UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of	)	
	)	
PORTLAND GENERAL ELECTRIC COMPANY,	)	Docket 72-17/50-344
WITH EUGENE WATER AND ELECTRIC	)	License No. SNM-2509/NPF-1
BOARD, AND PACIFICORP (TROJAN	)	
INDEPENDENT SPENT FUEL STORAGE	)	
INSTALLATION AND NUCLEAR	)	
PLANT)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of License Change Application 72-02 to License No. SNM-2509 for the Trojan Independent Spent Fuel Storage Installation, dated October 26, 2001, have been served on the following by hand delivery or by deposit in the United States Mail, first class, this 26th day of October 2001:

State of Oregon
Attn: David Stewart-Smith
Oregon Office of Energy
625 Marion Street NE
Salem, Oregon 97301-3742

Chairman of County Commissioners
Columbia County Courthouse
St. Helens, Oregon 97051

I may be contacted for further information.

Lansing G. Dusek
Manager, Plant Support
71760 Columbia River Hwy.
Rainier, OR 97048
(503) 556-7409

On this day personally appeared before me Lansing G. Dusek, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act.

GIVEN under my hand and seal this 26th day of October 2001.

Notary Public in and for the State of Oregon
Residing at Clatskanie
My commission expires 7-27-2003

OFFICIAL SEAL
PAT SCHAFFRAN
NOTARY PUBLIC-OREGON
COMMISSION NO. 323839
MY COMMISSION EXPIRES JULY 27, 2003

ENCLOSURE 1

to VPN-044-2001

Trojan ISFSI

LCA 72-02

Changes to Trojan ISFSI License No. SNM-2509

LICENSE CHANGE APPLICATION (LCA) 72-02
CHANGES TO TROJAN ISFSI LICENSE NO. SNM-2509

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1. SUMMARY OF PROPOSED CHANGES

This amendment request proposes changes to the Trojan Independent Spent Fuel Storage Installation (ISFSI) Materials License No. SNM-2509, including the Trojan ISFSI Technical Specifications and Bases incorporated into License No. SNM-2509 as Appendix A. These changes conform to the standards of 10 CFR 72.46 for a determination that the proposed amendment does not present a genuine issue as to whether the health and safety of the public will be significantly affected. A description of the proposed changes, including reasons for the proposed changes, and an evaluation of the effects of the proposed changes on public health and safety are provided below in Section 2.

The proposed changes are specifically listed and characterized in Attachment A to this Enclosure. Attachment A is further divided into Table A-1, "Changes to the Trojan ISFSI Materials License," Table A-2, "Changes to the Trojan ISFSI Technical Specifications," and Table A-3, "Changes to Trojan ISFSI Technical Specifications Bases." The changes to the License in Table A-1 are considered to be administrative/editorial. The changes in Table A-2 are grouped into one of three categories: administrative/editorial changes, changes to conform to the guidance of NUREG-1745, "Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance," and technical changes. The changes in Table A-3 are grouped into summary categories.

Attachment B to this Enclosure provides the Trojan ISFSI License, Technical Specifications and Technical Specifications Bases pages with the proposed changes annotated. Deleted text is indicated by strikeouts and new text is indicated by italics. Changes have a vertical sidebar in the right-hand margin adjacent to the revised text.

Attachment C to this Enclosure is a topical report prepared by SAIC to support the requested changes to the Trojan ISFSI Technical Specification Design Feature for the mobile crane.

2. DESCRIPTION AND EVALUATION OF PROPOSED CHANGES

This license amendment request conforms to the standards of 10 CFR 72.46 for a determination that the proposed amendment does not present a genuine issue as to whether the health and safety of the public will be significantly affected, as described below.

2.1 CHANGES TO TROJAN ISFSI MATERIALS LICENSE

2.1.1 Description of Change	2.1.2 Reason for Change	Table A-1 References
a. PGE proposes to amend the Trojan ISFSI License to reflect the joint ownership of the Trojan ISFSI by PGE; the City of Eugene, Oregon, acting by and through the Eugene Water and Electric Board; and PacifiCorp. This change affects Item 1 of the "Licensee" block of the License (page 1 of 2).	a. As presented in the PGE application to the NRC requesting issuance of the ISFSI License, dated March 26, 1996, the Trojan ISFSI is jointly owned by PGE, the City of Eugene through the Eugene Water and Electric Board, and PacifiCorp. PGE is the majority owner and has responsibility for operating and maintaining the ISFSI. The Trojan ISFSI License No. SNM-2509 issued on March 31, 1999, reflects NRC approval of the PGE ISFSI License application incorporating the ownership/applicant information described above. However, the approved Trojan ISFSI License represents PGE as the sole licensee for the Trojan ISFSI. Therefore, administrative changes are proposed as necessary to reflect the joint ownership and co-licensees of the Trojan ISFSI as presented in the PGE ISFSI License application.	Item 1.

2.1.1 Description of Change	2.1.2 Reason for Change	Table A-1 References
b. PGE proposes to amend the text currently provided in License Condition 9 and License Condition 11 of the Trojan ISFSI License to read as follows: "9.*Authorized Use: The material identified in 6.A and 7.A above is authorized for receipt, possession, storage in the Trojan Storage System, and transfer as described in the approved Trojan ISFSI Safety Analysis Report (SAR), as supplemented and amended in accordance with 10 CFR 72.70 and 10 CFR 72.48.* *11.Technical Specifications: The Technical Specifications contained in Appendix A attached hereto, as revised through Amendment 2, are hereby incorporated into this license. The licensee shall operate the installation in accordance with the Technical Specifications in Appendix A. Appendix A contains Technical Specifications related to Environmental Protection to satisfy the requirements of 10 CFR 72.44(d)(2).*"	b. There are two changes to Condition 9: one is replacing the TranStor™ design and the second is improving the references to the Trojan ISFSI SAR. Since the TranStor™ PWR Baskets are being replaced with Holtec Multi-Purpose Canisters (MPCs), the Trojan Storage System will be a combination of TranStor™ design Concrete Casks and Holtec MPCs. It will no longer be correct to refer to the Trojan Storage System as being of the TranStor™ design. The better description is the Trojan Storage System. As currently worded, Condition 9 of the Trojan ISFSI License authorizes use of the Trojan ISFSI License in accordance with the Trojan ISFSI Technical Specifications and SAR, as revised and supplemented through March 9, 2001. The stipulation in License Condition 9 that activities be conducted in accordance with the Trojan ISFSI Technical Specifications is redundant with License Condition 11. To eliminate repetition and more succinctly reflect the intent that the Trojan ISFSI be operated in accordance with the most current NRC-approved version of the Trojan ISFSI Technical Specifications, this wording is proposed to be deleted from License Condition 9, and the related wording in License Condition 11 is revised to specify the most current NRC-approved Amendment to the Appendix A Technical Specifications. Subsequent to the NRC approval of this revision, any changes to the Trojan ISFSI Technical Specifications will be reflected by revising License Condition 11 to incorporate the next sequential Technical Specification amendment number. This change is consistent with similar wording incorporated into the Trojan Nuclear Plant Operating (Possession Only) License No. NPF-1 issued by the NRC under 10 CFR 50. The specification in License Condition 9 that activities be conducted in	Items 4 & 6.

2.1.1 Description of Change	2.1.2 Reason for Change	Table A-1 References
	accordance with the Trojan ISFSI SAR, as revised and supplemented through March 9, 2001, may be interpreted to preclude changes to the Trojan ISFSI SAR under 10 CFR 72.70 and 10 CFR 72.48 without first gaining NRC approval and issuance of a change to this license condition. Thus, License Condition 9 is further revised to authorize the conduct of activities in accordance with the approved Trojan ISFSI SAR, as supplemented and amended in accordance with 10 CFR 72.70 and 10 CFR 72.48. This change is consistent with similar wording incorporated into the Trojan Nuclear Plant Operating (Possession Only) License No. NPF-1 issued by the NRC under 10 CFR 50.	
c. PGE proposes to amend the ISFSI site description currently incorporated into Item 2 of the License and License Condition 10 of the License. Specifically, "Trojan Nuclear Plant" in Item 2 of the License is replaced with "Portland General Electric Company," and reference to "Trojan Nuclear Plant site" in License Condition 10 is being replaced with "Portland General Electric Company site."	c. Item 2 of the License and License Condition 10 currently state that the Trojan ISFSI is located at or on the Trojan Nuclear Plant site. The "Licensee" block, Item 2, of the Trojan ISFSI License includes reference to the Trojan Nuclear Plant as part of the address of the licensee. Upon termination of the Trojan Nuclear Plant 10 CFR Part 50 license, the Trojan Nuclear Plant will cease to exist, and the "Trojan Nuclear Plant" references will no longer apply. For administrative convenience, these changes are proposed at this time since the Trojan ISFSI License and Technical Specifications require revision for the other changes proposed herein, and since changing these site description references now will preclude the need for a future submittal for this purpose. The proposed changes are consistent with similar wording incorporated into the Trojan Nuclear Plant Operating (Possession Only) License.	Items 2 & 5.
d. Delete the exemption from 10 CFR 72.124(b) regarding the efficacy of the neutron absorber, currently allowed by License Condition 14.1).	d. The exemption to the regulation is no longer required since compliance is achieved via analysis showing that significant degradation of the neutron absorbing materials in the Holtec MPC cannot occur over the life of the facility.	Item 8.

2.1.1 Description of Change	2.1.2 Reason for Change	Table A-1 References
	Subcritical conditions are to be maintained by MPC fuel basket geometry and the use of Boral. The MPC fuel basket will establish fuel assembly spacing. The design will assume a fuel assembly enrichment equal to or greater than the maximum initial fuel assembly enrichment that will be stored (3.56 wt% U^{235}). No credit will be taken for burnup or fuel assembly control inserts. Boral is used as a neutron absorbing material in the MPC fuel basket design, and is credited in the criticality analysis for dry storage conditions. Boral is a patented product of AAR Advanced Structures that has been licensed for and used as a neutron poison material in many spent nuclear fuel storage applications. Boral is made of two chemically compatible materials, boron carbide and 1100 alloy aluminum. The boron carbide has a high boron content in a physically stable and chemically inert form. The aluminum is a lightweight metal with high tensile strength that is protected from corrosion by a highly resistant oxide film. The materials are ideal for long-term use in a radiation, thermal, and chemical environment of a nuclear reactor, Spent Fuel Pool, or dry Concrete Cask. There is a substantial amount of experience demonstrating the capability of Boral to function as designed for extended periods of time. The MPC fuel basket is designed such that the fixed Boral neutron absorber will remain effective for the 40-year design life of the ISFSI. There are no credible means to lose the Boral in dry storage service. Therefore, in accordance with 10 CFR 72.124(b), there is no need to provide a surveillance or monitoring program to verify the continued efficacy of the neutron absorber	
e. Change Amendment Number to "2" in the page headers, in Item 3, and at the end of the License.	e. Approval of these changes will be Amendment Number 2 to the Trojan ISFSI Materials License SNM-2509.	Items 3, 7, & 9.

2.1.3 Evaluation of Changes

a. The proposed change in 2.1.1.a above is administrative in nature, in that the approved Trojan ISFSI License is being revised to reflect the joint ownership and co-licensees of the Trojan ISFSI as presented in the PGE approved ISFSI License application. As such, the proposed change does not affect the physical or operational characteristics of any ISFSI system or component. Furthermore, the proposed administrative change does not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor does it create the possibility of a different kind of or result from any accident previously evaluated. Thus, there is no safety or environmental impact associated with this proposed change and this change does not present a genuine issue to affect public health and safety.

b. The proposed change in 2.1.1.b above is strictly administrative and editorial, in that it clarifies the most current approved version of the Technical Specifications, and clarifies that it is appropriate to make revisions to the SAR in accordance with 10 CFR 72.70 and 10 CFR 72.48 without requiring a license change. This change does not affect the physical or operational characteristics of any ISFSI system or component. Furthermore, the proposed administrative and editorial change does not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor does it create the possibility of a different kind of or result from any accident previously evaluated. Thus, there is no safety or environmental impact associated with this proposed change and this change does not present a genuine issue to affect public health and safety.

c. The proposed change in 2.1.1.c above is strictly editorial, in that it does not affect the physical or operational characteristics of the ISFSI site or any ISFSI system or component. Furthermore, the proposed editorial change does not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor does it create the possibility of a different kind of or result from any accident previously evaluated. Thus, there is no safety or environmental impact associated with this proposed change and this change does not present a genuine issue to affect public health and safety.

d. The proposed change in 2.1.1.d above is administrative in nature, in that the approved Trojan ISFSI License is being revised to delete the exemption from 10 CFR 72.124(b). Since the exemption is no longer required with the change to the Holtec MPC, it is deleted. As such, the proposed change does not affect the physical or operational characteristics of any ISFSI system or component. Furthermore, the proposed administrative change does not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor does it create the possibility of a different kind of or result from any accident previously evaluated. Thus, there is no safety or environmental impact associated with this

proposed change and this change does not present a genuine issue to affect public health and safety.

e. The proposed change in 2.1.1.e above is administrative to reflect the next sequential amendment to the Trojan ISFSI License. As such, the proposed change does not affect the physical or operational characteristics of any ISFSI system or component. Furthermore, the proposed administrative change does not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor does it create the possibility of a different kind of or result from any accident previously evaluated. Thus, there is no safety or environmental impact associated with this proposed change and this change does not present a genuine issue to affect public health and safety.

2.2 CHANGES TO TROJAN ISFSI TECHNICAL SPECIFICATIONS

2.2.1 Administrative/Editorial Changes

2.2.1.1 Description of Change	2.2.1.2 Reason for Change	Table A-2 References
a. Nomenclature changes: The following nomenclature changes are made throughout the Specifications: (1) PWR BASKET is changed to Multi-Purpose Canister (MPC). (2) TranStor Storage System is changed to Trojan Storage System. (3) Shipping cask is changed to Transport Cask. (4) Shield and structural lids are changed to MPC lid. (5) Vacuum drying and vacuum drying pressure are changed to cavity dryness. (6) Trojan Nuclear Plant (TNP) site to Portland General Electric Company (PGE) site where applicable.	a. Most of the nomenclature changes are the result of a change in supplier for the sealed canister to be used in the Trojan Storage System. Holtec International is supplying the Multi-Purpose Canisters (MPC) to be used in the TranStor™ Concrete Casks for the Trojan ISFSI. The MPC will replace the PWR Baskets that were initially licensed for the Trojan ISFSI. The description of the Trojan ISFSI is revised to reflect the use of Holtec International's MCP-24E and MPC-24EF stainless steel canisters, rather than BNFL Fuel Solution's PWR Basket, in combination with the BNFL Fuel Solutions TranStor™ Concrete Casks. The resultant system is given the name "Trojan Storage System." Reference to "Shipping Cask" is changed to "Transport Cask" to be consistent with terminology of the new ISFSI vendor. A shield lid and structural lid are not part of the MPC design terminology. The MPC consists of a single lid design, as opposed to the PWR Basket that had a shield lid and a separate structural lid. Reference to vacuum drying is changed to cavity dryness to reflect the addition of the helium recirculation method as an option for achieving required MPC cavity dryness. Upon termination of the Trojan Nuclear Plant 10 CFR Part 50	Items 1, 2, 3, 8, 12, 14, 15, 17, 18, 19, 20, 21, 23, 26, 27, 30, 31, 33, 34 & 41.

2.2.1.1 Description of Change	2.2.1.2 Reason for Change	Table A-2 References
	license, the Trojan Nuclear Plant will cease to exist, and the "Trojan Nuclear Plant" references will no longer apply. For administrative convenience, these changes are proposed at this time since the Trojan ISFSI License and Technical Specifications require revision for the other changes proposed herein, and since changing these site description references now will preclude the need for a future submittal for this purpose.	
b. Definitions changes: The following definitions are revised in Section 1.0 of the Specifications and as used throughout the Specifications: (1) CONCRETE CASK reflects nomenclature changes and deletion of the BASKET OVERPACK. (2) DAMAGED FUEL is changed to DAMAGED FUEL ASSEMBLY and DAMAGED FUEL ASSEMBLIES. (3) FAILED FUEL CAN is changed to reflect the changes in nomenclature and changes in other definitions. (4) Deleted the definition of ISFSI since it is already defined in 10 CFR 72. (5) LOADING OPERATIONS is changed to reflect nomenclature changes and changes to other definitions. (6) PWR BASKET is changed to Multi-Purpose Canister (MPC) and "ASSEMBLIES" is added. (7) STORAGE OPERATIONS is changed to reflect nomenclature changes, elimination of the BASKET OVERPACK, and to add "ASSEMBLIES." (8) TRANSFER CASK is changed to reflect nomenclature changes. (9) TRANSFER STATION is changed to reflect nomenclature changes and elimination of the BASKET OVERPACK. (10)TRANSPORT OPERATIONS to reflect new nomenclature and to add "ASSEMBLIES." (11)New definition of TROJAN STORAGE SYSTEM is	b. The definition changes are made to reflect the nomenclature changes, to remove inconsistencies in the use of various terms (e.g., adding "ASSEMBLY" or "ASSEMBLIES" after "DAMAGED FUEL"), to eliminate redundancy with 10 CFR 72 regarding the definition of ISFSI, to ensure consistency with the technical changes, and to improve noun-verb agreement.	Items 2, 5, 31 & 32.

