

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN **630498**

Proj.
ECN

2. ECN Category (mark one) Supplemental <input type="checkbox"/> Direct Revision <input checked="" type="checkbox"/> Change ECN <input type="checkbox"/> Temporary <input type="checkbox"/> Standby <input type="checkbox"/> Supersedeure <input type="checkbox"/> Cancel/Void <input type="checkbox"/>	3. Originator's Name, Organization, MSIN, and Telephone No. L. J. Garvin/SNFP/R3-26/ 372-0883	4. USQ Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Date 12/31/98 11/25/98
	6. Project Title/No./Work Order No. Spent Nuclear Fuel Project	7. Bldg./Sys./Fac. No. N/A	8. Approval Designator ESQD
9. Document Numbers Changed by this ECN (includes sheet no. and rev.) W/ SNFP-SD-SNF-DB-005, Rev. 2		10. Related ECN No(s). 630479	11. Related PO No. N/A

12a. Modification Work <input type="checkbox"/> Yes (fill out Blk. 12b) <input checked="" type="checkbox"/> No (NA Blks. 12b, 12c, 12d)	12b. Work Package No. N/A	12c. Modification Work Complete N/A Design Authority/Cog. Engineer Signature & Date	12d. Restored to Original Condition (Temp. or Standby ECN only) N/A Design Authority/Cog. Engineer Signature & Date
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13a. Description of Change

13b. Design Baseline Document? Yes No

- The definition of "important to safety" was changed to be in line with the 10 CFR 72.3 definition
- The WHC procedures were changed to HNF-PRO series of procedures
- Minor editorial changes

14a. Justification (mark one)

Criteria Change <input checked="" type="checkbox"/>	Design Improvement <input type="checkbox"/>	Environmental <input type="checkbox"/>	Facility Deactivation <input type="checkbox"/>
As-Found <input type="checkbox"/>	Facilitate Const <input type="checkbox"/>	Const. Error/Omission <input type="checkbox"/>	Design Error/Omission <input type="checkbox"/>

14b. Justification Details

15. Distribution (include name, MSIN, and no. of copies)
 See Distribution Sheet.

RELEASE STAMP

HANFORD
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DATE: _____
 STA: A
DEC 8 1998
8/3

ID 2

ENGINEERING CHANGE NOTICE

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1. ECN (use no. from pg. 1)

630498

16. Design Verification Required <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	17. Cost Impact <table style="width: 100%; border-collapse: collapse;"> <tr> <th colspan="2" style="text-align: center;">ENGINEERING</th> <th colspan="2" style="text-align: center;">CONSTRUCTION</th> </tr> <tr> <td style="width: 25%;">Additional Savings</td> <td style="width: 10%; text-align: center;"><input type="checkbox"/></td> <td style="width: 10%;">\$ N/A</td> <td style="width: 55%;">Additional Savings</td> </tr> <tr> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;">\$</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;">\$</td> <td style="text-align: center;">\$ N/A</td> </tr> </table>	ENGINEERING		CONSTRUCTION		Additional Savings	<input type="checkbox"/>	\$ N/A	Additional Savings		<input type="checkbox"/>	\$	<input type="checkbox"/>		<input type="checkbox"/>	\$	\$ N/A	18. Schedule Impact (days) Improvement <input type="checkbox"/> <input type="checkbox"/> N/A Delay <input type="checkbox"/> <input type="checkbox"/>
ENGINEERING		CONSTRUCTION																
Additional Savings	<input type="checkbox"/>	\$ N/A	Additional Savings															
	<input type="checkbox"/>	\$	<input type="checkbox"/>															
	<input type="checkbox"/>	\$	\$ N/A															

19. Change Impact Review: Indicate the related documents (other than the engineering documents identified on Side 1) that will be affected by the change described in Block 13. Enter the affected document number in Block 20.

