DISTRIBUTION SHEET

To	From	Page 1 of 1
Distribution	PUREX/UO ₃ Technical Safety Support	Date November 21, 1994
Project Title/Work Order		EDT No. <u>607481</u>
WHC-SD-CP-RD-022 Rev 1, "Bases For PUREX DEACTIVATION Safety Equipment List"		ECN No. 613887

Name	MSIN	Text With All Attach.	Text Only	Attach./ Appendix Only	EDT/ECN Only
Central Files	L8-04	x			
OSTI (2)	L8-07	x			
R. W. Bailey (2)	S5-66	x			
D. A. Clapp	S6-19	x			
R. N. Dale	S5-51	x			
E. N. Dodd	S6-19	x			
W. H. Doggett	S5-75	x			
R. A. Duncan	S6-18	x			
M. B. Enghusen	S6-18	x			
R. A. Gregonis	S5-75	x			
D. G. Hamrick	S6-15	x			
D. G. Harlow	S6-19	x			
J. P. Hayfield	S6-18	x			
J. S. Hertzfel	S5-66	x			
R. L. Hobart	S6-17	x			
D. L. Johnson	S6-17	x			
R. A. Kulick	S6-21	x			
G. J. LeBaron	S6-19	x			
J. C. Lo	S6-20	x			
L. F. Perkins	S6-15	x			
D. H. Shuford	S5-65	x			
C. D. Wollam	S6-17	x			

ENGINEERING CHANGE NOTICE

Page 1 of 2

1. ECN **613887**

Proj.
ECN

2. ECN Category (mark one) Supplemental ☐ Direct Revision ☐ Change ECN ☐ Temporary ☐ Standby ☐ Supersedure ☒ Cancel/Void ☐		3. Originator's Name, Organization, MSIN, and Telephone No. R. L. Walser, PUREX/UO ₃ Technical Safety Support, S6-19, 373-3522		4. Date 11/7/94										
		5. Project Title/No./Work Order No. PUREX DEACTIVATION	6. Bldg./Sys./Fac. No. PUREX/202A	7. Approval Designator S										
		8. Document Numbers Changed by this ECN (includes sheet no. and rev.) WHC-SD-CP-022 Rev 0	9. Related ECN No(s). NA	10. Related PO No. NA										
11a. Modification Work ☐ Yes (fill out Blk. 11b) ☒ No (NA Blks. 11b, 11c, 11d)		11b. Work Package No. NA	11c. Modification Work Complete NA _____ Cog. Engineer Signature & Date		11d. Restored to Original Condition (Temp. or Standby ECN only) NA _____ Cog. Engineer Signature & Date									
12. Description of Change The document is extensively revised to reflect changes in the Plant since the document was issued in 1991. Change bars are not shown due to the extent of the revision.														
13a. Justification (mark one) <table border="0"> <tr> <td>Criteria Change ☐</td> <td>Design Improvement ☐</td> <td>Environmental ☐</td> </tr> <tr> <td>As-Found ☒</td> <td>Facilitate Const. ☐</td> <td>Const. Error/Omission ☐</td> </tr> <tr> <td></td> <td></td> <td>Design Error/Omission ☐</td> </tr> </table>						Criteria Change ☐	Design Improvement ☐	Environmental ☐	As-Found ☒	Facilitate Const. ☐	Const. Error/Omission ☐			Design Error/Omission ☐
Criteria Change ☐	Design Improvement ☐	Environmental ☐												
As-Found ☒	Facilitate Const. ☐	Const. Error/Omission ☐												
		Design Error/Omission ☐												
13b. Justification Details See block 12.														
14. Distribution (include name, MSIN, and no. of copies) See document distribution list.				RELEASE STAMP OFFICIAL RELEASE BY WHC DATE NOV 30 1994 <i>Ata. 4</i>										

ENGINEERING CHANGE NOTICE

Page 2 of 2

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

613887

15. Design Verification Required

☐ Yes☒ No

16. Cost Impact

ENGINEERING

Additional [NA] \$

Savings [NA] \$

CONSTRUCTION

Additional [NA] \$

Savings [NA] \$

17. Schedule Impact (days)

Improvement [NA]

Delay [NA]

18. 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 12. Enter the affected document number in Block 19.

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

19. Other Affected Documents: (NOTE: Documents listed below will not be revised by this ECM.) 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

WHC-SD-RE-SEL-001 Rev 1 (is being revised at same time)

20. Approvals

Signature

Date

Signature

Date

OPERATIONS AND ENGINEERING

Cog. Eng. R. L. Walser *R. L. Walser*

11/27/94

Cog. Mgr. D. G. Harlow *D. G. Harlow*

11/30/94

QA NA

Safety R. V. Skinner *R. V. Skinner*

11/30/94

Environ. NA

Other *R. W. Bailey* *R. W. Bailey*

11/30/94

ARCHITECT-ENGINEER

PE NA

QA NA

Safety NA

Design NA

Environ. NA

Other NA

DEPARTMENT OF ENERGY

Signature or a Control Number that tracks the Approval Signature

NA

ADDITIONAL

DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

RELEASE AUTHORIZATION

Document Number: WHC-SD-CP-RD-022, REV 1

Document Title: Bases for PUREX DEACTIVATION Safety Equipment List

Release Date: 11/30/94

This document was reviewed following the
procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz

November 30, 1994

TRADEMARK DISCLAIMER. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof or its contractors or subcontractors.

This report has been reproduced from the best available copy. Available in paper copy and microfiche. Printed in the United States of America. Available to the U.S. Department of Energy and its contractors from:

U.S. Department of Energy
Office of Scientific and Technical Information (OSTI)
P.O. Box 62
Oak Ridge, TN 37831
Telephone: (615) 576-8401

Available to the public from:

U.S. Department of Commerce
National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
Telephone: (703) 487-4650

MASTER

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

SUPPORTING DOCUMENT

1. Total Pages 119

2. Title

Bases For PUREX DEACTIVATION Safety Equipment List

3. Number

WHC-SD-RD-022

4. Rev No.

1

5. Key Words

Bases, PUREX, DEACTIVATION, Safety, Equipment,
List

6. Author

Name: R. L. Walser

Signature

PUREX/UO, Technical Safety
Support/17700

Organization/Charge Code

**APPROVED FOR
PUBLIC RELEASE**

7. Abstract

This document provides the basis and justification for changes in classification of equipment listed in WHC-SD-SEL-001 Rev 1, "PUREX Plant Safety Equipment List." The reference document will be re-issued as Rev 2 based on the DEACTIVATION mode as evaluated in this document.

8. RELEASE STAMP

OFFICIAL RELEASE
BY WHC

5

DATE NOV 30 1994

Sta. 4

[illegible]

Bases For PUREX DEACTIVATION Safety Equipment List

**Westinghouse Hanford Company
Prepared by: R. L. Walser**

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY	5
2.0	INTRODUCTION	6
3.0	SCOPE	7
4.0	FACILITY STATUS	8
5.0	WHC-CM-4-46 SECTION 9.0 REQUIREMENTS AND IMPLEMENTATION PLAN .	10
6.0	SAFETY CLASSIFICATION BASIS	12
6.1	Safety Classification Basis For Current SEL Items During DEACTIVATION	13
6.2	Safety Classification Basis For New SEL Items During DEACTIVATION	92
	APPENDIX I WHC SAFETY CLASS CRITERIA	97
	APPENDIX II TOXIC MATERIAL ENVIRONMENTAL HAZARD SAFETY CALCULATIONS (EHSC)	102

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

1.0 EXECUTIVE SUMMARY

As part of the Operating Specifications Document implementation plan (WHC-SD-CP-RD-025), Westinghouse Hanford Company (WHC) is developing a Safety Equipment List to support the PUREX DEACTIVATION condition. This document provides the criteria and basis for selection of the safety class equipment to be included in the SEL, and also lists the DEACTIVATION classification of all safety class equipment at PUREX.

The classification of the PUREX safety equipment presented in this document is evaluated and justified against the criteria identified in WHC-CM-1-3, "Management Requirements and Procedures (MRP)," 5.46, REV.4 as implemented by WHC-CM-4-46, Section 9.0. As defined in MRP 5.46, the DOE Order 6430.1A, "General Design Criteria" terminology of "safety class" or "safety class item" is equivalent to and applies only to Westinghouse Hanford Company safety class 1.

The PUREX DEACTIVATION Safety Equipment List will consist of twenty-one (21) items with a Safety Classification of 1 and thirty-four (34) items with a Safety Classification of 2. The remaining safety equipment is classified as either Safety Class 3 or 4, depending upon the consequences of failure for each item.

Safety class instrumentation is defined in the Component Based Recall System (CBRS) data base and controlled per CBRS procedures in WHC-CM-8-7. All instruments identified as Safety Class 1 or 2 are considered part of the safety equipment list. [Instruments identified in Appendix V of OSD-P-154-00001 as required to maintain parameters within Operational Safety Requirements (OSR) are Safety Class 2.]

The former safety classification of each piece of equipment, as given in REV. 1 of the PUREX Safety Equipment List, is included in this document for comparison, and is identified as the "Operating Safety Class" (OPS). The DEACTIVATION safety reclassification is identified as the "DEACTIVATION Safety Class" (DAC).

The DEACTIVATION classification of the PUREX safety equipment applies until the facility is transferred to EM-40 for decontamination and decommissioning (D & D). At that time, the safety equipment list shall be re-evaluated and a revised Safety Equipment List developed.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

2.0 INTRODUCTION

This document provides the basis for administering and meeting the requirements given in WHC-CM-1-3, "Management Requirements and Procedures (MRP)," 5.46, REV. 4, "Safety Classification of Systems, Components, and Structures" as implemented by WHC-CM-4-46, Section 9.0.

MRP 5.46 describes the relationship between the safety classification definitions of Westinghouse Hanford Company and DOE (explicitly DOE Order 6430.1A). Westinghouse Hanford Company has developed a graded approach to classification of equipment defining criteria for a Safety Class 1, 2, and 3 designation and a Non-Safety Class 4 designation. The MRP states that the terms "safety class" and Safety Class 1, as used in DOE Order 6430.1A and MRP 5.46 respectively, are equivalent.

Systems, components, and structures are evaluated based on the consequences of failure on the health and safety of the general public for Safety Class 1, the health and safety of the on-site worker for Safety Class 2, and the health and safety of the facility worker for Safety Class 3. The consequences of a failure on the environment are also addressed in this ranking based on the level of the insult. A Non-Safety Class 4 designation indicates a system, component, or structure whose failure has no significant impact to health, safety, or the environment. The criteria for the three levels of Safety class equipment are given in Appendix I for ease of reference.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3.0 SCOPE

WHC was requested by the DOE (Letter, J.E. Mecca, DOE-RL to President, WHC, "PUREX Plant Final Safety Analysis Report Upgrade," OPD:DMC, dated January 25, 1991.) to develop a Safety Equipment List to support the PUREX Standby/DEACTIVATION condition. In addition, criteria was to be prepared for selection of the safety class equipment to provide the basis for inclusion in the SEL. This document provides that criteria and justification, and the DEACTIVATION classification of all safety class equipment at PUREX. Revision A-0 of this document was issued on November 26, 1991. Issue of the revised SEL was delayed due to change in plant status from Standby to shutdown/DEACTIVATION and a recently resolved issue regarding the appropriate safety authorization basis.

The classification of the PUREX safety equipment presented in this document is evaluated and justified against the criteria identified in MRP 5.46 as implemented by WHC-CM-4-46, Section 9.0. This classification is based upon the current shutdown/DEACTIVATION status of the facility, and the most current revisions of WHC-SD-CP-PHA-001 (Purex Preliminary Hazards Analysis), WHC-SD-HS-SAR-001 (PUREX Plant Final Safety Analysis Report Chapter 11), PUREX Hazards Identification & Evaluation (HI&E) Reports, OSD-P-154-00001 (PUREX DEACTIVATION Operating Specifications), CSER-91-013 (Criticality Safety Evaluation Report), and CPS-P-465-40000 Rev H (Criticality Prevention Specifications Uranium-Plutonium Separations at the PUREX Plant).

The PUREX DEACTIVATION SEL is used primarily to support the event reporting requirements of WHC-CM-1-5, 7.1, "Occurrence Reporting and Processing of Operations Information". The design modifications to former safety equipment in the PUREX facility are not affected by this reclassification. In accordance with Chapter 9.0, section 4.3.3 of WHC-CM-4-46, the original design criteria for existing PUREX systems, components, and structures remain applicable. The Quality Assurance (QA) requirements commensurate with the original design apply regardless of the safety class designation. During this DEACTIVATION period, most design modifications are expected to be "In-kind" replacements, with a very limited potential for any major upgrades or modifications. If major modifications are performed, it is anticipated that equipment will be removed to further enhance the facility's DEACTIVATION/shutdown status.

The former safety classification of each piece of equipment, as given in REV. 1 of the PUREX Safety Equipment List, is included in this document for comparison, and is identified as the "Operating (OPS) Safety Class". The DEACTIVATION safety reclassification is identified as the "DEACTIVATION (DAC) Safety Class".

The DEACTIVATION classification of the PUREX safety equipment is applicable until the facility is transferred to EM-40 for decontamination and decommissioning (D & D). At that time, the safety equipment list will be re-evaluated and a revised Safety Equipment List developed.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

4.0 FACILITY STATUS

The following is a summary of the expected plant status during **DEACTIVATION**. These conditions are used as a basis for the safety equipment reclassification.

- A. The PUREX Plant is in **DEACTIVATION**/shutdown status and further fuel receipt or processing activities are not authorized by DOE.
- B. The dissolvers and railroad cut are empty of N Reactor fuel and all fuel processing activities are ceased. Each dissolver contains a heel consisting of zirconium hulls and traces of irradiated fuel covered with water. Heel cuts were performed to remove as much of the irradiated fuel as possible. The heels are passivated and reduced to a minimum volume. No further action is required during **DEACTIVATION**.
- C. There is aluminum clad fuel in the PUREX slug storage basin but it lacks sufficient I-131 to exceed the previous I-131 safety boundary due to its age (greater than 20 years). Efforts are in progress to return this fuel to the K basin.
- D. Dissolvers and other ammonia handling vessels are flushed of ammonia bearing solutions.
- E. The Dissolver Off Gas Systems (DOG) are turned off and isolated.
- F. All plant vessels are emptied of high level waste.
- G. All solvent is stored in tank 211-A-40.
- H. Tank 204 (sugar makeup tank) is flushed and emptied.
- I. The N Cell processing activities are limited to surveillance, sump operations, and wet/dry glovebox cleanup.
- J. All plutonium product storage tanks (M-Cell) are emptied to minimum heels.
- K. The cold UNH solution and approximately 9 Kg of plutonium (CPS limit is 12.4 Kg per tank) cleaned out of N-Cell and temporarily stored in Tanks E6 and D5 is being transferred to an underground waste tank.
- L. Canyon sump and waste tank transfers are performed as needed.
- M. The OSD/OSR surveillances are ongoing.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

- N. The Ammonia Scrubber (ASD) and Process Distillate (PDD) effluent streams are inactive and blanked. The Steam Condensate (SCD) and Cooling Water (CWL) effluent streams are inactive during **DEACTIVATION**. All inlets to canyon tank cooling coil(s) which discharge to the CWL are **ISOLATED** or routed to the 216-A-42 basin.
- O. The Chemical Sewer (CSL) effluent stream is active although any canyon tank coils discharging to it are isolated.
- P. The Ammonia Offgas Exhaust stack (296-A-24) is shutdown and inactive. All other gaseous effluent stacks are operating and active.
- Q. A nuclear materials survey identifying the location and quantity of material is available.
- R. Hydrazine, hydrogen peroxide, hydroxylamine nitrate, silver nitrate, aluminum nitrate nonahydrate (ANN), and ammonium fluoride-ammonium nitrate (AFAN) solutions are removed from PUREX.
- S. Tanks P2, and P3 contain recovered Nitric Acid from the UO_3 stabilization campaign. Tank P4 contains dilute acidic UNH solution that is being used to dilute the Tank D5/E6 material for transfer to underground waste storage.
- T. No PUREX centrifuges (E-G2 and E-G4) or solvent extraction mechanical pulse columns (PG-G2, PG-H2, PG-J4, PG-J6, PG-J7, PG-K2, PG-K3, PG-L1, PG-L2 and PG-R2) are being operated.
- U. Plant configuration reflects the requirements of the "PUREX **DEACTIVATION** Operating Specifications," OSD-P-154-00001.
- V. The steam supplies to the DOG and F Cell exhaust systems are isolated.
- W. P&O Gallery wall exhausters are shut down and isolated.
- X. Ventilation systems 1, 2, 3, and 4 are operating normally.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

5.0 WHC-CM-4-46 SECTION 9.0 REQUIREMENTS AND IMPLEMENTATION PLAN

This section provides a brief discussion of MRP 5.46/WHC-CM-4-46 Section 9.0 requirements which are not practical for implementation during **DEACTIVATION** at PUREX. Plans for future implementation of these requirements are presented as allowed by WHC-4-46 Section 9.0. A point by point discussion of the deviations from MRP 5.46 follows:

- o Section 9.0, Section 4.1.3 states that for existing facilities, identification and listing of Safety class 3 items (individually or by system) may be performed as-needed to support work activities. Section 4.2.6.a requires existing facilities to prepare Safety Equipment Lists (SELs) for all safety class 1 and 2 items in the facility. Per Section 4.2.6.b, safety class 3 items are to be incorporated into the SEL individually or by reference to the system that includes the item.

The current PUREX Safety Equipment List is provided in WHC-SD-RE-SEL-001, Rev. 1. The PUREX Safety Equipment List does not list safety class 3 equipment. This level of detail was practical and sufficient during past operations at PUREX; therefore, the revision to the PUREX Safety Equipment List does not contain safety class 3 items, except as-needed to support work activities. Although this document provides an assessment of safety class 3 and non-safety class 4 items, the results of this assessment are not included in the SEL.