2.2.1.1 Description of Change	2.2.1.2 Reason for Change	Table A-2 References
added. (12)UNLOADING OPERATIONS is changed to reflect new nomenclature, to replace "FAILED FUEL CANS" with "DAMAGED FUEL ASSEMBLIES," and "FUEL DEBRIS."		
c. Editorial changes: The following editorial changes are made throughout the headings and text of the Specifications: (1) Minor grammar, punctuation, and typing errors are corrected, e.g., extra spaces deleted, periods removed, words capitalized, commas added, changed "which" to "that," verb and pronouns changed to ensure grammatical agreement, etc. (2) In NOTE proceeding DEFINITIONS, provided complete name of acronym for ISFSI. (3) Page 2.0-1, Section 2.1.1.d, changed the word "described" to "characterized" since it more appropriately reflects the purpose of Table 2-2. In Table 2-2 and throughout the Specifications changed "cladding" to "clad." (4) Page 3.2-1, Title of 3.2.1 and SR 3.2.1.1, deleted "s" at end of "Limit" since there is only one temperature limit that is applicable to the TRANSFER CASK. (5) Page 3.2-1, SR 3.2.1.3 is redesignated as SR 3.2.1.2 since the previous SR 3.2.1.2 is deleted. (6) Section 4.1, changed title and deleted subsection 4.1.1 since there is no subsection 4.1.2 and no reason to have a separately designated subsection. (7) Section 4.2.1, changed the number of CONCRETE CASKS on the ISFSI STORAGE PAD from 36 to 34. (8) Added reference in Section 4.2.1 to Section 2.1.2 for FAILED FUEL CANS and reworded the paragraph regarding storage of up to four Failed Fuel Cans in an	c. Editorial changes are made to provide clarity by improving wording; correcting grammar, punctuation, typing errors and oversights; and otherwise reflecting technical changes. Although the Storage Pad is designed to hold 36 Concrete Casks, only 34 are needed to store the material approved under License SNM-2509. Two Concrete Casks had been designated for Greater Than Class C waste, but became unnecessary when the Trojan Nuclear Plant reactor vessel was disposed of with its internals in August 1999. NUREG-1745, "Standard Format and Content for Technical Specifications for 10 CFR 72 Cask Certificates of Compliance," suggests the details of Administrative Control Specifications be relocated in Safety Analysis Reports (SAR) and/or in Quality Assurance Programs (QAPs). In addition, 10 CFR 50 Licenses have been directed to relocate details of Administrative Control Programs in SARs or QAPs via NRC Administrative Letter 95-06, "Relocation of Technical Specification Administrative Controls Related to Quality Assurance." Although this applies directly to 10 CFR 50 Licencees, it represents an NRC position and could also be applied to 10 CFR 72 Licensees.	Items 1, 2, 5, 8, 9, 10, 11, 13, 16, 22, 23, 24, 26, 30, 31, 33, 38, 39, 40, 41, 43 & 44.

2.2.1.1 Description of Change	2.2.1.2 Reason for Change	Table A-2 References
MPC. (9) In Specification 4.2.3: (a) Deleted "Service Pad" from the title since no reference is made to it in the specification. (b) Added the clarification regarding the vacant center row on the ISFSI Pad, leading to a space between casks of 30 feet + 4 inches (c) Added the word, "loaded," before CONCRETE CASKS to clarify that only loaded casks require the specified spacing and added clarification that spacing applies when Concrete Casks are stored. (10) In Section 5, Administrative Controls, replaced specific requirements of 5.2.1, 5.3.1, 5.4.1, and 5.5.4 for organizational requirements, ISFSI Staff qualifications, procedures important to safety, and limits for contamination, respectively, with references to the Trojan ISFSI SAR, Nuclear Quality Assurance Program Topical Report, and Radiation Protection Program.		
d. Administrative changes to the Table of Contents: (1) Changed the titles of Sections 2.0, 2.1, and 2.2. (2) Added subsections 2.1.1, 2.1.2, 2.2.1, 4.3.1, 4.3.2, 4.3.3, 5.2.1, 5.5.1, 5.5.2, 5.5.3, and 5.5.4 for consistency and clarity. (3) Changed titles as necessary to match changes in the body of the Technical Specifications.	d. The administrative changes to the Table of Contents reflect changes made in the body of the Technical Specifications to make them consistent with NUREG-1745, Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance, and maintain consistency within the Table of Contents.	Item 1.

2.2.1.3 Evaluation of Changes

These proposed changes are strictly administrative and editorial. As such, the proposed changes do not affect the physical or operational characteristics of any ISFSI system or component. Furthermore, the proposed administrative changes do not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor do they create the possibility of a different kind of or result from any accident previously evaluated. Thus, there is no safety or environmental impact associated with these proposed changes.

2.2.2 Changes to Conform to NUREG-1745, Standard Format and Content for Technical Specifications for 10 CFR Part 72 Cask Certificates of Compliance

2.2.2.1 Description of Change	2.2.2.2 Reason for Change	Table A-2 References
a. Changed titles of Sections 2.0, 2.1, and 2.2 to, "APPROVED CONTENTS," "Approved Contents," and "Approved Contents Violations," respectively.	a. The current titles of Sections 2.0, 2.1, and 2.2, "FUNCTIONAL AND OPERATING LIMITS, etc.," are not reflective of the contents of these specifications. Changing the titles to more appropriately represent the contents of the specifications is appropriate and is more consistent with the NUREG.	Items 4 & 7.
b. Added new Section 2.1.2, Fuel Storage Configuration Limits.	b. Although Section 2.0 of the proposed changes is not identical to Section 2.0 of the NUREG, it provides the additional information suggested in the NUREG regarding the fuel, its storage configuration, and how the fuel debris and damaged fuel will be stored. Information suggested in the NUREG for Section 2 is in Sections 2.1 and 2.2 and Tables 2-1 and 2-2.	Item 6.
c. Changed limits terminology in Table 2-1, in LCOs 3.1.1, 3.1.2, 3.2.1, and 3.3.1, and in SRs 3.2.1.3 and 3.3.1.2, to symbols (e.g., $<$, $\geq$ etc.)	c. Symbols have been adopted in specific and appropriate locations in the Trojan ISFSI Technical Specifications as suggested by NUREG-1745. The use of symbols is clear and unambiguous.	Items 8, 15, 19, 23, 26, 27, & 29.
d. Deleted Figure 4-1 and reference to figure.	d. Although approved for the initial issue of the Trojan ISFSI license, Figure 4-1 was inadvertently not issued. The proposed change eliminates this discrepancy. There is no Figure showing the layout of the ISFSI in NUREG-1745. It is proposed to be deleted from Section 4 of the Trojan ISFSI Technical Specifications. The same figure already exists in the SAR.	Item 30.
e. Replaced Tables 4-1 and 4-2 with references to corresponding tables in the ISFSI SAR.	e. NUREG-1745 suggests referencing Safety Analysis Report (SAR) tables for design code alternatives, deviations, or exceptions.	Items 34 & 37.

2.2.2.3 Evaluation of Changes

These changes are consistent with the guidelines of NUREG-1745, which has been published by the NRC as an acceptable method for the development of a set of clear and consistent technical specifications for 10 CFR Part 72 Cask Certificates of Compliance. These changes will continue to assure the overall safety goals for dry cask storage are met while removing unnecessary detail from the technical specifications, making them less prescriptive but maintaining the site specific requirements contained in 10 CFR 72.44. Furthermore, the proposed administrative changes do not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor do they create the possibility of a different kind of or result from any accident previously evaluated.

2.2.3 Technical Changes

2.2.3.1 Description of Change	2.2.3.2 Reason for Change	Table A-2 References
a. Deleted "BASKET OVERPACK."	a. Reference to the PWR Basket Overpack has been eliminated to reflect the use of Holtec's MPC in lieu of the PWR Basket. The design of the MPC is such that an overpack is not required.	Items 2, 31 & 34.
b. Deleted limits on fissile material and Plutonium activity.	b. The limit on fissile material is deleted to remove a limit on the quantity of fuel debris that was allowed in each PWR Basket. This limit was based on an assumption used in the criticality analysis for the PWR Basket, and on the TranStor™ shipping cask license conditions. Since the Holtec MPC and HI-STAR 100 Transport Cask will be used at the Trojan ISFSI in lieu of the PWR Basket and TranStor™ shipping cask respectively, and since the criticality analysis performed for the loaded MPC does not contain this limiting assumption, this limit no longer applies. The Plutonium activity limit is a federal regulation for transportation containers, i.e., 10 CFR 71.63. As such, it does not need to be repeated in the Trojan ISFSI Technical Specifications. Elimination of these limits represents an administrative/editorial change made to remove unnecessary and "out-of-context" information, since it obviously does not impact the applicability of this and/or any other regulatory requirement that applies to the Trojan Storage System.	Item 5.
c. Changed cooling time, time out of core, for spent fuel from $\geq$ five years to $\geq$ nine years.	c. The 5-year cooling limit is replaced with a 9-year cooling limit. This change reflects the additional time that the spent nuclear fuel will have cooled by the time fuel loading into the ISFSI begins	Item 8.
d. Changed enrichment from $<$ 4.2 weight % U^{235} to $\leq$ 3.7 weight % U^{235}.	d. The maximum enrichment used in the Trojan ISFSI analyses is now 3.7 weight % U^{235} as described in the ISFSI SAR Section 4.1.7.	Item 8.
e. Changed decay heat, maximum licensed heat rate, from 26 kW_t to 17.4 kW_t	e. The design decay heat load for the MPC is now based on the MPC loaded with 24 fuel assemblies, each assembly equivalent to the most limiting Trojan-specific fuel assembly based on a combination of cooling time and burnup. This results in a design decay heat load of 17.4 kWt, which is conservative since only one spent nuclear fuel assembly at Trojan is most limiting, and the other 23 fuel assemblies in the MPC containing the most limiting fuel assembly will have combinations of cooling time and burnup that are not as limiting.	Item 8.

2.2.3.1 Description of Change	2.2.3.2 Reason for Change	Table A-2 References
f. Changed burnup from $\leq$ 45,000 MWd/MTU to $\leq$ 42,000 MWd/MTU.	f. The burnup of 42,000 MWd/MTU bounds fuel assemblies to be stored in the Trojan ISFSI.	Item 8.
g. Deleted footnote in Table 2-1.	g. The footnote in Table 2-1 is deleted since the maximum decay heat includes the fuel assembly inserts and it is redundant to have the footnote	Item 8.
h. Changed MPC closure weld helium leak rate limit to $\leq 5 \times 10^{-6}$ atm-cc/sec.	h. The helium leak rate test for the MPC is conducted at a pressure of approximately 90 psig, with a maximum allowable leak rate of $\leq 5 \times 10^{-6}$ atmosphere-cubic centimeters per second.	Item 15.
i. Changed LCO 3.1.2, PWR BASKET Vacuum Drying Pressure, to MPC Cavity Dryness. (1) Besides vacuum drying, allows an optional (with specifications) to remove moisture by helium recirculation. (2) Replaced vacuum specification units (i.e., 3 mm Hg becomes 3 torr).	i. The title of this section is changed from "Vacuum Drying System" to "MPC Cavity Dryness" to reflect an added option for achieving required MPC cavity dryness – the helium recirculation method.	Items 19 & 21.
j. In LCO 3.2.1, TRANSFER CASK Ambient Air Temperature Limit: (1) Changed LCO to indicate it affects lifting or supporting an MPC. (2) Deleted phrase, "... and sealed PWR BASKET." (3) Deleted high temperature limit and associated restrictions on use for lifting and supporting a loaded MPC. (4) Changed low temperature limit to 0°F. (5) Deleted SURVEILLANCE REQUIREMENT to ensure high temperature is not exceeded. (6) Changed low temperature at which SURVEILLANCE is required to 5°F.	j. This change reflects the differences associated with the design of the Holtec Transfer Cask that will be used for movement of the MPC, as opposed to the design of the BNFL Fuel Solutions Transfer Cask that was designed for movement of the PWR Basket. In addition, the specific design criteria for the Transfer Cask have changed resulting in changes to the previous limits for use of the Transfer Cask. Since the Holtec Transfer Cask does not use the neutron absorbing material RX-244, there is no need for an upper ambient air temperature limit for using the Transfer Cask.	Item 23, 25 & 26.

k. In LCO 3.3.1, AIR PAD Limits, and associated SR 3.3.1.1: (1) Changed "9 hours in a 24-hour period" to "20 consecutive hours." (2) Changed upper temperature limit for use of the AIR PADS from 75°F to 100°F. (3) Changed ACTIONS and SR to reflect the above revisions. (4) Changed SR to verify that AIR PADS are not installed more than 20 hours to once every 10 hours. (5) Changed SR to require temperature monitoring when AIR PADS are installed at or above 90°F.	k. The basis for the Air Pad limits was the full blockage of air flow accident analyzed for the PWR Basket in the ISFSI SAR. The full blockage of air flow accident had been analyzed assuming an ambient air temperature of 75°F with no solar load. This accident has been reanalyzed for the MPC assuming an ambient air temperature of 100°F with solar insolation. As discussed in ISFSI SAR Section 8.2.7. the postulated full blockage of air flow condition has been reanalyzed for the MPC assuming that all Concrete Cask air inlets (but not outlets) are completely blocked. The time to reach the maximum concrete allowable temperature for short term conditions is based on the Concrete Cask body and MPC exterior thermal model described in ISFSI SAR Section 4.2.6, and using the new decay heat load of 17.4 kWt (versus 26 kWt that had been used to bound the PWR Basket). These limits and surveillance requirements are changed to reflect this revised analysis.	Items 27, 28, & 29.
l. In 4.2.1, changed the pressure to which the helium will be backfilled to between 29.3 psig and 33.3 psig.	l. Conforming changes are made to reflect the difference in helium backfill pressure present during normal operation of the MPC as compared to the PWR Basket, and to reflect the associated difference in the MPC maximum calculated internal pressure, as compared to that of the PWR Basket, for normal ambient conditions and during a postulated accident.	Item 31.
m. Changed requirements for mobile crane to be used at the TRANSFER STATION to have a safety factor twice the design basis payload and corrected applicable earthquake loading as the Seismic Margin Earthquake (SME).	m. As presently worded, the Trojan ISFSI Technical Specifications would require a mobile crane with safety factors of 6 and 10 in accordance with ANSI N14.6, which is excessive. It is proposed to change this Technical Specification such that the mobile crane requires a safety factor of two times the allowable load. The SME is larger than the safe shutdown earthquake and is the design basis earthquake for the ISFSI.	Item 33.
n. In Specification 4.3: (1) Changed version of ASME Code applicable to the MPC, ASME Section III...1992 including Addenda through 1994" is changed to "...ASME Section III...1995 including Addenda through 1997. (SAR Table 4.2-1) (2) Deleted references to design and construction codes for CONCRETE	n. ASME design references are changed to reflect differences in code conformance between the MPC design and that of the PWR Basket. The MPC is designed and fabricated to a later version of the ASME code than the PWR Basket. Clarified that only exceptions to design codes were subject to Technical Specification requirements. Concrete Cask is not a confinement structure so deleted Technical	Items 34, 35 & 36.

CASKS. (3) Clarified that Exceptions to Codes, Standards, and Criteria were applicable to design codes, standards, and criteria.	Specification for ACI-349.	
o. In Specification 5.5.3, changed frequency for monitoring CONCRETE CASK air outlet temperature to daily and for inspecting air inlet vents to weekly with an exception to increase the frequency upon occurrence of an environmental phenomena.	o. Remote temperature monitoring and daily visual inspections are redundant and are not consistent with ALARA. The Holtec HI-STORM 100 Certificate of Compliance recommends one or the other but not both. Reducing the visual inspection to weekly unless an unusual environmental event occurs provides good backup to the remote monitoring and reduces radiation exposure. Daily monitoring of air outlet temperature is sufficient to establish trends and indicate improper air flow.	Item 42.

2.2.3.3 Evaluation of Changes

The above items represent changes to the design, analyses, and operational limits of the Trojan Storage System. These changes are the result of a change in the supplier for the sealed canister for the spent fuel and the associated equipment to transfer the fuel to these canisters. The sealed canisters to be used are the Holtec Multi-Purpose Canister (MPC) –24E and –24EF. Both models have been submitted as part of a proposed amendment to the Holtec HI-STORM 100 Storage System and are undergoing final NRC review and approval. As such, these technical changes are not considered genuine issues affecting the health and safety of the public. Changes are analyzed and discussed in the revision to the Trojan ISFSI Safety Analysis Report (SAR) submitted as Enclosure 2 to this transmittal. A summary of an evaluation of these changes follows.

a. Basket Overpack

The use of the PWR Basket Overpack is eliminated since the MPC is now used in the Trojan Storage System instead of the PWR Basket, and since the design of the MPC is such that an overpack is not required. The MPC is designed to provide a confinement barrier for spent nuclear fuel in accordance with the general design criteria requirements of 10 CFR 72, Subpart F. The MPC confinement boundary is defined as the MPC shell, bottom baseplate, lid (including the vent and drain port cover plates), the closure ring, and associated welds. The MPC is a stainless steel seal welded enclosure. The MPC lid closure is accomplished by multi-pass welding of the lid to the MPC shell. The MPC lid weld maintains confinement integrity under all normal, off-normal, and accident conditions of storage. Additionally, the vent and drain port cover plates are welded to the top of the MPC lid and the closure ring is welded to the MPC lid on the inner diameter and to the MPC shell on the outer diameter. The closure ring provides a second welded boundary beyond the MPC lid-to-shell weld and the vent and drain port cover welds. The MPC confinement boundary is designed in accordance with ASME, Section III, Subsection NB (1995 Edition including Addenda through 1997). The MPC is designed to be leak tight under all normal, off-normal, and accident conditions. Based on this design and the very low probability that a flawed confinement boundary weld would be performed, would pass NDE inspection, and would subsequently leak, the leakage of an MPC is not considered a credible event. Thus, a Basket Overpack is not necessary. This change does not present a genuine issue to affect public health and safety.

b. Fissile Material and Plutonium Activity

The fissile material limit was based on an assumption used in the criticality analysis for the PWR Basket, and on the TranStor™ shipping cask license conditions. Since the Holtec MPC and HI-STAR 100 Transport Cask will be used at the Trojan ISFSI in lieu of the PWR Basket and TranStor™ shipping cask respectively, and since the criticality analysis performed for the loaded MPC does not contain this limiting assumption, this limit no longer applies. Eliminating this limit does not represent a safety concern since the MPC criticality analysis demonstrates that the limit is not required to maintain a subcritical configuration

The limit on Plutonium is required by 10 CFR 71.63 and does not have to be repeated in the Trojan ISFSI Technical Specifications. Licensees and users of Certificates of Compliance will still have to comply with the federal regulation regardless of whether or not it is in the technical specifications.