SDD/DD	<input type="checkbox"/>	Seismic/Stress Analysis	<input type="checkbox"/>	Tank Calibration Manual	<input type="checkbox"/>
Functional Design Criteria	<input checked="" type="checkbox"/>	Stress/Design Report	<input type="checkbox"/>	Health Physics Procedure	<input type="checkbox"/>
Operating Specification	<input type="checkbox"/>	Interface Control Drawing	<input type="checkbox"/>	Spares Multiple Unit Listing	<input type="checkbox"/>
Criticality Specification	<input type="checkbox"/>	Calibration Procedure	<input type="checkbox"/>	Test Procedures/Specification	<input type="checkbox"/>
Conceptual Design Report	<input type="checkbox"/>	Installation Procedure	<input type="checkbox"/>	Component Index	<input type="checkbox"/>
Equipment Spec.	<input checked="" type="checkbox"/>	Maintenance Procedure	<input type="checkbox"/>	ASME Coded Item	<input type="checkbox"/>
Const. Spec.	<input type="checkbox"/>	Engineering Procedure	<input type="checkbox"/>	Human Factor Consideration	<input type="checkbox"/>
Procurement Spec.	<input checked="" type="checkbox"/>	Operating Instruction	<input type="checkbox"/>	Computer Software	<input type="checkbox"/>
Vendor Information	<input type="checkbox"/>	Operating Procedure	<input type="checkbox"/>	Electric Circuit Schedule	<input type="checkbox"/>
OM Manual	<input type="checkbox"/>	Operational Safety Requirement	<input type="checkbox"/>	ICRS Procedure	<input type="checkbox"/>
FSAR/SAR	<input checked="" type="checkbox"/>	LEFD Drawing	<input type="checkbox"/>	Process Control Manual/Plan	<input type="checkbox"/>
Safety Equipment List	<input checked="" type="checkbox"/>	Cell Arrangement Drawing	<input type="checkbox"/>	Process Flow Chart	<input type="checkbox"/>
Radiation Work Permit	<input type="checkbox"/>	Essential Material Specification	<input type="checkbox"/>	Purchase Requisition	<input type="checkbox"/>
Environmental Impact Statement	<input type="checkbox"/>	Fac. Proc. Samp. Schedule	<input type="checkbox"/>	Tickler File	<input type="checkbox"/>
Environmental Report	<input type="checkbox"/>	Inspection Plan	<input type="checkbox"/>		<input type="checkbox"/>
Environmental Permit	<input type="checkbox"/>	Inventory Adjustment Request	<input type="checkbox"/>		<input type="checkbox"/>

20. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECN.) Signatures below indicate that the signing organization has been notified of other affected documents listed below.

Document Number/Revision	Document Number/Revision	Document Number/Revision
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NONE

21. Approvals

Signature	Date	Signature	Date
Cog. Eng. L. J. Garvin <i>[Signature]</i>	5/12/98	Design Agent	_____
Cog. Mgr. L. J. Garvin <i>[Signature]</i>	5/12/98	PE	_____
QA C. R. Hoover <i>[Signature]</i>	6/2/98	QA	_____
Safety T. D. Merkle <i>[Signature]</i>	7/15/98	Safety	_____
Environ. J. E. Turnbaugh <i>[Signature]</i>	7/23/98	Design	_____
Other (See Below)		Environ.	_____
J. D. Cloud <i>[Signature]</i>	6-1-98	Other	_____
L. H. Goldmann <i>[Signature]</i>	4/1/98		_____
B. D. Lorenz <i>[Signature]</i>	5/14/98		_____
K. E. Smith <i>[Signature]</i>	6/11/98		_____
C.A. Thompson <i>[Signature]</i>	8/25/98		_____

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature
 Approval Letter 99-SFD-032

ADDITIONAL

Spent Nuclear Fuel Project Multi-Canister Overpack, Additional NRC Requirements

L. J. Garvin
Fluor Daniel Northwest, Inc., Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-96RL13200

EDT/ECN: ECN-630498 UC: 620
Org Code: 2T930 Change Code: LE020
B&R Code: 39EW70400 Total Pages: 15

