7590-01-P

U.S. NUCLEAR REGULATORY COMMISSION

DOCKET NO. 72-20

DEPARTMENT OF ENERGY, IDAHO OPERATIONS OFFICE

NOTICE OF ISSUANCE OF MATERIALS LICENSE SNM-2508

FOR TMI-2 INDEPENDENT SPENT FUEL STORAGE INSTALLATION

The U.S. Nuclear Regulatory Commission (NRC or the Commission) has issued a Materials License under the provisions of Title 10 of the Code of Federal Regulations, Part 72 (10 CFR Part 72), to the Department of Energy, Idaho Operations Office (DOE-ID), authorizing receipt and storage of spent fuel in an independent spent fuel storage installation (ISFSI) located at the Idaho National Engineering and Environmental Laboratory (INEEL), within the Idaho Nuclear Technology and Engineering Center (INTEC) site in Scoville, Idaho, as described in its application dated October 31, 1996, and Safety Analysis Report (SAR).

The function of the ISFSI is to provide interim storage of radioactive material from the Three Mile Island Unit 2 (TMI-2) reactor core damaged by the March 28, 1979, reactor accident, including the remains of 177 Babcock and Wilcox 15x15 fuel assemblies, 61 control rod assemblies, and miscellaneous irradiated core and core basket material. The material is contained within 265 fuel canisters, 12 knockout canisters, and 67 filter canisters which are used to confine the TMI-2 core debris in the absence of intact fuel assembly cladding. The cask that is authorized for use is the NUHOMS-12T designed by Transnuclear West, Inc. The license for an ISFSI under 10 CFR Part 72 is issued for 20 years, but the licensee may seek to renew the license, if necessary, prior to its expiration.

The Commission's Office of Nuclear Material Safety and Safeguards (NMSS) has completed its environmental, safeguards, and safety reviews in support of issuance of this license.

Following receipt of the application dated October 31, 1996, a "Notice of Consideration of Issuance of a Materials License for the Storage of Spent Fuel and Notice of Opportunity for a Hearing" was published in the Federal Register on January 13, 1997 (62 FR 1782). The "Final Environmental Impact Statement (FEIS) Related to the Construction and Operation of the TMI-2 Independent Spent Fuel Storage Installation," NUREG-1626, was issued and noticed in the Federal Register (63 FR 13077) on March 17, 1998, in accordance with 10 CFR Part 51. The scope of the FEIS included the construction and operation of an ISFSI on the INEEL site.

The staff has completed its safety review of the TMI-2 ISFSI site application and SAR. Materials License No. SNM-2508 and the NRC staff's "Safety Evaluation Report for the TMI-2 Independent Spent Fuel Storage Installation" were issued on March 19, 1999. Materials License SNM-2508, the staff's Environmental Impact Statement, Safety Evaluation Report, and other documents related to this action are available for public inspection and for copying for a fee at the NRC Public Document Room, the Gelman Building, 2120 L Street, NW, Washington, DC 20555, and at the Local Public Document Room at the INEEL Technical Library, 1776 Science Center Drive, Idaho Falls, ID 83402.

Dated at Rockville, Maryland, this 19th day of March 1999.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by /s/

E. William Brach, Director
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards

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OFC:	SFPO		SFPO	E	OGC		SFPO		SFPO		SFPO	
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Dated at Rockville, Maryland, this day of March 1999.

FOR THE NUCLEAR REGULATORY COMMISSION

E. William Brach, Director
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Office of Nuclear Material Safety
and Safeguards

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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)

EXAMPLE 1.2-2

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 <u>not</u> 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 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 INEEL for underwater storage.

A documentation package will be prepared for loading each DSC. This package will document that the drying and preparation of the TMI-2 canisters, loading these canisters into the DSC, and the DSC sealing and testing operations have been performed in accordance with detailed procedures and controls. This documentation package will also include the final storage location in the HSM at the ISFSI.

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 Reseat or replace seals. AND A.2 Perform leak check on seal. OR A.3 Transport the DSC to TAN or other appropriate facility for corrective actions.	7 Days 7 Days 30 Days

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.	Within 7 days after insertion of DSC into HSM. AND Every 5 years during STORAGE OPERATIONS. NOTE: SR 3.0.2 is not applicable.

3.1 DSC INTEGRITY

3.1.2 DSC Handling 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 gamma average on the outside surface of the front HSM door on the DSC centerline; and

b. 20 mrem/hour gamma 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.

3.2.2 Vent System HEPA Filters

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

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 TRANSFER OPERATIONS.

4.2.1.4 Leak rate testing 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 TRANSFER OPERATIONS.

(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.

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 ¼ 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 ¼ 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 200°F 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 fabricated 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, DOE Idaho Operations Office (DOE-ID), is responsible for the operation of the TMI-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 INEEL 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, DOE Idaho Operations Office (DOE-ID), as delegated 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 operations and 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 Engineering and Environmental 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-ID 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 involves an unreviewed safety question, a significant increase in occupational exposure, or a significant unreviewed environmental impact as defined in 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(b)(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(b).