- o Sections 4.2.2 and 4.2.3 require the safety classification criteria, summary-level determinations, and applicable drawings, sketches, and/or diagrams to be provided in the facility Safety Analysis Report (SAR) to clearly identify safety class 1 and 2 systems and their boundaries.

This revision to the Safety Equipment List will not be incorporated into the PUREX Final Safety Analysis Report (FSAR) since PUREX will be in **DEACTIVATION** for an indefinite period of time. The reasons for this are limited resources and there is no significant benefit to be achieved by its incorporation. Updated safety documentation is required for turnover of the facility to D & D. The SEL may be incorporated into the FSAR at that time.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

PUREX maintains an appropriate configuration control program including essential drawings and the Component Based Recall System (CBRS), which is administered by the controlled manual WHC-CM-8-8. These forms of configuration control and documentation are adequate for controlling items contained within the safety equipment list, and thus, detailed drawings, sketches, and diagrams are not provided in the facility SAR. Additionally, a separate listing of Class A and Class B safety equipment is available to support implementation of WHC-CM-1-5, 7.1, "Occurrence Reporting and Processing of Operations Information" via the WHC-CM-5-9 Procedure 2.3 of the same title. Therefore, to eliminate redundancy and ensure effective change control, instruments will not be listed in this revision of the PUREX SEL.

- o The existing spare parts inventory is used to replace failed equipment in accordance with Section 4.3.3, which states that the original design criteria applies to existing systems, components, and structures. System design enhancements or upgrades are not anticipated during DEACTIVATION.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

6.0 SAFETY CLASSIFICATION BASIS

This section provides the basis for designating a Safety Class for PUREX equipment pieces. Section 6.1 evaluates, assigns and justifies a safety classification for each item contained in revision 1 of the PUREX Safety Equipment List. Section 6.2 identifies new items which were evaluated due to their potential environmental or personnel exposure hazards.

Items contained in Revision 1 of the PUREX Safety Equipment List are evaluated according to the criteria defined in Appendix I (reproduced in full from WHC-CM-4-46 and MRP 5.46). Based on this evaluation, the item is designated as safety class 1, 2, or 3 or non-safety class 4 and justification for such a classification is given. Please note that items assigned a safety class 3 or non-safety class 4 designation are not incorporated in the **DEACTIVATION SEL**. Items not contained in Revision 1 of the PUREX Safety Equipment List, such as the bulk chemical storage tanks in the 203-A and 211-A areas, are also evaluated and designated in the same manner.

During **DEACTIVATION**, it is perceived that design changes, especially upgrades, to items in REV. 1 of the SEL will be very minimal due to budget constraints, and in most cases will be "In-kind" replacements. If major modifications are performed, it is anticipated that equipment will be removed to further enhance the facility's **DEACTIVATION**/shutdown status. Furthermore, a reduction in safety class does not imply that design standards for any incidental modifications will be reduced, for the design and quality assurance will be based on the original standards.

Much of the justification for changing the safety class designation of certain items is based on the facility status given in Section 4.0. Where appropriate, additional references are provided. Product removal flushes of canyon vessels except those involved in the transfer of Tk-D5/E6 material to tank farms have been completed. Additional flushes are being conducted to meet Resource Conservation and Recovery Act (RCRA) requirements, but these will not affect the safety class designation.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

6.1 Safety Classification Basis For Current SEL Items During DEACTIVATION

EQUIPMENT NUMBER: CRANE HOIST BRAKES

EQUIPMENT NAME: CRANE HOIST BRAKES

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: Failure of the crane hoist brakes could allow the suspended weight to essentially free-fall. In a personnel supported lift, such as in the tunnel or M-cell, crane hoist brake failure may present consequences which meet criterion 7 for Safety Class 3.

EQUIPMENT NUMBER: CRANE WIRE ROPE (CABLE)

EQUIPMENT NAME: 40 TON WIRE ROPE

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: Failure of the 40 ton wire rope could allow the suspended weight to essentially free-fall. In a personnel supported lift, such as in the tunnel or M-cell, crane cable failure may present consequences which meet criterion 7 for Safety Class 3.

EQUIPMENT NUMBER: SLUG STORAGE BASIN

EQUIPMENT NAME: SLUG STORAGE BASIN

DAC SAFETY CLASS: 3 - 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The slug storage basin is contained within the canyon. The aluminum clad fuel is being prepared for shipment to the K Basin for repackaging/storage. Failure of the basin prior to removal of the fuel, presents consequences meeting criterion 3 for Safety Class 3. After fuel removal, the basin is NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SHIPPING CASKS

EQUIPMENT NAME: SHIPPING CASKS

DAC SAFETY CLASS: 3 - 4

OPS SAFETY CLASS: 2

JUSTIFICATION: There are plans to ship the irradiated fuel on dissolver cell floors and in the slug storage basin to the K basin during DEACTIVATION. Until the fuel is shipped, cask failure presents consequences meeting criteria 3 and 13 for Safety Class 3. After shipment, the cask is NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: E-A2

EQUIPMENT NAME: A DISSOLVER STEAM HEATER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell steam heater will not be operated during DEACTIVATION and the steam supply is isolated. No significant radioactive or non-radioactive chemical hazard exists for this heater. It is contained within the canyon. Failure of this heater does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 121, 163; OSD-P-154-00001 1.3.2.B.

EQUIPMENT NUMBER: H-A2

EQUIPMENT NAME: A DISSOLVER ELECTRIC HEATER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell electric heater will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this heater. It is contained within the canyon. Failure of this heater does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 121, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: J-X3-1A

EQUIPMENT NAME: A DISSOLVER OFFGAS JET

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell offgas jet will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this jet. It is contained within the canyon. Failure of this jet does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 163; OSD-P-154-00001, 1.3.2.B.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-A2

EQUIPMENT NAME: A DISSOLVER SILVER REACTOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell silver reactor will not be operated during DEACTIVATION. By virtue of its function, the silver reactor does contain silver nitrate and radioactive iodine. However, the I-131 and silver are fixed and in a solid form that is not easily dispersible. Additionally, this item is contained within the canyon. Failure of this reactor does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 123, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: T-A3-1

EQUIPMENT NAME: A DISSOLVER DOWNDRAFT TOWER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell downdraft tower will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this tower. It is contained within the canyon. Failure of this tower does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 145, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: T-A3-3

EQUIPMENT NAME: A DISSOLVER AMMONIA SCRUBBER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell ammonia scrubber will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this scrubber. It is contained within the canyon. Failure of this scrubber does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 143, 163; OSD-P-154-00001, 1.3.2.B.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-A3

EQUIPMENT NAME: A CELL DISSOLVER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell dissolver will not be operated during DEACTIVATION. The dissolver contains residual irradiated N reactor fuel and zirconium hulls. The heel is passivated and no further action is required. It is contained within the canyon. Failure of this dissolver does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 299, 303; OSD-P-154-00001, 1.3.2.B, C, D; WHC-SD-CP-TI-192.

EQUIPMENT NUMBER: TK-A3-A

EQUIPMENT NAME: A DISSOLVER DROWN TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The A Cell drown tank will not be operated during DEACTIVATION. During plant operation, the drown tank contained demineralized water. No radioactive or non-radioactive chemical hazard exists for this tank. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 195.

EQUIPMENT NUMBER: E-B2

EQUIPMENT NAME: B DISSOLVER STEAM HEATER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The B Cell steam heater will not be operated during DEACTIVATION and the steam supply is isolated. No significant radioactive or non-radioactive chemical hazard exists for this heater. It is contained within the canyon. Failure of this heater does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 121, 163; OSD-P-154-00001, 1.3.2.B.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: H-B2
EQUIPMENT NAME: B DISSOLVER ELECTRIC HEATER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The B Cell electric heater will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this heater. It is contained within the canyon. Failure of this heater does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 121, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: J-X3-1B
EQUIPMENT NAME: B DISSOLVER OFFGAS JET
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The B Cell offgas jet will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this jet. It is contained within the canyon. Failure of this jet does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: T-B2
EQUIPMENT NAME: B DISSOLVER SILVER REACTOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The B Cell silver reactor will not be operated during DEACTIVATION. By virtue of its function, the silver reactor does contain silver nitrate and radioactive iodine. However, the iodine and silver are fixed and in a solid form that is not easily dispersible. Additionally, this item is contained within the canyon. Failure of this reactor does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 123, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: T-B3-1
EQUIPMENT NAME: B DISSOLVER DOWNDRAFT TOWER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The B Cell downdraft tower will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this tower. It is contained within the canyon. Failure of this tower does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 145, 163; OSD-P-154-00001, 1.3.2.B.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-B3-3

EQUIPMENT NAME: B DISSOLVER AMMONIA SCRUBBER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The B Cell ammonia scrubber will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this scrubber. It is contained within the canyon. Failure of this scrubber does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 143, 163; OSD-P-154-00001, 1.3.2.B, C, D.

EQUIPMENT NUMBER: TK-B3

EQUIPMENT NAME: B CELL DISSOLVER

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: The B Cell dissolver will not be operated during DEACTIVATION. The dissolver contains residual irradiated N reactor fuel and zirconium hulls. The heel is passivated and no further action is required. It is contained within the canyon. However, this cell's sump contains an expansion joint, which at elevated liquid levels, allows radioactive liquid migration to areas routinely accessed by facility personnel. Failure of this dissolver presents consequences meeting criteria 3 and 7 for Safety Class 3. Ref: WHC-SD-CP-RD-020, pp 299, 303; OSD-P-154-00001, 1.3.2.A, B, C, D; WHC-SD-CP-TI-192.

EQUIPMENT NUMBER: TK-B3-A

EQUIPMENT NAME: B DISSOLVER DROWN TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The B Cell drown tank will not be operated during DEACTIVATION. During plant operation, the drown tank contained demineralized water. No significant radioactive or non-radioactive chemical hazard exists for this tank. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 195.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: E-C2
EQUIPMENT NAME: C DISSOLVER STEAM HEATER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell steam heater will not be operated during DEACTIVATION and the steam supply is isolated. No significant radioactive or non-radioactive chemical hazard exists for this heater. It is contained within the canyon. Failure of this heater does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 121, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: H-C2
EQUIPMENT NAME: C DISSOLVER ELECTRIC HEATER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell electric heater will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this heater. It is contained within the canyon. Failure of this heater does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 121, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: J-X3-1C
EQUIPMENT NAME: C DISSOLVER OFFGAS JET
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell offgas jet will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this jet. It is contained within the canyon. Failure of this jet does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 163; OSD-P-154-00001, 1.3.2.B.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-C2
EQUIPMENT NAME: C DISSOLVER SILVER REACTOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell silver reactor will not be operated during DEACTIVATION. By virtue of its function, the silver reactor does contain silver nitrate and radioactive iodine. However, the I-131 and silver are fixed and in a solid form that is not easily dispersible. Additionally, this item is contained within the canyon. Failure of this reactor does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 123, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: T-C3-1
EQUIPMENT NAME: C DISSOLVER DOWNDRAFT TOWER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell downdraft tower will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this tower. It is contained within the canyon. Failure of this tower does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 145, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: T-C3-3
EQUIPMENT NAME: C DISSOLVER AMMONIA SCRUBBER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell ammonia scrubber will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this scrubber. It is contained within the canyon. Failure of this scrubber does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 143, 163; OSD-P-154-00001, 1.3.2.B.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-C3
EQUIPMENT NAME: C CELL DISSOLVER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell dissolver will not be operated during **DEACTIVATION**. The dissolver contains residual irradiated N reactor fuel and zirconium hulls. The heel is passivated and no further action is required. It is contained within the canyon. Failure of this dissolver does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 299, 303; OSD-P-154-00001, 1.3.2.A, B, C, D; WHC-SD-CP-TI-192.

EQUIPMENT NUMBER: TK-C3-A
EQUIPMENT NAME: C DISSOLVER DROWN TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The C Cell drown tank will not be operated during **DEACTIVATION**. During plant operation, the drown tank contained demineralized water. No radioactive or non-radioactive chemical hazards exists for this tank. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 195.

EQUIPMENT NUMBER: T-XA
EQUIPMENT NAME: BACKUP FACILITY FIRST ABSORPTION TOWER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The T-XA absorber tower will not be operated during **DEACTIVATION**. It is empty and flushed. There are no plans to change this status. No significant radioactive or non-radioactive chemical hazard exists for this tower. It is contained within 293-A. Failure of this tower does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 127, 334.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: P-XA-1

EQUIPMENT NAME: PEROXIDE PUMP

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This peroxide pump will not be operated during DEACTIVATION. The tank supplying this pump is emptied and moved to another location on-site. Any residual peroxide left in the pump is decomposed to water. No significant radioactive or non-radioactive chemical hazard exists for this pump. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 334.

EQUIPMENT NUMBER: P-XA-2

EQUIPMENT NAME: PEROXIDE PUMP

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This peroxide pump will not be operated during DEACTIVATION. The tank supplying this pump is emptied and moved to another location on-site. Any residual peroxide left in the pump is decomposed to water. No significant radioactive or non-radioactive chemical hazard exists for this pump. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 334.

EQUIPMENT NUMBER: T-XB

EQUIPMENT NAME: BACKUP FACILITY SECOND ABSORPTION TOWER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The T-XB absorber tower will not be operated during DEACTIVATION. It is empty and flushed. There are no plans to change this status. No significant radioactive or non-radioactive chemical hazard exists for this tower. It is contained within 293-A. Failure of this tower does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pp 127, 334.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: P-XB-1
EQUIPMENT NAME: PEROXIDE PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This peroxide pump will not be operated during DEACTIVATION. The tank supplying this pump is emptied and moved to another location on-site. Any residual peroxide left in the pump is decomposed to water. No significant radioactive or non-radioactive chemical hazard exists for this pump. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 334.

EQUIPMENT NUMBER: P-XB-2
EQUIPMENT NAME: PEROXIDE PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This peroxide pump will not be operated during DEACTIVATION. The tank supplying this pump is emptied and moved to another location on-site. Any residual peroxide left in the pump is decomposed to water. No significant radioactive or non-radioactive chemical hazard exists for this pump. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 334.

EQUIPMENT NUMBER: TK-XC
EQUIPMENT NAME: T-XA ACID RECYCLE/XCA RECOVERED ACID
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This tank will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this tank. It is contained within 293-A. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 127.

EQUIPMENT NUMBER: P-XC-1
EQUIPMENT NAME: TK-XC PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This pump will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this pump. It is contained within 293-A. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 127.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: P-XC-2
EQUIPMENT NAME: TK-XC PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This pump will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this pump. It is contained within 293-A. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 127.

EQUIPMENT NUMBER: TK-XD
EQUIPMENT NAME: T-XB ACID RECYCLE
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This tank will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this tank. It is contained within 293-A. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 127.

EQUIPMENT NUMBER: P-XD-1
EQUIPMENT NAME: TK-XD PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This pump will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this pump. It is contained within 293-A. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 127.

EQUIPMENT NUMBER: P-XD-2
EQUIPMENT NAME: TK-XD PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This pump will not be operated during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this pump. It is contained within 293-A. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 127.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-D1
EQUIPMENT NAME: METATHESIS STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The TK-D1 is empty and flushed. There are no plans to change its status during **DEACTIVATION**. However, under certain circumstances, this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this tank. It is contained within the canyon. This tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: A-D1
EQUIPMENT NAME: METATHESIS STORAGE TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during **DEACTIVATION**. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: TK-D2
EQUIPMENT NAME: WASTE RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The TK-D2 is empty and flushed. There are no plans to change its status during **DEACTIVATION**. However, under certain circumstances, this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this tank. It is contained within the canyon. This tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**. Ref: WHC-SD-CP-RD-020, pg 151.

EQUIPMENT NUMBER: A-D2
EQUIPMENT NAME: WASTE RECEIVER TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are not plans to change its status during **DEACTIVATION**. Failure of the agitator, even if the tank contains solution, does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-D3

EQUIPMENT NAME: METAL STORAGE TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The TK-D3 is empty and flushed. There are no plans to change its status during DEACTIVATION. However, under certain circumstances, this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this tank. It is contained within the canyon. This tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-D3

EQUIPMENT NAME: METAL STORAGE TANK AGITATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of the agitator, even if the tank contains solution, does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-D4

EQUIPMENT NAME: METAL STORAGE TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The TK-D4 is empty and flushed. There are no plans to change its status during DEACTIVATION. However, under certain circumstances, this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this tank. It is contained within the canyon. This tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-D4

EQUIPMENT NAME: METAL STORAGE TANK AGITATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of the agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-D5

EQUIPMENT NAME: METAL STORAGE TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The TK-D5 contains cold UNH and plutonium rework solution. Tk-D5 is isolated, except for transfers to Tk-E6, and is located within the canyon. The amount of plutonium in solution is maintained below the minimum required for an accidental nuclear criticality. Transfer of the U-Pu solution to an underground waste storage tank is in progress. The tank will be emptied and flushed. Failure of this tank does not represent a loss of "double contingency". No significant radioactive or non-radioactive chemical hazard exists for this tank. This tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-D5

EQUIPMENT NAME: METAL STORAGE TANK AGITATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-D5 contains cold UNH and plutonium rework solution. Tk-D5 is isolated, except for transfers to Tk-E6, and is contained within the canyon. The amount of plutonium in solution is maintained below the minimum required for an accidental nuclear criticality. Transfer of the U-Pu solution to an underground waste storage tank is in progress. The tank will be emptied and flushed. Failure of this agitator does not represent a loss of "double contingency". No significant radioactive or non-radioactive chemical hazard exists for this agitator. This agitator does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

The criticality specification for this tank requires an agitator approved for use in a plutonium system. This requirement is based upon the need to provide constant suspension of the tank's solids, to assure uniform settling in the event the agitator should stop. Replacement of all canyon agitators are accomplished using canyon change orders (CCOs) with, as a minimum, an Impact Level III, which assures Criticality Safety review and approval. Agitators approved for plutonium systems are listed on ECN 137126.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-E1
EQUIPMENT NAME: SOLIDS RECOVERY TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-E1 is emptied, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this tank. This tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-E1
EQUIPMENT NAME: SOLIDS RECOVERY TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: G-E2
EQUIPMENT NAME: CENTRIFUGE
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This centrifuge is emptied and flushed, and will not be operated during DEACTIVATION. It is contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this centrifuge. This centrifuge does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-E3
EQUIPMENT NAME: CENTRIFUGE FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-E3 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this tank. Failure of this tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: A-E3

EQUIPMENT NAME: CENTRIFUGE FEED TANK AGITATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during **DEACTIVATION**. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: T-E3-1

EQUIPMENT NAME: E CELL AMMONIA SCRUBBER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The E Cell ammonia scrubber is contained within the canyon and will not be operated during **DEACTIVATION**. No significant radioactive or non-radioactive chemical hazard exists for this scrubber. This scrubber does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**. Ref: WHC-SD-CP-RD-020, pp 143, 163; OSD-P-154-00001, 1.3.2.B.