These changes do not present a genuine issue to affect public health and safety.

c, d, e, f, & g Fuel Parameters

The cooling time, the maximum enrichment, the licensed decay heat, and the maximum burnup of the spent fuel to be stored in the Trojan ISFSI have changed, resulting in additional safety margins. The revised fuel parameters (i.e., burnup, cooling time, and enrichment) have been chosen to conservatively bound the Trojan spent fuel. The cooling time has changed from five years to nine years, resulting in lower radiation dose and lower decay heat. The change in decay heat allows the Trojan ISFSI to be licensed at a lower limit, which means that calculated temperatures for the new limit are lower and well within the safety parameters established by the NRC. The maximum enrichment was decreased from 4.2 weight % U-235 to 3.7 weight % U-235, which provides additional assurance that the spent fuel remains subcritical in all conditions and configurations. The design decay heat load for the MPC is now based on the MPC loaded with 24 fuel assemblies, each assembly equivalent to the most limiting Trojan-specific fuel assembly based on a combination of bounding Trojan spent nuclear fuel characteristics (i.e., design basis combination of burnup, 42,000 MWd/MTU, and cooling time, 9 years) and loading configurations. This results in a design decay heat load of 17.4 kWt, which is conservative since only one spent nuclear fuel assembly at Trojan is most limiting, and the other 23 fuel assemblies in the MPC containing the most limiting fuel assembly will have combinations of cooling time and burnup that are not as limiting. This conservatism is more appropriate and reasonable as compared with the ISFSI licensed for the PWR Basket, where each PWR Basket was designed to accommodate an extremely conservative and bounding decay heat load of 26 kWt. The design maximum thermal characteristics are provided in Trojan ISFSI SAR Table 3.1-1 and Technical Specifications Table 2-1. ISFSI SAR Section 7.6.2 presents the estimated dose results based on the revised shielding analysis using these bounding Trojan spent nuclear fuel characteristics. The off-normal and accident conditions are analyzed using the 42,000 MWd/MTU burnup, nine-year cooled case, with an initial enrichment of 3.09 wt% U-235, except for criticality which uses 3.7 wt% U-235. The 40,000 MWd/MTU, 5-year cooled fuel case and the 45,000 MWd/MTU, 6-year cooled fuel case are replaced with the updated bounding fuel characteristics. As a result, these changes do not present a genuine issue to affect public health and safety.

h. Helium Leak Rate Limit

The helium leak rate test for the MPC is conducted at a pressure of approximately 90 psig, with a maximum allowable leak rate of 5×10^{-6} atmosphere-cubic centimeters per second, versus a PWR Basket helium leak rate test pressure that had been specified as approximately 15 psig with a maximum leak rate of 1×10^{-4} standard cubic centimeters per second. The MPC is characterized as being leak tight, i.e., no leakage over the design life of the MPC. However, although the MPC is designed, fabricated, and tested to ensure that there will be no leakage of radioactive materials, off-normal and hypothetical accident leakage is postulated in Trojan ISFSI SAR Sections 8.1.4 and 8.2.1, respectively, to conservatively assess the maximum potential radiological consequences of potential MPC leakage. The results of these analyses indicate the consequences to be insignificant outside the ISFSI Controlled Area. This change is determined to not be a genuine issue for public health and safety.

i & l MPC Cavity Dryness and Helium Backfill Pressure

These changes and related changes to these specifications reflect an added option for achieving required MPC cavity dryness, the helium recirculation method, and to reflect the fact that the helium backfill pressure will be higher than the current PWR Basket Design Feature. The expansion of the description of vacuum drying to cavity drying reflects the Holtec-designed methods for achieving moisture removal from the MPC. This change does not impact the end result, which is that adequate MPC cavity dryness is achieved.

The helium backfill specified for the MPC represents a change from that specified previously for the PWR Basket. Specifically, the sealed MPC is backfilled with 99.995 percent helium to $\geq$29.3 psig and $\leq$33.3 psig at a reference temperature of 70°F, as opposed to the PWR Basket specifications of 99.999 percent helium to 14.5 +0/-0.5 psia. These changes reflect the design differences between the MPC and PWR Basket. A summary of the MPC pressure analysis for normal operation and maximum accident conditions with the design internal pressure is provided in Trojan ISFSI SAR Sections 4.2.5.3 and 8.2.6. Calculation detail for these conditions is provided in proprietary Holtec Calculation No. HI-2012676, "Thermal-Hydraulic Calculations for Trojan ISFSI Completion Project," which is provided in Enclosure 4 of this submittal.

These changes do not present a genuine issue to affect public health and safety.

j. Transfer Cask

The Transfer Cask is a cylindrical steel weldment designed to facilitate the transfer of a loaded MPC to and from the Concrete Cask or into the Transport Cask. The Transfer Cask provides the necessary shielding to reduce the dose to Trojan plant personnel in accordance with ALARA principles. The Transfer Cask is used for lifting and transporting MPCs in the Fuel Building. The Transfer Cask may also be used in conjunction with the Transfer Station at the ISFSI to temporarily hold the MPC during transfer into and out of Concrete Casks or Transport Casks. The Transfer Cask is not used for lifting at the ISFSI Transfer Station.

The Trojan Transfer Cask design is similar to the Holtec HI-TRAC 100, with moveable shield doors at the lower end and a top lid with a hole in the center. The hole allows for lifting sling access to raise or lower the contained MPC. The bottom of the Transfer Cask is designed for a compatible fit with the top of the Concrete Cask. The cylindrical wall of the Transfer Cask consists of various material layers. The inner and outer shells are made of steel. Sandwiched between the steel shells is a thickness of lead. A water jacket welded to the outer shell provides neutron shielding when filled. The movable shield doors at the lower end allow lowering of the MPC into the Concrete Cask or the Transport Cask. The doors slide in steel guides along each side of the Transfer Cask. Mechanical stops are used to prevent inadvertent opening of the doors. Hydraulic pistons are used to open the doors for the MPC transfer. The top lid of the Transfer Cask extends over the MPC to provide shielding and to prevent the MPC from being inadvertently lifted out of the top of the Transfer Cask. The Transfer Cask structure is designed in accordance with ASME Section III, Subsection NF.

The changes to the Transfer Cask specifications reflect the differences associated with the design of the Holtec Transfer Cask that will be used for movement of the MPC as opposed to the design of the BNFL Fuel Solutions Transfer Cask that was designed for movement of the PWR Basket. As described above and in the Trojan ISFSI SAR, the Trojan ISFSI Transfer Cask design is based on the Holtec generically approved HI-TRAC Transfer Cask design. The specific design criteria for the Transfer Cask are summarized in the Trojan ISFSI SAR Table 3.6-2.

The description of the Transfer Cask heat transfer analysis presented in the Trojan ISFSI SAR Section 4.2.6 is revised to incorporate the MPC and Transfer Cask designed by Holtec. The analysis methodology was changed. The revised thermal analysis assumes an ambient air temperature of 75°F for normal conditions and 100°F for off-normal conditions. The 100°F for off-normal conditions is a 72-hour averaged ambient air value, which is not likely to be achieved at the Trojan site. Even if the daily high temperature exceeded 100°F, the ambient air temperature would cool at night to values sufficiently lower than 100°F. However, the 100°F value is a good upper bound for input to the thermal analysis. The structural and thermal analysis of the Transfer Cask itself is not restricted by an operational limit. The materials from which the Transfer Cask are fabricated can withstand temperatures significantly higher than 100°F.

Since the Holtec Transfer Cask design no longer uses RX244 neutron shielding material, the upper temperature limit is deleted from the Trojan Technical Specification 3.2.1, Transfer Cask Limit. The upper limit was based upon the RX244 used in the BNFL Fuel Solutions Transfer Cask.

These changes do not present a genuine issue in regard to potential effects on public health and safety.

k. Air Pads

Controls on the time that air pads may be installed and inflated under the loaded Concrete Cask prevent the inner concrete temperature from reaching its short-term temperature limit, which in

turn ensures that the fuel cladding and other components do not reach their short-term temperature limits. Changes to these limits reflect the longer cooling time and the lower decay heat of the spent fuel, and different analytical models. The reanalysis using Holtec methodology indicates the Concrete Cask concrete temperature would not reach its short term accident limit until 57.1 hours assuming all inlets blocked and an initial ambient temperature of 100°F. The methodology and calculation detail for this scenario is contained in proprietary Holtec Calculation No. HI-2012697, "Transient Thermal-Hydraulic Analysis of the Trojan ISFSI," which is provided concurrently with this submittal in Enclosure 4. Changing the time limits on the time that air pads may be installed and inflated under the loaded Concrete Cask from nine hours to 20 hours continues to maintain an adequate safety margin for the inner concrete temperature. The inner concrete temperature remains below its short-term temperature limit by more than a factor of two, which in turn ensures that the fuel cladding and other components do not reach their short-term temperature limits. Surveillance Requirements are changed to verify the air pads are not installed longer than permitted by these temperature limits or at temperatures above 100°F. These changes do not represent a genuine issue for public health and safety.

m. Mobile Crane

As shown in the evaluation in Attachment C to this Enclosure 1, the use of a mobile crane for lifting the MPC within the ISFSI Transfer Station is in compliance with the guidelines of the relevant sections of NUREG-1567 and NUREG-0612. NUREG-1567 states that the use of systems, structures and components, (SSCs), including cranes, for on-site inter-modal transfer of nuclear containers, and the transfer of confinement and transfer casks shall conform to the guidance of NUREG-0612. It has been demonstrated in the revised Trojan ISFSI SAR that the failure of a mobile crane to lift an MPC at the Transfer Station would not jeopardize the basic safety functions of the confinement system or other basic safety criteria, and therefore the mobile crane is not important to safety.

The mobile crane is in compliance with the guidance in Section 5.1.1 in NUREG-0612 because the two main objectives of preventing an accidental drop of a load and mitigating the consequences of the postulated drop are achieved. The reliability of certain active components of the handling system have been improved through increased factors of safety as outlined in Section 5.1.6 of NUREG-0612, specifically:

> The Trojan mobile crane shall conform to the guidelines of Section 5.1.1 of NUREG-0612 with the exception that mobile cranes shall meet the requirements of ANSI B30.5, "Mobile and Locomotive Cranes," or equivalent, instead of ANSI B30.2, "Overhead and Gantry Cranes". A mobile crane to be used in the MPC lift configuration shall have a load rating of at least twice the combined weight of the MPC, load blocking rigging, and other lifting and rigging hardware, and shall be capable of stopping and holding the load during the DBE.
>
> "Special lifting devices," as defined in ANSI N14.6-1993 shall have two times the design safety factors of Section 4.2.1.1 of ANSI N14.6-1993in accordance with the guidance of Section 5.1.6 (1)(a) of NUREG-0612, and Section 7.2 of ANSI N14.6-1993. The lifting

cleats attached to the top of the Trojan MPC are designed with safety factors of 6 on yield strength and 10 on ultimate strength, including dynamic effects.

Slings and the wire rope to be used in the vertical lift at Trojan are designed with safety factors of 10 on ultimate strength, including dynamic effects, in accordance with the guidelines for slings in ANSI/ASME B30.9-1984, "Slings".

In accordance with the guidance in Section 5.1 (1) of NUREG-0612, the mobile crane operators will be properly trained in mobile crane operations. The training will include knowledge of the handling system design, load handling instructions, and equipment inspection to assure reliable operation of the handling system at the Transfer Station. In accordance with the guidance in Section 5.1 (2) of NUREG-0612, safe load travel paths will be defined through procedures and operator training so that heavy loads are not carried over or near irradiated fuel or safe shutdown equipment.

In accordance with the guidance in Section 5.1 (3) of NUREG-0612, mechanical stops or electrical interlocks will be used to prevent the movement of heavy loads over irradiated fuel. Only minimal horizontal movement of the MPC is possible during MPC lifts at the Transfer Station due to the geometry of the Transfer Cask, Concrete Cask, and Shipping Cask.

In accordance with the guidance in Section 5.1 of NUREG-0612, radiological consequences resulting from a postulated drop of the MPC are mitigated because the MPC has been shown not to breach and therefore maintains the confinement boundary. The analysis demonstrates that a generic MPC weighing 90,000 pounds does not breach if it is dropped 25 feet vertically onto a 22-foot thick concrete pad. These parameters envelope the Trojan ISFSI because the loaded MPC-24E and MPC-24EF weigh less than 90,000 pounds; the maximum drop height that an MPC could fall is 20.75 feet; and the target is softer than the modeled concrete pad because there is an impact limiter embedded in the Transfer Station pad.

The computer code used in the analysis is LS-DYNA. The results of the finite element analysis for the generic 90,000-pound MPC drop accident show that the maximum calculated plastic strain is 15.5% This strain is less than the maximum plastic strain at failure of 38%. Because the maximum calculated plastic strain of 15.5% is less than the maximum plastic failure strain of 38%, it is concluded that the postulated drop accident of a loaded MPC will not result in a breach of confinement.

Therefore, the changes in Technical Specification Design Features for the mobile crane clarify the requirements and do not present a genuine issue concerning public health and safety.

n. ASME Codes

ASME Code references are changed to reflect differences in code conformance between the MPC design and that of the PWR Basket, including the ASME design references to which the

Holtec Transfer Cask design conforms. ASME Section III, 1992, including Addenda through 1994, is changed to ASME Section III, 1995, including Addenda through 1997. In addition, the specific code criteria for the Concrete Cask have been removed since the Concrete Cask is not a confinement structure and the same information already exists in the Trojan ISFSI SAR. The design standards that are applied to the MPC confinement boundary are ASME Section III, Subsection NB, which replace the design standards that had been applied to the PWR Basket confinement boundary, Subsection NC. These changes are updates to later versions of the same codes, which reflect improvements in design and materials criteria, and, as such, do not present a genuine issue for public health and safety.

o. Thermal Monitoring Program

The comparison of Concrete Cask air outlet temperature with ambient air temperature is used to determine the change in temperature as air circulates in, up, and out of the Concrete Cask, removing the decay heat from the spent fuel in the MPC. Although the heat load and heat removal process are very stable, Concrete Cask outlet temperature is dependent upon the heat load of each MPC and the ambient air temperature, which is equivalent to the Concrete Cask inlet air temperature. Ambient air temperature is dependent upon the weather at the ISFSI site and can fluctuate as much as 40-degrees in a 24-hour period. Measurements every eight or 12-hours are not very meaningful to monitor trends. Trends are more likely to be observed over weeks and months rather than days. However, blockage of all inlet vents could be observed sooner due to the fact that the outlet temperature would not be indicating a normal or expected value.

As analyzed in the Trojan ISFSI SAR Sections 8.1.2.2 and 8.2.7, Blockage of One-Half of the Air Inlets and Full Blockage of Air Inlets, respectively, would not result in radiological releases or adverse radiological consequences. The blockage of all air inlets would result in the Concrete Cask concrete temperature reaching its short-term limit of 350°F in approximately 57.1 hours, long before the fuel clad or other component temperature limits are reached. Daily monitoring of the outlet temperatures would detect this blockage before the concrete temperature reached its short-term limit.

The HI-STORM 100 Certificate of Compliance recommends performing either remote temperature monitoring or visual inspections of the air inlets daily, but not both. Remote temperature monitoring and daily visual inspections are redundant and are not consistent with ALARA guidelines. However, since the capability exists at the Trojan ISFSI to perform both, the Thermal Monitoring program includes both features. However, for ALARA reasons, the visual inspection frequency is reduced to weekly unless there are extenuating circumstances for performing it more frequently, such as heavy ash-fall from a volcanic eruption or extremely heavy snowfall, i.e., environmental phenomena.

These changes do not represent a safety issue and, as such, do not present a genuine issue for public health and safety.

2.3 CHANGES TO TROJAN ISFSI TECHNICAL SPECIFICATIONS BASES

2.3.1 Description of Change	2.3.2 Reason for Change	Table A-3 References
a. Changed the title in Section B2.0 to "APPROVED CONTENTS" and in Sections B2.1.1 and B2.2.1 added to the title "and Fuel Storage Configuration Limits," changed title of FUNCTIONAL AND OPERATING LIMITS VIOLATIONS to APPROVED CONTENTS VIOLATIONS, and replaced title in text.	a. To maintain consistency with the Technical Specifications and NUREG-1745.	Items 1, 2 & 6.
b. Changed PWR BASKET to MPC, replaced TranStor Storage System with TROJAN STORAGE SYSTEM, changed shipping container to Transport Cask, deleted the term Fuel Building, and changed titles to MPC INTEGRITY and MPC Lid Weld Helium Leak Rate.	b. To reflect nomenclature changes in the Technical Specifications.	Items 3, 5, 6, 8, 9, 10, 11, 13, 15, 16, 20, 21, 22, 23, 24, 25, 26, 29, 32, 33 & 35.
c. Added materials to list of evaluations performed and added discussion about the revised evaluations.	c. Included materials evaluation in the revised SAR.	Items 3 & 5.
d. Deleted BASKET OVERPACK and reference to a degraded PWR BASKET.	d. An overpack is not needed by the MPC design.	Items 3, 5, 29 & 32.
e. Deleted reference to shield and structural lids; changed shield lid to MPC lid.	e. The MPC has a single top lid.	Items 3, 10, 12, 13, 15, 16, 20 & 25.
f. Deleted reference to LCO 3.3.1 for surface contamination limits.	f. The LCO 3.3.1 for surface contamination only existed in a draft, so it was not issued to PGE.	Item 4.
g. Reworded first sentence of B2.1.1 APPLICABLE SAFETY ANALYSIS and other sections to reflect that misloading an MPC could not result in exceeding a design limit and why.	g. To reflect revised SAR, calculations, and accident analyses.	Items 5 & 6.
h. Changed maximum heat load to 17.4 kW, deleted reference to 26 KW.	h. Revised thermal analysis.	Items 5, 21, 22, 35 & 36.
i. Changed description of MPC capacity to include 20-24	i. MPC will accommodate 20-24 INTACT FUEL ASSEMBLIES and	Item 5.