7. DOE-ID 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 Parts 72.44(e) and 72.180.

a. The licensee shall follow the physical protection plan entitled "TMI-2 Independent Spent Fuel Storage Installation Physical Security Plan," submitted December 18, 1998, and as it may be further amended under the provisions of 10 CFR Parts 72.44(e) and 72.180, and shall implement the commitments in the DOE-ID letter dated March 18, 1999, entitled "Letter of Commitment for the Physical Protection of the TMI-2 ISFSI". The requirements of 10 CFR Part 73 Appendix B for guard training and qualification are incorporated in Appendix B of the approved physical protection plan and are approved.

a. The licensee shall follow the safeguards contingency plan entitled "Appendix C, Site Contingency Plan (QARM/SRM-99-037)" submittal dated March 9, 1999, and as it may be further amended under the provisions of 10 CFR Parts 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, DOE-ID or the DOE-ID 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.

TECHNICAL SPECIFICATION BASES

For

THREE MILE ISLAND UNIT 2

INDEPENDENT SPENT FUEL STORAGE INSTALLATION

TABLE OF CONTENTS

B 2.0 FUNCTIONAL AND OPERATING LIMITS

B 2.1.1 Spent Fuel Stored at ISFSI

BASES

BACKGROUND

The material to be stored at the TMI-2 ISFSI consists of canisters containing core debris removed from the damaged TMI Unit 2 during defueling operations. TMI-2 was a Babcock & Wilcox (B&W) pressurized water reactor. The TMI-2 CANISTERs contain the remains of the TMI-2 core. Records of the contents of each canister were kept and define the materials to be stored. Retrieved materials from the TMI-2 core include:

- Rubble bed debris.
- Partially intact fuel assemblies.
- Debris bed stratified material.
- Miscellaneous core component pieces (e.g., fuel rod segments, spacer grids, end fittings, control rod assembly spiders, springs, fuel pellets, etc.).
- In-core instrument assemblies.

There are three types of TMI-2 CANISTERs that will be stored at the TMI-2 ISFSI:

- TMI-2 *Fuel* canisters (large pieces of core debris).
- TMI-2 *Knockout* canisters (fines generated from the use of the debris vacuum system).
- TMI-2 *Filter* canisters (fines generated from the use of the debris vacuum system and defueling water cleanup system).

The TMI-2 CANISTERs are currently stored in a fuel pool at the INEEL Test Area North (TAN). Since the TAN Hot Shop is scheduled for decommissioning as part of the overall INEEL plan, dry storage of the TMI-2 CANISTERs has been selected as the interim storage approach. The dry storage for the TMI-2 CANISTERs will utilize an adaptation of the standardized NUHOMS® system (NUHOMS®-12T). Each NUHOMS®-12T Dry Shielded Canister (DSC) contains up to 12 TMI-2 CANISTERs. NUHOMS® is a proven system for dry storage, which has been in use at reactor sites since March of 1989. The INEEL TMI-2 ISFSI is designed to provide temporary dry storage for 100% of the TMI-2 CANISTERs. The ISFSI design includes an extra HSM with a pre-installed DSC overpack in case a challenged canister needs additional confinement. The INEEL TMI-2 ISFSI and NUHOMS®-12T components are also designed to allow retrieval of the TMI-2 CANISTERs for further processing, alternate storage, or disposal.

(continued)

B 2.1.1 Spent Fuel Stored at ISFSI (continued)

The most notable differences between the TMI-2 CANISTERs and commercial fuel assemblies are:

- TMI-2 core debris is canisterized whereas commercial fuel is clad. The canisters contain TMI-2 core debris and debris from core handling equipment resulting from the 1979 TMI-2 accident.
- The TMI-2 CANISTERs provide a much stronger structural element, as compared to commercial fuel assemblies, for support within the DSC basket.
- The heat load for the TMI-2 CANISTER (maximum 60 watts, average 29 watts) is much less than a commercial spent fuel assembly (approximately 1000 watts).
- The TMI-2 CANISTERs have the potential for hydrogen gas generation due to radiolysis.

Based on these considerations, the NUHOMS® system is modified to accommodate these conditions. Specifically, the NUHOMS®-12T DSC will be modified to include venting of the DSC through high efficiency particulate air (HEPA) grade filters during storage. The vent system will allow for release of the hydrogen gas and will allow for monitoring and/or purging of the system during operation.

APPLICABLE SAFETY ANALYSIS

The design criteria and subsequent safety analysis of the DSC and HSM assumed certain characteristics and limitations for the spent fuel elements that are stored. Specification 2.1.1 assures that these assumptions remain valid by preventing undried spent fuel or spent fuel not analyzed from being introduced into the ISFSI. ISFSI SAR Section 3.1.1 identifies the irradiation history and maximum thermal heat generation for the fuel, which are the design bases for the ISFSI.

FUNCTIONAL AND OPERATING LIMITS VIOLATIONS

The following Functional and Operating Limits violation responses are applicable.

