report to NRC describing condition, analysis, and corrective actions being taken.	Monthly 90 Days. Note: LCO 3.0.2 does not apply. This report is required upon entry into Condition B.
C. The vent housing double metallic seals are replaced with double elastomeric seals during STORAGE OPERATIONS	C.1 Submit report to NRC describing condition, analysis, and corrective actions being taken. AND C.2 Replace the elastomeric seals.	90 Days After 5 years in service.

3.1.1 Leak Testing DSC Vent Housing Seals (continued)

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.1.1	Perform leak check of the vent housing double metallic seals on each DSC containing TMI-2 CANISTERs.	7 days after insertion of DSC into HSM. AND Every 5 years during STORAGE OPERATIONS. NOTE: SR 3.0.2 is not applicable.
SR 3.1.1.2	Perform leak check of the vent housing double elastomeric seals on each DSC containing TMI-2 CANISTERs.	Every year during STORAGE OPERATIONS.

3.1 DSC INTEGRITY

3.1.2 DSC Handling and Transport Temperature Limit

LCO 3.1.2 Handling or transporting a DSC containing TMI-2 CANISTERs shall not be performed when DSC temperature is less than 20 degrees F or when the ambient air temperature is less than 0 degrees F.

APPLICABILITY: During TRANSFER OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. Temperature limits not met while DSC is being transported	A.1 Place DSC in a safe condition.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.1.2.1	Measure the outside air temperature.	Immediately before commencing TRANSFER OPERATIONS. AND During TRANSFER OPERATIONS.
SR 3.1.2.2	Measure the DSC temperature or the cask temperature.	Immediately before commencing TRANSFER OPERATIONS.

3.2 RADIATION PROTECTION

3.2.1 HSM Dose Rates

LCO 3.2.1 The HSM dose rates shall not exceed:

a. 100 mrem/hour average on the outside surface of the front HSM door on the DSC centerline; and

b. 20 mrem/hour average on the outside surface of the end shield wall of each group of HSMs.

APPLICABILITY: After completing each DSC transfer to HSM.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. The HSM dose rates are exceeded	A.1 Perform analysis to verify compliance with the ISFSI offsite radiation protection requirements of 10 CFR Part 20 and 10 CFR Part 72. AND A.2 Provide verbal notification to the NRC. AND A.3 Evaluate the cause of excessive dose rates. AND A.4 Take corrective actions to reduce the dose rates within limits. AND A.5 Provide letter report to the NRC summarizing results of evaluation.	Immediately 24 hours 7 days 30 days 30 days
B. The ISFSI offsite radiation protection requirements of 10 CFR Part 20 or 10 CFR Part 72 are exceeded.	B.1 Provide supplemental shielding to reduce the dose rates in accordance with 10 CFR Part 20 and 10 CFR Part 72. OR B.2 Transport the DSC to TAN or other appropriate facility for corrective actions.	30 days 30 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.1.1	Perform radiation survey on the HSM after completing the transfer of the DSC.	24 hours after completing each HSM loading.

3.2 RADIATION PROTECTION

3.2.2 Vent System HEPA Filters

LCO 3.2.2 The surface dose rate of each HSM rear access door shall not exceed 100 mrem/hour; and the surface dose rate of each HEPA filter housing shall not exceed 1200 mrem/hour.

APPLICABILITY: During STORAGE OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. If the surface dose rates are exceeded	A.1 Evaluate the cause of increased dose rates. AND A.2 Take corrective actions to restore dose rates within limits.	7 days 30 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.2.1 Perform a radiation survey at the vent of each DSC.	Monthly during first year; Quarterly during second through fifth years; Annually thereafter. NOTE: FREQUENCY shall be determined by the number of years after DSC insertion into HSM or the most recent entry into CONDITION A.

3.2 RADIATION PROTECTION

3.2.3 DSC Hydrogen Concentration

LCO 3.2.3 The hydrogen gas concentration inside each DSC at the ISFSI shall not exceed 0.5% by volume.

APPLICABILITY: During STORAGE OPERATIONS.

ACTION

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. If the hydrogen concentration within a DSC is exceeded	A.1 Purge the gas within the DSC until the hydrogen concentration is within limits. AND A.2 Replace the HEPA filters for the DSC after the DSC purge operation is complete.	7 days 24 hours after completion of A.1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.2.3.1	Sample the gas inside each DSC containing spent fuel.	Monthly during first year; Annually thereafter. NOTE: FREQUENCY shall be determined by the number of years after DSC insertion into HSM or the most recent entry into CONDITION A.