EQUIPMENT NUMBER: G-E4

EQUIPMENT NAME: CENTRIFUGE

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This centrifuge will not be operated during **DEACTIVATION**. It is emptied, flushed, and contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this centrifuge. This centrifuge does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: TK-E5

EQUIPMENT NAME: LIQUID WASTE TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-E5 is empty, flushed, and contained within the canyon. There are no plans to change its status during **DEACTIVATION**. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this tank. Failure of this tank does not present consequences meeting criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-E6
EQUIPMENT NAME: FEED MAKEUP TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-E6 contains cold UNH and plutonium rework solution. TK-E6 is isolated except for transfers to Tk-F13 and from TKs-D5 and -L11. Transfer of the U-Pu solution to an underground waste storage tank via Tk-F13/Tk-F18 is in progress. The tank will be emptied and flushed. The amount of plutonium in solution is maintained well below that required for an accidental nuclear criticality. Failure of this tank does not represent a loss of "double contingency". Thus, failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-E6-1
EQUIPMENT NAME: TK-E6 AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-E6 contains cold UNH and plutonium rework solution. TK-E6 is isolated except for transfers to Tk-F13 and from TKs-D5 and -L11. Transfer of the U-Pu solution to an underground waste storage tank via Tk-F13/Tk-F18 is in progress. The tank will be emptied and flushed. During transfers, failure of this agitator does not represent a loss of "double contingency". This is due to the agitator being interlocked with the transfer pump, so that when the agitator is off the pump is inoperable. Thus, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

The criticality specification for this tank requires an agitator approved for use in a plutonium system. This requirement is based upon the need to provide constant suspension of the tank's solids, to assure uniform settling in the event the agitator should stop. Replacement of all canyon agitators are accomplished using canyon change orders (CCOs) with Plant safety approval required, which assures Criticality Safety review and approval. Agitators approved for plutonium systems are listed on ECN 137126.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: A-E6-2

EQUIPMENT NAME: TK-E6 AGITATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-E6 contains cold UNH and plutonium rework solution. TK-E6 is isolated except for transfers to Tk-F13 and from TKs-D5 and -L11. Transfer of the U-Pu solution to an underground waste storage tank via Tk-F13/Tk-F18 is in progress. The tank will be emptied and flushed. During transfers, failure of this agitator does not represent a loss of "double contingency". This is due to the agitator being interlocked with the transfer pump, so that when the agitator is off the pump is inoperable. Thus, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

The criticality specification for this tank requires an agitator approved for use in a plutonium system. This requirement is based upon the need to provide constant suspension of the tank's solids, to assure uniform settling in the event the agitator should stop. Replacement of all canyon agitators are accomplished using canyon change orders (CCOs) with Plant safety approval required, which assures Criticality Safety review and approval. Agitators approved for plutonium systems are listed on ECN 137126.

EQUIPMENT NUMBER: J-F1-1

EQUIPMENT NAME: VESSEL VENT JET

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The vessel vent jet provides motive force to prevent pressurization of canyon vessels when the facility is operating. Although it is not required, the vessel vent system is operating on air to provide the load needed to allow two process air compressors to be operated without damage. There are no plans to operate this vent system continuously during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this jet does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 356.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: J-F1-2

EQUIPMENT NAME: CONDENSER VENT JET

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The condenser vent jet provides motive force to prevent pressurization of canyon concentrators. There are no plans to operate it during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this jet does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 356.

EQUIPMENT NUMBER: J-F1-3

EQUIPMENT NAME: E-F5, F6 VENT JET

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This vent jet provides motive force to prevent pressurization of E-F5 and E-F6. It is not operating and there are no plans to operate it during DEACTIVATION. However, Tks-F15 and -F16 are both vented by this system, and thus if sugar denitration is conducted in either of these tanks, this system is operated. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this jet does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 356.

EQUIPMENT NUMBER: TK-F3

EQUIPMENT NAME: AAA ACID RECEIVER TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F3 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-F5
EQUIPMENT NAME: ACID ABSORBER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-F5 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this absorber does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-F5
EQUIPMENT NAME: ACID ABSORBER CONDENSER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: E-F5 is empty and contained within the canyon. There are no plans to change its status during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this condenser does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-F6-1
EQUIPMENT NAME: 1WW WASTE CONCENTRATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: E-F6-1 is flushed, contains a residual heel, and is contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. However, under certain circumstances this concentrator may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this concentrator. Failure of this concentrator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SRV-F6-2
EQUIPMENT NAME: SAFETY RELIEF VALVE
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: E-F6-1 is flushed, contains a residual heel, and is contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this SRV does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SRV-F6-3
EQUIPMENT NAME: SAFETY RELIEF VALVE
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: E-F6-1 is flushed, contains a residual heel, and is contained in the canyon. There are no plans to change its status or operate it during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this SRV does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-F7
EQUIPMENT NAME: 1WW FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-F7 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-F8
EQUIPMENT NAME: WASTE REWORK TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-F8 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-F8
EQUIPMENT NAME: WASTE REWORK TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This canyon tank is empty and flushed. There are no plans to change its status during DEACTIVATION. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-F10
EQUIPMENT NAME: 3WF DECANter FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F10 is used during DEACTIVATION to receive 203-A sump solution accumulated in Tk-P1. It is contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-F10
EQUIPMENT NAME: 3WF DECANter FEED TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This canyon tank is used during DEACTIVATION to supply dilute sump or flush solution as feed to the E-F11 concentrator. Failure of this agitator does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-F11-2
EQUIPMENT NAME: AMMONIA SCRUBBER FEED CONDENSER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: There are no plans to operate this condenser/tank during DEACTIVATION. It is contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this tank. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-F12
EQUIPMENT NAME: ASF RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F12 is used during DEACTIVATION to receive steam condensate generated from the operation of the E-F11 concentrator. The accumulated condensate is pumped to the CWL header which is routed to the 216-A-42 basin. The tank is contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-F13

EQUIPMENT NAME: ORGANIC RECOVERY TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F13 is being used as a mixing tank for solutions from Tk-P4 and Tk-E6/D5. The tank will again be emptied and flushed at the completion of this program. It is contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-F13

EQUIPMENT NAME: ORGANIC RECOVERY TANK AGITATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This canyon tank is being used to mix plutonium bearing solution from Tk-E6 with dilute uranium solution from Tk-P4 for transfer to an underground waste tank. At the completion of this program, the tank will be emptied and flushed. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-F15

EQUIPMENT NAME: 1WW DENITRATION TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F15 is being used to receive Tk-P4 solution for dilution of Tk-E6/D5 solution. At the completion of this transfer, the tank will again be emptied and flushed. It is contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: A-F15
EQUIPMENT NAME: TK-F15 AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F15 is being used to receive dilute acidic uranium nitrate solution from Tk-P4 for transfer to Tk-F13. There it is used to dilute the D5/E6 solution for transfer to an underground waste storage tank via Tk-F18. When this program is complete, the tank will be emptied and flushed. This tank contains very low level radioactive liquid. A-F15 is contained within the canyon. Failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 255.

EQUIPMENT NUMBER: TK-F16
EQUIPMENT NAME: 1WW DENITRATION AND TRANSFER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F16 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-F16
EQUIPMENT NAME: TK-F16 AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F16 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. Failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 255.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-F18

EQUIPMENT NAME: SUMP WASTE RECEIVER TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F18 is, and will remain, operational during DEACTIVATION. Sump wastes and the mixed E6-D5/P4 solution from Tk-F13 are transferred into TK-F18, neutralized, and transferred to Tank Farms. TK-F18 may contain low level radioactive liquid combined with hazardous chemical waste. TK-F18 is contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-F18

EQUIPMENT NAME: SUMP WASTE RECEIVER TANK AGITATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This canyon tank is operational during DEACTIVATION. Sump wastes and the E-F11 concentrator bottoms are transferred into Tk-F18, neutralized, and transferred to Tank Farms. Tk-F18 may contain low level radioactive liquid combined with hazardous chemical wastes. Failure of this agitator, even when the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-F26

EQUIPMENT NAME: 1WW RECEIVER TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: TK-F26 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-G1
EQUIPMENT NAME: SEMI-BATCH WASHING TANK (#1 SYSTEM)
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-G1 is empty, flushed, and contained within the canyon. There are no plans to change its status during **DEACTIVATION**. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: T-G2
EQUIPMENT NAME: #1 ORGANIC SYSTEM SOLVENT TREATMENT COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-G2 will not be operated during **DEACTIVATION**. The column is empty, flushed, and contained within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tower does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: TK-G5
EQUIPMENT NAME: 100 RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-G5 is empty, flushed, and contained within the canyon. The approximate 80% NPH and 20% TBP organic formerly stored in the tank is now in tank 211-A-40. The tank is isolated from solvent extraction. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**. Ref: OSD-P-154-00001, 1.3.2.E & F.

EQUIPMENT NUMBER: TK-G7
EQUIPMENT NAME: ASF WASTE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-G7 is empty, flushed, and contained within the canyon. There are no plans to change its status during **DEACTIVATION**. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-G8
EQUIPMENT NAME: WASH WASTE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-G8 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-G8
EQUIPMENT NAME: WASH WASTE TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-H1
EQUIPMENT NAME: HAF FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-H1 is empty, flushed, and contained in the canyon. There are no plans to change its status during DEACTIVATION. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-H1
EQUIPMENT NAME: HAF FEED TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-H2
EQUIPMENT NAME: HA SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-H2 will not be operated during DEACTIVATION. The column is empty, flushed, and located within the canyon. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this column does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-H4-1
EQUIPMENT NAME: BACKCYCLE WASTE CONCENTRATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: E-H4-1 is flushed, contains a residual heel, and is contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. However, under certain circumstances this concentrator may contain low level radioactive liquid. No significant radioactive or non-radioactive chemical hazard exists for this system. Failure of this concentrator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-J1
EQUIPMENT NAME: 3WB WASTE RECEIVER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-J1 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. However, under certain circumstances this tank may contain low level radioactive liquid. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: A-J1
EQUIPMENT NAME: 3WB WASTE RECEIVER TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this agitator, even if the tank contains solution, does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-J2
EQUIPMENT NAME: NEPTUNIUM STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-J2 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-J21
EQUIPMENT NAME: NEPTUNIUM RECOVERY CYCLE FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-J21 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-J22
EQUIPMENT NAME: NEPTUNIUM CYCLE SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-J22 will not be operated during DEACTIVATION. The column is flushed and is contained within the canyon. Failure of this column does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-J23
EQUIPMENT NAME: NEPTUNIUM CYCLE SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-J23 will not be operated during DEACTIVATION. The column is flushed and is contained within the canyon. Failure of this column does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-J3
EQUIPMENT NAME: PARTITION CYCLE FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-J3 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: A-J3
EQUIPMENT NAME: PARTITION CYCLE FEED TANK AGITATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This tank is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this agitator does not represent a loss of "double contingency". Therefore, failure of this agitator does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-J4
EQUIPMENT NAME: PARTITION CYCLE SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-J4 will not be operated during DEACTIVATION. The column is empty, flushed, and contained within the canyon. Failure of this column does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-J5
EQUIPMENT NAME: 2nd Pu CYCLE FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-J5 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SAMPLER PIT J5A
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is deactivated and stabilized. Failure of this sampler does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SAMPLER PIT J5B
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is deactivated and stabilized. Failure of this sampler does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-J6
EQUIPMENT NAME: PARTITION CYCLE SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-J6 will not be operated during DEACTIVATION. The column is empty, flushed, and contained within the canyon. Failure of this column does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-J7
EQUIPMENT NAME: PARTITION CYCLE SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-J7 will not be operated during DEACTIVATION. The column is empty, flushed, and contained within the canyon. Failure of this column does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-J8-1
EQUIPMENT NAME: 1CU CONCENTRATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: E-J8-1 is flushed, contains a residual heel, and is contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. However, under certain circumstances this concentrator may contain low level radioactive liquid. Failure of this concentrator does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-K1
EQUIPMENT NAME: SECOND URANIUM CYCLE FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-K1 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-K2
EQUIPMENT NAME: FINAL U CYCLE SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-K2 will not be operated during DEACTIVATION. The column is empty, flushed, and contained within the canyon. Failure of this column does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-K3
EQUIPMENT NAME: FINAL U CYCLE SOLVENT EXTRACTION COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-K3 will not be operated during DEACTIVATION. The column is empty, flushed, and contained within the canyon. Failure of this column does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-K4-1
EQUIPMENT NAME: FINAL U CYCLE CONCENTRATOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: E-K4-1 is flushed, contains a residual heel, and is contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. However, under certain circumstances this concentrator may contain low level radioactive liquid. Failure of this concentrator does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-K5
EQUIPMENT NAME: SECOND URANIUM CYCLE PRODUCT RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-K5 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-K6
EQUIPMENT NAME: SECOND URANIUM CYCLE PRODUCT SAMPLE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-K6 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: L CELL
EQUIPMENT NAME: PIPING WITHIN L CELL
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: There are no activities planned in L Cell during DEACTIVATION. All vessels and piping are empty, flushed, and contained within the canyon. Failure of any component or structure in L Cell does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-L1
EQUIPMENT NAME: 2nd Pu CYCLE SX COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-L1 will not be operated during DEACTIVATION. The column is empty, flushed, and contained within the canyon. Failure of this column does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SAMPLER PIT L1
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Sampler failure does not constitute loss of "double contingency", but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-L2
EQUIPMENT NAME: 2nd Pu CYCLE SX COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-L2 is empty, flushed, contained within the canyon, and will not be operated during DEACTIVATION. Failure of this column does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SAMPLER PIT L2A
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Failure of this sampler does not constitute loss of double contingency, but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SAMPLER PIT L2B
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Failure of this sampler does not constitute loss of double contingency, but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-L3
EQUIPMENT NAME: 3rd Pu FEED TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-L3 is empty, flushed, and contained within the canyon. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SAMPLER PIT L3
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Failure of this sampler does not constitute loss of double contingency, but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-L4
EQUIPMENT NAME: 3rd Pu CYCLE SX COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: T-L4 is empty, flushed, and contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. Failure of this column does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SAMPLER PIT L4
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Failure of this sampler does not constitute loss of double contingency, but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-L5
EQUIPMENT NAME: 3rd Pu CYCLE SX COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: T-L5 is empty, flushed, and contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. Failure of this column does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SAMPLER PIT L5A
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Failure of this sampler does not constitute loss of double contingency, but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SAMPLER PIT L5B
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Failure of this sampler does not constitute loss of double contingency, but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-L6
EQUIPMENT NAME: 3rd Pu CYCLE STRIPPER CONDENSER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: E-L6 is shut down, empty, flushed, and contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. Failure of this concentrator does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: T-L6
EQUIPMENT NAME: 3rd Pu CYCLE STRIPPER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: T-L6 is empty, flushed, shut down, and contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. Failure of this stripper does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SRV-L6-1

EQUIPMENT NAME: SAFETY RELIEF VALVE

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: T-L6 is empty, flushed, and contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. Failure of this valve does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-L7-1

EQUIPMENT NAME: 3rd Pu CYCLE CONCENTRATOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: E-L7-1 is empty, flushed, shut down, and contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. Failure of this concentrator does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-L7-2

EQUIPMENT NAME: 3rd Pu CYCLE CONCENTRATOR CONDENSER

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: E-L7-2 is shut down and contained within the canyon. There are no plans to change its status or it operate during DEACTIVATION. Failure of this condenser does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SRV-L7-1

EQUIPMENT NAME: SAFETY RELIEF VALVE

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: T-L7 is empty, flushed, and contained within the canyon. There are no plans to change its status or operate it during DEACTIVATION. Failure of this valve does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SAMPLER PIT L6/L7
EQUIPMENT NAME: Pu SERVICE SAMPLER
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This sampler is not used to sample significant quantities of SNM, especially Pu. Failure of this sampler does not constitute loss of double contingency, but could present consequences to the facility worker; therefore, meeting criterion 3 for Safety Class 3. When this sampler is deactivated and flushed, it becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-L8
EQUIPMENT NAME: PLUTONIUM PRODUCT ACCUMULATOR TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: TK-L8 is empty, flushed, and contained within the canyon. There are no plans to change its status or operate the 3rd Pu Cycle during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-L9
EQUIPMENT NAME: PLUTONIUM PRODUCT SAMPLE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: TK-L9 is empty and flushed. There are no plans to change its status or operate the 3rd Pu Cycle during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-L10-A
EQUIPMENT NAME: PROCESS VENT DRAIN TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2