2.2.1

If Functional and Operating Limit 2.1.1 is violated, the limitations on the spent fuel in the ISFSI have not been met. Actions must be taken to place the affected spent fuel in a safe condition. It is acceptable for the affected fuel elements to remain in the DSC if that is determined to be a safe condition.

(continued)

B 2.1.1 Spent fuel Stored at ISFSI (continued)

2.2.2 & 2.2.3

Notification of the violation of a Functional and Operating Limit to the NRC is required within 24 hours. Written reporting of the violation must be accomplished within 30 days. This notification and written report are independent of any notification and report required by 10 CFR 72.75.

REFERENCES	1.	Safety Analysis Report, Section 3.1.1, Material to be Stored, and Section 3.3.4, Nuclear Criticality Safety.

B 3.0 LIMITING CONDITION FOR OPERATION (LCO) APPLICABILITY

BASES

LCOs	LCO 3.0.1, 3.0.2, 3.0.4, and 3.0.5 establish the general requirements applicable to all Specifications and apply at all times, unless otherwise stated.
LCO 3.0.1	LCO 3.0.1 establishes the Applicability statement within each individual Specification as the requirement for when the LCO is required to be met (i.e., when the item is in the specified conditions of the Applicability statement of each Specification).
LCO 3.0.2	LCO 3.0.2 establishes the ACTIONS associated with an LCO that shall be met upon discovery of a failure to meet the LCO. The Completion Time of each Required Action for an ACTIONS Condition is applicable from the time an ACTIONS Condition is entered. The Required Actions establish those remedial measures, which must be taken within specified Completion Times when the requirements of an LCO are not met. This Specification establishes: a. Completion of the Required Actions within the specified Completion Times constitutes compliance with a Specification; and b. Completion of the Required Actions is not required when an LCO is met within the specified Completion Time, unless otherwise stated. There are two basic types of Required Actions. The first type of Required Action specifies a time limit in which the LCO must be met. This time limit is the Completion Time to restore a system or component or to restore variables to within specified limits. Whether stated as a Required Action or not, correction of the entered Condition is an action that may always be considered upon entering ACTIONS. The second type of Required Action specifies the remedial measures, which permit continued operation, which is not further restricted by the Completion Time. In this case, compliance with the Required Actions provides an acceptable level of safety for continued operation. Completing the Required Actions is not required when an LCO is met or is no longer applicable, unless otherwise stated in the individual Specifications. (continued)

LCO 3.0.2 (continued)

The Completion Times of the Required Actions are also applicable when a system or component is removed from service intentionally when the item is in the specified conditions of the Applicability Statement. The reasons for intentionally relying on the ACTIONS include, but are not limited to, performance of Surveillances, preventive maintenance, corrective maintenance, or investigation of operational problems. Entering ACTIONS for these reasons must be done in a manner that does not compromise safety. Intentional entry into ACTIONS should not be made for operational convenience.

LCO 3.0.3

This specification is not applicable to an ISFSI. The placeholder is retained for consistency with the power reactor technical specifications.

LCO 3.0.4

LCO 3.0.4 establishes limitations on changes in specified conditions in the Applicability when an LCO is not met. It precludes placing the item in a specified condition stated in that Applicability (e.g., Applicability desired to be entered) when the following exist:

a. Facility conditions are such that the requirements of the LCO would not be met in the Applicability desired to be entered; and

b. Continued noncompliance with the LCO requirements, if the Applicability were entered, would result in the facility being required to exit the Applicability desired to be entered to comply with the required Actions.

Compliance with the Required Actions, which permit continued operation of the facility for an unlimited period in a specified condition, provides an acceptable level of safety for continued operation. This is without regard to the status of the facility. Therefore, in such cases, entry into a specified condition in the Applicability may be made in accordance with the provisions of the Required Actions. The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components before entering an associated specified condition in the Applicability.

(continued)

LCO 3.0.4 (continued)

The provisions of LCO 3.0.4 shall not prevent changes in specified conditions in the Applicability required to comply with ACTIONS. In addition, the provisions of LCO 3.0.4 shall not prevent changes in specified conditions in the Applicability related to the unloading of an DSC or an HSM.

Exceptions to LCO 3.0.4 may be stated in the individual Specifications. Exceptions may apply to all the ACTIONS or to a specific Required Action of a Specification.

LCO 3.0.5

LCO 3.0.5 establishes the allowance for restoring equipment to service under administrative controls when it has been removed from service or determined to not meet the LCO to comply with ACTIONS. The sole purpose of this Specification is to provide an exception to LCO 3.0.2 (e.g., to not with the applicable Required Action(s) to allow the performance of SRs to demonstrate:

a. The equipment being returned to service meets the LCO; or

b. Other equipment meets the applicable LCOs.

The administrative controls ensure the time the equipment is returned to service in conflict with the requirements of the ACTIONS is limited to the time absolutely necessary to perform the allowed testing. This Specification does not provide time to perform any other preventive or corrective maintenance.

LCO 3.0.6

This specification is not applicable to an ISFSI. The placeholder is retained for consistency with the power reactor technical specifications.