4.0 DESIGN FEATURES

4.1 Storage Features

4.1.1 Storage Capacity

The total storage capacity of the TMI-2 ISFSI is limited to 30 HSMs, 29 which will be loaded, and one extra. Each of 29 HSMs holds a NUHOMS®-12T DSC containing up to 12 TMI-2 CANISTERs.

4.2 Codes and Standards

4.2.1 Dry Shielded Canister

4.2.1.1 Design Exceptions to Codes, Standards, and Criteria

Table 4-1 lists approved exceptions for the design and fabrication of the TMI-2 ISFSI Dry Shielded Canister.

4.2.1.2 Construction/Fabrication Exceptions to Codes, Standards, and Criteria

Proposed alternatives to ASME Code, Section III, 1992 Edition with Addenda through 1993, including exceptions allowed by Section 4.3.1, may be used when authorized by the Director of the Office of Nuclear Material Safety and Safeguards or designee. The licensee should demonstrate that:

1. The proposed alternatives would provide an acceptable level of quality and safety, or
2. Compliance with the specified requirements of ASME Code Section III, 1992 Edition with Addenda through 1993, would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

Requests for relief in accordance with this section shall be submitted in accordance with 10 CFR 72.4.

4.2.1.3 DSC top shield plug seal weld (inner cover plate) and top cover plate (outer cover plate) seal welds shall meet the applicable requirements of ASME Boiler and Pressure Vessel Code (B&PVC) Section III, NB-5340 for magnetic particle examination (MT) or NB-5350 for liquid penetrant (PT) examination, prior to commencing transfers to the TMI-2 ISFSI.

4.2.1.4 The leak rate of the vent housing seals shall be conducted in accordance with ANSI N14.5 and shall not exceed 1×10^{-2} standard cc/sec prior to commencing transfers to the TMI-2 ISFSI.

(continued)

4.0 DESIGN FEATURES (continued)

4.2.2 Horizontal Storage Module

The governing Codes for the Horizontal Storage Modules used at the TMI-2 ISFSI are American Concrete Institute (ACI) 349, Code Requirements for Nuclear Safety Related Concrete Structures and Commentary, 1985 Edition, and American National Standards Institute (ANSI) 57.9, Design Criteria for an Independent Spent Fuel Storage Installation (Dry Storage Type), 1984 Edition.

4.3 TMI-2 Canister and DSC Preparation

ISFSI Records will demonstrate that the drying and preparation of the TMI-2 canisters, and the DSC sealing and testing meet the design requirements described in the SAR. These records will also include the specific storage location of the TMI-2 canisters in their DSC and HSM at the ISFSI.

Table 4-1

ASME Code Exceptions

Section	Requirement	Exception
Subsection NCA	Miscellaneous Administrative Requirements	• Design specification per NCA-3250 is not required. • Design report per NCA-3260 is not required. • Manufacturers Certificate of Authorization per NCA-3530 are not required. • Material Suppliers are not required to have an NCA-3800 Quality Assurance Program. • Manufacturers are not required to have a NCA-4000 Quality Assurance Program • Authorized Inspection per NCA-5000 is not required. • Nameplate per NCA-8200 is not required. • Code Data Reports and Code Symbols/Stamps per NCA-8000 are not required.
NB-1100	Statement of requirement for code stamping components.	DSC enclosure vessel is designed and fabricated in accordance with ASME Code, Section III, Subsection NB to the maximum practical extent, but Code stamping is not required.
NB-3351.3 NB-3352.3 NB-4243	Design of head attachments using corner joints.	When the head-to-shell joint is a corner joint, NB-3352. 3 requires all welds to be full penetration, and welds and throat thickness to be equal to or exceed minimum dimensions. Due to the geometry of the internals and the lack of access to the inside surface of the structural lid closure welds, the shield plug, top cover plate, and outer bottom cover to shell assembly welds do not have the required inch reinforcement on the inside surface, nor are they full penetration welds. Also, the inner bottom cover to shell assembly weld has a 1/8 inch fillet weld reinforcement in lieu of the required inch fillet weld reinforcement.
NB-3251.3 NB-3352.3 NB-4243 NB 5230	Category C welded joints for vessels designed to NB-3200.	NB-3251 .3, NB-3352. 3, and NB-4243 require Category C welds to be full penetration welds and to be radiographically or ultrasonically examined. DSC top shield plug seal weld (inner top cover plate) and outer top cover plate welds are not full penetration welds. The DSC top shield plug weld and outer top cover plate weld meet the applicable requirements of ASME Code Section III, NB-5340 for magnetic particle examination (MT) OR NB-5350 for liquid penetrant (PT) examination.