2.3.1 Description of Change	2.3.2 Reason for Change	Table A-3 References
INTACT FUEL ASSEMBLIES and up to four FAILED FUEL CANS.	up to four FAILED FUEL CANS.	
j. Deleted reference 2 in B2.1.1 and changed references in the text in several locations, e.g., B3.1.1, References, added an additional SAR Section and a new SAR Table.	j. The reference 2 in B2.1.1, a response to a Request for Additional Information, is no longer relevant. Revised SAR created new references. Adding new references also caused a redesignation of old references.	Items 7, 15, 18, 24, 25 & 27.
k. Replaced FAILED FUEL CANS with DAMAGED FUEL ASSEMBLIES and FUEL DEBRIS, added ASSEMBLIES after FUEL and DAMAGED FUEL, and replaced fuel assemblies with INTACT FUEL ASSEMBLIES.	k. To provide accurate and consistent descriptions and reflect definition changes in Technical Specifications.	Items 10, 11, 12, 20 & 21.
l. Changed descriptions of helium pressurization and helium backfill process and changed helium backfill pressure limits. Changed helium leak rate limit, deleted references to previous helium leak rate test for PWR BASKET shield lid weld, clarified that new helium leak rate is used in confinement analysis and how measurement will be corrected, that MPC is leak tight, and deleted reference to loss of helium during 20-year license. B3.1.2, BACKGROUND, added sentence stating that the presence of helium in the MPC ensures there will be no significant corrosion of fuel clad during storage. B3.1.2, LCO, replaced mm Hg with torr and added description of criteria for helium gas demoisturizer temperature. B3.1.2, SURVEILLANCE REQUIREMENTS, added	l. The Holtec MPC is backfilled with helium to 29.3 to 33.3 psig and uses a different system for pressurization. Although the MPC is designed to be leak tight over the 40-year design life, a value of 5×10^{-6} atm-cc/sec was assumed in the accident analysis. Explained reason for backfilling an MPC with helium The instrument that will be used for vacuum drying measures in torr. To maintain and support the changes to the Technical Specifications.	Items 10, 13, 16, 17, 20, 22 & 26.

2.3.1 Description of Change	2.3.2 Reason for Change	Table A-3 References
criteria for helium recirculation system of cavity drying and deleted reference to time the fuel in the PWR BASKET is without an inert atmosphere.		
m. Change cladding to clad.	m. To maintain consistency with Technical Specifications.	Items 11, 14, 21 & 22.
n. B3.1.1, APPLICABLE SAFETY ANALYSIS, reworded section to describe the failure of all confinement barriers as an incredible event.	n. The failure of all 24 fuel assemblies in an MPC and the resultant breach of an MPC is an incredible event.	Item 11.
o. Made noun-verb agreement changes, grammar changes, editorial corrections, and changed capitalization of certain words and titles.	o. General improvement to wording and appearance of Bases.	Items 6, 11, 12, 15, 20, 21, 22, 28, 29, 34 & 35.
p. Where appropriate changed vacuum to MPC cavity, vacuum drying to cavity dryness, and Vacuum Drying System to affected components or replaced it with recirculating helium or borated water through the MPC cavity, and added sections describing two alternatives for achieving MPC cavity dryness.	p. To reflect Holtec's methods for obtaining cavity dryness and cooling the fuel in an MPC before it is backfilled with helium and sealed.	Items 3, 12, 14, 15, 19, 20, 21, 22, 24, 25 & 26.
q. Deleted reference to steady state when referring to transient conditions, deleted temperature values where appropriate and substituted the phrase "the ....limit," and changed temperature values to new ones where appropriate.	q. Several temperature values were transient values not steady state values and the revised thermal analysis for MPC changed many of the calculated values.	Items 12, 14, 15, 21, 22 & 24.
r. B3.1.1, ACTIONS, changed 75 gallons to 50 to 120 gallons and deleted reference to 212°F.	r. There is a broader acceptable range for draining the MPC to weld the top lid. Once a cooling flow path is established, the bulk water temperature will not reach boiling (212°F) so there is no need to discuss it in the Bases.	Item 15.
s. B3.1.1, SURVEILLANCE REQUIREMENTS, clarified that after MPC cavity drying, the vent and drain covers are welded in place and helium leakrate tested and a confinement boundary is provided by the closure seal welds.	s. Described the process in which Holtec obtains a confinement boundary for the MPC rather than the old method for the PWR BASKET.	Item 17.
t. B3.1.2, ACTIONS, changed terminology and deleted	t. To reflect Holtec systems.	Item 25.

2.3.1 Description of Change	2.3.2 Reason for Change	Table A-3 References
reference to components no longer used.		
u. B3.2.1, deleted reference to RX244, basis for high temperature limit, distinction between use of TRANSFER CASK as a lifting device and a support device, clarifying that it could be used as either and a transportation device.	u. RX244 is not used in the new TRANSFER CASK. Use of the TRANSFER CASK will imply lifting, supporting, and transporting.	Items 29, 30, 31, 33 & 34.
v. B3.2.1, APPLICABLE SAFETY ANALYSIS, reworded section to indicate design of TRANSFER CASK is considered in safety analysis.	v. New TRANSFER CASK design has been considered in SAR.	Item 30.
w. Changed TRANSFER CASK low temperature limit to 0°F and requirement to perform surveillance to 5°F and deleted high temperature limit.	w. New TRANSFER CASK has a low temperature limit of 0°F and no high temperature limit.	Items 29, 30, 31, 33 & 34.
x. B3.2.1, ACTIONS, added a sentence clarifying what a safe condition is.	x. To provide guidance for placing an MPC in a safe condition if a limit is reached.	Item 33.
y. B3.3.1, APPLICABLE SAFETY ANALYSIS and ACTIONS, reworded to reflect SAR accident analysis and assumptions, deleted reference to one-half of air inlets blocked accident, changed time to reach different temperature limits and values of limits, provided basis for changing Air Pads installation time to 20 consecutive hours and use of Air Pads up to 100°F, and changed heat load from 26 to 17.4 kW.	y. To reflect revised thermal analysis for Air Pads	Items 35, 36 & 37.
z. B3.3.1, SURVEILLANCE REQUIREMENTS, changed monitoring requirement time and temperature.	z. To reflect new limits, based on revised thermal analysis.	Item 38.

2.3.3 Evaluation of Changes

The above changes to the Trojan ISFSI Technical Specification Bases are conforming to the changes made to the Technical Specifications described in Section 2.2 of this License Change Application (LCA). As such, the evaluation of those administrative and editorial changes, NUREG-1745 conforming changes, and technical changes in Sections 2.2.1.3, 2.2.2.3, and 2.2.3.3 of this LCA, supports the changes to the Bases described above. The technical-related changes to the Technical Specifications reflect revised accident analyses and calculations in the revised Trojan ISFSI SAR.

The administrative and editorial changes involved revisions to titles, nomenclature changes, changes to references, grammatical and punctuation corrections, and changes to improve the consistency of the Bases. The changes to the Bases to conform to NUREG-1745 involve title changes and the conversion to symbols for indicating maximum, minimum, or equivalent values.

Technical changes involve an explanation of why design limits cannot be exceeded by misloading an MPC, changes to the licensed decay heat load, descriptions of and the bases for limits on new equipment and processes, changes in helium backfill pressure and leak rate limits, changes in calculated temperatures during various loading, transport, and storage conditions, and changes to various surveillance requirements to reflect new limits and analyses. These technical changes are evaluated in the changes to the Technical Specifications.

These changes do not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated nor do they create the possibility of a different kind of or result from any accident previously evaluated. There is no safety or environmental impact associated with these proposed changes. These changes do not present a genuine issue affecting public health and safety.

3. ENVIRONMENTAL IMPACT CONSIDERATION DETERMINATION

As shown above in Section 2, "Description and Evaluation of Proposed Changes," the changes proposed herein do not impact public health and safety. As such, this amendment request satisfies the criteria specified in 10 CFR 51.22(c)(11) for a categorical exclusion from the requirements to perform an environmental assessment or to prepare an environmental impact statement. The specific criteria of 10 CFR 51.22(c)(11) are addressed as follows:

(i) The proposed amendment does not result in a significant change in the types or significant increase in the amounts of any effluents that may be released offsite.

As shown in Section 2 above, the changes proposed herein involve the incorporation of a different type of sealed canister for the storage of spent fuel, use of the Holtec Multi-Purpose Canister (MPC) in lieu of the Sierra Nuclear Corporation PWR Basket. The new canister has been shown to be leak tight, has lower leak rate acceptance criteria, and has been reviewed and certified by the NRC. The physical and operational characteristics of the Trojan ISFSI that have changed have an insignificant effect on the previous evaluation of the facility and the site. The most significant change in the physical characteristics is a reduction in the ISFSI Controlled Area, which increases the area accessible by the general public and results in decreased radiation doses offsite. The proposed changes do not affect the intent of any procedure related to ISFSI operations or activities. The proposed amendment does not result in a change in the types or increase in the amounts of any effluents that may be released offsite.

(ii) The proposed amendment does not result in a significant increase in individual or cumulative occupational radiation exposure.

As shown in Section 2 above, the changes proposed herein involve the incorporation of a different type of sealed canister for the storage of spent fuel, use of the Holtec Multi-Purpose Canister (MPC) in lieu of the Sierra Nuclear Corporation PWR Basket. Although there are physical and operational changes in the ISFSI systems, structures, and components, these changes do not affect the conclusions or results of the previous evaluations of the ISFSI. The reduction in the ISFSI Controlled Area results in more area outside the controlled area that is accessible by the general public and decreased doses offsite and to occupational workers. Furthermore, the proposed changes do not affect the intent of any procedure related to ISFSI operations or activities. Therefore, the proposed amendment does not result in a significant increase in individual or cumulative occupational radiation exposure.

(iii) The proposed amendment does not result in a significant construction impact.

As shown in Section 2 above, the changes proposed herein involve the incorporation of a different type of sealed canister for the storage of spent fuel, use of the Holtec Multi-Purpose Canister (MPC) in lieu of the Sierra Nuclear Corporation PWR Basket. Although there are changes to ISFSI systems, structures, and components, these changes do not involve the construction of any ISFSI component, system, or structure onsite, nor do they impact the ISFSI site. The new components will be fabricated offsite and their operational characteristics are still bounded by the previous evaluation. Thus, the proposed amendment to the Trojan ISFSI License and Technical Specifications does not result in a significant construction impact.

(iv) *The proposed amendment does not result in a significant increase in the potential for or consequences from radiological accidents.*

In the evaluation for each change as provided in Section 2 above, it is concluded that the proposed changes do not involve an increase in the frequency, likelihood, or consequences of an event or accident previously evaluated, nor do they create the possibility of a different kind of accident or result from any accident previously evaluated. Thus, the proposed amendment does not result in a significant increase in the potential for or consequences from radiological accidents.

Based on the preceding analysis, it is concluded that the proposed change to the Trojan ISFSI License satisfies the criteria delineated in 10 CFR 51.22(c)(11) for categorical exclusion from the requirements of an environmental impact statement or environmental assessment. Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment is required.

4. SCHEDULE CONSIDERATION

Via letter VPN-013-2001, dated April 4, 2001, PGE informed the NRC of the change in supplier to Holtec International for the Trojan ISFSI. In that letter, PGE also stated that an amendment request related to this change in supplier was planned to be submitted by October 29, 2001. Furthermore, PGE and Holtec met with the NRC on April 26 and June 27 to discuss the upcoming amendment request. Accordingly, PGE has maintained the original submittal schedule and respectfully requests the NRC to establish a review schedule so that this amendment request is approved no later than July 31, 2002, to support the Trojan Nuclear Plant decommissioning schedule.

Following approval, it is requested that 30 days be provided for implementation of this amendment.

ENCLOSURE 1

ATTACHMENT A

to VPN-044-2001

Trojan ISFSI

LCA 72-02

Changes to the Trojan ISFSI

License, Technical Specifications, and Bases

Table A-1
Changes to Trojan ISFSI Materials License

No.	Page	Section	Description
1	1	License, Item 1, Licensee	Add, "with Eugene Water and Electric Board and PacifiCorp."
2	1	License, Item 2, Address	Change, "Trojan Nuclear Plant," to, "Portland General Electric Company."
3	1	License, Item 3, Amendment No.	Change to "2."
4	1	License, Item 9, Authorized Use	Delete first paragraph. In second paragraph, after storage, add, "in the Trojan Storage System," delete the period and "Storage is authorized only in casks of the TranStor design." After "... as described in the," in the last sentence, add "approved Trojan ISFSI Safety Analysis Report (SAR), as supplemented and amended in accordance with 10 CFR 72.70 and 10 CFR 72.48."
5	1	License, Item 10, Authorized Place of Use	Change, "Trojan Nuclear Plant," to, "Portland General Electric Company," before the word, "site."
6	1	License, Item 11, Technical Specifications	After the word, "hereto," add, "as revised through Amendment 2."
7	2	License, Header, Amendment Number	Change to "2."
8	2	License, Item 14	Delete item 1), exemption from 10 CFR 72.124(b), and renumbered subsequent exemptions.
9	2	License, Amendment Number and Date at bottom of page	Change amendment number to "2." Change date to date on which the amendment is approved.

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
1	i	Table of Contents	a. Changed titles of 2.0, 2.1, & 2.2 to "APPROVED CONTENTS, Approved Contents, and Approved Contents Violations," respectively. b. Added subsections 2.1.1, 2.1.2, & 2.2.1 to Table of Contents for consistency. c. Replaced "PWR BASKET" in titles of 3.1, 3.1.1, & 3.1.2 with "MPC," deleted "shield" in 3.1.1, and replaced "Vacuum Drying Pressure" with "Cavity Dryness" in 3.1.2. d. Deleted "s" at end of "Limit" in subsection 3.2.1. e. Deleted subsection 4.1.1 and changed the title of 4.1 & 4.2.3. f. Added subsections 4.3.1, 4.3.2, & 4.3.3, for consistency. g. Added subsections 5.2.1, 5.5.1, 5.5.2, 5.5.3, & 5.5.4, for consistency.

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
2	1.1-1 thru 1.1-4	1.1 Definitions	a. NOTE: Added complete spelling of acronym for ISFSI since it was first time used. b. Deleted definition of "BASKET OVERPACK." It is no longer used. c. Changed definition of "CONCRETE CASK" to reflect change in nomenclature for Holtec MPC and deletion of "BASKET OVERPACK." d. Changed definition of "DAMAGED FUEL" to "DAMAGED FUEL ASSEMBLY" and added the word, "ASSEMBLIES," in the definition for consistency. e. For the definition of "FAILED FUEL CAN," added the word,"ASSEMBLIES," after "DAMAGED FUEL," and changed "PWR BASKET" to "MPC." f. In definition of "FUEL DEBRIS," added commas after "CAPSULES" in seventh line and after "CANS" in eighth line. g. Deleted definition of ISFSI since it is defined in 10 CFR 72. h. Changed definition of "LOADING OPERATIONS" to reflect new nomenclature, i.e., MPC and DAMAGED FUEL ASSEMBLY(IES). i. Changed definition of "PWR BASKET" to "MULTI-PURPOSE CANISTER (MPC)," replaced "which" with "that," and added "ASSEMBLIES" after "DAMAGED FUEL." j. Changed definition of "STORAGE OPERATIONS" to reflect new nomenclature and other changes in definitions, deleted "BASKET OVERPACK" and "on the storage pad" in two locations, and changed "shipping cask" to "Transport Cask." k. Changed definition of "TRANSFER CASK" to reflect new nomenclature. l. Changed definition of "TRANSFER STATION" to reflect new nomenclature, converted first letters to uppercase for "Storage Pad," and deleted reference to a "BASKET OVERPACK." m. Changed definition of "TRANSPORT OPERATIONS" to reflect new nomenclature and definition, and deleted "s" at end of "end" in penultimate line. n. Added new definition of "TROJAN STORAGE SYSTEM" to reflect the Holtec MPC used in the TranStor™ Concrete Casks. o. Changed definition of "UNLOADING OPERATIONS" to reflect new nomenclature and make consistent with definition of "LOADING OPERATIONS," i.e., specify "DAMAGED FUEL ASSEMBLIES" and "FUEL DEBRIS" in lieu of "FAILED FUEL CAN."

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
3	1.4-4	1.4 Frequency	a. Example 1.4-3, in the table under column titled "SURVEILLANCE," changed "PWR BASKET" to "MPC" and replaced "vacuum drying pressure" with "cavity dryness." b. In both paragraphs following the table, replaced "vacuum drying pressure" with "cavity dryness" and "shield" with "MPC."
4	2.0-1	2.0 & 2.1	Changed title to "APPROVED CONTENTS" for consistency with the NUREG-1745, Standard Format and Content for Technical Specifications for 10 CFR 72 Cask Certificiates of Compliance.
5	2.0-1	2.1.1	a. In title, changed "At" and "The" to begin with lowercase letters, "at" and "the." b. 2.1.1.b. Added "ASSEMBLIES" after "DAMAGED FUEL." c. 2.1.1.c. Deleted limits on fissile material and Plutonium activity. d. 2.1.1.d. Changed the word "described" to "characterized."
6	2.0-1	2.1.2	Added new section titled, "Fuel Storage Configuration Limits," for consistency with NUREG-1745.
7	2.0-2	2.2 & 2.2.1	a. Changed the titles to "Approved Contents Violations" and "Fuel Stored at the ISFSI and Fuel Storage Configuration Limits," respectively. b. In 2.2.1, changed title and number of reference to reflect change 4 above.
8	2.0-3	Table 2-1	a. Deleted "ding" at the end of "Cladding." b. Deleted, "Maximum," and used symbol, "≤," in front of limit for enrichment, decay heat, and burnup. c. Changed cooling time to "≥ 9 years." d. Changed enrichment to "≤ 3.7 weight % U^{235}." e. Changed decay heat to "≤ 17.4 kW_t." f. Changed burnup to 42,000 MWd/MTU." g. Changed "PWR BASKET" to "MPC." h. Deleted footnote.
9	2.0-4	Table 2-2	Deleted "S" at ends of "CHARACTERISTIC" and "LIMIT."