LCO 3.0.7

This specification is not applicable to an ISFSI. The placeholder is retained for consistency with the power reactor technical specifications.

B 3.0 SURVEILLANCE REQUIREMENT (SR) APPLICABILITY

BASES

SRs

SR 3.0.1 through 3.0.4 establish the general requirements applicable to all Specifications and apply at all times unless otherwise stated.

SR 3.0.1

SR 3.0.1 establishes the requirement that SRs must be met during the specified conditions in the Applicability for which the requirements of the LCO apply, unless otherwise specified in the individual SRs. This Specification is to ensure Surveillances are performed to verify the systems, components, and variables are within specified limits. Failure to meet a Surveillance within the specified Frequency, in accordance with SR 3.0.2, constitutes a failure to meet an LCO.

Systems and components are assumed to meet the LCO when the associated SRs have been met. Nothing in this Specification, however, is to be construed as implying systems or components meet the associated LCO when:

a. The systems or components are known to not meet the LCO, although still meeting the SRs; or

b. The requirements of the Surveillance(s) are known not to be met between required Surveillance performances.

Surveillances do not have to be performed when the facility is in a specified condition for which the requirements of the associated LCO are not applicable, unless otherwise specified.

Surveillances, including Surveillances invoked by Required Actions, do not have to be performed on equipment determined to not meet the LCO because the ACTIONS define the applicable remedial measures. Surveillances have to be met and performed in accordance with SR 3.0.2 before returning equipment to service. Upon completion of maintenance, appropriate post maintenance testing is required. This includes ensuring applicable Surveillances are not failed and their most recent performance is in accordance with SR 3.0.2. Post maintenance testing may not be possible in the current specified conditions in the Applicability due to the necessary facility parameters not having been established. In these situations, the equipment may be considered to meet the LCO provided testing has been satisfactorily completed to the extent possible and the equipment is not otherwise believed to be incapable of performing its function. This will allow operation to proceed to a specified condition where other necessary post maintenance tests can be completed.

(continued)

B 3.0 SR APPLICABILITY (continued)

SR 3.0.2

SR 3.0.2 establishes the requirements for meeting the specified Frequency for Surveillances and any Required Action with a Completion Time which requires the periodic performance of the Required Action on a "once per . . ." interval.

SR 3.0.2 permits a 25% extension of the interval specified in the Frequency. This extension facilitates Surveillance scheduling and considers plant operating conditions not suitable for conducting the Surveillance (e.g., transient conditions or other ongoing Surveillance or maintenance activities).

The 25% extension does not significantly degrade the reliability resulting from the Surveillance at its specified frequency. This is based on the recognition that the most probable result of any particular Surveillance being performed is the verification of conformance with the SRs. The exceptions to SR 3.0.2 are those Surveillances for which the 25% extension of the interval specified in the Frequency does not apply. These exceptions are stated in the individual Specifications as a Note in the Frequency stating, "SR 3.0.2 is not applicable."

As stated in SR 3.0.2, the 25% extension also does not apply to the initial portion of a periodic Completion Time which requires performance on a "once per . . ." basis. The 25% extension applies to each performance after the initial performance. The initial performance of the Required Action, whether it is a particular Surveillance or some other remedial action, is considered a single action with a single Completion Time. One reason for not allowing the 25% single extension to this Completion Time is that such an action usually verified no loss of function has occurred by checking the status of redundant or diverse components or accomplishes the function of the affected equipment in an alternative manner.

The provisions of SR 3.0.2 are not intended to be used repeatedly merely as an operational convenience to extend Surveillance intervals or periodic Completion Time intervals beyond those specified.

(continued)

B 3.0 SR APPLICABILITY (continued)

SR 3.0.3

SR 3.0.3 establishes the flexibility to defer declaring affected equipment as not meeting the LCO or an affected variable outside the specified limits when a Surveillance has not been completed within the specified Frequency. A delay period of up to 24 hours or up to the limit of the specified Frequency, whichever is less, applies from the time it is discovered the Surveillance has not been performed in accordance with SR 3.0.2, and not at the time the specified Frequency was not met.

This delay period provides adequate time to complete Surveillances which have been missed. This delay period permits the completion of a Surveillance before complying with Required Actions or other remedial measures which might preclude completion of the Surveillance.

The basis for this delay period includes consideration of facility conditions, adequate planning, availability of personnel, the time required to perform the Surveillance, the safety significance of the delay in completing the required Surveillance, and the recognition that the most probable results of any particular Surveillance being performed is the verification of conformance with the requirements. When a Surveillance with a Frequency based not on time intervals, but upon specified facility conditions or operational situations, is discovered not to have been performed when specified, SR 3.0.3 allows the full delay period of 24 hours to perform the Surveillance.

SR 3.0.3 also provides a time limit for completion of Surveillances applicable as a consequence of changes in the specified conditions in the Applicability imposed by Required Actions.

Failure to comply with specified Frequencies for SRs is expected to be an infrequent occurrence. Use of the delay period established by SR 3.0.3 is a flexibility which is not intended to be used as an operational convenience to extend Surveillance intervals.