JUSTIFICATION: L Cell activities are shut down. There are no plans to change its status or operate it during DEACTIVATION. However, there may be periodic transfers of rework material from Tk-L11 to Tk-E6. Failure of this tank presents consequences meeting criterion 3 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-L11
EQUIPMENT NAME: Pu REWORK TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2

JUSTIFICATION: L Cell activities are shut down. There are no plans to change its status or operate it during DEACTIVATION. However, additional transfers from TK-L11 to TK-E6 may occur during DEACTIVATION. The expected amounts of radioactive material, especially SNM, in these transfers are low. Failure of this tank does not constitute a loss of "double contingency", but may present consequences to the facility worker. Therefore, failure of this tank presents consequences meeting criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: TK-L11 JET (GROUP II)
EQUIPMENT NAME: Pu REWORK JET
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: L Cell activities are shut down. There are no plans to change its status or operate it during DEACTIVATION. However, additional transfers from TK-L11 to TK-E6 may occur during DEACTIVATION. The amounts of radioactive material, especially SNM, expected in these transfers are low. Failure of this jet does not constitute a loss of "double contingency", and presents no consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: E-L12
EQUIPMENT NAME: TK-L11 VACUUM JET CONDENSER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: E-L12 is inactivated, isolated, and contained within the canyon. Failure of this condenser does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: GB-L14
EQUIPMENT NAME: PR ROOM LOADOUT GLOVEBOX
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2

JUSTIFICATION: No loadouts or shipments of Pu Nitrate are planned for DEACTIVATION. Since surveillance activities are conducted in the PR Room along with periodic TK-L11 to TK-E6 transfers, personnel traffic in the area is very low. Failure of this structure presents consequences meeting criterion 3 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-L14
EQUIPMENT NAME: PRODUCT LOADOUT TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-L14 is empty and flushed. There are no plans to change its status or load out Pu Nitrate during DEACTIVATION. There is no inventory of Pu Nitrate product or shippable rework stored at PUREX. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: Pu SHIPPING CONTAINERS
EQUIPMENT NAME: Pu SHIPPING CONTAINERS
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: There are no plans to store or ship plutonium during DEACTIVATION. Failure of a container does not constitute loss of "double contingency". Therefore, failure of this container does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-M1
EQUIPMENT NAME: DECON SUMP RECEIVER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-M1 will not be operated during DEACTIVATION. The tank is empty and flushed. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-M2
EQUIPMENT NAME: MISCELLANEOUS RECEIVER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-M2 will not be operated during DEACTIVATION. The tank is emptied, flushed, isolated, and removed. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-M3
EQUIPMENT NAME: Pu STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-M3 is empty and flushed. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-M4
EQUIPMENT NAME: Pu STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-M4 is empty and flushed. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-M5
EQUIPMENT NAME: Pu STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-M5 is empty and flushed. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-M6
EQUIPMENT NAME: Pu STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-M6 is empty and flushed. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: CANYON SUMPS
EQUIPMENT NAME: S(A,B,C,D,E,FA,FB,G,H2,J,J2,K,LK,LL,MA,MB,MC,R)
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: Failure of any of these sumps does not constitute a loss of "double contingency." However, failure of any sump could result in an unanticipated, reportable, chemical or radioactive release with consequences meeting criterion 13 for Safety Class 3.

EQUIPMENT NUMBER: ACPRSR-1 (C-V93-1)
EQUIPMENT NAME: N CELL DRY AIR COMPRESSOR
DAC SAFETY CLASS: 2 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The dry air system is required if N Cell plutonium compounds are prepared for storage in sealed containers during DEACTIVATION. Under this operating condition, failure of this compressor presents consequences meeting criterion 21 for Safety Class 2. If sealed storage containers are not used or after the sealed containers are removed, the compressor becomes NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: ACPRSR-2 (C-V93-2)
EQUIPMENT NAME: N CELL DRY AIR COMPRESSOR
DAC SAFETY CLASS: 2 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The dry air system is required if N Cell plutonium compounds are prepared for storage in sealed containers during DEACTIVATION. Under this operating condition, failure of this compressor presents consequences meeting criterion 21 for Safety Class 2. If sealed storage containers are not used or after the sealed containers are removed, the compressor becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: ADYR-1
EQUIPMENT NAME: N CELL DRY AIR DRYER
DAC SAFETY CLASS: 2 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This dryer is required if N Cell plutonium compounds are prepared for storage in sealed containers during DEACTIVATION. Under this operating condition, failure of this dryer presents consequences meeting criterion 21 for Safety Class 2. If sealed storage containers are not used or after the sealed containers are removed, the dryer becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: ADYR-2
EQUIPMENT NAME: N CELL DRY AIR DRYER
DAC SAFETY CLASS: 2 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This dryer is required if N Cell plutonium compounds are prepared for storage in sealed containers during DEACTIVATION. Under this operating condition, failure of this dryer presents consequences meeting criterion 21 for Safety Class 2. If sealed storage containers are not used or after the sealed containers are removed, the dryer becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: N CELL/PR ROOM
EQUIPMENT NAME: ALL N CELL/PR ROOM GLOVEBOXES AND ASSOCIATED EQUIPMENT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: These gloveboxes are shut down. There are no plans to change the status of or to operate the gloveboxes. Failure of these gloveboxes presents consequences meeting criterion 3 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: N CELL/PR ROOM

EQUIPMENT NAME: ALL N CELL/PR ROOM VESSELS AND ASSOCIATED PIPING (except Tks-N15, -N16, and -N30).

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: These components are shut down. There are no plans to change their status or operate them. Failures of these vessels and pipes do not present consequences meeting the criteria for Safety Class 1, 2, or 3, and are thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: N CELL/PR ROOM

EQUIPMENT NAME: ALL N CELL PR ROOM PUMPS

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: These pumps are shut down. There are no plans to change their status or operate them. Failure of these pumps do not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: N CELL/PR ROOM CRIT DRAINS

EQUIPMENT NAME: ALL N CELL\PR ROOM CRITICALITY GLOVEBOX FLOOR DRAINS

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: These floor drains are not required for criticality safety during DEACTIVATION due to the reduced plutonium inventories in these areas. Failure of these drains presents consequences which meet criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: S(LB-1, LB-2, LD, LE, LF)

EQUIPMENT NAME: PR ROOM SUMPS

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: These sumps are an integral part of the gloveboxes. Failure of these sumps presents consequences which meet criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: S(N1A, N1B, N1C, N2B, N2C, N3, N6, N7)

EQUIPMENT NAME: N-CELL SUMPS

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: These sumps are an integral part of the gloveboxes. Failure of these sumps presents consequences which meet criterion 3 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: F-N8
EQUIPMENT NAME: N CELL DRUM FILTER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This filter is shut down. There are no plans to change its status or operate it. Failure of this filter does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: CA-N9
EQUIPMENT NAME: FIRST STAGE CALCINER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This calciner is shut down. There are no plans to change its status or operate it. Failure of this calciner does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: CA-N10
EQUIPMENT NAME: SECOND STAGE CALCINER
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This calciner is shut down. There are no plans to change its status or operate it. Failure of this calciner does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TKs-N15, -N16, and -N30
EQUIPMENT NAME: N CELL HOOD WASTE SOLUTIONS STORAGE TANKS
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: These tanks are empty. There are no plans to change their status. However, in the case of liquids being observed in the N-cell gloveboxes, these tanks are used for accumulation of these liquids. Failure of these tanks present consequences meeting criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: TK-R1
EQUIPMENT NAME: SEMI-BATCH WASHING TANK (#2 SYSTEM)
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-R1 is empty, flushed, and contained within the R-Cell vault. There are no plans to change its status during DEACTIVATION. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: T-R2
EQUIPMENT NAME: #2 ORGANIC SYSTEM SOLVENT TREATMENT COLUMN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: T-R2 is emptied, flushed, and contained within the R-Cell vault. There are no plans to change its status during **DEACTIVATION**. Failure of this column does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-R5
EQUIPMENT NAME: 200 RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-R5 is empty, flushed, isolated from solvent extraction, and contained within the R-Cell vault. There are no plans to change its status during **DEACTIVATION**. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-R7
EQUIPMENT NAME: 200 RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-R7 is empty, flushed, isolated from solvent extraction, and contained within the R-Cell vault. There are no plans to change its status during **DEACTIVATION**. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-R8
EQUIPMENT NAME: WASH WASTE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: TK-R8 is empty, flushed, and contained within the R-Cell vault. There are no plans to change its status during **DEACTIVATION**. However, under certain circumstances this tank may contain low level radioactive liquid. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: CRITICALITY ALARM SYSTEM

EQUIPMENT NAME: CAS

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: By DOE Order 5480.24, the CAS is needed as a PUREX safety instrument as long as it is possible to accumulate 450 grams of plutonium in a single location. Although unlikely, an accumulation is possible until the plutonium in N Cell equipment and gloveboxes is removed or stabilized. Failure of this system meets criterion 21 for Safety Class 2 (the CAS system is designated as OSR equipment).

EQUIPMENT NUMBER: NB-xxx

EQUIPMENT NAME: NUCLEAR BLANKS AS SHOWN ON H-2-98924

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: Many of the lines containing nuclear blanks are drained and flushed. There may be occasions during DEACTIVATION when a line may be returned to service. Failure of a nuclear blank when the line is in service presents consequences which meet criterion 7 for Safety Class 3.

EQUIPMENT NUMBER: CRANE CAB HALON SYSTEM

EQUIPMENT NAME: CRANE CAB HALON SYSTEM

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: The crane cab electrical panels are enclosed and provided with a Halon-1301 extinguishing system. The system remains operable during DEACTIVATION. Failure of this system presents consequences which meet criterion 22 for Safety Class 3.

EQUIPMENT NUMBER: LIGHT WATER FOAM SYSTEM

EQUIPMENT NAME: LIGHT WATER FOAM SYSTEM

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The PUREX canyon cells which contain large quantities of organic solvent during plant operation (i.e. G, H, J, K AND R cells) are equipped with a temperature-activated automatic sprinkler foam system using Light Water Aqueous Film Forming Foam. This system is deactivated because the organic is out of the building. Failure of this system does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: BACKUP LIGHTWATER FOAM SYSTEM

EQUIPMENT NAME: BACKUP LIGHTWATER FOAM SYSTEM

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The PUREX canyon cells which contained large quantities of organic solvent during plant operation (i.e. G, H, J, K AND R cells) are equipped with a temperature-activated automatic sprinkler foam system using Light Water Aqueous Film Forming Foam. This system is deactivated because the organic is out of the building. Failure of the foam system does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: RATE-OF-RISE FIRE DETECTOR

EQUIPMENT NAME: RATE-OF-RISE FIRE DETECTOR

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: Detection of fire in cells equipped with the Light Water Aqueous Film Forming System is by rate-compensated thermal detectors that sound alarms locally and at the Central Fire Station. This system is deactivated. Detector failure does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: WATER FOG SYSTEM

EQUIPMENT NAME: WATER FOG SYSTEM

DAC SAFETY CLASS: 3 - 4

OPS SAFETY CLASS: 2

JUSTIFICATION: Fire protection in those cells which do not contain quantities of organic solvent during processing operations, is provided by a system of peripherally mounted spray nozzles controlled by manual gate valves. This system remains fully operable until near the end of DEACTIVATION. Failure of this system presents consequences which meet criterion 22 for Safety Class 3 until deactivated. It then becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: N-CELL HALON SYSTEM

EQUIPMENT NAME: N-CELL HALON SYSTEM

DAC SAFETY CLASS: 2 - 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This halon system is assumed in the FSAR to be operable to protect against a fire involving significant quantities of Pu. Failure of this system presents consequences meeting criterion 21 for Safety Class 2. After the Pu is removed/stabilized, the halon system becomes NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: AUTOMATIC WET PIPE SPRINKLER
EQUIPMENT NAME: N CELL FIRE PROTECTION (NON-GLOVEBOX)
DAC SAFETY CLASS: 2 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: Automatic wet-pipe sprinklers with both local and 200 Area Central Fire Station alarms are installed in the N-Cell area. Until the plutonium contained in N Cell gloveboxes/equipment is reduced to less than 450 grams or an accumulation is made impossible, failure of this system presents consequences which meet criterion 21 for Safety Class 2. After the Pu is removed/stabilized, the sprinkler system becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SPRINKLER SYSTEM
EQUIPMENT NAME: SPRINKLER SYSTEM
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: 2
JUSTIFICATION: Automatic sprinkler protection on standard wet and dry pipe systems is installed throughout the Purex facility. This system remains operable until near the end of DEACTIVATION. Until deactivated, failure of this system presents consequences which meet criterion 22 for Safety Class 3. The system then becomes NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: CO2 SYSTEM
EQUIPMENT NAME: CO2 SYSTEM
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The CO₂ system, used to protect the in-line alpha, gamma and neutron monitors located in the basement of AMU, is deactivated. These instruments are not in use during DEACTIVATION. Failure of the system does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SF-V10-1
EQUIPMENT NAME: CANYON SUPPLY FAN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The canyon supply fans operate in conjunction with the exhaust fans to maintain proper air flow and contamination control. Failure of the supply fan does not necessarily cause a contamination spread because the exhaust fans operate to maintain proper air flow. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.
Ref: WHC-SD-CP-RD-020, pg 352.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SF-V10-1A
EQUIPMENT NAME: CANYON SUPPLY FAN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: The canyon supply fans operate in conjunction with the exhaust fans to maintain proper air flow and contamination control. Failure of the supply fan does not necessarily cause a contamination spread because the exhaust fans operate to maintain proper air flow. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 352.

EQUIPMENT NUMBER: SF-V10-1B
EQUIPMENT NAME: EAST CRANE MAINTENANCE PLATFORM SUPPLY FAN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This supply fan operates in conjunction with the exhaust fan to maintain proper air flow and contamination control on the ECMP. Failure of the supply fan does not necessarily cause a contamination spread because the exhaust fan maintains proper air flow. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 352.

EQUIPMENT NUMBER: SF-V20-1
EQUIPMENT NAME: SAMPLE GALLERY SUPPLY FAN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2

JUSTIFICATION: This supply fan operates in conjunction with the PR Exhaust and East and West Sample Gallery Room Exhaust Systems in order to maintain contamination control in Zone 2 areas. Failure of this fan does not necessarily cause a contamination spread because the exhaust fans maintain proper air flows. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 345.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SF-V20-1A
EQUIPMENT NAME: SAMPLE GALLERY SUPPLY FAN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This supply fan operates in conjunction with the PR Exhaust and East and West Sample Gallery Room Exhaust Systems in order to maintain contamination control in Zone 2 areas. Failure of this fan does not necessarily cause a contamination spread because the exhaust fans maintain proper air flows. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 345.

EQUIPMENT NUMBER: SF-V40-1
EQUIPMENT NAME: LABORATORY SUPPLY FAN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This supply fan operates in conjunction with the Laboratory Exhaust System in order to maintain contamination control in the lab areas. Failure of this fan does not necessarily cause a contamination spread because the exhaust fan maintains proper air flows. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 352.

EQUIPMENT NUMBER: SF-V40-1A
EQUIPMENT NAME: LABORATORY SUPPLY FAN
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This supply fan operates in conjunction with the Laboratory Exhaust System in order to maintain contamination control in the lab areas. Failure of this fan does not necessarily cause a contamination spread because the exhaust fan maintains proper air flows. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg 352.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V11-1
EQUIPMENT NAME: DEEP BED FIBERGLASS FILTER NO.1
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This deep bed filter is no longer essential for meeting the emission requirements of WHC-CM-7-5 "Environmental Compliance Manual" for the facility's main stack exhaust. The PUREX fourth filter provides the one stage of HEPA filtration required by the FSAR. Failure of this filter presents consequences meeting criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: FH-V11-2
EQUIPMENT NAME: DEEP BED FIBERGLASS FILTER NO.2
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This deep bed filter is no longer essential for meeting the emission requirements of WHC-CM-7-5 "Environmental Compliance Manual" for the facility's main stack exhaust. The PUREX fourth filter provides the one stage of HEPA filtration required by the FSAR. Failure of this filter presents consequences meeting criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: FH-V11-4-1
EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER
DAC SAFETY CLASS: 2
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-1
EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which may meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V11-4-2

EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-2

EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1.

EQUIPMENT NUMBER: FH-V11-4-3

EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-3

EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V11-4-4
EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER
DAC SAFETY CLASS: 2
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-4
EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-5
EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER
DAC SAFETY CLASS: 2
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-5
EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V11-4-6

EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-6

EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-7

EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-7

EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V11-4-8

EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-8

EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-9

EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-9

EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V11-4-10

EQUIPMENT NAME: CANYON EXHAUST FIRST STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V11-4-10

EQUIPMENT NAME: CANYON EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1.