Key Words: Multi-Canister Overpack (MCO), NRC, Requirements

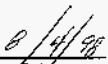
Abstract: N/A

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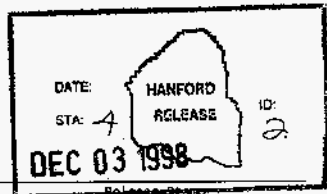
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Release Approval



Date



Approved for Public Release

RECORD OF REVISION

(1) Document Number


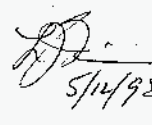
HNF-SD-SNF-DB-005

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(2) Title

Spent Nuclear Fuel Project Multi-Canister Overpack, Additional NRC Requirements (ECN 630498)

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
		(5) Cog. Engr.	(6) Cog. Mgr. Date
	(7)		
1	<p>ECN: 630479</p> <p>Minor changes. Repaired wording in several places to make it sound like a requirement. Also, clarification as to what a requirement did not apply to. For example, K Basin crane # 13.</p>		
2	<p>ECN: 630486</p> <p>Revised terminology (SNFP to SNF Project) to be consistent with current SNF Project documents, including conditioning facility to Hot Conditioning System (HCS).</p> <p>Rewrote item 6 in Table 1 to delete reference to WHC Procurement Clause E13 (Reporting of Safety Defects and Noncompliance), since that clause has been deleted. Added WHC-CM-2-1 as a related WHC reference, since this controlled manual governs procurement activities.</p> <p>Revised item 11 on part 72 "important to safety" due to direction by DOE-RL.</p> <p>Deleted the third bullet under item 13, which was coupled to the Part 72 "important to safety" due to direction by DOE-RL.</p>		
3 <i>RS</i>	<p>ECN: 630498</p> <ul style="list-style-type: none"> · The definition of "important to safety" was changed to be in line with the 10 CFR 72.3 definition · The WHC procedures were changed to HNF-PRO series of procedures · Minor editorial changes 	<p>L. J. Garvin</p>  <p style="text-align: center;">5/14/98</p>	<p>L. J. Garvin</p>  <p style="text-align: center;">5/14/98</p>

MULTI-CANISTER OVERPACK

ADDITIONAL NRC REQUIREMENTS

~~September 1998~~
~~June 1996~~

~~Prepared for the U.S. Department of Energy~~
~~Office of Environmental Restoration and Waste Management~~

~~Westinghouse Hanford Company~~
~~P. O. Box 1970~~
~~Richland, Washington 99352~~

**Multi-Canister Overpack
Additional NRC Requirements**

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Multi-Canister Overpack
Additional NRC Requirements

I. Introduction and Purpose

The U.S. Department of Energy (DOE), established in the K Basin Spent Nuclear Fuel Project - Regulatory Policy, dated August 4, 1995 (hereafter referred to as the Policy), the requirement for new Spent Nuclear Fuel (SNF) Project facilities to achieve "nuclear safety equivalency" to comparable U.S. Nuclear Regulatory Commission (NRC)-licensed facilities. For activities other than during transport, when the Multi-Canister Overpack (MCO) is used and resides in the Canister Storage Building (CSB) or Cold Vacuum Drying (CVD) facility or Hot Conditioning System, additional NRC requirements will also apply to the MCO based on the safety functions it performs and its interfaces with the SNF Project facilities. ~~These requirements may be satisfied by the MCO or the facility.~~ An evaluation was performed in consideration of the MCO safety functions to identify any additional NRC requirements needed, in combination with the existing and applicable DOE requirements, to establish nuclear safety equivalency for the MCO. The background, basic safety issues and general comparison of NRC and DOE requirements for the SNF Project are presented in WHC-SD-SNF-DB-002, *Spent Nuclear Fuel Project Path Forward Nuclear Safety Equivalency to Comparable NRC-Licensed Facilities*.