Table 4-1
ASME Code Exceptions (continued)

Section	Requirement	Exception
NB-4433 NB-3123.2	Structural attachment welds.	Structural attachments shall be attached by continuous full penetration, fillet, or partial penetration welds. The requirements of NB-3123.2 apply when fillet and partial penetration welds are used. The following structural attachment welds are intermittent: • Support ring to shell assembly weld. This attachment does not serve a pressure retaining function and is only subject to static loads during fuel loading. • Lifting lugs and lifting lug with key to shell assembly welds. These attachments do not serve pressure-retaining functions and are only subject to static loads during fuel loading.
NB-4300 NB-4622.1 NB-4622.3 NB-4622.7 Note 5 in Table NB-4622.7(b)-1	Postweld heat treatment and elevated preheat.	NB-4622.1 requires all welds to be postweld heat treated.NB-4622.7 exempts welds 5/8” in thickness and less, as defined by NB-4622.3, if: a) the involved materials have a carbon content less than 0.25%, b) if the welding procedure qualification (NB-4300) is made using equal or greater base material thickness than the production weld, and c) a 2000F elevated temperature preheat is used. Postweld heat treatment and elevated temperature preheat are not used on DSC welds.
NB-6000	Hydrostatic pressure test.	The DSC containment boundary is not pressure tested in accordance with NB-6000 since the upper cover plate to shell, purge port and vent to top shield plug welds are performed after fuel is loaded. All containment boundary welds are volumetric inspected, except for the top cover plate, top shield plug, and outer bottom cover to shell assembly welds and the purge and vent port seal welds. These welds are inspected using the liquid penetrant or magnetic particle methods. The containment boundary is also helium leak tested by the fabricator to ensure leak-tight integrity. In addition, the containment is vented during normal operation and is subject to 0 psig pressure.
NB-7000	Overpressure protection	Overpressure protection is not required since the DSC will be vented during normal operation and operation during accident conditions where it is subject to 0 psig pressure.
ASME Section III	Conformance with ASME Section III	The design and safe operation of the TMI-2 DSC does not rely upon the integrity of the internal basket structure. The DSC basket is considered to be a non- structural, non-load bearing system of plates that is included in the DSC for operational convenience in the loading and retrieval of the TMI-2 CANISTERs. Accordingly, the DSC internal basket structure is not designed and fabricated in accordance with ASME Code, Section III.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

5.1.1 The Manager for the Idaho Cleanup Project (ICP) is responsible for the operation of theTMI-2 ISFSI and for compliance with all applicable regulatory requirements and license conditions.

5.1.2 The TMI-2 Facility Director is responsible for overall ISFSI operation. The TMI-2 Facility Director and any alternates shall be designated in writing.

5.1.3 The TMI-2 Facility Director shall maintain routine electronic and verbal communication with the facility staff.

5.1.4 The TMI-2 Facility Director is stationed near the TMI-2 ISFSI at the Idaho National Laboratory site or in Idaho Falls, Idaho.

5.1.5 The TMI-2 Facility Director shall review and concur with all TMI-2 ISFSI evaluations prepared pursuant to 10 CFR 72.44(e), 10 CFR 72.44(f), 10 CFR 72.48, TS 5.5.1.b, and TS 5.5.2.3.

5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for facility operation and support services, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the ISFSI.

1. Lines of authority, responsibility, and communication shall be defined and established throughout the organization, from senior management levels to all operational and support positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key positions, or in equivalent forms of documentation. These requirements, including the facility-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented.

2. The Manager for the ICP, as designated by the Energy Secretary, shall have Department 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.

3. The individuals who train the operating staff, carry out health physics, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.

(continued)

5.2 Organization (continued)

4. The Safety Review Committee shall provide oversight of TMI-2 ISFSI operation by performing reviews of:

   a. Performance indicators (audit findings, reportable events and conditions, Technical Specification violations);

   b. Evaluations performed pursuant to 10 CFR 72.44(e), 10 CFR 72.44(f), 10 CFR 72.48, TS 5.5.1.b, and TS 5.5.2.3;

   c. Proposed license amendments;

   d. Selected activities of the ALARA Committee and the staff level document review committee;

   e. Routine facility operationsand preparation for major operations (such as ISFSI loading and defueling) for potential safety hazards; and

   f. Special reviews at the direction of the TMI-2 Facility Director.

   The Safety Review Committee members and chair shall be appointed in writing. The TMI-2 Facility Director shall be informed of all appointments to the Safety Review Committee.

   The Safety Review Committee membership shall include the following disciplines: Radiological Safety, Criticality Safety, Nuclear Facility Operation, Nuclear Quality Assurance, and Engineering.

   A quorum for a Safety Review Committee meeting shall include a minimum of three committee members representing the technical disciplines appropriate for matters under consideration. The TMI-2 Facility Director, acting in an ex-officio capacity, shall be present to constitute a quorum.