EQUIPMENT NUMBER: FH-V21-1

EQUIPMENT NAME: PR EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V21-1A

EQUIPMENT NAME: PR EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V21-2

EQUIPMENT NAME: PR EXHAUST PRIMARY STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V21-2A

EQUIPMENT NAME: PR EXHAUST PRIMARY STAGE HEPA FILTER

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the initial filtration of the exhaust air prior to discharge into the final stage HEPA filter. The FSAR establishes the need for only a single stage of HEPA filtration prior to discharge to the environment. Thus, in the event that the final stage of HEPA filtration is lost, the primary stage is relied upon to meet this requirement. Therefore, failure of this filter presents consequences which may meet criterion 21 for Safety Class 2. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V22-1

EQUIPMENT NAME: WEST SAMPLE GALLERY HOOD EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V23-1

EQUIPMENT NAME: EAST SAMPLE GALLERY HOOD EXHAUST FINAL STAGE HEPA FILTER

DAC SAFETY CLASS: 1

OPS SAFETY CLASS: 1

JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V24-1
EQUIPMENT NAME: WEST SAMPLE GALLERY ROOM EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V24-1A
EQUIPMENT NAME: WEST SAMPLE GALLERY ROOM EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V25-1
EQUIPMENT NAME: EAST SAMPLE GALLERY ROOM EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V31-3
EQUIPMENT NAME: WHITE ROOM EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

EQUIPMENT NUMBER: FH-V31-4
EQUIPMENT NAME: WHITE ROOM EXHAUST FINAL STAGE HEPA FILTER
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This filter provides the final filtration of the exhaust air prior to discharge to the environment. Failure of this filter presents consequences which meet criterion 20 for Safety Class 1. Ref: OSD-P-154-00001, 2.8.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: FH-V41-1, FH-V41-2, FH-V41-3, FH-V41-4, FH-V41-5, FH-V41-6,
FH-V41-7, FH-V41-8, FH-V41-10, FH-V94-10-1

EQUIPMENT NAME: LAB EXHAUST FINAL STAGE HEPA FILTERS

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 1

JUSTIFICATION: These filters provide the final filtration of the laboratory exhaust air prior to discharge to the environment. These filters were evaluated during preparation of both the PUREX PHA and the draft FSAR Chapter 11 rewrite. There was no credible accident scenario identified which requires these filters to mitigate adverse consequences. Failure of these filters present consequences which meet criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: ALL OTHER HEPA FILTERS

EQUIPMENT NAME: HIGH EFFICIENCY PARTICULATE AIR FILTERS

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 1

JUSTIFICATION: These filters are primarily used to separate zones of differing levels of contamination or to reduce airborne radioactive particulate emissions to ALARA levels. Failure of these filters present consequences which meet criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: EF-AD6-1

EQUIPMENT NAME: AMMONIA OFFGAS EXHAUST FAN

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The ammonia offgas system is shut down. There are no plans to change its status or operate it during DEACTIVATION. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: EF-AD6-2

EQUIPMENT NAME: AMMONIA OFFGAS EXHAUST FAN

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The ammonia offgas system is shut down. There are no plans to change its status or operate it during DEACTIVATION. Failure of this fan does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: EF-V10-1B
EQUIPMENT NAME: EAST CRANE MAINTENANCE PLATFORM EXHAUST FAN
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This area of the plant is active and will remain so during DEACTIVATION. Due to the low levels of radioactive solutions contained in the canyon area, an uncontrolled radioactive airborne release can not be postulated if this fan fails. Therefore, failure of this fan could present consequences to the facility worker only. Thus, failure of this fan presents consequences which meet criterion 3 for Safety Class 3.

EQUIPMENT NUMBER: EF-V11-1
EQUIPMENT NAME: CANYON ELECTRICAL EXHAUST FAN
DAC SAFETY CLASS: 2
OPS SAFETY CLASS: 2
JUSTIFICATION: The canyon exhaust fans are not required to maintain air flow through the #1 Ventilation System. The design of the 291-A1 stack ensures that a natural draft occurs (via the stack) if the exhaust fans are not running. The general public, the non-facility worker, and the environment are also protected because the plant contains very small quantities of low level radioactive material. An accident involving failure of the exhaust fan and an unfiltered radio-active airborne release presents consequences to the facility worker. The fan is therefore listed as OSR equipment. Failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V11-2
EQUIPMENT NAME: CANYON ELECTRICAL EXHAUST FAN
DAC SAFETY CLASS: 2
OPS SAFETY CLASS: 2
JUSTIFICATION: The canyon exhaust fans are not required to maintain air flow through the #1 Ventilation System. The design of the 291-A1 stack ensures that a natural draft occurs (via the stack) if the exhaust fans are not running. The general public, the non-facility worker and the environment are also protected because the plant contains very small quantities of low level radioactive material. An accident involving failure of the exhaust fan and an unfiltered radioactive airborne release presents consequences to the facility worker. The fan is therefore listed as OSR equipment. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp342, 3, 4, 5; OSD-P-154-00001, 2.1.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: EF-V11-3

EQUIPMENT NAME: CANYON ELECTRICAL EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The canyon exhaust fans are not required to maintain air flow through the #1 Ventilation System. The design of the 291-A1 stack ensures that a natural draft occurs (via the stack) if the exhaust fans are not running. The general public, the non-facility worker and the environment are also protected because the plant contains very small quantities of low level radioactive material. An accident involving failure of the exhaust fan and an unfiltered radioactive airborne release presents consequences to the facility worker. The fan is therefore listed as OSR equipment. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V11-4

EQUIPMENT NAME: CANYON STEAM TURBINE EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The canyon exhaust fans are not required to maintain air flow through the #1 Ventilation System. The design of the 291-A1 stack ensures that a natural draft occurs (via the stack) if the exhaust fans are not running. The general public, the non-facility worker and the environment are also protected because the plant contains very small quantities of low level radioactive material. An accident involving failure of the exhaust fan and an unfiltered radioactive airborne release presents consequences to the facility worker. The fan is therefore listed as OSR equipment. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp342, 3, 4, 5; OSD-P-154-00001, 2.1.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: EF-V21-1

EQUIPMENT NAME: PR ROOM EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The PR exhaust fan is only required to be operational when N Cell or PR Room routine activities are being conducted such as surveillance, glove changes, etc. During DEACTIVATION, N Cell equipment will not be operated and only activities such as those listed above are conducted. In the PR Room, TK-L11 to TK-E6 transfers may take place periodically (not routinely). Failure of the exhaust fan during DEACTIVATION presents consequences to the facility worker and it is therefore listed as OSR equipment. The final stage of HEPA filtration in the PR Exhaust System prevents any unfiltered radioactive airborne release. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V21-1A

EQUIPMENT NAME: PR ROOM EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The PR exhaust fan is only required to be operational when N Cell or PR Room routine activities are being conducted such as surveillance, glove changes, etc. During DEACTIVATION, N Cell equipment will not be operated and only activities such as those listed above are conducted. In the PR Room, TK-L11 to TK-E6 transfers may take place periodically (not routinely). Failure of the exhaust fan during DEACTIVATION presents consequences to the facility worker and it is therefore listed as OSR equipment. The final stage of HEPA filtration in the PR Exhaust System prevents any unfiltered radioactive airborne release. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: EF-V22-1

EQUIPMENT NAME: WEST SAMPLE GALLERY HOOD EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The West Sample Gallery Hood exhaust fan is only required to be operational when sampling activities are being conducted. During **DEACTIVATION**, sampling activities are reduced to a minimum. TK-F18, TK-U3 and TK-U4 are the only tanks scheduled to be sampled. Failure of the exhaust fan during **DEACTIVATION** presents consequences to the facility worker and it is therefore considered to OSR equipment. The final stage of HEPA filtration in the West Sample Gallery Hood Exhaust System prevents any unfiltered radioactive airborne release. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V23-1

EQUIPMENT NAME: EAST SAMPLE GALLERY HOOD EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The East Sample Gallery Hood exhaust fan is only required to be operational when sampling activities are being conducted. During **DEACTIVATION**, sampling activities are reduced to a minimum. TK-F18, TK-U3 and TK-U4 are the only tanks scheduled to be sampled. Failure of the exhaust fan during **DEACTIVATION** presents consequences to the facility worker and it is therefore listed as OSR equipment. The final stage of HEPA filtration in the East Sample Gallery Hood Exhaust System prevents an unfiltered radioactive airborne release. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V24-1

EQUIPMENT NAME: WEST SAMPLE GALLERY ROOM EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The West Sample Gallery Room exhaust fan is only required to be operational when Sample Gallery activities are being conducted. During **DEACTIVATION**, Sample Gallery activities are reduced to a minimum. Failure of the exhaust fan during **DEACTIVATION** presents consequences to the facility worker and it is therefore listed as OSR equipment. The final stage of HEPA filtration in the West Sample Gallery Room Exhaust System prevents an unfiltered radioactive airborne release. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: EF-V24-2

EQUIPMENT NAME: WEST SAMPLE GALLERY ROOM EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The West Sample Gallery Room exhaust fan is only required to be operational when Sample Gallery activities are being conducted. During **DEACTIVATION**, Sample Gallery activities are reduced to a minimum. Failure of the exhaust fan during **DEACTIVATION** presents consequences to the facility worker and it is therefore listed as OSR equipment. The final stage of HEPA filtration in the West Sample Gallery Room Exhaust System prevents an unfiltered radioactive airborne release. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V25-1

EQUIPMENT NAME: EAST SAMPLE GALLERY ROOM EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The East Sample Gallery Room exhaust fan is only required to be operational when Sample Gallery activities are being conducted. During **DEACTIVATION**, Sample Gallery activities are reduced to a minimum. Failure of the exhaust fan during **DEACTIVATION** presents consequences to the facility worker and it is therefore listed as OSR equipment. The final stage of HEPA filtration in the East Sample Gallery Room Exhaust System prevents an unfiltered radioactive airborne release. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V31-1

EQUIPMENT NAME: WHITE ROOM EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The White Room exhaust fan ensures a flow of air is maintained from the west end of the P&O Gallery through the White Room. This provides a contamination control barrier at the entrance to the White Room. In addition, the final stage of HEPA filtration on the White Room Exhaust System provides another barrier for an uncontrolled radioactive airborne release. Failure of the exhaust fan during **DEACTIVATION** presents consequences to the facility worker and it is therefore listed as OSR equipment. Thus, failure of this fans presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 348; OSD-P-154-00001, 2.1.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: EF-V31-2

EQUIPMENT NAME: WHITE ROOM EXHAUST FAN

DAC SAFETY CLASS: 2

OPS SAFETY CLASS: 2

JUSTIFICATION: The White Room exhaust fan ensures a flow of air is maintained from the west end of the P&O Gallery through the White Room. This provides a contamination control barrier at the entrance to the White Room. In addition, the final stage of HEPA filtration on the White Room Exhaust System provides another barrier for an uncontrolled radioactive airborne release. Failure of the exhaust fan during DEACTIVATION presents consequences to the facility worker and it is therefore listed as OSR equipment. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 348; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: KA-1

EQUIPMENT NAME: P&O GALLERY ALERT RELAY

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This relay shuts down the wall exhausters should a high airborne radiation reading be detected. Since the wall exhausters are deactivated, failure of this relay does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: KA-2

EQUIPMENT NAME: P&O GALLERY ALARM/SHUTDOWN RELAY

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This relay shuts down the wall exhausters should a high airborne radiation reading be detected. Since the wall exhausters are deactivated, failure of this relay does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: KAM-1

EQUIPMENT NAME: P&O GALLERY EXHAUST FANS SHUTDOWN

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: This component shuts down the wall exhausters should a high airborne radiation reading be detected. Since the wall exhausters are deactivated, failure of this component does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: EF-V41-1
EQUIPMENT NAME: LABORATORY EXHAUST FAN
DAC SAFETY CLASS: 2
OPS SAFETY CLASS: 2
JUSTIFICATION: The Lab exhaust fan ensures that contamination control is maintained in the lab area and that personnel protection is ensured. There are no postulated accidents involving the failure of the lab exhaust fan resulting in an uncontrolled radioactive airborne release. Failure of the exhaust fan during DEACTIVATION presents consequences to the facility worker and it is therefore listed as OSR equipment. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: EF-V41-1A
EQUIPMENT NAME: LABORATORY EXHAUST FAN
DAC SAFETY CLASS: 2
OPS SAFETY CLASS: 2
JUSTIFICATION: The Lab exhaust fan ensures that contamination control is maintained in the lab area and that personnel protection is ensured. There are no postulated accidents involving the failure of the lab exhaust fan resulting in an uncontrolled radioactive airborne release. Failure of the exhaust fan during DEACTIVATION presents consequences to the facility worker and it is therefore listed as OSR equipment. Thus, failure of this fan presents consequences which meet criterion 21 for Safety Class 2. Ref: WHC-SD-CP-RD-020, pp 342, 3, 4, 5; OSD-P-154-00001, 2.1.

EQUIPMENT NUMBER: SPL-V18-1 (A006)
EQUIPMENT NAME: MAIN STACK RECORD SAMPLER (KURZ)
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V18-2 (A007)
EQUIPMENT NAME: MAIN STACK Ag ZEOLITE SAMPLER UNIT
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is not needed or required during DEACTIVATION. Failure of this sampler does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SPL-V18-3 (A511, A011)
EQUIPMENT NAME: MAIN STACK Ag ZEOLITE SAMPLER UNIT
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is not needed or required during DEACTIVATION. Failure of this sampler does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SPL-V18-4
EQUIPMENT NAME: MAIN STACK CARBON-TRITIUM SAMPLER UNIT
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is deleted from the SEL per ECN 144453.

EQUIPMENT NUMBER: P-V18A-1
EQUIPMENT NAME: BURIAL TUNNEL #2 VACUUM PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This pump is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this pump presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V18A-1-1 (A550)
EQUIPMENT NAME: BURIAL TUNNEL #2 SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: P-V19-1
EQUIPMENT NAME: MAIN STACK SAMPLER PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This pump is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this pump presents consequences meeting criterion 14 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SPL-V19-1 (A552)
EQUIPMENT NAME: MAIN STACK RECORD SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: P-V19-2
EQUIPMENT NAME: MAIN STACK SAMPLER PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This pump is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this pump presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: RM-V19-3 (A566, A946)
EQUIPMENT NAME: CPRM/PING
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: This monitor is not needed or required during DEACTIVATION. Failure of this monitor does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: P-V28A-1
EQUIPMENT NAME: PR ROOM EXHAUST RECORD SAMPLER PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This pump is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this pump presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V28A-2-1 (A540)
EQUIPMENT NAME: PR ROOM EXHAUST RECORD SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SPL-V28B-1-1 (A542)
EQUIPMENT NAME: WEST SAMPLE GALLERY HOOD SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V28C-1-1 (A543)
EQUIPMENT NAME: EAST SAMPLE GALLERY HOOD SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V28D-1-1 (A548)
EQUIPMENT NAME: WEST SAMPLE GALLERY SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V28E-1-1 (A547)
EQUIPMENT NAME: EAST SAMPLE GALLERY SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: P-V29A-1
EQUIPMENT NAME: PR ROOM EXHAUST ALPHA MONITOR PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This pump is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this pump presents consequences meeting criterion 14 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SPL-V38A-1-1 (A549)
EQUIPMENT NAME: WHITE ROOM EXHAUST SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V48A-1-1 (A545)
EQUIPMENT NAME: WEST LAB HOOD EXHAUST SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V48B-1-1 (A546)
EQUIPMENT NAME: EAST LAB HOOD EXHAUST SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: SPL-V58-1-1 (A544)
EQUIPMENT NAME: BACKUP FACILITY EXHAUST SAMPLER UNIT
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This sampler is needed to meet environmental monitoring requirements defined in WHC-CM-7-5, "Environmental Compliance Manual." Failure of this sampler presents consequences meeting criterion 14 for Safety Class 3.

EQUIPMENT NUMBER: P-V68-1
EQUIPMENT NAME: AMMONIA OFFGAS EXHAUST SAMPLER PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Ammonia Offgas System is shut down and inactive. There are no plans to change its status or operate it during DEACTIVATION. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: SPL-V68-1 (A539)

EQUIPMENT NAME: AMMONIA STACK RECORD SAMPLER UNIT

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The ammonia offgas system is shut down and inactive. There are no plans to change its status or operate it during DEACTIVATION. Failure of this sampler does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: SPL-V68-2 (A935)

EQUIPMENT NAME: AMMONIA STACK RECORD SAMPLER UNIT

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The ammonia offgas system is shut down and inactive. There are no plans to change its status or operate it during DEACTIVATION. Failure of this sampler does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: P-V69-1

EQUIPMENT NAME: AMMONIA OFFGAS MONITOR PUMP

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The Ammonia Offgas System is shut down and inactive. There are no plans to change its status or operate it during DEACTIVATION. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: P-V69-2

EQUIPMENT NAME: AMMONIA OFFGAS MONITOR PUMP

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: 2

JUSTIFICATION: The Ammonia Offgas System is shut down and inactive. There are no plans to change its status or operate it during DEACTIVATION. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: GEN-V70-1

EQUIPMENT NAME: BACKUP DIESEL GENERATOR

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: 2

JUSTIFICATION: This generator provides standby/backup power to the facility during a loss of normal electrical power. Failure of this system presents consequences which meet criteria 3, 7, and 14 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: GEN-V70-2
EQUIPMENT NAME: BACKUP DIESEL GENERATOR
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This generator provides standby/backup power to the facility during a loss of normal electrical power. Failure of this system presents consequences which meet criteria 3, 7, and 14 for Safety Class 3.

EQUIPMENT NUMBER: GEN-V70-3
EQUIPMENT NAME: BACKUP DIESEL GENERATOR
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This generator provides standby/backup power to the facility during a loss of normal electrical power. Failure of this system presents consequences which meet criteria 3, 7, and 14 for Safety Class 3.

EQUIPMENT NUMBER: C-V90-1
EQUIPMENT NAME: PROCESS AIR COMPRESSOR
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This air compressor provides process, control, and instrument air through the facility. Failure of this compressor presents consequences which meet criterion 14 for Safety Class 3. Ref: OSD-P-154-00001, 6.4.

EQUIPMENT NUMBER: C-V90-2
EQUIPMENT NAME: PROCESS AIR COMPRESSOR
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This air compressor provides process, control, and instrument air through the facility. Failure of this compressor presents consequences which meet criterion 14 for Safety Class 3. Ref: OSD-P-154-00001, 6.4.

EQUIPMENT NUMBER: C-V90-3
EQUIPMENT NAME: PROCESS AIR COMPRESSOR
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This air compressor provides process, control, and instrument air through the facility. Failure of this compressor presents consequences which meet criterion 14 for Safety Class 3. Ref: OSD-P-154-00001, 6.4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: C-V90-4
EQUIPMENT NAME: PROCESS AIR COMPRESSOR
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This air compressor provides process, control, and instrument air through the facility. Failure of this compressor presents consequences which meet criterion 14 for Safety Class 3. Ref: OSD-P-154-00001, 6.4.