If a Surveillance is not completed within the allowed delay period, then the equipment is considered to not meet the LCO or the variable is considered outside the specified limits and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon expiration of the delay period. If a Surveillance is failed within the delay period, then the equipment does not meet the LCO or the variable is outside the specified limits, and the Completion Times of the Required Actions for the applicable LCO Conditions begin immediately upon the failure of the Surveillance.

Completion of the Surveillance within the delay period allowed by the Specification, or within the Completion Time of the ACTIONS, restores compliance with SR 3.0.1.

(continued)

B 3.0 SR APPLICABILITY (continued)

SR 3.0.4

SR 3.0.4 establishes the requirement that all applicable SRs must be met before entry into a specified condition in the Applicability.

This Specification ensures that system and component requirements and variable limits are met before entry into specified conditions in the Applicability for which these systems and components ensure safe operation of the facility.

The provisions of this Specification should not be interpreted as endorsing the failure to exercise the good practice of restoring systems or components before entering an associated specified condition in the Applicability.

However, in certain circumstances, failing to meet an SR will not result in SR 3.0.4 restricting a change in specified condition. When a system, subsystem, component, device, or variable is outside its specified limits, the associated SR(s) are not required to be performed, per SR 3.0.1, which states that surveillances do not have to be performed on such equipment. When equipment does not meet the LCO, SR 3.0.4 does not apply to the associated SR(s) since the requirement for the SR(s) to be performed is removed. Therefore, failure to perform the Surveillance(s) within the specified Frequency does not result in an SR 3.0.4 restriction to changing specified conditions of the Applicability. However, since the LCO is not met in this instance, LCO 3.0.4 will govern any restrictions which may (or may not) apply to specified condition changes.

The provisions of SR 3.0.4 shall not prevent changes in specified conditions in the Applicability required to comply with ACTIONS. In addition, the provisions of LCO 3.0.4 shall not prevent changes in specified conditions in the Applicability related to the unloading of an DSC or an HSM.

The precise requirements for performance of SRs are specified such that exceptions to SR 3.0.4 are not necessary. The specific time frames and conditions for meeting the SRs are specified in the Frequency, in the Surveillance, or both. This allows performance of Surveillances when the prerequisite condition(s) specified in a Surveillance procedure require entry into the specified condition in the Applicability of the associated

LCO before the performance or completion of a Surveillance. A Surveillance which could not be performed until after entering the LCO Applicability, would have its Frequency specified such that it is not "due" until the specific conditions needed are met.

B 3.1 DSC INTEGRITY

B 3.1.1 Leak Testing DSC Vent Housing Seals

BASES

BACKGROUND

The radioactive material which the TMI-2 ISFSI confines is TMI-2 core debris and the associated contaminated materials. During fuel loading operations, the transportation cask is uprighted, the DSC is installed into the cask, the previously dewatered/dried TMI-2 CANISTERs are placed into the DSC, the DSC top cover plate is installed, the DSC is welded closed, the DSC vent housing is installed, and the cask lid is bolted.

The DSC has a series of barriers to ensure the confinement of radioactive materials. The DSC is vented to reduce the accumulation of gases generated due to radiolysis. The DSC cavity gases will vent through the HEPA filters into the HSM cavity which in turn is vented through holes provided in the rear access door.

APPLICABLE SAFETY ANALYSIS

The confinement of radioactivity during the storage of spent fuel in a DSC is ensured by the use of multiple confinement barriers. The fuel pellet matrix and fuel cladding were severely damaged during the TMI-2 reactor accident and, therefore, no reliance for confinement of radioactivity is placed on the fuel pellet matrix or the fuel cladding. The TMI-2 CANISTERs provide the first barrier for confinement of radioactive materials. The TMI-2 CANISTERs have two small penetrations which are left open during storage but which do not provide direct paths for fuel debris and do not compromise the canister confinement function. Once inside the sealed DSC, the TMI-2 CANISTERs are confined by the DSC shell and by multiple barriers at the top of the DSC. The DSC confinement boundary includes the DSC shell, the vent system HEPA grade filters, the top shield plug and its weld, the top cover plate and its weld, and the inner bottom cover plate and weld. The failure of confinement barriers is considered in the accident analysis.

(continued)

B 3.1.1 Leak Testing DSC Vent Housing Seals (continued)

LCO	Verifying vent housing seal integrity ensures the only vent path for the DSC is through the HEPA filters.
APPLICABILITY	DSC vent housing seal integrity is verified after the DSC is loaded into its HSM and periodically during STORAGE OPERATIONS to confirm that the DSC confinement barrier has not been compromised during shipment to the ISFSI or during the extended storage period.
ACTIONS	A.1 After the DSC has been shipped and loaded into the ISFSI, the seals can be repaired or replaced in the ISFSI. The COMPLETION TIME specified for STORAGE OPERATIONS permits reasonable time to reseat or replace and to recognize the low motive force available to transport radioactive materials through the leaking vent seal. A.2 The replaced or reseated seal must be leak checked to meet the LCO for continued STORAGE OPERATIONS. A.3 If the replaced or reseated seal cannot meet the LCO, the DSC shall be transported to TAN or other appropriate facility for corrective actions.
SURVEILLANCE REQUIREMENTS	SR 3.1.1.1 The method for performing the leak check of the DSC vent housing seals conforms with ANSI N14.5. The leak check is performed after the DSC is loaded into the ISFSI. During prolonged storage at the ISFSI, the leak check is repeated every five years which provides a frequency comparable to similar uses of mechanical sealing systems.
REFERENCES	1. SAR Section 8.2.7, DSC Leakage.