II. Scope

In accordance with the Policy, the scope of potentially applicable NRC technical requirements are the design and construction (fabrication) measures (as opposed to also including preoperational or operational measures) mandated by the NRC regulations, for the purposes of this evaluation. Title 10 Code of Federal Regulations, Parts 0 through 199, revised as of January 1, 1995. In addition, NRC guidance (located in NRC public document rooms as of September 18, 1995) that may have direct application to SNF Project design and construction activities, was reviewed as a prudent step in implementing the Policy's objectives.

In implementing the Policy, nuclear safety equivalency is being established on a one-time basis with respect to the NRC regulations and guidance, based on the dates in the preceding paragraph. For DOE requirements, used to establish nuclear safety equivalency, that may change in the future (e.g., if DOE 5480.7A was reissued as DOE 5480.7B), those changes would need to be reviewed to ensure that nuclear safety equivalency remained to be preserved through the use of the new order, or the

relevant historical DOE requirements, now deleted in the new order, would need to be specifically identified as a separate SNF Project-specific requirement and implemented accordingly. This latter control must be applied to WHC procedures and instructions as well where such documents were used to establish nuclear safety equivalency.

III. Results

Table 1 lists the MCO additional NRC requirements and identifies the responsible discipline(s) for implementation of the requirements (e.g., civil structural and mechanical) to help facilitation by the end user. Where the table includes a reference(s), this does not imply that the identified additional NRC requirement(s) and related DOE requirements necessarily satisfy the requirements of the reference(s), or even that the SNF Project Path Forward must satisfy the requirements of the reference(s). It is simply a notation as to where the basic issue is raised, and where the reader may refer to in WHC-SD-SNF-DB-002, and NRC regulations and guidance for related information.

Recognizing that the design and safety analysis of the MCO will evolve further and be refined as the engineering progresses, the SNF Project may need to revisit the results of this document and make revisions as appropriate with DOE approval.

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMC/WHC References
1. Civil/Structural and Mechanical	<p>Ensure the containment/confinement integrity of the Multi-Canister Overpack (MCO) and its subcriticality geometry are preserved when the design basis earthquakes for the Canister Storage Building (CSB) and CVD facility and Hot Conditioning System (HCS, also referred to as the CSB Annex), as outlined in WHC-SD-SNF-DB-004, are imposed on these facilities.</p> <p>Note: refer to WHC document WHC-SD-SNF-DB-004, titled <i>Spent Nuclear Fuel Project Seismic Design Criteria, Nuclear Regulatory Commission Equivalency Evaluation Report</i>, for details on seismic.</p> <p>(References: Title 10, <i>Code of Federal Regulations</i>, Sections 72.24, "Contents of application: Technical information," 72.90, "General considerations," 72.92, "Design basis external natural events," 72.102, "Geological and seismological characteristics," 72.122, "Overall requirements," and 72.212, "Conditions of general license issued;" Regulatory Guides 1.60, <i>Design Response Spectra for Seismic Design of Nuclear Power Plants</i>, Revision 1, 1.61, <i>Damping Values for Seismic Design of Nuclear Power Plants</i>, Revision 0, and 3.48, <i>Standard Format and Content for the Safety Analysis Report for an Independent Spent Fuel Storage Installation (Dry Storage)</i>, Revision 1; and SECY-93-087, <i>Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Designs</i>)</p>	<p>DOE 5480.28 and companion stds. DOE 6430.1A ENR 150-097 SDC 4.1, Rev. 12</p>
<p>NOTES: Only the lead responsible disciplines are listed. It is assumed these disciplines will coordinate efforts of additional support disciplines as needed.</p>		