EQUIPMENT NUMBER: C-V90-5
EQUIPMENT NAME: PROCESS AIR COMPRESSOR
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This air compressor provides process, control, and instrument air through the facility. Failure of this compressor presents consequences which meet criterion 14 for Safety Class 3. Ref: OSD-P-154-00001, 6.4.

EQUIPMENT NUMBER: CV-V94-1
EQUIPMENT NAME: PLANT VACUUM AIR SAMPLING PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This pump provides vacuum to various gaseous effluent monitors throughout the plant. Failure of this pump presents consequences which meet criterion 14 for Safety Class 3. Ref: WHC-SD-CP-RD-020, pg 338; OSD-P-154-00001, 2.6.

EQUIPMENT NUMBER: CV-94-2
EQUIPMENT NAME: PLANT VACUUM AIR SAMPLING PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: This pump provides vacuum to various gaseous effluent monitors throughout the plant. Failure of this pump presents consequences which meet criterion 14 for Safety Class 3. Ref: WHC-SD-CP-RD-020, pg 338; OSD-P-154-00001, 2.6.

EQUIPMENT NUMBER: PARM MONITOR SYSTEM
EQUIPMENT NAME: PARM MONITOR SYSTEM
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The PARM System is no longer required to be operable and is being deactivated. Failure of this system does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4. Ref: WHC-SD-CP-RD-020, pg. 453, OSD-P-154-00001, 5.4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: C-W10-1
EQUIPMENT NAME: COOLING WATER AIR COMPRESSOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Cooling Water discharge (CWL) is deactivated during DEACTIVATION. All sources to it are isolated. Failure of this compressor does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: P-W10-1
EQUIPMENT NAME: COOLING WATER SAMPLER PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Cooling Water discharge (CWL) is deactivated during DEACTIVATION. All sources to it are isolated. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: RM-W10-1
EQUIPMENT NAME: COOLING WATER BETA/GAMMA MONITOR PIG
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Cooling Water discharge (CWL) is deactivated during DEACTIVATION. All sources to it are isolated. Failure of this monitor pig does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: RM-W10-2
EQUIPMENT NAME: COOLING WATER ALPHA MONITOR PIG
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Cooling Water discharge (CWL) is deactivated during DEACTIVATION. All sources to it are isolated. Failure of this monitor pig does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-W10-1
EQUIPMENT NAME: COOLING WATER SAMPLE RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Cooling Water discharge (CWL) is deactivated during DEACTIVATION. All sources to it are isolated. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: P-W20-1
EQUIPMENT NAME: CHEMICAL SEWER SAMPLER PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: The Chemical Sewer (CSL) is operational during DEACTIVATION. Canyon tank coils which discharge to the CSL are isolated, therefore eliminating potential radioactive discharges via this stream. The CSL continues to be the discharge route for the 211-A neutralization system and must therefore be continuously monitored for pH. Failure of this pump presents consequences meeting criterion 14 for Safety Class 3. Ref: WHC-SD-CP-RD-020, pp 373, 385, 395; OSD-P-154-00001, 3.2.J, 4.1, 4.5.

EQUIPMENT NUMBER: RM-W20-1
EQUIPMENT NAME: CHEMICAL SEWER MONITOR PIG
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: The Chemical Sewer (CSL) is operational during DEACTIVATION. Canyon tank coils which discharge to the CSL are isolated, therefore eliminating potential radioactive discharges via this stream. The CSL continues to be the discharge route for 211-A neutralization system but is continuously monitored for pH only. Failure of this pig presents consequences meeting criterion 14 for Safety Class 3. Ref: WHC-SD-CP-RD-020, pp 373, 385; OSD-P-154-00001, 4.2.

EQUIPMENT NUMBER: TK-W20-1
EQUIPMENT NAME: CHEMICAL SEWER SAMPLE RECEIVER TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: The Chemical Sewer (CSL) is operational during DEACTIVATION. Canyon tank coils which discharge to the CSL are isolated, therefore eliminating potential radioactive discharges via this stream. The CSL continues to be the discharge route for 211-A neutralization system but is continuously monitored for pH only. Failure of this tank presents consequences meeting criterion 14 for Safety Class 3. Ref: WHC-SD-CP-RD-020, pp 373, 395; OSD-P-154-00001, 4.2.

EQUIPMENT NUMBER: P-W30-1
EQUIPMENT NAME: STEAM CONDENSATE SAMPLER PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Steam Condensate discharge (SCD) is deactivated during DEACTIVATION. All sources to it are isolated and blanked or routed to the 216-A-42 basin. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: P-W30-2
EQUIPMENT NAME: STEAM CONDENSATE PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: The Steam Condensate discharge (SCD) is deactivated during DEACTIVATION and the route permanently diverted to the 216-A-42 basin. During DEACTIVATION, there is 1 - 2 gallons per minute of condensate from steam used to heat the 291-AE building that is routed to the SCD caisson. The overflow line from the SCD caisson to the crib is blocked with concrete. Failure of this pump could conceivably result in overflow to the ground presenting consequences meeting criterion 13 for Safety Class 3.

EQUIPMENT NUMBER: P-W30-3
EQUIPMENT NAME: STEAM CONDENSATE PUMP
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: 2
JUSTIFICATION: The Steam Condensate discharge (SCD) is deactivated during DEACTIVATION and the route permanently diverted to the 216-A-42 basin. During DEACTIVATION, there is 1 - 2 gallons per minute of condensate from steam used to heat the 291-AE building that is routed to the SCD caisson. The overflow line from the SCD caisson to the crib is blocked with concrete. Failure of this pump could conceivably result in overflow to the ground presenting consequences meeting criterion 13 for Safety Class 3.

EQUIPMENT NUMBER: RM-W30-1
EQUIPMENT NAME: STEAM CONDENSATE ALPHA MONITOR PIG
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Steam Condensate discharge (SCD) is deactivated during DEACTIVATION and the route permanently diverted to the 216-A-42 basin. Failure of this pig does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: RM-W30-2
EQUIPMENT NAME: STEAM CONDENSATE BETA/GAMMA MONITOR PIG
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Steam Condensate discharge (SCD) is deactivated during DEACTIVATION and the route permanently diverted to the 216-A-42 basin. Failure of this pig does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-W30-1
EQUIPMENT NAME: STEAM CONDENSATE SAMPLE RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Steam Condensate discharge (SCD) is deactivated during **DEACTIVATION** and the route permanently diverted to the 216-A-42 basin. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: C-W40-1
EQUIPMENT NAME: PROCESS CONDENSATE AIR COMPRESSOR
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Process Condensate discharge (PDD) is deactivated and blanked. All sources to it are isolated. Failure of this compressor does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: P-W40-1
EQUIPMENT NAME: PROCESS CONDENSATE SAMPLER PUMP
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Process Condensate discharge (PDD) is deactivated and blanked. All sources to it are isolated. Failure of this pump does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: RM-W40-1
EQUIPMENT NAME: PROCESS CONDENSATE MONITOR PIG
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Process Condensate discharge (PDD) is deactivated and blanked. All sources to it are isolated. Failure of this pig does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

EQUIPMENT NUMBER: TK-W40-1
EQUIPMENT NAME: PROCESS CONDENSATE SAMPLE RECEIVER TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: 2
JUSTIFICATION: The Process Condensate discharge (PDD) is deactivated and blanked. All sources to it are isolated. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus **NON-SAFETY CLASS 4**.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: 202-A
EQUIPMENT NAME: PUREX CANYON CONTAINMENT STRUCTURE
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: Failure of this structure could present consequences to the general public and/or the environment meeting criterion 20 for Safety Class 1.

EQUIPMENT NUMBER: 291-AE
EQUIPMENT NAME: PUREX FOURTH FILTER BUILDING
DAC SAFETY CLASS: 1
OPS SAFETY CLASS: 1
JUSTIFICATION: This structure protects HEPA filters which are given a Safety Class 1 designation. Failure of this structure could present consequences meeting criterion 20 for Safety Class 1.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

6.2 Safety Classification Basis For New SEL Items During DEACTIVATION

MRP 5.46 Appendix B (WHC-CM-4-46, Section 9.0 Appendix C) provides a "worksheet" to be used to calculate the environmental hazard safety classification (EHSC) value to aid in determining the safety classification for nonradiological hazardous materials. This "worksheet", the "Adverse Environmental Impact From Toxic Materials Safety Classification Methodology", was used to evaluate the bulk chemical storage tanks in the 203-A and 211-A areas. The completed worksheets are included as Appendix II to this document. This evaluation is based upon the amount of chemical potentially released to the environment. It is assumed that no bulk chemicals are received during DEACTIVATION, and in fact, the current inventory for most of the chemicals decreases. If bulk chemical receipt is initiated during DEACTIVATION, it becomes necessary to re-evaluate the specific tank to reestablish its safety classification.

EQUIPMENT NUMBER: TK-11 and RETENTION DIKE

EQUIPMENT NAME: AFAN BULK STORAGE TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: N/A

JUSTIFICATION: The material in this tank was recently loaded out and transferred off-site. The tank was flushed and visually verified to be empty, with the exception of a residual sludge heel. An Adverse Environmental Impact worksheet was not completed for this tank due to it being empty. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-12 and RETENTION DIKE

EQUIPMENT NAME: NITRIC ACID BULK STORAGE TANK

DAC SAFETY CLASS: 4

OPS SAFETY CLASS: N/A

JUSTIFICATION: This tank is empty except for a heel. An Adverse Environmental Impact worksheet was not completed for this tank due to it being empty. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-20
EQUIPMENT NAME: NaOH BULK STORAGE TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank will remain in service during DEACTIVATION. The amount of material stored in the tank is administratively controlled. Based on the Adverse Environmental Impact worksheet, failure of this tank presents consequences meeting the criteria for Safety Class 3.

EQUIPMENT NUMBER: TK-21
EQUIPMENT NAME: KOH BULK STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank is empty except for a heel. An Adverse Environmental Impact worksheet was not completed for this tank due to it being empty. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-30
EQUIPMENT NAME: DEMINERALIZED WATER BULK STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: N/A
JUSTIFICATION: This 53,000 gallon tank is being emptied. Failure of this tank does not present consequences which meet the criteria for Safety class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-40
EQUIPMENT NAME: NPH BULK STORAGE TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank contains 21,000 gallons of washed solvent from the canyon with 23 vol % tri-butyl phosphate (TBP) in normal paraffin hydrocarbon (NPH). Efforts to dispose of the entire inventory are continuing. A completed Adverse Environmental Impact worksheet identifies that failure of this tank presents consequences meeting criterion 7 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-41
EQUIPMENT NAME: TBP BULK STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank is empty except for a heel. An Adverse Environmental Impact worksheet was not completed for this tank due to it being empty. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-42
EQUIPMENT NAME: ANN BULK STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: N/A
JUSTIFICATION: The 45,800 pounds of aluminum nitrate nanohydrate (ANN) formerly contained in this tank are loaded out and transferred off-site. The tank is flushed. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-50
EQUIPMENT NAME: SULFURIC ACID BULK STORAGE TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: N/A
JUSTIFICATION: The 70,300 pounds of sulfuric acid formerly contained in this tank are loaded out and transferred off-site. The tank is flushed. Failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-P1
EQUIPMENT NAME: 203-A WASTE WATER ACCUMULATION TANK
DAC SAFETY CLASS: 4
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank contains 68,000 gallons of liquid collected from the sumps in the 203-A area. This liquid is mainly rainwater and condensate, with very small quantities of UNH. This liquid is periodically transferred to Tk-F10 for concentration or directly to Tank Farms. This tank will remain in operation during DEACTIVATION. Failure of this tank does not present consequences which meet the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-P2
EQUIPMENT NAME: UNH STORAGE TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank contains 74,300 gallons of UO_3 recovered nitric acid. Plans are underway to loadout and ship this material to British Nuclear Fuels Limited. A completed Adverse Environmental Impact worksheet identifies that failure of this tank presents consequences meeting criterion 7 for Safety Class 3.

EQUIPMENT NUMBER: TK-P3
EQUIPMENT NAME: UNH STORAGE TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank contains 79,700 gallons of UO_3 recovered nitric acid. Plans are underway to loadout and ship this material to British Nuclear Fuels Limited. A completed Adverse Environmental Impact worksheet identifies that failure of this tank presents consequences meeting criterion 7 for Safety Class 3.

EQUIPMENT NUMBER: TK-P4
EQUIPMENT NAME: UNH STORAGE TANK
DAC SAFETY CLASS: 3 - 4
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank contains 81,400 gallons of dilute nitric acid. This tank is being transferred to Tk-F13 to dilute the Tk-D5/E6 plutonium bearing solution for transfer to tank farms. the tank will be flushed when this program is completed. A completed Adverse Environmental Impact worksheet identifies that failure of this tank presents consequences meeting criterion 7 for Safety Class 3. When flushed, failure of this tank does not present consequences meeting the criteria for Safety Class 1, 2, or 3, and is thus NON-SAFETY CLASS 4.

EQUIPMENT NUMBER: TK-P13
EQUIPMENT NAME: UO_3 NITRIC ACID STORAGE TANK
DAC SAFETY CLASS: 3
OPS SAFETY CLASS: N/A
JUSTIFICATION: This tank contains 6,300 gallons of UO_3 recovered nitric acid. Plans are underway to loadout and ship this material to British Nuclear Fuels Limited. A completed Adverse Environmental Impact worksheet identifies that failure of this tank presents consequences meeting criterion 7 for Safety Class 3.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

EQUIPMENT NUMBER: TK-P14

EQUIPMENT NAME: UO_3 NITRIC ACID STORAGE TANK

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: N/A

JUSTIFICATION: This tank contains 4,500 gallons of UO_3 recovered nitric acid. Plans are underway to loadout and ship this material to British Nuclear Fuels Limited. A completed Adverse Environmental Impact worksheet identifies that failure of this tank presents consequences meeting criterion 7 for Safety Class 3.

EQUIPMENT NUMBER: TK-P15

EQUIPMENT NAME: UO_3 NITRIC ACID STORAGE TANK

DAC SAFETY CLASS: 3

OPS SAFETY CLASS: N/A

JUSTIFICATION: This tank contains 500 gallons of UO_3 recovered nitric acid. Plans are underway to loadout and ship this material to British Nuclear Fuels Limited. A completed Adverse Environmental Impact worksheet identifies that failure of this tank presents consequences meeting criterion 7 for Safety Class 3.

APPENDIX I

WHC SAFETY CLASS CRITERIA

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

WHC-CM-4-46 SECTION 9.0 SAFETY CLASS CRITERIA	
Systems, components, and structures, including portions of process systems, whose failure could: (assign highest applicable safety class)	SAFETY CLASS
PERSONNEL SAFETY	
1. Result in offsite public exposure in excess of 500 mrem effective dose equivalent (EDE). Ingestion is not included as a dose pathway.	Safety Class 1
2. Result in exposure in excess of 5 rem EDE for the onsite worker.	Safety Class 2
3. Preclude implementing the "as low as reasonably achievable" (ALARA) principles for exposure to radioactive materials.	Safety Class 3
4. Result in offsite airborne concentration of toxic material in excess of applicable ERPG-2 limit. Where ERPG-2 limits do not exist for specific chemicals, similar values shall be used (e.g., HERPG, IDLH, PAG, TLV).	Safety Class 1
5. Result in airborne concentration of toxic material, for the on-site worker, in excess of the applicable chemical ERPG-3 limit. Where ERPG-3 limits do not exist for specific chemicals, similar values shall be used (e.g., HERPG, IDLH, PAG, TLV).	Safety Class 2
6. Preclude implementing ALARA principles for exposure to toxic materials.	Safety Class 3
7. Cause significant harm to facility workers due to industrial safety hazards. [Injury sources include: high temperatures, degraded O ₂ monitoring, and high energy components and systems (e.g., high pressure piping and rotating machinery)].	Safety Class 3
8. Result in exposure in excess of 5 rem EDE or an airborne concentration of toxic material in excess of the applicable ERPG-3 limit to facility operators, which are relied upon to perform the safe shutdown function of criterion 15.	Safety Class 1
9. Result in exposure in excess of 5 rem EDE or an airborne concentration of toxic material in excess of the applicable ERPG-3 limit to facility operators, which are relied upon to perform the safe shutdown function of criterion 16.	Safety Class 2
ENVIRONMENTAL PROTECTION	
10. Result in an environmental hazard safety classification (EHSC) value $\geq 1,000,000$. Refer to WHC-CM-4-46 Chapter 9.0 Appendices C and D and MRP 5.46. The EHSCs due to toxic and radioactive materials are applied separately for this criterion.	Safety Class 1
11. Result in an EHSC value $< 1,000,000$ and $> 500,000$. Refer to WHC-CM-4-46 Chapter 9.0 Appendices C and D and MRP 5.46. The EHSCs due to toxic and radioactive materials are applied separately for this criterion.	Safety Class 2
12. Result in an offsite radioactive soil contamination, due to an airborne release, in excess of 20X the concentrations in WHC-CM-7-5, Part K, Table K-1.	Safety Class 1
13. Cause an unanticipated radioactive, chemical, or thermal release to the environment, which requires reporting to Washington State or Federal agencies under applicable laws, regulations, permits, DOE orders or agreements and an EHSC value $< 500,000$.	Safety Class 3
14. Prevent monitoring the unanticipated releases of criterion 13 or normal radioactive, chemical, or thermal releases to the environment.	Safety Class 3

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

WHC-CM-4-46 SECTION 9.0 SAFETY CLASS CRITERIA	
Systems, components, and structures, including portions of process systems, whose failure could: (assign highest applicable safety class)	SAFETY CLASS
SAFE SHUTDOWN AND OPERATION	
15. Preclude safely placing or maintaining the operating process in a safe shutdown condition where the consequences to the public or environment may exceed criteria 1, 4, 10, or 12 above.	Safety Class 1
16. Preclude safely placing or maintaining the operating process in a safe shutdown condition where the consequences to the onsite worker or the environment may exceed criteria 2, 5, or 11 above.	Safety Class 2
17. Result in loss of double contingency protection for an accidental nuclear criticality (as defined in DOE 5480.5), independent of the dose consequences. See WHC-CM-4-46, Chapter 9.0, Appendix A, Example 1.	Safety Class 1
18. Prevent monitoring the accidental release of radioactive and/or toxic materials to the environment during and after a design basis accident (DBA), where the monitor's output initiates Emergency Response Plan actions or operator actions to place the operating process in a safe condition per criterion 15 above.	Safety Class 1
19. Prevent monitoring the accidental release of radioactive and/or toxic materials to the environment during and after a design basis accident (DBA) where the monitor's output initiates Emergency Response Plan actions or operator actions to place the operating process in a safe condition per criterion 16 above.	Safety Class 2
20. Preclude maintaining operating parameters within the Operational Safety Requirements (defined in WHC-CM-4-46, Section 5) used to protect the environment (per criterion 10 or 12) or the public (per criterion 1 or 4).	Safety Class 1
21. Preclude maintaining operating parameters within the Operational Safety Requirements that protect the environment (per criterion 11) or the onsite worker (per criterion 2 or 5).	Safety Class 2
22. Preclude providing facility fire protection system capability.	Safety Class 3
EQUIPMENT INTERACTION	
23. Prevent a separate safety class 1 system, component, or structure from performing its safety or environmental protection function, either by loss of control function or by damage. See WHC-CM-4-46, Section 9.0, Appendix A, Example 2.	Safety Class 1
24. Prevent a separate safety class 2 system, component, or structure from performing its safety or environmental protection function, either by loss of control function or by damage. See WHC-CM-4-46, Section 9.0, Appendix A, Example 2.	Safety Class 2
25. Systems, components, and structures whose failure has no significant importance to safety, health, or environmental protection.	NON-SAFETY Class 4

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

The above information is presented below in the format used in MRP 5.46 which provides separation and easier recognition of Safety Class 1, 2, and 3 criteria.