B 3.1 DSC INTEGRITY

B 3.1.2 DSC Handling Temperature Limit

BASES

BACKGROUND	Within the TAN Hot Shop, DSC handling as a function of temperature are governed by TAN procedures. Before commencing activities, outside air temperatures are evaluated and low temperature limits are imposed for operational considerations and to provide defense-in-depth against the potential for brittle fracture of the ferritic steels used in the DSC confinement boundary.
APPLICABLE SAFETY ANALYSIS	The structural analyses of the TMI-2 CANISTERs, the DSC, and the transport casks (MP-187 or OS-197 CASK) demonstrate that cask drops at heights up to 80" will not result in compromise of the DSC or TMI-2 CANISTER integrity. The drop of a DSC from a transport skid/trailer is not considered credible. If an incredible cask drop or other mishandling of the cask or DSC were to occur, the low temperature limit imposed on all movements of loaded casks and DSCs when outside the TAN Hot Shop is intended to provide additional assurance that the DSC confinement boundary is not compromised.
LCO	The DSC temperature must be confirmed to be not less than 20 degrees F before transporting or otherwise handling the DSC outside the TAN Hot Shop. The ambient air temperature must also be confirmed to not be less than 0 degrees F before transporting or otherwise handling the DSC outside the TAN Hot Shop. The 0^0F temperature limit is consistent with the Standardized NUHOMS® Transfer Cask to ensure adequate material impact toughness for the transfer cask carbon steel structural shell during extreme winter conditions.
APPLICABILITY	This temperature limit applies to all movements of a DSC containing TMI-2 CANISTERs while outside the TAN Hot Shop. When the DSC is inside the HSM, it is not being handled. Requiring this Technical Specification to be applicable during TRANSFER OPERATIONS covers all licensed activities between the TAN Hot Shop and the HSM, to include inserting or withdrawing the DSC into or out of the HSM. c

(continued)

B 3.1.2 DSC Handling Temperature Limit (continued)

ACTIONS	A.1 If the DSC temperature is not within limits, then the planned activities shall not be started. If the DSC temperature is within limits but the ambient air temperature is not within limits, then there is concern that the DSC temperature could fall below limits during the planned activities and the planned activities shall not be started. Once activities have commenced and if the ambient air temperature falls below the lower limit, then the DSC shall be placed in a safe condition. If the DSC is on the road, then the safest condition (considering the hazards associated with leaving the DSC in place) may be to complete the transport operation. If the DSC is just outside the TAN Hot Shop, then the safest condition may be move the DSC back into the TAN Hot Shop.
SURVEILLANCE REQUIREMENTS	SR 3.1.2.1 Measuring the DSC temperature, if possible, before commencing handling operations outside the TAN Hot Shop confirms the DSC temperature is at or above the lower temperature limit. If measuring the DSC temperature is not possible, the transport cask external temperature may be measured and the DSC temperature may be calculated. SR 3.1.2.2 In addition to measuring or calculating the DSC temperature, the ambient air temperature shall be measured before commencing handling operations outside the TAN Hot Shop to ensure the DSC is not subjected to excessive cooling rates during handling operations. Ambient air temperature will be monitored throughout handling activities.
REFERENCES	1. SAR Section 8.2.5, Accidental Cask Drop.

B 3.2 RADIATION PROTECTION

B 3.2.1 HSM Dose Rates

BASES

BACKGROUND

The regulations at 10 CFR Part 72 set limits on the control of occupational radiation exposure and radiation doses to the general public due to the operation of an ISFSI. Occupational radiation exposure should be kept as low as reasonably achievable (ALARA) and within the limits of 10 CFR Part 20. Radiation doses to the public are limited for both normal and accident conditions.

The HSM is a massive, prefabricated, reinforced concrete vault that serves to provide shielding for the DSC containing TMI-2 CANISTERs and to minimize the radiation dose rate from the ISFSI. The HSM includes a steel lined door which is removed for insertion and retrieval of the DSC and an access door on the rear wall for monitoring and maintenance of the DSC vent and purge HEPA filters. The roof, walls, and floor of the HSM are a minimum of two feet thick. The access door used for DSC transfer has a stepped flange sized to facilitate docking of the transport cask and configured to minimize streaming of radiation through the HSM opening during DSC transfer.

APPLICABLE SAFETY ANALYSIS

The HSM peak and average surface dose rates are not assumptions in any accident analysis, but are used to ensure compliance with regulatory limits on occupational dose and dose to the public.