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMOC/WHC References
2. Civil/ Structural and Mechanical	<p>Ensure the containment/confinement integrity of the MCO and its subcriticality geometry are preserved when a design basis tornado (including translational velocity, rotational velocity and pressure differential) and tornado missile are imposed on the designs of the CSB and CVD facility and HCS, taking into consideration the most recent version of Regulatory Guide 1.76, <i>Design Basis Tornado for Nuclear Power Plants</i>, SECY-93-087, <i>Policy, Technical, and Licensing Issues Pertaining to Evolutionary and Advanced Light-Water Reactor (ALWR) Designs</i>, and NUREG/CR-4461, <i>Tornado Climatology of the Contiguous United States</i> (potential revisions to SRP 3.5.1.4, Revision 2, <i>Missiles Generated by Natural Phenomena</i>). (Refer to WHC document WHC-SD-SNF-DB-002, <i>Spent Nuclear Fuel Project Path Forward Nuclear Safety Equivalency to Comparable NRC-Licensed Facilities</i>, Table 5.c, §§72.24 and 72.122, for related information.)</p> <p>(Reference: 10 CFR 72.122, "Overall requirements")</p>	DOE 5480.28 and companion stds. DOE 6430.1A PHMOC PRO-097 SDC 4.1, Rev. 12
3. Civil/ Structural and Mechanical	<p>Ensure the design of the MCO supports the ability for ready retrieval.</p> <p>(Reference: 10 CFR 72.122, "Overall requirements")</p>	DOE 6430.1A

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMC/WHC References
4. Mechanical	<p>Use Regulatory Guide 1.26 to assist in assigning the appropriate ASME Section III code classes to the MCO shell, parts and subassemblies, as applicable. (Note: NUREG/CR-3854, <i>Fabrication Criteria for Shipping Containers</i>, has direct application to the MCO and may be used in lieu of Regulatory Guide 1.26.)</p> <p>(Reference: Regulatory Guide 1.26, <i>Quality Group Classifications and Standards for Water, Steam, and Radioactive-Waste-Containing Components of Nuclear Power Plants</i>, Revision 3)</p>	DOE 6430.1A
5. Mechanical	<p>Review the NRC positions in Regulatory Guides 1.84 and 1.85 on ASME Section III code cases before using such code cases for safety class-1 applications for the MCO. The NRC positions on applicable code cases should be used in the design. Where no NRC position is stated in regards to the acceptance of a code case, that code case may be used as approved by the code Committee.</p> <p>(References: Regulatory Guides 1.84 and 1.85 [both Revision 30], <i>Design and Fabrication Code Case Acceptability ASME Section III, Division 1 and Materials Code Case Acceptability ASME Section III, Division 1</i>, respectively)</p>	DOE 6430.1A

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMC WHC-References
6. Programs/ Management	<p>Incorporate a requirement into safety class-I procurement specifications for the MCO that requires suppliers to report defects and noncompliances in items or services. The requirement should be similar to the following:</p> <p>Safety class equipment and/or services furnished under this order are subject to reporting of defects. If equipment and/or services contain defects that could cause a substantial safety hazard, then immediate reporting to the Buyer is required unless the Seller has actual knowledge that the Buyer has been adequately informed of such defect.</p> <p>The Seller shall evaluate identified or suspected defects. If the Seller's evaluation determines a defect does exist that could cause a substantial safety hazard, then the Seller shall notify the Buyer as soon as practicable and, in all cases, within 5 working days following completion of the evaluation.</p> <p>If the Seller determines that it does not have the capability to perform the evaluation, the Seller may request the Buyer to cause an evaluation to be performed. Seller's request shall be effected within 5 working days of this determination. If the Seller elects to have the Buyer perform the evaluation, then all necessary and pertinent information and correspondence shall be sent to the Buyer. Results of evaluations by the Buyer will be transmitted to the Seller.</p> <p>(Reference: 10 CFR 21, "Reporting of Defects and Noncompliance")</p>	<p>ENE-PRO-298 WHC-CM-2-1 WHC-CM-4-2</p>