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
10	3.0-1 & 3.0-2	Header	Added "s" at end of "CONDITION" and "REQUIREMENT" in the titles on these pages, in the header on these pages, and added "Requirements" after "Surveillance" in the header at the top of the page 3.0-2.
11	3.0-2	SR 3.0.2	Second paragraph, third line, changed quotation mark to a closing mark.
12	3.0-3	SR 3.0.4	Changed "PWR BASKET" to "MPC."
13	3.0-3	Header	Added additional line spacing between 3.0 at right side margin and title, changed line to a double line, and added "s" at the end of "Requirement" and "REQUIREMENT."
14	3.1-1	3.1 & 3.1.1	In titles, changed "PWR BASKET" to "MPC," and "PWR BASKET Shield Lid" to "MPC Lid."
15	3.1-1	LCO 3.1.1	a. Changed "PWR BASKET Shield Lid" to "MPC lid." b. Changed limit to $5x10^{-6}$ atm-cc/sec and replaced "not exceed" with "be $\leq$." c. NOTE: Changed "PWR BASKET" to "MPC." d. CONDITION A.: Changed "PWR BASKET Shield Lid" to "MPC lid." e. REQUIRED ACTION A.1: Changed "PWR BASKET Shield Lid" to "MPC lid." f. REQUIRED ACTION B.1 and B.2: Changed "PWR BASKET" to "MPC."
16	3.1-2	Header	Added title in Header.
17	3.1-2	SR 3.1.1.1	NOTE: Changed "PWR BASKET" to "MPC," under SURVEILLANCE, changed "PWR BASKET Shield" to "MPC," and under FREQUENCY, changed "Vacuum Drying," to "demonstrating MPC cavity dryness."
18	3.1-3	3.1.2 Title	Changed the title from "PWR BASKET Vacuum Drying Pressure" to "MPC Cavity Dryness."

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
19	3.1-3	LCO 3.1.2	a. Added phrase: "Adequate dryness of the MPC cavity shall be demonstrated in one of the following ways:" b. Changed "PWR BASKET" to "MPC" and made it a subitem a. c. In subitem a., replaced "equal to or less than 3 mm Hg" with "≤ 3 torr" and replaced text, "at least," with symbol, "≥" before "30 minutes." d. Added the following alternate method for ensuring dryness: "b. While recirculating helium through the MPC cavity, the demoisturizer exit gas is cooled to a temperature ≤ 21°F for ≥ 30 minutes." e. Under ACTIONS, in the NOTE, CONDITION A, and REQUIRED ACTION A.1, changed "PWR BASKET" to "MPC."
20	3.1-4	LCO 3.1.2 ACTIONS	In REQUIRED ACTIONS B.1.1, B.1.2, and B.2, changed "PWR BASKET" to "MPC."
21	3.1-4	SR 3.1.2.1	Under the column, "SURVEILLANCE," changed "PWR BASKET" to "MPC" and changed "vacuum drying pressure" to "cavity dryness."
22	3.2-1	3.2.1 Title	Deleted "s" at end of "Limit."
23	3.2-1	LCO 3.2.1	a. Inserted phrase, "lift or," in first line after "to" and before "support." b. Deleted phrase, "and sealed PWR BASKET." c. Added "MPC." d. Deleted phrase, "is greater than 100°F and shall not be used to lift and support a loaded PWR BASKET when the ambient air temperature." e. Changed "less than 40°F" to "≤ 0°F." f. Under ACTIONS, Deleted CONDITION A., REQUIRED ACTIONS A.1 and A.2, and associated COMPLETION TIMES. Redesignated CONDITION B, and REQUIRED ACTIONS B.1 and B.2 as A, A.1 and A.2, respectively. g. Under ACTIONS, old CONDITION B (new A), changed "equal to or less than 40°F" to "≤ 0°F." h. Under ACTIONS, REQUIRED ACTION B.2 (new A.2), deleted phrase, "as a lifting device" and replaced text, "greater than 40°F," with "> 0°F."

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
24	3.2-2	SR 3.2.1.1	a. Under SURVEILLANCE, deleted "s" at end of "limit." b. Under FREQUENCY, after "CASK," added "with a loaded MPC."
25	3.2-2	SR 3.2.1.2	Deleted this SURVEILLANCE and FREQUENCY.
26	3.2-2	SR 3.2.1.3	a. Redesignated this SR as 3.2.1.2. b. Under SURVEILLANCE, deleted "s" at end of "limit." c. Under FREQUENCY, deleted phrase, "to lift a loaded PWR BASKET" and replaced with the phrase, "with a loaded MPC." d. Under FREQUENCY, changed from "less than 45°F" to "< 5°F."
27	3.3-1	LCO 3.3.1	a. Changed "PWR BASKET" to "MPC." b. Subitem a., changed "9 hours in a 24-hour period" to "20 consecutive hours." c. Subitem b., changed "greater than 75°F" to "> 100°F." d. Under ACTIONS, CONDITION A., changed "9 hours in a 24-hour period" to "20 consecutive hours." e. Under ACTIONS, CONDITION B., added the phrase, "AIR PADS installed and," and changed the temperature from "75°F" to "100°F."
28	3.3-1	SR 3.3.1.1	a. Under SURVEILLANCE, replaced phrase, "9 hours in a 24-hour period" with "20 consecutive hours." b. Under FREQUENCY, changed "hourly" to "every 10 hours."
29	3.3-1	SR 3.3.1.2	a. Under SURVEILLANCE, changed "less than or equal to 75°F" to "≤ 100°F." b. Under FREQUENCY, At the beginning of the sentence deleted, "Once," and after the word "when," added the phrase "ambient air temperature > 90°F and."

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
30	4.0-1	4.1	a. Changed title to "Site Location." b. Deleted subitem 4.1.1. c. Changed "Trojan Nuclear Plant (TNP)" to "Portland General Electric (PGE) Company" before the word, "site." d. Deleted last sentence of this section, reference to Figure 4-1 e. Deleted Figure 4-1 from the Technical Specifications.
31	4.0-1	4.2.1	a. Replaced "TranStor™ Dry Storage System" with "TROJAN STORAGE SYSTEM." b. Changed "36" to "34." c. Changed "PWR BASKET" to "MPC." d. Deleted phrase, "and, if needed, one BASKET OVERPACK," in the second sentence. e. Added reference to Technical Specification 2.1.2 for FAILED FUEL CANS f. Replaced phrase, "in which case only 20 ... would be stored in those baskets," with, "with the balance being ... up to a total of 24 assemblies per MPC." g. Changed the helium backfill pressure to "29.3 and 33.3 psig."
32	4.0-1	4.2.2	Added the word, "ASSEMBLIES," after "DAMAGED FUEL" for consistency with the DEFINITIONS.

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
33	4.0-2 & 4.0-3	4.2.3	a. Deleted "Service Pad" from Title. b. First bullet: Inserted the word, "Loaded," before "CONCRETE CASKS" in the first line and added the phrase, "when stored in their assigned location on the ISFSI Storage Pad except for the 30 foot ± 4 inch center-to-center gap in the center of the ISFSI Storage Pad," to the end of the sentence. c. Second bullet: Added the word, "loaded," in first line before MPC, replaced "PWR BASKET" with "MPC" throughout this section, deleted the phrase, "with a safety factor of at least 2 in accordance with," added the phrase, "which shall meet the guidance of Section 5.1.1 of," before "NUREG-0612" in the first sentence, and added the phrase, "except that to assure defense-in-depth:," at the end of the sentence. d. Second bullet: Added the following new subitems 1. through 6. by modifying the existing words in the remainder of the paragraph and inserting words from Attachment C to Enclosure 1, Licensing Basis for Change to the Technical Specification for the Mobile Crane at the Trojan Nuclear Plant Independent Spent Fuel Storage Installation: 1. The mobile crane in its lifting configuration (reeving, placement, boom length, angle, counterweight, etc.) shall have a rated capacity of at least two times the weight to be lifted (loaded MPC plus lifting hardware) in accordance with the guidance of NUREG-0612. 2. In accordance with the guidance of NUREG-0612, the mobile crane must have the ability to safely stop and hold the MPC in the event of the Seismic Margin Earthquake (SME) applicable to the Trojan ISFSI. 3. The mobile crane shall meet the requirements of ANSI B30.5, "Mobile and Locomotive Cranes," or equivalent, in lieu of the requirements of ANSI B30.2, "Overhead and Gantry Cranes." 4. The MPC will be restricted to a lift height not to exceed 249 inches (bottom of raised MPC in the TRANSFER CASK to bottom of Transport Cask) when being lifted by the mobile crane in the TRANSFER STATION by the physical limitation of the bottom of the lid of the TRANSFER CASK. A load cell, or equivalent, on the mobile crane will indicate contact with the bottom of the lid to of the TRANSFER CASK to limit the lift height of the MPC. 5. Special Lifting Devices as defined in ANSI N14.6-1993 shall have two times the design safety factors of Section 4.2.1.1 in accordance with Section 7.2. These special lifting devices shall include the lifting cleats. 6. Lifting Devices that are not specifically designed and that are used for handling heavy loads shall meet the requirements of ANSI B30.9, "Slings," except that the load to be used in selecting the slings is to be twice that specified in NUREG-0612, Section 5.1.1(5). e. Third bullet: Made the editorial change of replacing the word, "which," with the word, "that."

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
34	4.0-4	4.3.1 & 4.3.1.1	a. Changed title by replacing "PWR BASKET" with "MPC" and deleted "BASKET OVERPACK." b. Updated version of ASME Code that is applicable to MPC to 1995 Edition through 1997 Addenda. c. Deleted Technical Specification Table 4-1 and replaced it by referencing the identical table in the Trojan ISFSI SAR, Table 4.2-1a, and replaced "ISFSI" in last line with "MPC."
35	4.0-4	4.3.2	Deleted this section; added the phrase "NOT USED" to maintain numbering system.
36	4.0-4 & 4.0-5	4.3.3	a. Added the word, "Design," in the title, after the word, "to," and before the word, "Codes." b. Changed "alternatives" to "construction/fabrication exceptions," replaced specific reference to ASME Code with reference to Specification 4.3.1 and inserted the words, "MPC design codes and standards," and deleted reference to Specification 4.3.2, ACI-318, 1985, and ANSI N57.9-1984. c. Subitem 2, changed edition of ASME Code and Addenda to 1995 and 1997, respectively, and deleted reference to ACI-349, 1985.
37	4.0-6 - 4.0-8	Tables 4-1 & 4-2	Deleted both tables.
38	5.2-1	5.2.1	Deleted details of Onsite and Offsite Organization and replaced with reference to Trojan ISFSI SAR and Trojan Nuclear Quality Assurance Program Topical Report (PGE-8010).
39	5.3-1	5.3.1	Replaced details of ISFSI Staff Qualifications with reference to Trojan ISFSI SAR which contains identical requirements.
40	5.4-1	5.4.1	Deleted list of activities since many are not applicable to ISFSI and referenced Trojan ISFSI SAR for description of activities requiring procedures related to storage operations that are important to safety and reworded paragraph.
41	5.5-1	5.5.2	a. In subitem a., replaced "PWR BASKET" with "MPC," and deleted "Shield." b. In subitem b., converted first letters of "Controlled Area" to uppercase.

Table A-2
Changes to Trojan ISFSI Technical Specifications

No.	Page	Section No.	Description of Change
42	5.5-2	5.5.3	a. In subitem a., changed period for monitoring CONCRETE CASK air outlet temperature from "every 12 hours" to "daily," for inspecting air inlet vents from "every 24 hours" to "weekly," and added a requirement to increase air inlet vent inspection frequency upon the occurence of an environmental phenomenon. b. In subitem c., replaced "195°F" with "the program limit" and deleted sentences discussing relationship of air outlet temperature of 195°F with CONCRETE CASK temperature of 225°F.
43	5.5-3	5.5.4	a. In subitem b., converted first letters of "Controlled Area" to uppercase and deleted acronym "(RECP)." b. In subitem c., replaced specific limits for contamination with reference to limits in the Radiation Protection Program.
44	5.6-1	5.6	Added "s" at the end of "Area" in Header and title.

Table A-3
Changes to Trojan ISFSI Technical Specifications Bases

No.	Page	Section No.	Description of Change
1	B2.0-1	B2.0	Changed title to "APPROVED CONTENTS."
2	B2.0-1	B2.1.1	Added "B2.1.2" and "and Fuel Storage Configuration Limits" to title and deleted period after "B" in "B2.1.1."
3	B2.0-1	B2.1.1 & B2.1.2 BACKGROUND	a. First paragraph, changed "PWR BASKET" to "MPC" and deleted "BASKET OVERPACK." b. Second paragraph, added "materials" to list of evaluations performed, replaced "TranStor™ Storage System" with "TROJAN STORAGE SYSTEM," replaced "PWR BASKET" with "MPC," and deleted "BASKET OVERPACK." c. Third paragraph, replaced "TranStor™ Storage System" with "TROJAN STORAGE SYSTEM" and replaced "PWR BASKET" with "MPC." d. Fourth paragraph, deleted reference to "shield" lid and "structural" lid, replaced "PWR BASKET" with "MPC," replaced "vacuum" with "MPC cavity," and added "MPC vent and drain port cover plates and closure ring" in the last sentence.
4	B2.0-2	B2.1.1 & B2.1.2 BACKGROUND	Deleted the following sentence: "The surface contamination levels must meet the limits of LCO 3.3.1."
5	B2.0-2 & B2.0-3	B2.1.1 & B2.1.2 APPLICABLE SAFETY ANALYSES	a. Changed "PWR BASKET" to "MPC" throughout. b. Reworded first sentence to reflect that misloading an MPC could not result in exceeding design limits for thermal, structural, radiological, criticality, and material parameters assumed in the SAR. c. Deleted reference to "BASKET OVERPACK," and thermal limit associated with use of the BASKET OVERPACK. d. Changed maximum heat load to 17.4 kW; added maximum burnup, and minimum cooling time; referred to Table 2-1 for design parameters. e. Added description of MPC capacity to include 20-24 INTACT FUEL ASSEMBLIES and up to four FAILED FUEL CANS. f. Separated description of why design limits cannot be exceeded into new paragraph and added several sentences discussing radiation dose, criticality, materials, and structural analyses.

Table A-3
Changes to Trojan ISFSI Technical Specifications Bases

No.	Page	Section No.	Description of Change
6	B2.0-3	B2.1.1 & B2.1.2 APPROVED CONTENTS VIOLATIONS	a. Changed title of this section. b. Replaced "Functional and Operating Limits" with "Approved Contents" in first sentence at beginning of section that describes applicability. c. Changed "PWR BASKET" to "MPC," "a" to "an," and added, "will not result in exceeding any of," after "MPC," and deleted "that exceeds ... is not considered credible."
7	B2.0-3	B2.1.1 & B2.1.2 References	Deleted "Letter from PGE to NRC dated 12/23/96 (Question 4-1)."
8	B3.0-9	SR3.0.4	End of second paragraph, changed "PWR BASKET" to "MPC."
9	B3.1-1	B3.1 and B3.1.1	Changed titles to "MPC INTEGRITY" and "MPC Lid Weld Helium Leak Rate," respectively.
10	B3.1-1	B3.1.1 BACKGROUND	a. Changed "PWR BASKET" to "MPC" throughout. b. Changed reference to "PWR BASKET shield lid" to "MPC lid." c. Replaced "FAILED FUEL CANS" with "DAMAGED FUEL ASSEMBLIES" and "FUEL DEBRIS." d. Deleted the phrase, "pressurized with helium to a pressure of $\geq$ 13 psig." e. Added the phrase, "hydrotested and helium leak rate tested." f. Changed maximum helium leak rate from "$\leq 10^{-4}$ scc/sec" to "$\leq 5x10^{-6}$ atm-cc/sec.
11	B3.1-1	B3.1.1 APPLICABLE SAFETY ANALYSES	a. Changed "PWR BASKET" to "MPC." b. Changed "cladding" to "clad." c. In the ninth line of the first paragraph, added the phrase, "an incredible event," after "considered" and before "in." d. Added "s" to "assume" in penultimate line of first paragraph to agree with noun, "analysis." e. Second paragraph, first line, added, "ASSEMBLIES," after "FUEL," changed verb from "has" to "have."

Table A-3
Changes to Trojan ISFSI Technical Specifications Bases

No.	Page	Section No.	Description of Change
12	B3.1-2	B3.1.1 APPLICABLE SAFETY ANALYSES	a. First paragraph, first line, changed "it" to "they" and "does" to "do." b. Second line, added, "ASSEMBLIES," after "DAMAGED FUEL." c. Second paragraph, deleted reference to "steady state," deleted "Shield" in describing lid, and replaced short term maximum fuel clad temperature value of "888°F" with the phrase, "the short term fuel clad temperature limit."
13	B3.1-2	B3.1.1 LCO	a. Changed "PWR BASKET" to "MPC." b. Deleted reference to "shield" lid. c. Changed the helium leak rate to "$\leq 5x10^{-6}$ atm-cc/sec." d. Added a sentence clarifying that this value is consistent with the leak rate used in the confinement analysis, and added a sentence stating that the MPC is leaktight. e. Deleted the test pressure and the criterion for the previous leak rate to result "... in less than 2% loss of helium during the 20-year license."
14	B3.1-2 & B3.1-3	B3.1.1 APPLICABILITY	a. Deleted phrase, "steady state." b. Changed maximum fuel clad temperature to "659°F." c. Changed magnitude of difference from short term limit to "399°F." d. Changed "cladding" to "clad."
15	B3.1-3 & B3.1-4	B3.1.1 ACTIONS	a. Changed "PWR BASKET" to "MPC" throughout. b. Deleted "shield" throughout when describing lid. c. In B.1, changed "75 gallons" to "50 to 120 gallons." d. In B.1, after "gallons," changed "which" to "that." e. In B.1, replaced the phrase, "means of the Vacuum Drying System (VDS)," with the phrase, "recirculating helium or borated water through the MPC cavity." f. In B.1, changed long term storage limit to "647°F" and provided a Ref. 4 for it. g. In B.1, page B3.1-4, added the phrase, "and perform the helium leak rate test," after "repairs." h. In B.1, page B3.1-4, deleted the phrase, "provided the bulk water temperature of the PWR BASKET does not exceed 212°F."