LCO

The following limits on the HSM surface dose rates are based on the shielding analysis summarized in the SAR. The limits were selected to minimize radiation exposure to the general public and maintain occupational dose ALARA to personnel working in the vicinity of the HSMs.

The HSM dose rates shall not exceed:

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

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

APPLICABILITY

Verification that HSM surface dose rates are less than the LCO limits is performed after each DSC is loaded and secured in a HSM, the HSM door is installed, and the rear wall access door is closed and secured.

(continued)

B 3.2.1 HSM Dose Rates (continued)

ACTIONS	A.1 Perform analysis to verify compliance with the ISFSI offsite radiation protection requirements of 10 CFR Part 20 and 10 CFR Part 72. Corrective actions, such as the installation of temporary or permanent shielding, shall be taken to reduce the dose rates to the LCO limits, if possible. A.2 & A.5 Upon entry into Condition A, verbal notification to NRC shall be provided within 24 hours of discovery. The verbal notification shall be followed by a letter report within 30 days of discovery summarizing the results of the evaluation and the actions taken. A.3 If the HSM surface dose are not within limits, certain conditions should be checked: the probable radiation source causing the excessive dose, the records of the DSC surface dose rates after loading at TAN, the proper positioning of the DSC on the support structure, proper installation of the HSM front and rear access doors, and the spacing of the HSMs. A.4 If the HSM dose rates are exceeded, corrective actions such as providing supplemental shielding, shall be taken to reduce the dose rates within limits. B.1 & B.2 If the ISFSI offsite radiation protection limits of 10 CFR Part 20 or 10 CFR Part 72 are exceeded, supplemental shielding must be provided to reduce the dose rates within limits, or the DSC must be transported back to TAN for corrective action, such as removal and repackage of TMI-2 CANISTERs.
SURVEILLANCE REQUIREMENTS	SR 3.2.1.1 After each DSC is placed in an HSM and the HSM is secured, the dose rates for that HSM are verified.
REFERENCES	1. SAR Section 7.3.2, Shielding.

B 3.2 RADIATION PROTECTION

B 3.2.2 Vent System HEPA Filters

BASES

BACKGROUND

The DSC is vented to reduce the accumulation of gases generated due to radiolysis. A venting system is provided inside the HSM with access through the rear wall. The DSC cavity gases will vent through the HEPA filters into the HSM cavity which in turn is vented through holes provided in the rear access door. The ability to close off the vents and sample ahead of and behind the HEPA filters provides the capability to periodically monitor gas composition and rate of change. Although not anticipated, pressure build-up in the DSC and radioactive material release from the HSM can be checked. The design features and operation and maintenance procedures will assure that the system can be monitored, tested, and purged (if necessary) during system operation.

The DSC top shield plug and vent port dose rates were calculated using a three-dimensional MCNP model of the fuel debris, canisters, DSC basket, and DSC. The TMI-2 debris is assumed to be homogenized within each TMI-2 CANISTER, and the design basis gamma source term is applied to each canister. Neutron dose rates were not calculated because the results of the HSM shielding analysis provided assurance that the neutron doses were negligible. Dose rates at the surface of the vent were calculated using a point detector. Dose rates on the shield plug surface were calculated using a surface crossing tally located at the center of the plug.

Every operational aspect of the NUHOMS® system, from canister loading through, sealing, transport, transfer, and operation is designed to assure that exposure to personnel is ALARA. Dose rates are kept ALARA by the shielded DSC end plugs and shielded cask. The vent and purge ports have been designed with bends and shield plates to minimize streaming during DSC sealing and filter change-outs. Many engineered design features are incorporated into the NUHOMS® system which minimize occupational exposure to plant personnel during placement of fuel in dry storage as well as off-site dose to the nearest neighbor during storage. The resulting dose at the controlled area boundary is well within the limits specified by 10 CFR 72.

Because the predicted dose rates for the NUHOMS®-12T system are well below those predicted for previous NUHOMS® systems, occupational exposures for the TMI-2 ISFSI are bounded by those observed at other installations. Based on experience from operating NUHOMS® systems at Oconee, Calvert Cliffs, and Davis-Besse, the occupational dose for placing a DSC with TMI-2 core debris into dry storage is much less than one person-rem. With the use of effective procedures and experienced ISFSI personnel, the total accumulated dose can be reduced below 500 person-mrem per DSC.