1. SAFETY CLASS 1

Systems, components, and structures, including portions of process systems, whose failure could:

- a. 1. Result in offsite public exposure in excess of 500 mrem effective dose equivalent (EDE). Ingestion is not included as a dose pathway.
- b. 4. Result in offsite airborne concentration of toxic material in excess of applicable ERPG-2 limit. Where ERPG-2 limits do not exist for specific chemicals, similar values shall be used (e.g., HERPG, IDLH, PAG, TLV).
- c. 10. Result in an environmental hazard safety classification (EHSC) value $\geq 1,000,000$. Refer to WHC-CM-4-46 Chapter 9.0 Appendices C and D and MRP 5.46. The EHSCs due to toxic and radioactive materials are applied separately for this criterion.
- d. 12. Result in an offsite radioactive soil contamination, due to an airborne release, in excess of 20X the concentrations in WHC-CM-7-5, Part K, Table K-1.
- e. 17. Result in loss of double contingency protection for an accidental nuclear criticality (as defined in DOE 5480.5), independent of the dose consequences. See WHC-CM-4-46 Chapter 9.0, Appendix A, Example 1.
- f. 15. Preclude safely placing or maintaining the operating process in a safe shutdown condition where the consequences to the public or environment may exceed criteria 1, 4, 10, or 12 above.
- g. 18. Prevent monitoring the accidental release of radioactive and/or toxic materials to the environment during and after a design basis accident (DBA), where the monitor's output initiates Emergency Response Plan actions or operator actions to place the operating process in a safe condition per criterion 15 above.
- h. 20. Preclude maintaining operating parameters within the Operational Safety Requirements (defined in WHC-CM-4-46, Section 5) used to protect the environment (per criterion 10 or 12) or the public (per criterion 1 or 4).
- i. 23. Prevent a separate safety class 1 system, component, or structure from performing its safety or environmental protection function, either by loss of control function or by damage. See WHC-CM-4-46, Section 9.0, Appendix A, Example 2.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

2. SAFETY CLASS 2

Systems, components, and structures, including portions of process systems, not defined as safety class 1 above whose failure could:

- a. 2. Result in exposure in excess of 5 rem EDE for the onsite worker.
- b. 5. Result in airborne concentration of toxic material, for the on site worker, in excess of the applicable chemical ERPG-3 limit. Where ERPG-3 limits do not exist for specific chemicals, similar values shall be used (e.g., HERPG, IDLH, PAG, TLV).
- c. 11. Result in an EHSC value $<1,000,000$ and $\geq 500,000$. Refer to WHC-M-4-46 Chapter 9.0 Appendices C and D and MRP 5.46. The EHSCs due to toxic and radioactive materials are applied separately for this criterion.
- d. 16. Preclude safely placing or maintaining the operating process in a safe shutdown condition where the consequences to the onsite worker or the environment may exceed criteria 2, 5, or 11 above.
- e. 19. Prevent monitoring the accidental release of radioactive and/or toxic materials to the environment during and after a design basis accident (DBA) where the monitor's output initiates Emergency Response Plan actions or operator actions to place the operating process in a safe condition per criterion 16 above.
- f. 21. Preclude maintaining operating parameters within the Operational Safety Requirements that protect the environment (per criterion 11) or the onsite worker (per criterion 2 or 5).
- g. 24. Prevent a separate safety class 2 system, component, or structure from performing its safety or environmental protection function, either by loss of control function or by damage. See WHC-CM-4-46, Section 9.0, Appendix A, Example 2.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. SAFETY CLASS 3

- a. 3. Preclude implementing the "as low as reasonably achievable" (ALARA) principles for exposure to radioactive materials.
- a. 6. Preclude implementing ALARA principles for exposure to toxic materials.
- b. 22. Preclude providing facility fire protection system capability.
- c. 13. Cause an unanticipated radioactive, chemical, or thermal release to the environment, which requires reporting to Washington State or Federal agencies under applicable laws, regulations, permits, DOE orders or agreements and an EHSC value <500,000.
- d. 14. Prevent monitoring the unanticipated releases of criterion 13 or normal radioactive, chemical, or thermal releases to the environment.
- e. 7. Cause significant harm to facility workers due to industrial safety hazards. [Injury sources include: high temperatures, degraded O₂ monitoring, and high energy components and systems (e.g., high pressure piping and rotating machinery)].

4. NON-SAFETY CLASS 4

- 25. Systems, components, and structures whose failure has no significant importance to safety, health, or environmental protection.

APPENDIX II
TOXIC MATERIAL ENVIRONMENTAL HAZARD
SAFETY CALCULATIONS (EHSC)

WMC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK 20 (NAOH)

EHSC CALCULATION

1. MATERIAL FORM

- A. Is the toxic material dispersible (i.e., other than a consolidate or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, and unconsolidated solids.
[] No Stop. Associated items are safety class 3, other criteria permitting.
[x] Yes Proceed.
- B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?
[] Yes Stop. Items related to these gases are safety class 3, other criteria permitting.
[x] No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category (1) Amount Released Multiplier

X	pounds	* 1	=	
A	pounds	* 1/10	=	
B	pounds	* 1/100	=	
C	pounds	* 1/1000	=	100
D	pounds	* 1/5000	=	
SUM of above = 200				
Multiplying Factor (MF) 2.A = SUM * 10 = 1,000				

8. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

- o Compounds known to be highly environmentally persistent based on biodegradability.
o Compounds known to be somewhat environmentally persistent based on biodegradability.
o Petroleum products.
o Paints and solvents.
o Pesticides, herbicides, and fungicides.
o Metals.
o Polycyclic compounds (contain multiple benzene-type rings).
o Halogenated hydrocarbons.
o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).
o Compounds known to be highly environmentally persistent based on biodegradability.

QUANTITY (MORE) (3) = gal. MF(MORE) =
<100 gal...MF=10
>100-1,000 gal...MF=20
>1,000-10,000 gal...MF=50
>10,000 gal...MF=100

QUANTITY (LESS) (3) =
<100 gal...MF=1
>100-1,000 gal...MF=2
>1,000-10,000 gal...MF=5
>10,000 gal...MF=10

MF(2,B) = MF(MORE) + MF(LESS) = Not Applicable (NA) (Toxic material (NAOH) is listed in 40 CFR 302.)

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 15,700 gal MF(3) = 100

≤ 100 gal...MF = 1
 $100-1,000$ gal...MF = 5
 $\geq 1,000-10,000$ gal...MF = 10
 $\geq 10,000$ gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = ≥ 150 feet MF(4,A) = 1
 ≥ 150 feet.....MF= 1
 76-150 feet.....MF= 2
 21-75 feet.....MF= 5
 0-20 feet.....MF=10

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in MF(4,B) = NA
 in liquid form, therefore no legitimate pathway exists.
 ≥ 2 miles.....MF=1 $\geq 500-1,000$ feet....MF=16
 $\geq 1.5-2$ miles.....MF=3 $100-500$ feet....MF=20
 ≥ 2500 feet-1.5 miles.....MF=6 ≤ 100 feet....MF=25
 $\geq 1000-2500$ feet.....MF=9 Direct discharge to surface water....MF=50

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.B MF(4,C) = NA
 ≥ 10 miles.....MF=1 $\geq 3-6$ miles.....MF= 5
 $\geq 6-10$ miles.....MF=2 0-3 miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (1000)(100)(1) = 100,000$$

EHSC $\geq 1,000,000$ = Safety Class 1 :The tank is Safety Class 3, other criteria permitting.
 EHSC $\geq 500,000$ and $< 1,000,000$ = Safety Class 2
 EHSC $< 500,000$ = Safety Class 3

⁽¹⁾ From 40 CFR Part 302.

⁽²⁾ Denominator is final RQ in pounds for the given category.

⁽³⁾ Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾ 1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾ The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾ Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾ The EPA carcinogen classification is acquired from the Integrated Risk Information System (IRIS) database.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK 40 (TBP/NPH)

EHSC CALCULATION

1. MATERIAL FORM

- A. Is the toxic material dispersible (i. e., other than a consolidate or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, d unconsolidated solids.
- ☐ No Stop. Associated items are safety class 3, other criteria permitting.
- ☒ Yes Proceed.
- B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?
- ☐ Yes Stop. Items related to these gases are safety class 3, other criteria permitting.
- ☒ No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category ⁽¹⁾	Amount Released	Multiplier
X	_____ pounds * 1 =	_____
A	_____ pounds * 1/10 =	_____
B	_____ pounds * 1/100 =	_____
C	_____ pounds * 1/1000 =	_____
D	_____ pounds * 1/5000 =	_____

SUM of above = N/A

Multiplying Factor (MF) 2.A = SUM * 10 = N/A

B. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

o Compounds known to be highly environmentally persistent based on biodegradability. o Metals. o Polycyclic compounds (contain multiple benzene-type rings). o Halogenated hydrocarbons. o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).	o Compounds known to be somewhat environmentally persistent based on biodegradability. o Petroleum products. o Paints and solvents. o Pesticides, herbicides, and fungicides.
-
<p style="text-align: center;"> ≤ 100 gal...MF=10
 $>100-1,000$ gal...MF=20
 $>1,000-10,000$ gal...MF=50
 $>10,000$ gal...MF=100 </p> | <p style="text-align: center;"> ≤ 100 gal...MF=1
 $>100-1,000$ gal...MF=2
 $>1,000-10,000$ gal...MF=5
 $>10,000$ gal...MF=10 </p> |
|---|---|

QUANTITY (MORE)⁽³⁾ = gal. MF(MORE)=

QUANTITY (LESS)⁽³⁾ = 21,000 gal. MF(LESS)= 10

MF(2,B)= MF(MORE) + MF(LESS)= 10

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 21,000 gal

MF(3) = 100

<100 gal...MF = 1
100-1,000 gal...MF = 5
≥1,000-10,000 gal...MF = 10
≥10,000 gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = ≥150 feet
 >150 feet.....MF= 1
 76-150 feet.....MF= 2
 21-75 feet.....MF= 5
 0-20 feet.....MF=10

MF(4,A) = 1

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in
 in liquid form, therefore no legitimate pathway exists.

MF(4,B) = NA

 >2 miles.....MF=1
 ≥1.5-2 miles.....MF=3
 ≥2500 feet-1.5 miles.....MF=6
 ≥1000-2500 feet.....MF=9
 ≥500-1,000 feet....MF=16
 100-500 feet....MF=20
 ≤100 feet....MF=25
 Direct discharge to surface water....MF=50

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.B

MF(4,C) = NA

 >10 miles.....MF=1
 ≥6-10 miles.....MF=2
 ≥3-6 miles.....MF= 5
 0-3 miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR

MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (10)(100)(1) = 1,000$$

EHSC ≥1,000,000 = Safety Class 1

:The tank is Safety Class 3, other criteria permitting.

EHSC ≥500,000 and <1,000,000 = Safety Class 2

EHSC <500,000 = Safety Class 3

⁽¹⁾ From 40 CFR Part 302.

⁽²⁾ Denominator is final RQ in pounds for the given category.

⁽³⁾ Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾ 1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾ The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾ Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾ The EPA carcinogen classification is acquired from the IRIS database.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK P2 (7.6M HNO₃)

EHSC CALCULATION

1. MATERIAL FORM

- A. Is the toxic material dispersible (i. e., other than a consolidate or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, and unconsolidated solids.
- ☐ No Stop. Associated items are safety class 3, other criteria permitting.
- ☒ Yes Proceed.
- B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?
- ☐ Yes Stop. Items related to these gases are safety class 3, other criteria permitting.
- ☒ No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category ⁽¹⁾	Amount Released	Multiplier
X	_____ pounds * 1 =	_____
A	_____ pounds * 1/10 =	_____
B	_____ pounds * 1/100 =	_____
C	<u>297,000</u> pounds * 1/1000 =	<u>297</u>
D	_____ pounds * 1/5000 =	_____

SUM of above = 297

Multiplying Factor (MF) 2.A = SUM * 10 = 2,970

B. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

o Compounds known to be highly environmentally persistent based on biodegradability. o Metals. o Polycyclic compounds (contain multiple benzene-type rings). o Halogenated hydrocarbons. o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).	o Compounds known to be somewhat environmentally persistent based on biodegradability. o Petroleum products. o Paints and solvents. o Pesticides, herbicides, and fungicides.
-
<p style="text-align: center;"> ≤ 100 gal...MF=10
 $>100-1,000$ gal...MF=20
 $>1,000-10,000$ gal...MF=50
 $>10,000$ gal...MF=100 </p> | <p style="text-align: center;"> ≤ 100 gal...MF=1
 $>100-1,000$ gal...MF=2
 $>1,000-10,000$ gal...MF=5
 $>10,000$ gal...MF=10 </p> |
|---|---|

QUANTITY (MORE)⁽³⁾ = gal. MF(MORE)=

QUANTITY (LESS)⁽³⁾ = gal. MF(LESS)=

MF(2,B)= MF(MORE) + MF(LESS)=Not Applicable (NA) (Toxic material (HNO₃) is listed in 40 CFR 302.)

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 74,335 gal

MF(3) = 100

≤ 100 gal...MF = 1
 $100-1,000$ gal...MF = 5
 $\geq 1,000-10,000$ gal...MF = 10
 $\geq 10,000$ gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = ≥ 150 feet
 ≥ 150 feet.....MF= 1
 $76-150$ feet.....MF= 2
 $21-75$ feet.....MF= 5
 $0-20$ feet.....MF=10

MF(4,A) = 1

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in
 in liquid form, therefore no legitimate pathway exists.

MF(4,B) = NA

≥ 2 miles.....MF=1
 $\geq 1.5-2$ miles.....MF=3
 ≥ 2500 feet-1.5 miles.....MF=6
 $\geq 1000-2500$ feet.....MF=9
 $\geq 500-1,000$ feet....MF=16
 $100-500$ feet....MF=20
 ≤ 100 feet....MF=25
 Direct discharge to surface water....MF=50

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.B

MF(4,C) = NA

≥ 10 miles.....MF=1
 $\geq 6-10$ miles.....MF=2
 $\geq 3-6$ miles.....MF= 5
 $0-3$ miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR

MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (2970)(100)(1) = 297,000$$

EHSC $\geq 1,000,000$ = Safety Class 1

:The tank is Safety Class 3, other criteria permitting.

EHSC $\geq 500,000$ and $< 1,000,000$ = Safety Class 2

EHSC $< 500,000$ = Safety Class 3

⁽¹⁾ From 40 CFR Part 302.

⁽²⁾ Denominator is final RQ in pounds for the given category.

⁽³⁾ Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾ 1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾ The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾ Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾ The EPA carcinogen classification is acquired from the IRIS database.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK P3 (9.4M HNO₃)

EHSC CALCULATION

1. MATERIAL FORM

A. Is the toxic material dispersible (i. e., other than a consolidate or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, and unconsolidated solids.

☐ No Stop. Associated items are safety class 3, other criteria permitting.

☒ Yes Proceed.

B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?

☐ Yes Stop. Items related to these gases are safety class 3, other criteria permitting.

☒ No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category ⁽¹⁾	Amount Released	Multiplier
X	_____ pounds * 1 =	_____
A	_____ pounds * 1/10 =	_____
B	_____ pounds * 1/100 =	_____
C	<u>394,000</u> pounds * 1/1000 =	<u>394</u>
D	_____ pounds * 1/5000 =	_____

SUM of above = 394

Multiplying Factor (MF) 2.A = SUM * 10 = 3,940

B. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

o Compounds known to be highly environmentally persistent based on biodegradability.

o Compounds known to be somewhat environmentally persistent based on biodegradability.

o Metals.
o Polycyclic compounds (contain multiple benzene-type rings).
o Halogenated hydrocarbons.
o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).

o Petroleum products.
o Paints and solvents.
o Pesticides, herbicides, and fungicides.