Table A-3
Changes to Trojan ISFSI Technical Specifications Bases

No.	Page	Section No.	Description of Change
16	B3.1-4	B3.1.1 SURVEILLANCE REQUIREMENTS	a. Changed "PWR BASKET" to "MPC" and deleted "shield" when describing lid throughout. b. First paragraph, changed leak rate to "≤ $5x10^{-6}$ atm-cc/sec," added a phrase relating this value to the assumptions in the confinement analysis, and added two sentences regarding parameters that could affect the measured leak rate and how it will be corrected for comparison. c. Deleted the last two sentences describing the basis for the previous helium leak rate test for the PWR Basket shield lid weld.
17	B3.1-5	B3.1.1 SURVEILLANCE REQUIREMENTS	a. First paragraph, added phrase to second sentence to clarify that after MPC cavity drying, the vent and drain port covers are welded in place and helium leak rate tested. b. First paragraph, reworded the last sentence to indicate that after the port covers are helium leak rate tested, a redundant confinement boundary is provided by the closure seal welds after replacing "structural lid" with "closure ring." c. Reworded the explanation of the note reflect that it is not required to be met until 72 hours after loading the TRANSFER CASK rather than its performance can be delayed.
18	B3.1-5	B3.1.1 REFERENCES	a. Added additional SAR Section 8.2.1 to item 1. b. Added new reference 4., SAR Table 3.1-3.
19	B3.1-6	B3.1.2	Changed title to, "MPC Cavity Dryness."
20	B3.1-6 & B3.1-7	B3.1.2 BACKGROUND	a. Changed "PWR BASKET" to "MPC." b. Replaced "FAILED FUEL CANS" with "DAMAGED FUEL ASSEMBLIES" and "FUEL DEBRIS." c. Added a period after the "e" in the "i.e.," in the parenthetical expression. d. Deleted "shield," "structural," and "both lids" when describing lid. e. Replaced "vacuum" with "MPC cavity" in front of "drying" and deleted the word "vacuum" in front of "drying" in one location. f. Added new paragraph describing two alternatives for achieving MPC Cavity Dryness. g. Last paragraph, added a new sentence that clarifies that the presence of helium in the MPC ensures there will be no significant corrosion of the fuel clad during storage.

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No.	Page	Section No.	Description of Change
21	B3.1-7 & B3.1-8	B3.1.2 APPLICABLE SAFETY ANALYSES	a. Replaced "PWR BASKET" with "MPC." b. Replaced "cladding" with "clad." c. In fifth line, replaced "fuel assemblies" with "INTACT FUEL ASSEMBLIES." d. In first paragraph, penultimate line, added "s" to "assume" to agree with noun, "analysis." e. In second paragraph, inserted "ASSEMBLIES" after "DAMAGED FUEL" and changed "has" to "have," "it" to "they," and "does" to "do." f. Replaced "vacuum" with "MPC cavity." g. Changed maximum fuel clad temperature to "659°F," heat load to "17.4 kW," difference from short term temperature limit to "399°F," and added the phrase, "short term fuel clad temperature," before "limit."
22	B3.1-8	B3.1.2 LCO	a. Replaced "PWR BASKET" with "MPC." b. Replaced "cladding" with "clad." c. Replaced "mm Hg" with "torr" and added the phrase, "or a helium gas demoisturizer exit temperature $\leq$ 21°F for $\geq$ 30 minutes." d. Added an explanation about why the helium gas demoisturizer exit temperature of 21°F is equivalent to 3 torr. e. Changed first letters of "confinement boundary" to lowercase. f. Second paragraph, changed first letter of "clad" to lowercase. g. Second paragraph, changed maximum fuel clad temperature to "659°F," and difference from short term limit to "399°F." h. Changed "26 KW" to "17.4 kW." i. Changed "vacuum" to "MPC cavity" where appropriate.
23	B3.1-9	B3.1.2 APPLICABILITY	Replaced "PWR BASKET" with "MPC."

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Changes to Trojan ISFSI Technical Specifications Bases

No.	Page	Section No.	Description of Change
24	B3.1-9	B3.1.2 ACTIONS	a. Replaced "PWR BASKET" with "MPC." b. In A.1, first paragraph, changed "vacuum drying pressure" to "MPC cavity dryness." c. In A.1, second paragraph, changed maximum fuel clad temperature to "659°F," difference from short term limit to "399°F," and "Ref. 1" to "Ref. 2." d. In A.1, second paragraph, replaced "Vacuum Drying System," with "affected components."
25	B3.1-10	B3.1.2 ACTIONS	a. Changed "PWR BASKET" to "MPC." b. In B.1.1 and B.1.2, deleted "or the shield lid closure weld is incomplete." c. In B.1.1 and B.1.2, replaced "vacuum" with "MPC cavity." d. In B.1.1, changed "Ref. 2" to "Ref. 3" in two places. e. In B.1.1, reworded the last sentence to be more specific in regard to performing the MPC cavity drying after the repairs are completed to satisfy the LCO. f. In B.2, replaced "vacuum drying pressure" with "MPC cavity dryness." g. In B.2, deleted "welding," before "repairs." h. In B.2, replaced "Vacuum Drying System" with "affected components."
26	B3.1-11	B3.1.2 SURVEILLANCE REQUIREMENTS SR 3.1.2.1	a. At end of first paragraph, added the phrase, "or lowering the recirculating gas temperature to or below the specified limit." b. In second paragraph, replaced "PWR BASKET" with "MPC." d. Deleted "vacuum" before "drying" and added "operations" immediately following "drying." e. Deleted the phrase, "while minimizing the time the fuel in the PWR BASKET is ..." f. Added the phrase, "If the vacuum drying method is used, the 96 hours is a reasonable amount of time to allow the MPC to be ...," in front of "without an inert atmosphere."
27	B3.1-11	B3.1.2 REFERENCES	Added a new reference 1, "SAR 8.2.1," and renumbered the subsequent references.
28	B3.2-1	B3.2.1 Header	Deleted "s" on Limit in the title in the Header.

Table A-3
Changes to Trojan ISFSI Technical Specifications Bases

No.	Page	Section No.	Description of Change
29	B3.2-1	B3.2.1 BACKGROUND	a. Changed "PWR BASKET" to "MPC." b. Deleted reference to "transferring a degraded PWR BASKET" into a "BASKET OVERPACK." c. Changed "shipping container" to "Transport Cask." d. Deleted basis for high temperature limit due to neutron shielding, RX244, and distinction between use of Transport Cask as lifting device and support device. e. Changed low temperature limit to "0°F." f. Changed "temperatures" to "temperature" to reflect only one limit and changed associated verb and article.
30	B3.2-1 & B3.2-2	B3.2.1 APPLICABLE SAFETY ANALYSIS	a. Reworded first sentence to indicate that, "... design characteristics of the TRANSFER CASK are considered in the Safety Analysis ...," not the, "... design of the TRANSFER CASK." b. Deleted distinction between use of TRANSFER CASK as a lifting device and a support device and any discussion related to this distinction. c. Deleted high temperature limit. d. Changed low temperature limit to "0°F."
31	B3.2-2	B3.2.1 LCO	a. Changed low temperature limit to 0°F and reworded basis for the limit to refer to brittle fracture rather than structural integrity. b. Deleted second paragraph, high temperature limit and related discussion, including reference to neutron shielding material RX244.
32	B3.2-2	B3.2.1 APPLICABILITY	a. Changed "PWR BASKET" to "MPC." b. Deleted the word "degraded" to describe a "PWR BASKET" (or "MPC"). c. Added description of transferring a loaded "MPC" into a Transport Cask. d. Deleted "BASKET OVERPACK in a CONCRETE CASK."

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No.	Page	Section No.	Description of Change
33	B3.2-2 & B3.2-3	B3.2.1 ACTIONS	a. Deleted old ACTIONS A.1 and A.2 and designated previous ACTIONS B.1 and B.2 as ACTIONS A.1 and A.2. b. Deleted the term, "Fuel Building." c. Added the phrase, "to lift, support, or transport a loaded MPC," in the first sentence of new A.1 and A.2 after "TRANSFER CASK." d. Added the phrase, "with a loaded MPC," after "TRANSFER CASK" in first sentence and deleted "as a lifting device." e. Changed low temperature limit to "0°F." f. Added a sentence clarifying what a "safe condition" is.
34	B3.2-3	B3.2.1 SURVEILLANCE REQUIREMENTS	a. In SR 3.2.1.1, added "to lift, support or transport a loaded MPC" after "used" and before "whenever." b. Changed "temperatures" to "temperature," to reflect there is only one limit, and changed associated verb and article to match. c. Deleted old SR 3.2.1.2 and redesignated previous SR 3.2.1.3 as new SR 3.2.1.2. d. In new SR 3.2.1.2, added phrase, "to lift, support, or transport a loaded MPC," after "used" and before "with." e. Changed surveillance limit to "5°F" and low temperature limit to "0°F."

Table A-3
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No.	Page	Section No.	Description of Change
35	B3.3-1 & B3.3-2	B3.3.1 APPLICABLE SAFETY ANALYSIS	a. Second paragraph, changed first sentence by replacing the word, "case," with the words, "accident evaluated." b. Second paragraph, first sentence, replaced the words, "which assumes," with the words, "100°F ambient air and." c. Second paragraph, first sentence, deleted the phrase, "and all outlets." d. Second paragraph, first sentence, added the words, "is assumed," and ended the sentence after these new words, "is assumed." e. Second paragraph, began new second sentence with "For." f. Second and fourth (on page B3.3-2) paragraphs, changed "PWR BASKET" to "MPC." g. Second paragraph, changed length of time to reach normal operation storage temperature limit of 225°F from "9.3 hours" to "20 hours," time to reach short-term off-normal limit of 300°F from "21 hours" to "39.5 hours," and time to reach the short-term accident limit of 350°F from "31.5 hours" to "57.1 hours." h. Second paragraph of this section continuing on page B3.3-2, replaced "9 hours in any 24-hour period" with "20 consecutive hours." i. On page B3.3-2, added the statement, "Twenty hours is more than sufficient time to complete the movement of the CONCRETE CASK using the AIR PADS" and added a description of the conservatism in this limit based upon not reaching the short-term concrete temperature limit for 57 hours. j. Created a new third paragraph from the last sentence of the second paragraph and changed the temperature limit in the last sentence to 100°F and reworded the sentence as follows: "Since the Full Blockage of Air Flow accident evaluated in the SAR assumes an initial ambient air temperature of 100°F, a 100°F temperature limit is ...." k. In last paragraph of this section, changed heat load from "26" to "17.4" kW.
36	B3.3-2	B3.3.1 LCO	a. Replaced "9 hours in a 24-hour period" with "20 consecutive hours." b. Changed "75°F" to "100°F." c. In second paragraph, deleted everything after "exceeded" in fourth line, including the parenthetical phrase, i.e., deleted: "regardless of the PWR BASKET heat load (the actual heat load is less than the design heat load of 26 kW)."

Table A-3
Changes to Trojan ISFSI Technical Specifications Bases

No.	Page	Section No.	Description of Change
37	B3.3-3	B3.3.1 ACTIONS	a. In A.1, changed "9 hours in a 24-hour period" to "20 consecutive hours." b. In B.1, changed "75°F" to "100°F." c. In B.1, deleted third sentence: "Although all of the AIR PADS will be removed, the safety analysis has shown that blockage of one-half of the air inlets, which is more conservative than (but similar to) the case of two of the AIR PADS installed, does not lead to adverse concrete temperatures (Reference 5)."
38	B3.3-3	B3.3.1 SURVEILLANCE REQUIREMENTS	a. In SR 3.3.1.1, changed "monitored hourly" to "monitored every 10-hours." b. In SR 3.3.1.2, deleted "Similarly" at the beginning of the first sentence and added "whenever it is greater than 90°F and the AIR PADS are installed" to the end of the first sentence. c. In SR 3.3.1.2, added the following: "The long term integrity of the concrete is ensured by maintaining its temperature below the specified limits. To ensure the temperature of the concrete does not exceed its limits, the ambient air temperature during the period of time in which the AIR PADS are installed is monitored hourly when ambient air temperature is > 90°F."

TROJAN ISFSI

Proposed Revision to the License,
Technical Specifications,
and Bases

LCA 72-02
Enclosure 1
Attachment B

ENCLOSURE 1

ATTACHMENT B

to VPN-044-2001

Trojan ISFSI

LCA 72-02

Annotated Pages of the Trojan ISFSI

License, Technical Specifications, and Bases

NRC FORM 588
(10-2000)
10 CFR 72

U. S. NUCLEAR REGULATORY COMMISSION

LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Part 72, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, and possess the power reactor spent fuel and other radioactive materials associated with spent fuel storage designated below; to use such material for the purpose(s) and at the place(s) designated below; and to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified herein.

Licensee	
1. Portland General Electric Company, *with Eugene Water and Electric Board and PacifiCorp.*	3. License No. SNM-2509 Amendment No. ~~1~~2
2. ~~Trojan Nuclear Plant~~ *Portland General Electric Company* 71760 Columbia River Highway Rainier, Oregon 97048	4. Expiration Date March 31, 2019
	5. Docket or Reference No. 72-17

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount That Licensee May Possess at Any One Time Under This License
A. Spent fuel from Trojan Nuclear Plant and associated radioactive materials related to receipt, storage, and transfer of the fuel assemblies.	A. Spent fuel assemblies and damaged fuel assemblies as UO_2 clad with Zircaloy-4. Fuel debris as UO_2 contained in Fuel Debris Cans.	A. 344.5 MTU of intact spent fuel assemblies, damaged fuel assemblies, and fuel debris.

9. Authorized Use: ~~For use in accordance with statements, representations, and the conditions of the Technical Specifications and Safety Analysis Report (SAR) dated March 26, 1996, as supplemented on August 6 and November 27, 1996; February 13 and December 18, 1997; August 28 and October 31, 1998; January 22, February 11, February 24, and March 11, 1999; and February 19 and March 9, 2001.~~

The material identified in 6.A and 7.A above is authorized for receipt, possession, storage *in the Trojan Storage System*, and transfer~~. Storage is authorized only in casks of the TranStor design~~ as described in the *approved Trojan ISFSI Safety Analysis Report (SAR), as supplemented and amended in accordance with 10 CFR 72.70 and 10 CFR 72.48.*

10. Authorized Place of Use: The licensed material is to be received, possessed, transferred, and stored at the Trojan ISFSI located on the ~~Trojan Nuclear Plant~~ *Portland General Electric Company* site in Columbia County, Oregon, near Rainier, Oregon.

LICENSE FOR INDEPENDENT STORAGE OF SPENT NUCLEAR FUEL AND HIGH-LEVEL RADIOACTIVE WASTE
SUPPLEMENTARY SHEET

11. The Technical Specifications contained in Appendix A attached hereto, *as revised through Amendment 2,* are incorporated into the license. The licensee shall operate the installation in accordance with the Technical Specifications in Appendix A. Appendix A contains Technical Specifications related to Environmental Protection to satisfy the requirements of 10 CFR 72.44(d)(2).

12. The licensee shall follow the physical protection plan entitled "Trojan ISFSI Security Plan," dated March 26, 1996 and Revision 1, dated January 8, 1999; and as it may be further amended under the provisions of 10 CFR Parts 72.44(e) and 72.180. The requirements of 10 CFR Part 73, Appendix B for guard training and qualification are incorporated in Appendix C of the approved security plan. The requirements of 10 CFR, Part 73, Appendix C, for contingency planning are addressed in Chapter 1.9 of the physical security plan.

13. Fuel and cask movement and handling activities that are to be performed in the Trojan Nuclear Plant Fuel Building will be governed by the requirements of the Trojan Nuclear Plant Operating License (NPF-1) and associated Technical Specifications.

14. Pursuant to 10 CFR 72.7, the licensee is hereby exempt from:

~~1) The provisions of 10 CFR 72.124(b) with respect to providing a positive means to verify the continued efficacy of the solid neutron absorbing materials.~~

~~2~~1) The provisions of 10 CFR 72.82(e) with respect to submitting a preoperational test criteria and report to the Commission. The report is not required to be submitted to the Commission.

~~3~~2) The provisions of 10 CFR 72.70(a) with respect to submitting the final SAR to the Commission 90 days prior to the receipt of spent fuel at the Trojan ISFSI. In lieu of 90 days the final SAR must be submitted to the Commission at least 5 days prior to the receipt of spent fuel at the Trojan ISFSI.