(continued)

B 3.2.2 Vent System HEPA Filters (continued)

APPLICABLE SAFETY ANALYSIS	The DSC is vented to reduce the accumulation of gases generated due to radiolysis. The majority of volatile fission products were released during and since the TMI-2 reactor accident of 1979. The remaining fission products are low-volatiles and are entrained within the fuel matrices. Release of remaining fission products from the fuel debris would require extremely high temperatures or pressures. Therefore, no significant radioactive releases are expected through the venting system. Because the DSC is vented to the atmosphere, there is no driving pressure to force material into the environment. In the event that any material does escape the DSC, the venting system includes a bank of HEPA grade filters. The geometry of the DSC vent is offset to avoid radiation streaming. Any restriction of the filters is expected to be dust or other nonradioactive material. If the radiation field at the vent approaches the limits specified, the cause will be evaluated and corrective action taken.
LCO	The surface dose rate of each HSM rear access door shall not exceed 100 mrem/hour gamma; and the surface dose rate of each HEPA filter housing shall not exceed 1200 mrem/hour gamma. Every operational aspect of the NUHOMS® system, from canister loading through, sealing, transport, transfer, and operation is designed to assure that exposure to personnel is ALARA. Dose rates external to the vent and purge ports were calculated as well as the dose rates for the other DSC surfaces to account for the radiation streaming through the vent. A limiting condition is specified to assure that exposure to personnel is ALARA even though the actual limits are not exceeded.
APPLICABILITY	The HEPA filter housings on a DSC are surveyed after the loaded DSC is placed in the HSM and begins STORAGE OPERATIONS.
ACTIONS	A.1 If the surface dose rate limits of the HEPA vent filter housing or HSM rear access door and vent opening are exceeded or increase significantly, then the cause shall be evaluated in order to avoid these doses or dose increases in future STORAGE OPERATIONS. A.2 If the surface dose rate limits of the HEPA vent filter housing or HSM rear access door and vent opening are exceeded, then corrective actions shall be taken to restore the dose rates within limits.

B 3.2.2 Vent System HEPA Filters (continued)

SURVEILLANCE REQUIREMENTS	SR 3.2.2.1 A radiation survey shall be performed periodically at the vent of each loaded DSC. This Frequency is allowed to decrease as the amount of time increases without significant radiation or without significant increases in radiation at that vent. The Frequency for a DSC is reset to the most frequent performance of the Surveillance upon entry into CONDITION A at that DSC vent.
REFERENCES	1. SAR Section 7.3.2, Shielding.

B 3.2 RADIATION PROTECTION

B 3.2.3 DSC Hydrogen Concentration

BASES

BACKGROUND

The DSC is vented to reduce the accumulation of gases generated due to radiolysis. A venting system is provided inside the HSM with access through the rear wall. The DSC cavity gases will vent through the HEPA filters into the HSM cavity which in turn is vented through holes provided in the rear access door. The ability to close off the vents and sample ahead of and behind the HEPA filters provides the capability to periodically monitor gas composition and rate of change. Although not anticipated, pressure build-up in the DSC and radioactive material release from the HSM will be checked periodically. The design features and operation and maintenance procedures will assure that the system will be monitored, tested, and purged (if necessary) at adequate intervals to ensure safety.

APPLICABLE SAFETY ANALYSIS

During storage, the DSC cavity is vented to the atmosphere through HEPA grade filters. No significant releases are expected from the DSC for the following reasons: (1) Much of the volatile fission product inventory was released during the accident and the remainder is entrapped within the fuel matrix as determined by extensive examinations performed on the core materials following the accident; (2) Any differential pressure between the DSC and the atmosphere is not enough to provide a driving force for a release; (3) The DSC cavity is vented to the atmosphere through HEPA grade filters. Excessive temperatures would be required to release any volatile fission products from the fuel matrix.

The vent system allows for the removal of hydrogen or other gases generated due to radiolysis. The periodic test will verify that the hydrogen concentration stays at acceptable levels. If the hydrogen concentration approaches the limits specified, the DSC will be purged and the filters replaced.

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B 3.2.3 DSC Hydrogen Concentration (continued)

LCO	The limiting hydrogen concentration allowed for continued operation is 10% of the flammability limit to allow for diffusion of hydrogen from within the TMI-2 CANISTERs to the point of gas sampling at the DSC vent. Because the hydrogen flammability limit is 5% by volume, the LCO is 0.5% by volume.
APPLICABILITY	The gas from a DSC is sampled after the loaded DSC is placed in the HSM and begins STORAGE OPERATIONS.
ACTIONS	A.1 If the hydrogen concentration within a DSC is exceeded, the hydrogen concentration within that DSC is reduced by purging the gas within that DSC until the hydrogen concentration is verified by sample to be within limits. A.2 After purging a DSC to reduce the hydrogen concentration, the HEPA filter bank for that DSC shall be replaced to ensure the filters, if restricted, do not impede the diffusion of hydrogen from the TMI-2 CANISTERs.
SURVEILLANCE REQUIREMENTS	SR 3.2.3.1 A gas sample shall be taken periodically at the vent of each loaded DSC. The Frequency is initially specified as monthly for the first year. This Frequency is allowed to decrease as the amount of time increases without significant accumulation of hydrogen gas at that vent. The Frequency for a DSC is reset to the most frequent performance of the Surveillance upon entry into CONDITION A at that DSC vent. The initial monthly sampling rate is based on the conservative hydrogen generation estimate of 0.007 liters per hour per TMI-2 CANISTER and the design of the DSC vent system to defuse hydrogen concentration.
REFERENCES	1. SAR Section 7.3.3, Ventilation 2. SAR Section 8.2.8, Accident Pressurization of DSC. 3. SAR Appendix C, Radiolysis.