<100 gal...MF=10
>100-1,000 gal...MF=20
>1,000-10,000 gal...MF=50
>10,000 gal...MF=100

<100 gal...MF=1
>100-1,000 gal...MF=2
>1,000-10,000 gal...MF=5
>10,000 gal...MF=10

QUANTITY (MORE)⁽³⁾ = gal. MF(MORE) =

QUANTITY (LESS)⁽³⁾ = gal. MF(LESS) =

MF(2,B) = MF(MORE) + MF(LESS) = Not Applicable (NA) (Toxic material (HNO₃) is listed in 40 CFR 302.)

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 79,686 gal

MF(3) = 100

≤ 100 gal...MF = 1
 $100-1,000$ gal...MF = 5
 $\geq 1,000-10,000$ gal...MF = 10
 $\geq 10,000$ gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = ≥ 150 feet
 ≥ 150 feet.....MF= 1
 $76-150$ feet.....MF= 2
 $21-75$ feet.....MF= 5
 $0-20$ feet.....MF=10

MF(4,A) = 1

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in liquid form, therefore no legitimate pathway exists.

MF(4,B) = NA

≥ 2 miles.....MF=1
 $\geq 1.5-2$ miles.....MF=3
 ≥ 2500 feet-1.5 miles.....MF=6
 $\geq 1000-2500$ feet.....MF=9
 $\geq 500-1,000$ feet....MF=16
 $100-500$ feet....MF=20
 ≤ 100 feet....MF=25
 Direct discharge to surface water....MF=50

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.8

MF(4,C) = NA

≥ 10 miles.....MF=1
 $\geq 6-10$ miles.....MF=2
 $\geq 3-6$ miles.....MF= 5
 $0-3$ miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR

MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (3940)(100)(1) = 394,000$$

EHSC $\geq 1,000,000$ = Safety Class 1

EHSC $\geq 500,000$ and $< 1,000,000$ = Safety Class 2

EHSC $< 500,000$ = Safety Class 3

:The tank is Safety Class 3, other criteria permitting.

⁽¹⁾ From 40 CFR Part 302.

⁽²⁾ Denominator is final RQ in pounds for the given category.

⁽³⁾ Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾ 1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾ The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾ Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾ The EPA carcinogen classification is acquired from the IRIS database.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK P4 (~0.7M HNO₃)

EHSC CALCULATION

1. MATERIAL FORM

- A. Is the toxic material dispersible (i. e., other than a consolidate or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, and unconsolidated solids.
- ☐ No Stop. Associated items are safety class 3, other criteria permitting.
- ☒ Yes Proceed.
- B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?
- ☐ Yes Stop. Items related to these gases are safety class 3, other criteria permitting.
- ☒ No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category ⁽¹⁾	Amount Released	Multiplier
X	_____ pounds * 1 =	_____
A	_____ pounds * 1/10 =	_____
B	_____ pounds * 1/100 =	_____
C	<u>30,300</u> pounds * 1/1000 =	<u>30.3</u>
D	_____ pounds * 1/5000 =	_____

SUM of above = 30.3

Multiplying Factor (MF) 2.A = SUM * 10 = 303

B. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

o Compounds known to be highly environmentally persistent based on biodegradability. o Metals. o Polycyclic compounds (contain multiple benzene-type rings). o Halogenated hydrocarbons. o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).	o Compounds known to be somewhat environmentally persistent based on biodegradability. o Petroleum products. o Paints and solvents. o Pesticides, herbicides, and fungicides.
-
<100 gal...MF=10 >100-1,000 gal...MF=20 >1,000-10,000 gal...MF=50 >10,000 gal...MF=100	<100 gal...MF=1 >100-1,000 gal...MF=2 >1,000-10,000 gal...MF=5 >10,000 gal...MF=10

QUANTITY (MORE)⁽³⁾ = gal. MF(MORE) =

QUANTITY (LESS)⁽³⁾ =

MF(2,B) = MF(MORE) + MF(LESS) = Not Applicable (NA) (Toxic material (HNO₃) is listed in 40 CFR 302.)

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 82,262 gal MF(3) = 100

≤ 100 gal...MF = 1
 $100-1,000$ gal...MF = 5
 $\geq 1,000-10,000$ gal...MF = 10
 $\geq 10,000$ gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = ≥ 150 feet MF(4,A) = 1
 ≥ 150 feet.....MF= 1
 $76-150$ feet.....MF= 2
 $21-75$ feet.....MF= 5
 $0-20$ feet.....MF=10

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in MF(4,B) = NA
 in liquid form, therefore no legitimate pathway exists.
 ≥ 2 miles.....MF=1 $\geq 500-1,000$ feet....MF=16
 $\geq 1.5-2$ miles.....MF=3 $100-500$ feet....MF=20
 ≥ 2500 feet-1.5 miles.....MF=6 ≤ 100 feet....MF=25
 $\geq 1000-2500$ feet.....MF=9 Direct discharge to surface water....MF=50

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.B MF(4,C) = NA
 ≥ 10 miles.....MF=1 $\geq 3-6$ miles.....MF= 5
 $\geq 6-10$ miles.....MF=2 $0-3$ miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (303)(100)(1) = 30,300$$

EHSC $\geq 1,000,000$ = Safety Class 1
 EHSC $\geq 500,000$ and $< 1,000,000$ = Safety Class 2
 EHSC $< 500,000$ = Safety Class 3

:The tank is Safety Class 3, other criteria permitting.

⁽¹⁾ From 40 CFR Part 302.

⁽²⁾ Denominator is final RQ in pounds for the given category.

⁽³⁾ Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾ 1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾ The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾ Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾ The EPA carcinogen classification is acquired from the IRIS database.

WMC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK P13 (9.4M HNO₃)

EHSC CALCULATION

1. MATERIAL FORM

- A. Is the toxic material dispersible (i.e., other than a consolidated or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, and unconsolidated solids.
[] No Stop. Associated items are safety class 3, other criteria permitting.
[x] Yes Proceed.
- B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?
[] Yes Stop. Items related to these gases are safety class 3, other criteria permitting.
[x] No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category (1) Amount Released Multiplier

X	pounds * 1 =	
A	pounds * 1/10 =	
B	pounds * 1/100 =	
C	pounds * 1/1000 =	31.3
D	pounds * 1/5000 =	
SUM of above = 31.3		
Multiplying factor (MF) 2.A = SUM * 10 = 313		

B. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

- o Compounds known to be highly environmentally persistent based on biodegradability.
o Compounds known to be somewhat environmentally persistent based on biodegradability.
o Petroleum products.
o Paints and solvents.
o Pesticides, herbicides, and fungicides.
o Metals.
o Polycyclic compounds (contain multiple benzene-type rings).
o Halogenated hydrocarbons.
o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).

QUANTITY (MORE) (3) = gal. MF(MORE) =
<100 gal...MF=10
>100-1,000 gal...MF=20
>1,000-10,000 gal...MF=50
>10,000 gal...MF=100

QUANTITY (LESS) (3) = gal. MF(LESS) =
<100 gal...MF=1
>100-1,000 gal...MF=2
>1,000-10,000 gal...MF=5
>10,000 gal...MF=10

MF(2,B) = MF(MORE) + MF(LESS) = Not Applicable (NA) (Toxic material (HNO₃) is listed in 40 CFR 302.)

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 6,321 gal

MF(3) = 10

≤ 100 gal...MF = 1
 $100-1,000$ gal...MF = 5
 $\geq 1,000-10,000$ gal...MF = 10
 $\geq 10,000$ gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = ≥ 150 feet
 ≥ 150 feet.....MF= 1
 $76-150$ feet.....MF= 2
 $21-75$ feet.....MF= 5
 $0-20$ feet.....MF=10

MF(4,A) = 1

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in
 in liquid form, therefore no legitimate pathway exists.

MF(4,B) = NA

≥ 2 miles.....MF=1
 $\geq 1.5-2$ miles.....MF=3
 ≥ 2500 feet-1.5 miles.....MF=6
 $\geq 1000-2500$ feet.....MF=9
 $\geq 500-1,000$ feet....MF=16
 $100-500$ feet....MF=20
 ≤ 100 feet....MF=25
 Direct discharge to surface water....MF=50

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.B

MF(4,C) = NA

≥ 10 miles.....MF=1
 $\geq 6-10$ miles.....MF=2
 $\geq 3-6$ miles.....MF= 5
 $0-3$ miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR

MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (313)(10)(1) = 3,130$$

EHSC $\geq 1,000,000$ = Safety Class 1

EHSC $\geq 500,000$ and $< 1,000,000$ = Safety Class 2

EHSC $< 500,000$ = Safety Class 3

:The tank is Safety Class 3, other criteria permitting.

⁽¹⁾ From 40 CFR Part 302.

⁽²⁾ Denominator is final RQ in pounds for the given category.

⁽³⁾ Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾ 1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾ The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾ Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾ The EPA carcinogen classification is acquired from the IRIS database.

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK P14 (9.4M HNO₃)

EHSC CALCULATION

1. MATERIAL FORM

- A. Is the toxic material dispersible (i. e., other than a consolidate or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, and unconsolidated solids.
- ☐ No Stop. Associated items are safety class 3, other criteria permitting.
- ☒ Yes Proceed.
- B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?
- ☐ Yes Stop. Items related to these gases are safety class 3, other criteria permitting.
- ☒ No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category ⁽¹⁾	Amount Released	Multiplier
X	_____ pounds * 1 =	_____
A	_____ pounds * 1/10 =	_____
B	_____ pounds * 1/100 =	_____
C	<u>22,100</u> pounds * 1/1000 =	<u>22.1</u>
D	_____ pounds * 1/5000 =	_____

SUM of above = 22.1

Multiplying Factor (MF) 2.A = SUM * 10 = 221

B. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

o Compounds known to be highly environmentally persistent based on biodegradability. o Metals. o Polycyclic compounds (contain multiple benzene-type rings). o Halogenated hydrocarbons. o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).	o Compounds known to be somewhat environmentally persistent based on biodegradability. o Petroleum products. o Paints and solvents. o Pesticides, herbicides, and fungicides.
-
<p style="text-align: center;"> ≤ 100 gal...MF=10
 $>100-1,000$ gal...MF=20
 $>1,000-10,000$ gal...MF=50
 $>10,000$ gal...MF=100 </p> | <p style="text-align: center;"> ≤ 100 gal...MF=1
 $>100-1,000$ gal...MF=2
 $>1,000-10,000$ gal...MF=5
 $>10,000$ gal...MF=10 </p> |
|---|---|

QUANTITY (MORE)⁽³⁾ = gal. MF(MORE)=

QUANTITY (LESS)⁽³⁾ = MF(LESS)=

MF(2,B)= MF(MORE) + MF(LESS)=Not Applicable (NA) (Toxic material (HNO₃) is listed in 40 CFR 302.)

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 4,461 gal

MF(3) = 10

≤ 100 gal...MF = 1
 $100-1,000$ gal...MF = 5
 $\geq 1,000-10,000$ gal...MF = 10
 $\geq 10,000$ gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = ≥ 150 feet
 ≥ 150 feet.....MF= 1
 $76-150$ feet.....MF= 2
 $21-75$ feet.....MF= 5
 $0-20$ feet.....MF=10

MF(4,A) = 1

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in
 in liquid form, therefore no legitimate pathway exists.

MF(4,B) = NA

≥ 2 miles.....MF=1
 $\geq 1.5-2$ miles.....MF=3
 ≥ 2500 feet-1.5 miles.....MF=6
 $\geq 1000-2500$ feet.....MF=9
 $\geq 500-1,000$ feet....MF=16
 $100-500$ feet....MF=20
 ≤ 100 feet....MF=25
 Direct discharge to surface water....MF=50

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.B

MF(4,C) = NA

≥ 10 miles.....MF=1
 $\geq 6-10$ miles.....MF=2
 $\geq 3-6$ miles.....MF= 5
 $0-3$ miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR

MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (221)(10)(1) = 2,210$$

EHSC $\geq 1,000,000$ = Safety Class 1

:The tank is Safety Class 3, other criteria permitting.

EHSC $\geq 500,000$ and $< 1,000,000$ = Safety Class 2

EHSC $< 500,000$ = Safety Class 3

⁽¹⁾ From 40 CFR Part 302.

⁽²⁾ Denominator is final RQ in pounds for the given category.

⁽³⁾ Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾ 1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾ The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾ Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾ The EPA carcinogen classification is acquired from the IRIS database.

WMC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

TANK P15 (7.8M HNO₃)

EHSC CALCULATION

1. MATERIAL FORM

- A. Is the toxic material dispersible (i.e., other than a consolidated or stabilized solid)?
Dispersible materials include liquids, sludges, gases, powders, and unconsolidated solids.
☐ No Stop. Associated items are safety class 3, other criteria permitting.
- B. Are only inert gases (e.g., He and Ar) or other environmentally benign gases (e.g., O₂, N₂, CO₂, and CO) present?
☐ Yes Stop. Items related to these gases are safety class 3, other criteria permitting.
☐ No Proceed.

2. QUANTITIES OF MATERIALS RELEASED

A. TOXIC MATERIALS WITH REPORTABLE QUANTITY (RQ) VALUES IN 40 CFR PART 302.

Category (1) Amount Released Multiplier

X	pounds	* 1	=	
A	pounds	* 1/10	=	
B	pounds	* 1/100	=	
C	pounds	* 1/1000	=	
D	pounds	* 1/5000	=	
SUM of above =				2
Multiplying Factor (MF) 2.A = SUM * 10 =				20

B. TOXIC MATERIALS OF REGULATORY/ENVIRONMENTAL CONCERN AND NOT LISTED IN 40 CFR PART 302.
NOTE: This is not an all inclusive list of toxic materials that are not listed in 40 CFR Part 302. Individual materials may need to be evaluated to assess their environmental hazard. Contact the Environmental Engineering or Environmental Assurance organization for assistance.

- o Compounds known to be highly environmentally persistent based on biodegradability.
o Compounds known to be somewhat environmentally persistent based on biodegradability.
o Petroleum products.
o Paints and solvents.
o Pesticides, herbicides, and fungicides.
o Metals.
o Polycyclic compounds (contain multiple benzene-type rings).
o Halogenated hydrocarbons.
o Environmental pathogens (virus or bacteria), engineered organisms and recombinant de-oxyribonucleic acid (DNA).

QUANTITY (MORE) (3) = gal. MF(MORE) =
<100 gal...MF=10
>100-1,000 gal...MF=20
>1,000-10,000 gal...MF=50
>10,000 gal...MF=100

QUANTITY (LESS) (3) =
<100 gal...MF=1
>100-1,000 gal...MF=2
>1,000-10,000 gal...MF=5
>10,000 gal...MF=10

MF(2,B) = MF(MORE) + MF(LESS) = Not Applicable (NA) (Toxic material (HNO₃) is listed in 40 CFR 302.)

WHC-SD-CP-RD-022 Rev 1
BASES FOR PUREX DEACTIVATION SAFETY EQUIPMENT LIST

3. TOTAL QUANTITY OF MATERIAL RELEASE⁽³⁾ = 483 gal

MF(3) = 5

<100 gal...MF = 1
100-1,000 gal...MF = 5
≥1,000-10,000 gal...MF = 10
≥10,000 gal...MF = 100

4. PROXIMITY TO ENVIRONMENTAL FACTORS

A. DEPTH TO AQUIFER = >150 feet
>150 feet.....MF= 1
76-150 feet.....MF= 2
21-75 feet.....MF= 5
0-20 feet.....MF=10

MF(4,A) = 1

B. DISTANCE TO SENSITIVE SURFACE WATER⁽⁴⁾⁽⁵⁾⁽⁶⁾ = NA Toxic material is in liquid form, therefore no legitimate pathway exists.

MF(4,B) = NA

>2 miles.....MF=1
≥1.5-2 miles.....MF=3
≥2500 feet-1.5 miles.....MF=6
≥1000-2500 feet.....MF=9
Direct discharge to surface water....MF=50

>500-1,000 feet....MF=16
100-500 feet....MF=20
≤100 feet....MF=25

C. DISTANCE TO OFFSITE BOUNDARY⁽⁵⁾ = NA miles See 4.8

MF(4,C) = NA

>10 miles.....MF=1
≥6-10 miles.....MF=2

>3-6 miles.....MF= 5
0-3 miles.....MF=10

5. CARCINOGENICITY MODIFYING FACTOR

MF(5) = NA

EPA CARCINOGEN CLASSIFICATION⁽⁷⁾ A,B...MF=2 C,D...MF=1

6. CALCULATION OF ENVIRONMENTAL IMPACT FOR SAFETY CLASSIFICATION

The EHSC is determined as follows where each term is the multiplying factor (MF) from the respective paragraphs above. Based on the chemicals involved, the multiplying factors for terms 2.A or 2.B and term 5 may not apply. Terms 4.A, 4.B and/or 4.C are applied where legitimate pathways to the environment exist.

$$EHSC = (2.A + 2.B)(3)(4.A)(4.B)(4.C)(5) = (2)(5)(1) = 10$$

EHSC ≥1,000,000 = Safety Class 1

:The tank is Safety Class 3, other criteria permitting.

EHSC ≥500,000 and <1,000,000 = Safety Class 2

EHSC <500,000 = Safety Class 3

⁽¹⁾From 40 CFR Part 302.

⁽²⁾Denominator is final RQ in pounds for the given category.

⁽³⁾Quantity is that amount of each toxic material to be released to the environment.

⁽⁴⁾1 gallon = 3.785 liters, 1 gallon = 8.34 lbs (at 4°C, a specific gravity of 1, and atmospheric pressure.

⁽⁵⁾The total quantity of toxic material postulated to be released to the environment.

⁽⁶⁾Examples of sensitive surface waters are the Columbia River and West Lake.

⁽⁷⁾The EPA carcinogen classification is acquired from the IRIS database.