15. This license is effective as of the date of issuance shown below.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

E. William Brach, Director
Spent Fuel Project Office
Office of Nuclear Material Safety
and Safeguards
Washington, DC 20555

Date of Issuance: March 31, 1999

amended by
Amendment ~~1~~ 2 dated ~~March 31, 2001~~

TECHNICAL SPECIFICATIONS

FOR

TROJAN

INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)

March 1999

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1.0 USE AND APPLICATION

1.1 Definitions

----------NOTE----------

The defined terms of this section appear in capitalized type and are applicable throughout these Trojan *Independent Spent Fuel Storage Installation (*ISFSI*)* 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.
AIR PADS	The AIR PADS are commercially available lifting devices that are used to move the CONCRETE CASKS. The AIR PADS consist of four air bladders that are inserted into the CONCRETE CASK air inlets and are inflated to lift a CONCRETE CASK up to four inches off the surface which then allows it to be moved.
~~BASKET OVERPACK~~	~~The BASKET OVERPACK is the welded container which is designed to provide a Confinement Boundary in the event of a PWR BASKET failure.~~
CONCRETE CASK	The CONCRETE CASK is the structure in which a *MULTI-PURPOSE CANISTER (MPC)* ~~PWR BASKET and a BASKET OVERPACK are~~ *is* stored.
DAMAGED FUEL *ASSEMBLY*	DAMAGED FUEL *ASSEMBLIES* are fuel assemblies which can be handled by normal means: (1) with known or suspected cladding defects greater than pinhole leaks or hairline cracks; or (2) with missing fuel rods that are not replaced with dummy fuel rods. Fuel assemblies which cannot be handled by normal means due to fuel cladding damage are considered to be FUEL DEBRIS. DAMAGED FUEL *ASSEMBLIES are* ~~is~~ stored in FAILED FUEL CANS.
FAILED FUEL CAN	FAILED FUEL CANS are specially designed enclosures for DAMAGED FUEL *ASSEMBLIES*, FUEL DEBRIS, and PROCESS CAN CAPSULES. FAILED FUEL CANS are stored ~~in a PWR BASKET~~ *an MPC.*

1.0 USE AND APPLICATION

1.1 Definitions

FUEL DEBRIS	FUEL DEBRIS is fuel with known or suspected defects, such as ruptured fuel rods, severed rods, or loose fuel pellets and fuel pellet fragments. FUEL DEBRIS includes fuel assembly metal fragments such as portions of fuel rods and grid assemblies. Fuel assemblies which cannot be handled by normal means due to fuel cladding damage are considered to be FUEL DEBRIS. FUEL DEBRIS is stored in PROCESS CAN CAPSULES, which are stored in FAILED FUEL CANS, or directly in FAILED FUEL CANS depending upon the extent of damage.
~~INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI)~~	~~The facility within the perimeter fence licensed for storage of spent fuel within CONCRETE CASKS.~~
INTACT FUEL ASSEMBLY	INTACT FUEL ASSEMBLIES are fuel assemblies which can be handled by normal means: (1) without known or suspected cladding defects greater than pinhole leaks or hairline cracks; or (2) with missing fuel rods which are replaced by dummy rods. Fuel assemblies from which fuel rods are missing shall not be classified as INTACT FUEL ASSEMBLIES unless dummy fuel rods are used to displace an amount of water equal to that displaced by the original fuel rod(s).
LOADING OPERATIONS	LOADING OPERATIONS include those licensed activities performed on ~~a PWR BASKET~~ *an MPC* while it is being loaded with INTACT FUEL ASSEMBLIES, DAMAGED FUEL *ASSEMBLIES*, or FUEL DEBRIS, and on a CONCRETE CASK while it is being loaded with ~~a PWR BASKET~~ *an MPC* containing INTACT FUEL ASSEMBLIES, DAMAGED FUEL *ASSEMBLIES*, or FUEL DEBRIS. LOADING OPERATIONS begin when the first INTACT FUEL ASSEMBLY, DAMAGED FUEL *ASSEMBLY*, or FUEL DEBRIS, is lowered into the ~~PWR BASKET~~ *MPC* and ends when the CONCRETE CASK is ready for TRANSPORT OPERATIONS.

1.0 USE AND APPLICATION

1.1 Definitions

~~PWR BASKET~~ *MULTI-PURPOSE CANISTER (MPC)*	The ~~PWR BASKET~~ *MPC* is the stainless steel welded container ~~which~~ *that* is designed for storage and transportation of INTACT FUEL ASSEMBLIES and FAILED FUEL CANS ~~which~~ *that* contain DAMAGED FUEL *ASSEMBLIES* and FUEL DEBRIS.
PROCESS CAN CAPSULE	PROCESS CAN CAPSULES are sealed, inerted canisters containing FUEL DEBRIS. PROCESS CAN CAPSULES are stored in FAILED FUEL CANS.
STORAGE OPERATIONS	STORAGE OPERATIONS include all licensed activities that are performed at the ISFSI while a CONCRETE CASK containing ~~a PWR BASKET or a BASKET OVERPACK~~ *an MPC* with INTACT FUEL ASSEMBLIES, DAMAGED FUEL *ASSEMBLIES*, ~~and~~ *or* FUEL DEBRIS, is located ~~on the storage pad~~ within the ISFSI perimeter including movement of and use of the TRANSFER CASK~~, BASKET OVERPACK,~~ or a ~~shipping~~ *Transport C*ask ~~on the Storage Pad~~.
TRANSFER CASK	The TRANSFER CASK is used to lift and transport ~~a PWR BASKET~~ *an MPC* in the Fuel Building and *to* support ~~a PWR BASKET~~ *an MPC* at the TRANSFER STATION.
TRANSFER STATION	The TRANSFER STATION is a steel structure, located on the Transfer Pad, to the west of the ~~s~~*S*torage ~~p~~*P*ad, designed to safely facilitate loading the *MPC into a Transport Cask* ~~PWR BASKET into a shipping cask or BASKET OVERPACK~~.
TRANSPORT OPERATIONS	TRANSPORT OPERATIONS include those activities involving movement of a CONCRETE CASK loaded with ~~a PWR BASKET~~ *an MPC* containing INTACT FUEL ASSEMBLIES, DAMAGED FUEL *ASSEMBLIES*, or FUEL DEBRIS. TRANSPORT OPERATIONS begin when the CONCRETE CASK is first moved from the Fuel Building following LOADING OPERATIONS and ends when the CONCRETE CASK is at its storage location within the ISFSI.

1.0 USE AND APPLICATION

1.1 Definitions

TROJAN STORAGE SYSTEM	*The TROJAN STORAGE SYSTEM is defined as the TranStor™ CONCRETE CASK containing a Holtec MPC-24E or MPC-24EF. The Holtec MPC-24E and MPC-24EF used at Trojan are modified to fit within the TranStor™ CONCRETE CASKS, as described in the Trojan ISFSI Safety Analysis Report.*
UNLOADING OPERATIONS	UNLOADING OPERATIONS include activities performed on ~~a PWR BASKET~~ *an MPC* to be unloaded of the contained INTACT FUEL ASSEMBLIES, *DAMAGED FUEL ASSEMBLIES,* or *FUEL DEBRIS* ~~FAILED FUEL CANS~~. UNLOADING OPERATIONS begin when actions have commenced to relocate the ~~PWR BASKET~~ *MPC* to the Cask Loading Pit and ends when the last INTACT FUEL ASSEMBLY, *DAMAGED FUEL ASSEMBLY,* or *FUEL DEBRIS* ~~FAILED FUEL CAN~~ has been removed from the ~~PWR BASKET~~ *MPC*.

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 may 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 Completion Time, Surveillance, or Frequency.

EXAMPLES

The following examples illustrate the use of logical connectors.

1.0 USE AND APPLICATION

1.2 Logical Connectors

EXAMPLES (continued)

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.

1.0 USE AND APPLICATION

1.2 Logical Connectors

EXAMPLES (continued)

EXAMPLE 1.2-2

ACTIONS

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

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

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operations (LCOs) specify the lowest functional capability or performance levels of equipment required for safe operation of the facility. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the time of discovery of a situation (e.g., equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the facility is in a specified condition stated in the Applicability of the LCO. Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the facility is not within the LCO Applicability. Once a Condition has been entered, subsequent subsystems, components, or variables expressed in the Condition, discovered to be not within limits, will <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.

1.0 USE AND APPLICATION

1.3 Completion Times

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 Times 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.

1.0 USE AND APPLICATION

1.3 Completion Times

EXAMPLES (continued)

EXAMPLE 1.3-2

ACTIONS

CONDITION		REQUIRED ACTION		COMPLETION TIME
A.	One system not within limits.	A.1	Restore system to within limit.	7 days
B.	Required Action and associated Completion Time not met.	B.1	Complete action B.1	12 hours
		AND		
		B.2	Complete action B.2	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, Conditions A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

1.0 USE AND APPLICATION

1.3 Completion Times

EXAMPLES (continued)

EXAMPLE 1.3-3

ACTIONS

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

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

1.0 USE AND APPLICATION

1.3 Completion Times

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.

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 a SR satisfied, SR 3.0.4 imposes no restriction.

1.0 USE AND APPLICATION

1.4 Frequency

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

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify pressure within limit.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the 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 stated 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 a variable is outside specified limits, or the facility is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the facility is in a condition specified in the Applicability of the LCO, the LCO is not met in accordance with SR 3.0.1.

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

1.0 USE AND APPLICATION

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE REQUIREMENTS

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

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

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

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

1.0 USE AND APPLICATION

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------NOTE---------- Not required to be met until 96 hours after verifying the helium leak rate is within limit. ----------	
Verify ~~PWR BASKET~~ *MPC* ~~vacuum drying pressure~~ *cavity dryness* is within limit.	Once after verifying the helium leak rate is within limit.

As the Note modifies the required performance of the Surveillance, it is construed to be part of the "specified Frequency." Should the ~~vacuum drying pressure~~ *cavity dryness* not be met immediately following verification of the ~~shield~~ *MPC* lid weld helium leak rate while in LOADING OPERATIONS, this Note allows 96 hours to perform the Surveillance. The Surveillance is still considered to be performed within the "specified Frequency."

Once the ~~shield~~ *MPC* lid weld helium leak rate has been verified to be acceptable, 96 hours, plus the extension allowed by SR 3.0.2, would be allowed for completing the Surveillance for the ~~vacuum drying pressure~~ *cavity dryness*. If the Surveillance was not performed within this 96 hour interval, there would then be a failure to perform the Surveillance within the specified Frequency, and the provisions of SR 3.0.3 would apply.

2.0 ~~FUNCTIONAL AND OPERATING LIMITS~~ *APPROVED CONTENTS*

2.1 ~~Functional and Operating Limits~~ *Approved Contents*

2.1.1 Fuel Stored ~~A~~*a*t ~~T~~*t*he ISFSI

The spent nuclear fuel to be stored in CONCRETE CASKS at the Trojan ISFSI shall consist of the following:

a. INTACT FUEL ASSEMBLIES as characterized in Table 2-1,

b. DAMAGED FUEL *ASSEMBLIES*,

c. FUEL DEBRIS, ~~which shall not exceed 7.5 kg of fissile material per PWR BASKET and 20 Curies of Plutonium per PWR BASKET,~~ and

d. Fuel assembly inserts as ~~described~~ *characterized* in Table 2-2.

2.1.2 Fuel Storage Configuration Limits

The spent nuclear fuel to be stored in the MPCs shall be limited as follows:

a. Up to 24 INTACT FUEL ASSEMBLIES may be stored in either the MPC-24E or the MPC-24EF.

b. DAMAGED FUEL ASSEMBLIES must be stored in FAILED FUEL CANS and may be stored in either the MPC-24E or the MPC-24EF. DAMAGED FUEL ASSEMBLIES are limited to four per MPC in the oversized corner fuel cell locations.

c. FUEL DEBRIS must be stored in FAILED FUEL CANS in an MPC-24EF. Up to four FAILED FUEL CANS containing FUEL DEBRIS or DAMAGED FUEL ASSEMBLIES may be stored in the MPC-24EF in the oversized corner fuel cell locations.

2.0 ~~FUNCTIONAL AND OPERATING LIMITS~~ *APPROVED CONTENTS*

2.2 ~~Functional and Operating Limits~~ *Approved Contents* Violations

2.2.1 Fuel Stored ~~A~~*at* ~~T~~*the* ISFSI *and Fuel Storage Configuration Limits*:

If the ~~Functional and Operating Limits~~ *Approved Contents* of 2.1.~~1~~ are violated, the following actions shall be completed:

a. Within 24 hours, notify the NRC Operations Center, and

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

Table 2-1
Spent Fuel Limits

CHARACTERISTIC	LIMIT
Clad~~ding~~	Zircaloy-4
Cooling Time After Discharge	≥ *9* years
~~Maximum~~ Fuel Enrichment	≤ *3.7* ~~4.2~~ weight % U^{235}
~~Maximum~~ Decay Heat per *MPC* ~~PWR BASKET~~[‡]	≤ ~~24.0~~ *17.4* kW_t
Fuel Design	B&W 17x17 (Mark-BW-17) and Westinghouse 17x17
~~Maximum b~~*B*urnup	≤ 4~~5~~*2*,000 M*W*~~w~~d/MTU

[‡] ~~Including Fuel Assembly Inserts~~

Table 2-2
Fuel Assembly Inserts

CHARACTERISTICS	LIMITS
Rod Cluster Control Assemblies (RCCAs)	
Number of Assemblies	61
Neutron Absorber	Ag-In-Cd
Cladding Material	304 SS
Number of Rods per Assembly	24
Burnable Poison Rod Assemblies (BPRAs)	
Number of Assemblies	92
Poison Material	Borosilicate Glass Tubes
Cladding Material	304 SS
Thimble Plugs	
Number of Thimble Plugs	140
Material	304 SS
Sources	
Number of Source Assemblies	6
Secondary Sources/Material	4/Sb-Be
Primary Sources/Material	2/Californium
Cladding Material	304 SS

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 Actions(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 not in service in compliance with ACTIONS may be returned to service under administrative control solely to perform testing required to demonstrate it meets the LCO or that other equipment meets the LCO. This is an exception to LCO 3.0.2 for the system returned to service under administrative control to perform the testing.
LCO 3.0.6	Not applicable to an ISFSI.
LCO 3.0.7	Not applicable to an ISFSI.

3.0 SURVEILLANCE REQUIREMENTS (SR) APPLICABILITY

SR 3.0.1

SRs shall be met during specified conditions in the Applicability for individual LCOs, unless otherwise stated in the SR. Failure to meet a SR, 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 inoperable 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 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 SR is not met, the LCO must immediately be declared not met, and the applicable Condition(s) must be entered.

3.0 SURVEILLANCE REQUIREMENTS (SR) APPLICABILITY

SR	3.0.4	Entry into a specified condition in the Applicability of an LCO shall not be made unless the LCO's SRs 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 or that are related to establishing an inert atmosphere in the ~~PWR BASKET~~ *MPC*.

3.1 ~~PWR BASKET~~ *MPC* INTEGRITY

3.1.1 ~~PWR BASKET Shield Lid~~ *MPC Lid* Weld Helium Leak Rate

LCO 3.1.1 The ~~PWR BASKET Shield Lid~~ *MPC lid* weld helium leak rate shall *be* ~~not exceed~~ $\leq 5x10^{-6}$ *atm-cc/sec.* ~~10^{-4} scc/sec at 13 psig or higher pressure.~~

APPLICABILITY: LOADING OPERATIONS.

ACTIONS

---NOTE---
Separate Condition entry is allowed for each ~~PWR BASKET~~ *MPC.*

	CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	~~PWR BASKET Shield Lid~~ *MPC lid* weld helium leak rate limit not met.	A.1	Establish ~~PWR BASKET Shield Lid~~ *MPC lid* weld helium leak rate within limit.	48 hours
B.	Required Action A.1 and Associated Completion Time not met.	B.1	Establish cooling to the ~~PWR BASKET~~ *MPC,*	24 hours
		AND		
		B.2	Unload the ~~PWR BASKET~~ *MPC.*	30 days

3.1 ~~PWR BASKET~~ *MPC* INTEGRITY

3.1.1 ~~PWR BASKET Shield Lid~~ *MPC Lid* Weld Helium Leak Rate

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------NOTE---------- Not required to be met until 72 hours after the ~~PWR BASKET~~ *MPC* is removed from the spent fuel pool (i.e., Cask Loading Pit). ----------	
SR 3.1.1.1 Verify ~~PWR BASKET shield~~ *MPC* lid weld helium leak rate is within limit.	Once prior to ~~Vacuum Drying~~ *demonstrating MPC cavity dryness.*

3.1 ~~PWR BASKET~~ *MPC* INTEGRITY

3.1.2 ~~PWR BASKET Vacuum Drying Pressure~~ *MPC Cavity Dryness*

LCO 3.1.2 *Adequate dryness of the MPC cavity shall be demonstrated in one of the following ways:*

a. The ~~PWR BASKET~~ *MPC* vacuum drying final pressure shall be ~~equal to or less than~~ ≤ ~~3mm Hg~~ *3 torr* for ~~at least~~ ≥ 30 minutes.

OR

b. *While recirculating helium through the MPC cavity, the demoisturizer exit gas is cooled to a temperature ≤ 21°F for ≥ 30 minutes.*

APPLICABILITY: LOADING OPERATIONS.

ACTIONS

----------NOTE----------
Separate Condition entry is allowed for each ~~PWR BASKET~~ *MPC*.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. ~~PWR BASKET~~ *MPC cavity dryness* ~~vacuum drying pressure~~ limit not met.	A.1 Establish ~~PWR BASKET~~ *MPC cavity dryness* ~~vacuum drying pressure~~ within limit.	48 hours

3.1 ~~PWR BASKET~~ *MPC* INTEGRITY

3.1.2 ~~PWR BASKET Vacuum Drying Pressure~~ *MPC Cavity Dryness*

B. Required Action A.1 and Associated Completion Time not met.	B.1.1 Establish cooling to the ~~PWR BASKET~~ *MPC*, OR B.1.2 Establish a helium atmosphere in the ~~PWR BASKET~~ *MPC*, AND B.2 Unload the ~~PWR BASKET~~ *MPC*.	72 hours 72 hours 30 days

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------NOTE---------- Not required to be met until 96 hours after verifying the helium leak rate is within limit. ----------	
SR 3.1.2.1 Verify ~~PWR BASKET~~ *MPC cavity dryness* ~~vacuum drying pressure~~ is within limit.	Once after verifying the helium leak rate is within limit.

3.2 TRANSFER CASK INTEGRITY

3.2.1 TRANSFER CASK Ambient Air Temperature Limits

LCO 3.2.1 The TRANSFER CASK shall not be used to *lift or* support a loaded ~~and sealed PWR BASKET~~ *MPC* when the ambient air temperature ~~is greater than 100°F and shall not be used to lift and support a loaded PWR BASKET when the ambient air temperature~~ is ~~less than~~ ≤ 40°F.