The Safety Review Committee shall meet at least once every twelve months and at least once not more than three months prior to the start of defueling operations.

5.0 ADMINISTRATIVE CONTROLS

5.3 Facility Staff Qualifications

5.3.1 Each member of the facility staff shall meet specified minimum qualifications.

5.3.2 Personnel who operate or supervise the operation of equipment identified as important to safety shall be trained and certified under the NRC approved training program.

5.0 ADMINISTRATIVE CONTROLS

5.4 Procedures

5.4.1 Written procedures shall be established, implemented, and maintained for the following activities:

a. Administrative controls;

b. Routine ISFSI operations;

c. Emergency response;

d. Design control;

e. Facility changes, tests,and experiments;

f. Control of surveillances and tests;

g. Control of special processes;

h. Maintenance;

i. Health physics, including ALARA practices;

j. Spent fuel management;

k. Transfer operations;

l. Quality assurance inspections and audits;

m. Physical protection;

n. Records management;

o. Reporting; and

p. All programs specified in Section 5.5.

Implementing procedures may be common with the Idaho National Laboratory procedures provided that all ISFSI requirements are met.

5.4.2 The Facility Director will ensure performance, and review the results of DOE-performed surveillances, assessments, or audits of changes to procedures described above. The DOE Idaho Operations Office QA Manager is responsible to ensure performance of audits of the Quality Assurance program. Each area will be reviewed at least biennially.

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs

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

5.5.1 Technical Specifications (TS) 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 TS shall be made under appropriate administrative controls and reviews.

b. Changes may be made to Bases without prior NRC approval provided the changes do not involve either of the following:

1. A change in the TS incorporated in the license; or

2. A change to the SAR or Bases which requires a license amendment according to the criteria of 10 CFR 72.48.

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

d. Proposed changes which don't meet the criteria of 5.5.1.b above shall be reviewed and approved by the NRC before 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)

5.5 Programs (continued)

5.5.2 Essential Program Control

1. This program provides a means for processing changes to the following essential programs.

   a. Quality Assurance Program

   b. Radiological Environmental Monitoring Program

   c. Training Program

2. Changes to essential programs shall be made under appropriate administrative controls and reviews.

3. Changes may be made to essential programs without prior NRC approval provided the changes do not involve either of the following:

   a. A change in the TS incorporated in the license; or

   b. A decrease in effectiveness.

4. The Essential Programs Control program shall contain provisions to ensure essential programs are maintained consistent with the regulations.

5. Proposed changes (to essential programs) which don't meet the criteria of 5.5.2.3 above shall be reviewed and approved by the NRC before implementation.

6. Changes to essential programs implemented without prior NRC approval shall be provided to the NRC on a frequency consistent with 10 CFR 72.70(c)(6).

7. DOE ICP shall review and approve all submittals to the NRC pursuant to TS 5.5.2.5 and TS 5.5.2.6.

(continued)

5.5 Programs (continued)

5.5.3 Radioactive Effluent Control Program

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

a. The TMI-2 ISFSI does not create any new radioactive materials or have any radioactive waste treatment system. Some low level radioactive waste may be created during the course of periodic maintenance and surveillance activity or during ISFSI loading or defueling operations. Procedures for the control of radioactive waste shall be developed and implemented.

In addition to the procedural controls for low level radioactive waste, Technical Specifications 3.1.1, Leak Testing DSC Vent Housing Seals, and 3.2.2, Vent System HEPA Filters, provide assurance that there are no significant radioactive effluents from the TMI-2 ISFSI.

b. This program includes an environmental monitoring program.

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. This report shall be submitted within 60 days after January 1 of each year.

5.5.4 Physical Protection Plan

This program implements the requirements of 10 CFR Part 72, Subpart H, Physical Protection.

a. The licensee shall follow the physical protection plan entitled "TMI-2 Independent Spent Fuel Storage Installation Physical Protection Plan," previously approved by the Commission and all amendments made pursuant to the authority of 10 CFR 72.56, 10 CFR 72.44(e), and 10 CFR 72.186.

5.0 ADMINISTRATIVE CONTROLS

5.6 Reporting Requirements

5.6.1 All reports required by 10 CFR Part 72 for the TMI-2 ISFSI and all reports required by the TMI-2 ISFSI license and Technical Specifications, shall be submitted by the Manager for the ICP or the TMI-2 Facility Director.

5.6.2 All instances of noncompliance with the Limiting Conditions for Operations, Surveillance Requirements, Design Features, or Administrative Controls contained within these Technical Specifications shall be reported in writing to the NRC Document Control Desk within 30 days of discovery of the noncompliance. Copies shall be provided to the Director, Office of Nuclear Material Safety and Safeguards and the Regional Administrator, Region IV.