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMC/WHC References
7. Programs/ Management	<p>Before implementation, the DOE-Richland Operations Office will review and approve any changes to WHC-SP-1131, <i>Quality Assurance (QA) Program and Implementation Plan</i>, for the SNF Project that could be interpreted as decreasing the Quality Assurance Program's existing commitments for the SNF Project. (Note: HNF-SP-1228, <i>Quality Assurance Program Implementation Plan for Nuclear Facilities</i>, is in the process of being revised for subsequent approval by DOE-RL. Nuclear facility lists and descriptions from WHC-SP-1131 are being relocated to ES&H nuclear safety documents. WHC-SP-1431 remains in effect until DOE-RL approval is secured for HNF-SP-1228 and facility lists and descriptions are relocated to ES&H nuclear safety documents.)</p> <p>(Reference: 10 CFR 50.54 (g) - Conditions of Licenses [Quality Assurance Provisions].)</p> <p>Ensure the appropriate quality requirements in existing WHC procedures and instructions remain in effect (e.g., in SNF Project-specific documents) for application to MCO activities. These WHC procedures and instructions and the subject requirements are identified in WHC document WHC SD-SNF-DB-002, <i>Spent Nuclear Fuel Project Path Forward Nuclear Safety Equivalency to Comparable NRC Licensed Facilities</i>, Attachment A, Detailed Evaluations, Quality Assurance Criteria.</p> <p>(References: Part 50, Appendix B, <i>Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants</i>, and 10CFR72, Subpart G, <i>Quality Assurance</i>)</p>	<p>10 CFR 830.120 DOE-4700-1 WHC-CM-4-2 QR-1.0, Rev.4 QR-3.0, Rev.5 QR-4.0, Rev.4 QR-7.0, Rev.4 QR-9.0, Rev.4 QR-10.0, Rev.3 QR-14.0, Rev.5 QI-7.2, Rev.5 WHC-CM-4-46 Section 9.0, — Rev.1 WHC-CM-6-1 (manual rev. — 8/8/95) WHC-IP-1026 (manual rev. — 7/10/95)</p>

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMC/WHC References
8. Programs/ Management	<p>Ensure for MCO fabrication that the areas of vendor and subcontractor quality assurance records and control of safety class-1 purchased material, equipment, and services receive emphasis during SNF Project audits, surveillances, and assessments.</p> <p>(Reference: IEN 95-29)</p>	<p>WHC PHMC Procurement Clauses as appropriate</p>
9. Programs/ Management	<p>Implement the WHC Occurrence Reporting System for the design and fabrication of the MCO.</p> <p>(Reference: 10 CFR 50.55(e), "Conditions of construction permits")</p>	<p>DOE 5000.3B WHC-CM-1-5, -Section 7.1, -Rev-0 HNF-PRO-060</p>
10. Safety Documentation	<p>Use a criticality safety value of 0.95 for k_{eff} for the MCO design, functions and related activities.</p> <p>(References: SRP 9.1.2, <i>Spent Fuel Storage</i>, Revision 3, and NUREG-0612, <i>Control of Heavy Loads at Nuclear Power Plants</i>, Resolution of Generic Technical Activity A-36)</p>	<p>DOE 5480.24 WHC-CM-4-29 -(manual rev-4/17/95) HNF-PRO-344 HNF-PRO-537 HNF-PRO-540 HNF-PRO-544 HNF-PRO-545</p>

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/EPRI/WHC References
11. Safety Documentation	<p>Impose the requirements of "important to safety" in accordance with Section 72.3, as implemented through Section 72.106, on the MCO. Once structures, systems and components "important to safety" have been identified, impose the requirements for safety class 1 SSCs as defined in WHC CM 4.46, <i>Safety Analysis Manual, Section 9.0, Revision 1, Safety Classification of Structures, Systems, and Components</i>.</p> <p>Identify SSCs "important to safety" in accordance with 10 CFR 72.3. Once SSCs are identified as having a function meeting the definition of important-to-safety, impose the requirements for SSCs important to safety specified in 10 CFR 72.</p> <p>A graded approach is applied to an SSC important to safety by using the guidance provided in NUREG/CR-6407, <i>Classification of Transportation Packages and Dry Spent Fuel Storage Systems</i>, as follows:</p> <ul style="list-style-type: none"> ● Category A - Critical to Safe Operation SSCs in this category include those whose failure or malfunction could directly result in a condition adverse to public health and safety. Important-to-safety SSCs in this category are classified as safety class as defined in DOE Order 6430.1A, with the additional requirements therein. ● Category B - Major Impact on Safety SSCs in this category include those whose failure or malfunction could result in a condition adversely affecting co-located worker health and safety. Note that from the definition of Category C, Category B is understood to include events that could significantly damage the MCO without severe impact to public health and safety. SSCs in this category are classified as safety significant as defined in DOE SIIT-1009.54. 	DOE 6430.1A WHC CM 4.46 —Section 9.0; —Rev. 1 HNF PRO 516