APPLICABILITY: LOADING, UNLOADING, and STORAGE OPERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
~~A. TRANSFER CASK ambient air temperature is equal to or greater than 100°F.~~	~~A.1 Place the TRANSFER CASK in a safe condition.~~ ~~AND~~ ~~A.2 Suspend all activities involving use of the TRANSFER CASK as a support device until ambient air temperature has returned to less than 100°F.~~	~~Immediately~~ ~~Immediately~~
~~B~~ *A.* TRANSFER CASK ambient air temperature is ~~equal to or less than~~ ≤ 40°F.	~~B~~ *A.*1 Place TRANSFER CASK in a safe condition. AND ~~B~~ *A.*2 Suspend all activities involving use of TRANSFER CASK ~~as a lifting device~~ until ambient air temperature has returned to > ~~greater than~~ 40°F.	Immediately Immediately

3.2 TRANSFER CASK INTEGRITY

3.2.1 TRANSFER CASK Ambient Air Temperature Limits

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.2.1.1 Verify ambient air temperature does not exceed the specified limits.	Within one hour prior to use of the TRANSFER CASK *with a loaded MPC.*
~~SR 3.2.1.2 Verify ambient air temperature does not exceed the specified limits.~~	~~Every four hours during use of the TRANSFER CASK to support a loaded and sealed PWR BASKET when ambient air temperature is greater than 90 °F.~~
SR 3.2.1.~~3~~ *2* Verify ambient air temperature does not exceed the specified limits.	Every four hours during use of the TRANSFER CASK *with* ~~to lift~~ a loaded ~~PWR BASKET~~ *MPC* when ambient air temperature is ~~less than~~ < 45 °F.

3.3 AIR PADS

3.3.1 AIR PAD Limits

LCO 3.3.1 The AIR PADS shall not be installed under a CONCRETE CASK containing a loaded ~~PWR BASKET~~ *MPC*:

a. For more than ~~9~~ *20 consecutive* hours ~~in a 24-hour period~~, or

b. When the ambient air temperature is ~~greater than~~ > ~~75~~ *100*°F.

APPLICABILITY: LOADING, TRANSPORT, and STORAGE OPERATIONS.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. AIR PADS installed for more than ~~9~~ *20 consecutive* hours ~~in a 24-hour period~~.	A.1 Remove the AIR PADS.	Immediately
B. *AIR PADS installed and* ambient air temperature ~~greater than~~ > ~~75~~ *100*°F.	B.1 Remove the AIR PADS.	Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.3.1.1	Verify the AIR PADS are not installed for more than ~~9~~ *20 consecutive* hours ~~in a 24-hour period~~.	~~Hourly~~ *Every 10 hours* when the AIR PADS are installed.
SR 3.3.1.2	Verify ambient air temperature is ~~less than or equal to 75~~ ≤ *100*°F.	~~Once w~~*W*ithin one hour before installation and hourly when *ambient air temperature is > 90 °F and* the AIR PADS are installed.

4.0 DESIGN FEATURES

4.1 Site *Location*

~~4.1.1 Site Location~~

The Trojan INDEPENDENT SPENT FUEL STORAGE INSTALLATION (ISFSI) facility is located at the ~~Trojan Nuclear Plant (TNP)~~ *Portland General Electric (PGE) Company* site in Columbia County, Oregon, approximately 42 miles north of Portland, Oregon, and approximately 4-1/2 miles southeast of Rainier, Oregon, on the west bank of the Columbia River. The site is approximately 3 miles northwest of Kalama, Washington, and 6 miles southeast of Longview, Washington, which are across the Columbia River. ~~Figure 4-1 shows the ISFSI facility.~~

4.2 Storage Features

4.2.1 Storage System

Portland General Electric Company is licensed to store spent fuel in the *TROJAN STORAGE SYSTEM* ~~TranStor™ Dry Storage System~~ in a maximum of ~~36~~ *34* CONCRETE CASKS at the Trojan ISFSI. Each CONCRETE CASK can contain one ~~PWR BASKET~~ *MPC*. ~~and, if needed, one BASKET OVERPACK.~~ The ~~PWR BASKET~~ *MPC* can accommodate up to 24 INTACT FUEL ASSEMBLIES with associated inserts. Up to four FAILED FUEL CANS may also be stored in each ~~PWR BASKET~~ *MPC as defined in Technical Specification 2.1.2, with the balance being* ~~in which case only 20~~ INTACT FUEL ASSEMBLIES, *up to a total of 24 assemblies per MPC* ~~would be stored in those baskets~~. The ~~PWR BASKETS~~ *MPC* will be backfilled with helium and pressurized between *29.3 and 33.3 psig* ~~14.0 and 14.5 psia~~.

4.2.2 Storage Capacity

The total storage capacity of the Trojan ISFSI is limited to 344.5 MTU as UO_2. This total capacity of UO_2 is categorized into the following Byproduct, Source, and/or Special Nuclear Material:

INTACT FUEL ASSEMBLIES (Clad with Zircaloy-4)
DAMAGED FUEL *ASSEMBLIES* (Clad with Zircaloy-4)
FUEL DEBRIS

4.0 DESIGN FEATURES

4.2.3 Storage Pad~~, Service Pad,~~ and TRANSFER STATION

- *Loaded* CONCRETE CASKS must have a nominal center-to-center 15 feet spacing with a tolerance of ± 4 inches *when stored in their assigned location on the ISFSI Storage Pad except for the 30 foot ±4 inch center-to-center gap in the center of the ISFSI Storage Pad.*

- Operations at the TRANSFER STATION which involve lifts of a *loaded* ~~PWR BASKET~~ *MPC* must be performed using a mobile crane, ~~with a safety factor of at least 2 in accordance with~~ *which shall meet the guidance of Section 5.1.1 of* NUREG-0612, "Control of Heavy Loads at Nuclear Power Plants," dated 1980, *except that to assure defense-in-depth:*

  1. *The mobile crane in its lifting configuration (reeving, placement, boom length, angle, counterweight, etc.) shall have a rated capacity of at least two times the weight to be lifted (loaded MPC plus lifting hardware) in accordance with the guidance of NUREG-0612.*

  2. In accordance with *the guidance of* NUREG-0612, the mobile crane must have the ability to safely stop and hold the ~~PWR BASKET~~ *MPC* in the event of *the Seismic Margin* ~~a safe shutdown e~~Earthquake *(SME)* applicable to the Trojan ISFSI.

  3. *The mobile crane shall meet the requirements of ANSI B30.5, "Mobile and Locomotive Cranes," or equivalent, in lieu of the requirements of ANSI B30.2, "Overhead and Gantry Cranes."*

  4. The ~~PWR BASKET~~ *MPC* will be restricted to a lift height *not to exceed* ~~of 241~~ *249* inches (bottom of raised ~~PWR BASKET~~ *MPC* in the TRANSFER CASK to bottom of ~~CONCRETE CASK or shipping~~ *Transport C*ask) when being lifted by the mobile crane in the TRANSFER STATION by the physical limitation of the ~~top~~ *bottom of the lid* of the TRANSFER CASK. A load cell, *or equivalent,* on the mobile crane will indicate contact with the *bottom of the lid* ~~top~~ of the TRANSFER CASK to limit the lift height of the ~~basket~~ *MPC.*

5. *Special Lifting Devices as defined in ANSI N14.6-1993 shall have two times the design safety factors of Section 4.2.1.1 in accordance with Section 7.2. These special lifting devices shall include the lifting cleats.*

6. *Lifting Devices that are not specifically designed and that are used for handling heavy loads shall meet the requirements of ANSI B30.9, "Slings," except that the load to be used in selecting the slings is to be twice that specified in NUREG-0612, Section 5.1.1(5).*

- Movements of a CONCRETE CASK are performed using an AIR PAD System ~~which~~ *that* restricts the lifting height of the CONCRETE CASK to four inches or less.

4.0 DESIGN FEATURES

4.3 Codes and Standards

4.3.1 ~~PWR BASKET~~ *MPC* ~~and BASKET OVERPACK~~

The American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section III, 199~~2~~*5* Edition with Addenda through 199~~4~~*7*, is the governing Code for the ~~PWR BASKET~~ *MPC* ~~and BASKET OVERPACK~~ Storage System used at Trojan.

4.3.1.1 Design Exceptions to Codes, Standards, and Criteria

Trojan ISFSI SAR Table ~~4-1~~ *4.2-1a* lists approved exceptions for the design of the ~~ISFSI~~ *MPC*.

4.3.2 ~~CONCRETE CASK~~ *NOT USED*

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

~~4.3.2.1 Design Exceptions to Codes, Standards, and Criteria~~

~~Table 4-2 lists approved deviations for the design of the ISFSI CONCRETE CASKS.~~

4.3.3 Construction/Fabrication Exceptions to *Design* Codes, Standards, and Criteria

Proposed *construction/fabrication exceptions* ~~alternatives~~ to ~~ASME Code, Section III, 1992 Edition with Addenda through 1994~~ *the MPC design codes and standards*, including exceptions ~~allowed by Section~~ *of Specification* 4.3.1, ~~and deviations from ACI-349, 1985, or ANSI N57.9-1984,~~ 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~~5~~ Edition with Addenda through 1994~~7~~, ~~or with ACI-349, 1985,~~ 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.

~~Table 4-1~~
~~ASME Code Deviations~~

~~Section~~	~~Requirement~~	~~Exception~~
~~Subsection NCA~~	~~Miscellaneous administrative requirements.~~	~~No Design Specification or Design Report will be required. Manufacturer will not be required to have a Certificate of Authorization or an NCA-4000 Quality Assurance Program. Material Organizations will not be required to have an NCA-3800 Quality Assurance Program. Authorized Inspection will not be required. Code Data Reports and Code Symbol/Stamps will not be required.~~
~~NC-3211.1 NC-3254 NC-4267~~	~~Welding configuration requirements allowed in vessels designed per the requirements of NC-3200.~~	~~Structural attachment welds are permitted to be attached by welds that are not continuous on all sides. These attachments do not serve a pressure retaining function, and, when fuel is loaded, are subject only to accident loads. Cyclic loading, stress ratchet, and fatigue are not credible events. Detailed drop analysis includes actual weld configuration and potential load transfer to the pressure retaining boundary.~~
~~NC-3252 NC-5253~~	~~Category C welded joints for vessels designed to NC-3200~~	~~Subsection NC requires Category C full-penetration corner welded joints to be examined by the radiographic or ultrasonic method. The Category C structural lid closure weld will not be nondestructively examined in accordance with NC-2553. This weld will be examined by the liquid penetrant method (multi-layer procedure that includes the root and final layers and sufficient intermediate layers to detect critical flaws). In addition, the partial penetration weld between the shield lid and the shell will be examined by the liquid penetrant method (as required by NC-5260) and will be helium leak tested, ensuring a leak-tight boundary.~~
~~NC-3258~~	~~Design of head attachments using corner joints~~	~~When the head-to-shell weld is a corner joint, NC-3258.3 requires the through-thickness dimension of the weld to exceed the thinner of the head or shell thickness by an amount that varies with the specific joint design. Due to the geometry of the internals and due to lack of access to the inside surface of the structural lid closure weld, the shell-to-bottom-plate weld and the structural lid-to-shell closure weld do not have the required ¼ in. fillet weld or other weld reinforcement on the ID surface.~~

~~Table 4-1~~
~~ASME Code Deviations~~

~~Section~~	~~Requirement~~	~~Exception~~
~~NG-6000~~	~~Hydrostatic pressure test~~	~~The vessel shell will not be hydrostatically tested in accordance with the code since vessel side walls and bottom are not accessible for inspection. Structural welds will be volumetrically examined, except the structural lid weld, which will be examined by the liquid penetrant method. The partial penetration shield lid weld will be hydrostatically tested, helium leak tested and liquid penetrant tested.~~
~~NG-2121~~	~~Material utilized in fabrication shall conform to the requirements of the specification for material given in Tables 2A, 2B, and 4 of Section II, Part D, Subpart 1 and all special requirements of NG.~~	~~Not all Basket materials will be selected from materials permitted for use in Section III core support structures. Appropriate material properties will be determined from available technical literature. The primary function is structural, and appropriate structural materials will be selected.~~

~~Table 4-2~~

~~CONCRETE CASK Code Deviations[†]~~

~~Code Section No.~~	~~Requirement~~	~~Exception/Justification~~
~~1.2~~	~~Specifies how drawings and calculations must be handled~~	~~The loads used in the design are covered in the calculations rather than the drawings and specifications.~~
~~A.4~~	~~The limits for bulk, (150°F) & local area (200°) concrete temperature.~~	~~A long term temperature limitation of 225°F is used. This increased limit is based on test data from several research efforts which show that concrete of similar composition to that used in the casks does not suffer loss of strength when exposed to temperatures up to 350°F.~~

~~[†] Deviations are from ACI-349~~

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

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

The ISFSI Manager, or his designee, shall approve prior to implementation, each proposed test, experiment, or modification to systems or equipment that are important to safety as defined in 10 CFR 72.3.

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 corporate management, respectively, *as described in the ISFSI Safety Analysis Report or the Trojan Nuclear Quality Assurance Program Topical Report (PGE-8010).* ~~The onsite and offsite organizations shall include the positions for activities affecting safety of the ISFSI.~~

~~a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organizational charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements, including the plant-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the Safety Analysis Report or the Trojan Nuclear Plant Nuclear Quality Assurance Program Topical Report (PGE-8010);~~

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

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

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

5.0 ADMINISTRATIVE CONTROLS

5.3 ISFSI Staff Qualifications

5.3.1 Each member of the ISFSI Staff shall meet or exceed the minimum qualifications *described in the ISFSI Safety Analysis Report* ~~of ANSI N18.1-1971 for comparable positions. The ISFSI Manager and ISFSI Specialists shall be trained and certified in accordance with the Trojan ISFSI Specialist Training Program (PGE-1072).~~

5.0 ADMINISTRATIVE CONTROLS

5.4 Procedures

5.4.1 Written procedures shall be established, implemented, and maintained covering the ~~following~~ *important to safety* activities *related to STORAGE OPERATIONS described in the ISFSI Safety Analysis Report* ~~that are important to safety:~~.

~~a. Administrative controls;~~

~~b. Routine ISFSI operations;~~

~~c. Alarms and Annunciators;~~

~~d. Emergency operations;~~

~~e. Design control and facility change or modification;~~

~~f. Control of surveillances and tests;~~

~~g. Control of special processes;~~

~~h. Maintenance;~~

~~i. Health physics, including ALARA practices;~~

~~j. Special nuclear material accountability;~~

~~k. Quality assurance, inspection, and audits;~~

~~l. Physical security and safeguards;~~

~~m. Records management;~~

~~n. Reporting; and~~

~~o. All programs specified in Specification 5.5.~~

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. The licensee may make changes to the Bases without prior NRC approval provided the changes do not require prior NRC approval pursuant to 10 CFR 72.48.

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

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

5.5.2 Radioactive Effluent Control Program

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

a. The Trojan ISFSI does not create any radioactive materials or have any radioactive waste treatment systems. Therefore, specific operating procedures for the control of radioactive effluents are not required. Specification 3.1.1, ~~PWR BASKET~~ *MPC* ~~Shield~~ Lid Weld Helium Leak Rate, provides assurance that there are essentially no measurable radioactive effluents from the ISFSI.

b. This program includes an environmental monitoring program. The environmental monitoring program ensures the annual dose equivalent to any real individual located outside the ISFSI eControlled ~~a~~*A*rea does not exceed regulatory limits.

5.0 ADMINISTRATIVE CONTROLS

5.5 Programs

The Trojan ISFSI may be included in the environmental monitoring program for the Trojan Nuclear Plant.

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 in gaseous effluents during the previous calendar year of operation.

5.5.3 CONCRETE CASK Thermal Monitoring Program

This program provides guidance for temperature measurements that are used to monitor the thermal performance of each CONCRETE CASK.

a. The air outlet temperature and the ambient air temperature are measured ~~every 12~~ *daily* ~~hours~~. The temperature difference between the air outlet temperature and the ambient air temperature will be calculated and recorded. The air inlet vents will be inspected and verified free of blockage ~~every 24 hours~~ *weekly. In the event of an environmental phenomenon occurring, the frequency of visual inspection will be increased in accordance with the severity and consequences of the event.*

b. If any air outlet temperature or temperature difference between air outlet and ambient temperatures shows an unexplained reading, a comparison with predicted and/or baseline data will be performed and appropriate actions taken to determine the cause and return the temperature to an acceptable value. One of the immediate actions will be to increase the frequency of temperature monitoring.

c. If any air outlet temperature reaches or exceeds ~~195°F~~ *the program limit*, the NRC will be notified in accordance with 10 CFR 72.75(b) and (d) and actions will be taken to evaluate the effects and impact of the high temperature on the CONCRETE CASK. ~~An air outlet temperature of 195°F corresponds to a concrete temperature of 225°F with appropriate allowances for instrument error. The 225°F temperature is the long term normal bulk concrete operating temperature limit.~~ Taking actions when air outlet temperature reaches ~~195°F~~ *the program limit* should preclude reaching the short term bulk concrete temperature

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limit which is 350°F. Concrete temperatures in excess of 350°F could potentially weaken the concrete strength and tests may have to be performed to evaluate the concrete and to justify continued use of the CONCRETE CASK.

5.5.4 Radiation Protection Program

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

a. As part of the LOADING and TRANSPORT OPERATIONS, radiation monitoring of the CONCRETE CASKS will be performed to ensure the surface dose rates are within the analyzed values.

b. A monitoring program to ensure the annual dose equivalent to any real individual located outside the ISFSI eControlled ~~a~~Area does not exceed regulatory limits is incorporated as part of the environmental monitoring program in the Radioactive Effluent Control Program ~~(RECP)~~ of Specification 5.5.2.

c. As part of TRANSPORT and STORAGE OPERATIONS, radiation monitoring of the CONCRETE CASKS and radiation monitoring of the TRANSFER CASK, prior to relocation to the ISFSI, will be performed to ensure the surface contamination levels do not exceed ~~1000 dpm/100 cm^2 from beta and gamma sources and 50 dpm/100 cm^2 from alpha sources in accordance with~~ *the limits in* the Radiation Protection Program.

5.0 ADMINISTRATIVE CONTROLS

5.6 High Radiation Areas

5.6.1 High Radiation Areas, as defined in 10 CFR 20, will be identified and access controlled in accordance with 10 CFR 20.1601 except for the tops of designated CONCRETE CASKS. Pursuant to 10 CFR 20, paragraph 20.1601 (c), in lieu of the requirements of 10 CFR 20.1601 (a), a CONCRETE CASK where the top is designated a high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is >100 mrem/hr but < 1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto does not have to be locked but shall be controlled by the Radiation Protection Program of 5.5.4.