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CLOSURE UNIT GROUP 25 PERMIT CONDITIONS
PUREX

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1 **CLOSURE UNIT GROUP 25 PERMIT CONDITIONS**

2 **PUREX**

3 **UNIT DESCRIPTION**

4 Closure Unit Group 25 consists of the dangerous waste management units within the Plutonium-Uranium
5 Extraction Complex (PUREX). The 202-A Building at PUREX was constructed in 1956, and is located
6 in the southwest portion of the 200-East Area. PUREX was used for the recovery of uranium and
7 plutonium from irradiated reactor fuel and is a key facility under the HFFACO (Permit Attachment 1).
8 Liquid processes were used to separate the plutonium and uranium. The 202-A Building is a reinforced
9 concrete structure approximately 306 meters long, 36 meters wide (at its maximum), and 30 meters high
10 with approximately 12 meters of the height below grade. The 202-A Building consists of three main
11 structural components: (1) a thick-walled, concrete canyon containing remotely operated process
12 equipment (in cells mostly below grade), (2) the pipe and operating, sample and storage galleries, and
13 (3) an annex that included offices, processes control rooms, laboratories, and building services.
14 Dangerous waste management units within PUREX include tank system(s), containment building, and a
15 miscellaneous unit.

16 The tank system(s) in PUREX are defined based on the vessels identified in Addendum A. The vessels
17 have been flushed.

18 The containment building in PUREX, to which this Permit applies, consists of two locations, F-Cell and
19 the Canyon Deck. Both locations will be closed; however, an inventory of mixed waste remains stored in
20 F-Cell.

21 The PUREX Storage Tunnels constitute a miscellaneous unit and are used for storage of mixed waste
22 subject to the requirements of [WAC 173-303-680](#). The two tunnels store waste from PUREX and other
23 on-site sources. Mixed waste is stored in the tunnels on railcars; however, not all material stored in the
24 tunnels contain mixed waste. PUREX Storage Tunnel Number 1, designated 218-E-14, is 5.8 meters
25 wide by 6.7 meters high by 109 meters long, and provides storage for eight railcars. PUREX Storage
26 Tunnel Number 1 was filled in 1965 and was sealed. PUREX Storage Tunnel Number 2, designated
27 218-E-15, is 5.8 meters wide by 6.7 meters high by 514 meters long, and provides storage space for
28 40 railcars; presently 28 railcars reside in PUREX Storage Tunnel Number 2.

29 **LIST OF ADDENDA SPECIFIC TO CLOSURE UNIT GROUP 25**

- 30 Addendum A Part A Form, Revision 0
31 Addendum B Waste Analysis Plan
32 Addendum C Process Information
33 Addendum D Groundwater Monitoring (Reserved)
34 Addendum E Security (Reserved)
35 Addendum F Preparedness and Prevention (Reserved)
36 Addendum G Personnel Training
37 Addendum H Closure (Reserved)
38 Addendum I Inspection Plan