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMC/WHC References
11. Safety Documentation (Continued)	<p>Category C - Minor Impact on Safety SSCs whose failure or malfunction would not significantly reduce the MCO containment and would not be likely to create a situation adversely affecting public or offsite workers' health and safety. SSCs in this category are classified as safety class 3 (nonsafety) as defined in DOE Order 6430.1A.</p> <p>Worker safety issues are addressed through DOE Orders 6430.1A and 5480.23 and DOE STD 3009.01.</p> <p>(Reference: 10 CFR 72.3, "Definitions," 10 CFR 72.106, "Controlled area of an ISFSI or MRS," and 10 CFR 72.122, "Overall requirements," and 10 CFR 72.140(b), "Quality assurance requirements." NUREG/CR-6407, <i>Classification of Transportation Packaging and Dry Spent Fuel Storage Systems</i>)</p>	
12. Radiological Protection	<p>Incorporate the requirements of Regulatory Guide 8.8 into the design of the MCO. Example considerations include: the process and configuration associated with welding the MCO supercap shield plug in place, inservice inspection and maintenance, among other MCO-related activities that could impact ALARA.</p> <p>(Reference: Regulatory Guide 8.8, <i>Information Relative to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations will be As Low As Reasonably Achievable</i>, Revision 3)</p>	<p>10 CFR 835 DOE 5480.11 DOE 6430.1A Hanford Site Radiological Control Manual (HSRCM-1)</p>

Table 1

MULTI-CANISTER OVERPACK ADDITIONAL NRC REQUIREMENTS

Responsible Discipline	Additional NRC Requirements	Related DOE/PHMC WHC-References
13. Radiological Protection	<p>Include the following radiological exposure criteria considerations for the design and safety analyses of the MCO and its interfaces with the CSB and CVD facility and HES, since the MCO provides a containment/confinement function for the K Basins spent nuclear fuel.</p> <ul style="list-style-type: none"> • Ensure the Section 20.1301 hourly dose limit of 0.002 rem to the public for any unrestricted area from external sources during normal operations and anticipated occurrences is met. • Ensure during normal operations and anticipated occurrences for any real individual of the public that the following Section 72.104 annual dose equivalent criteria are met: 25 mrem to the whole body, 75 mrem to the thyroid, and 25 mrem to any other critical organ. <p>(References: 10 CFR 20, "Standards for Protection Against Radiation," and 10 CFR 72.104, "Criteria for radioactive materials in effluents and direct radiation from an ISFSI or MRS," and 10 CFR 72.126, "Criteria for radiological protection")</p>	<p>10 CFR 835 DOE 5400.5 DOE 5480.11 DOE 5480.23 DOE 6430.1A DOE-STD-3009-94 HSRCM-1 WHC-CM-4-46; -Section 9.0, -Rev. 1 SNF-PRO-516</p>

DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	L.J. Garvin, Nuclear Safety	Date 7/27/98
Project Title/Work Order		EDT No.
HNF-SD-SNF-DB-005, Rev. 3 Spent Nuclear Fuel Project Multi-Canister Overpack, Additional NRC Requirements		ECN No. 630498

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
J.D. Cloud	R3-86	X			
L.J. Garvin	R3-26	X			
L.H. Goldmann	R3-86	X			
S.B. Harrington	R3-26	X			
C.R. Hoover	H1-15	X			
B.D. Lorenz	R3-26	X			
R.G. Morgan	R3-26	X			
S.H. Peck	X3-79	X			
K.E. Smith	R3-86	X			
J.E. Turnbaugh	X3-79	X			
SNF Project Files	R3-11	X			