39 **DEFINITIONS**

40 Reserved

41 **ACRONYMS**

42 LDR Land Disposal Restrictions

- 1 **V.25.A COMPLIANCE WITH UNIT SPECIFIC PERMIT CONDITIONS**
- 2 **V.25.A.1.** The Permittees will comply with all conditions in this Chapter and its addenda with
3 respect to storage of waste in the containment building (F Cell, Canyon Deck), the
4 miscellaneous units (PUREX Storage Tunnels), and closure of all dangerous waste
5 management units in Closure Unit Group 25 (PUREX) (Addendum B, Table B.1), and
6 dangerous waste management activities associated with storage in and closure of these
7 units, in addition to applicable requirements in Permit Parts I and II.
- 8 **V.25.B GENERAL WASTE MANAGEMENT**
- 9 **V.25.B.1.** The Permittees are authorized to store mixed waste and debris physically present and in
10 storage in the Closure Unit Group 25 containment building (PUREX F Cell) as of the
11 effective date of this Permit, as documented in Addendum C, Section C.3.
- 12 **V.25.B.2.** The Permittees are authorized to store waste physically present and in storage in the
13 PUREX Storage Tunnels 1 and 2 as of the effective date of this Permit, as documented in
14 Addendum B, Tables B.2, and B.3.
- 15 **V.25.B.3.** The Permittees are authorized to accept dangerous and/or mixed waste for storage in
16 PUREX Storage Tunnel 2 that satisfies the waste acceptance criteria according to the
17 waste acceptance procedures in Addendum B.
- 18 **V.25.B.4.** The Permittees will operate the PUREX Storage Tunnels 1 and 2 to comply with the
19 requirements of Addendum C, Section C.4, any applicable manufacturer's instructions or
20 specifications, good engineering practice, and as necessary to protect human health and
21 the environment. [[WAC 173-303-680](#)]
- 22 **V.25.B.5.** The Permittees will comply with any schedule of compliance and any applicable
23 associated work requirements included in the LDR report required by and enforceable
24 under HFFACO Milestone M-26, for the treatment and/or acquisition of treatment
25 capacity for and/or the continued storage of waste in the Closure Group 25 containment
26 building, tank system(s), and miscellaneous unit. Any such schedules and requirements
27 are by this reference incorporated under the terms of Permit Condition I.A.4, and apply
28 under this Permit as if they were fully set forth herein.
- 29 **V.25.C WASTE ANALYSIS**
- 30 **V.25.C.1.** The Permittees will maintain an accurate and complete waste profile for every waste
31 stream accepted for management in PUREX Storage Tunnel 2 after the effective date of
32 this Permit. For wastes managed in PUREX Storage Tunnels and PUREX Containment
33 Building as of the effective date of the Permit, the Permittees may use the information in
34 Addendum B as the waste profile documentation. For purposes of this Permit condition,
35 a waste stream will be any distinct combination of waste (as identified by its physical and
36 chemical description and designation) and waste container. [[WAC 173-303-380\(1\)\(a\)](#)]
- 37 **V.25.C.2.** The Permittees will place a copy of each waste profile required by Permit
38 Condition V.25.C.1, in the Hanford Facility Operating Record, PUREX File required by
39 Permit Condition II.I.2. [[WAC 173-303-380\(1\)\(a\), \(b\)](#)]
- 40 **V.25.C.3.** Each waste profile required by Permit Condition V.25.C.1 after the effective date of this
41 Permit will be signed and dated by the Permittees responsible for Closure Unit Group 25.
42 The waste profile will include a detailed description of the volume source waste
43 designation, and the chemical and physical nature of a waste stream.
- 44 **V.25.D RECORDKEEPING AND REPORTING**
- 45 **V.25.D.1.** The Permittees will place the following in the Hanford Facility Operating Record,
46 PUREX File required by Permit Condition II.I.2:

- 1 **V.25.D.1.a** Records required by [WAC 173-303-380](#)(1)(o), incorporated by reference, for which
2 information is available.
- 3 **V.25.E SECURITY**
- 4 **V.25.E.1.** The Permittees will post signs at access points to Closure Unit 25 protected area
5 (including PUREX Storage Tunnels) stating, DANGER-UNAUTHORIZED
6 PERSONNEL KEEP OUT, or an equivalent legend. These signs will be written in
7 English, legible from a distance of 7.6 meters, and visible from any approach to the active
8 portion. [[WAC 173-303-310](#)(2)(a)]
- 9 **V.25.F PREPAREDNESS AND PREVENTION**
- 10 **V.25.F.1.** The Permittees will comply with the preparedness and prevention requirements of
11 condition II.B.
- 12 **V.25.G RESERVED**
- 13 **V.25.H INSPECTIONS**
- 14 **V.25.H.1.** The Permittees will implement the practices described in Addendum I, Inspection Plan,
15 which includes performing inspections of PUREX and PUREX Tunnels monitoring
16 equipment, safety and emergency equipment, security devices, and operating and
17 structural equipment that help prevent, detect, or respond to hazards to the public health
18 or the environment pursuant to the requirements of [WAC 173-303-320](#).
- 19 **V.25.I TRAINING PLAN**
- 20 **V.25.I.1.** The Permittees will include in the written training plan, training requirements as specified
21 in Addendum G, Personnel Training , as required by [WAC 173-303-330](#)(2) and Permit
22 Condition II.C. [[WAC 173-303-330](#)]
- 23 **V.25.J RESERVED**
- 24 **V.25.K CLOSURE**
- 25 **V.25.K.1.** The Permittees, concurrent with submission to the lead regulatory agency of a CERCLA
26 ROD, will submit a Closure Plan to Ecology. This Closure Plan will identify elements of
27 the closure that will be coordinated with the CERCLA remedial action and utilize the
28 alternative requirements of [WAC 173-303-610](#)(1)(e), where appropriate. Following
29 completion of closure activities in coordination with the CERCLA remedial actions, the
30 Permittees, concurrent with submission to the lead regulatory agency will submit a
31 Permit modification request to attach Addendum H, Closure, which will demonstrate
32 compliance with the requirements of [WAC 173-303-610](#), [WAC 173-303-640](#)(8), [WAC](#)
33 [173-303-680](#)(4), and [40 CFR 264.1102](#), incorporated by reference by [WAC 173-303-695](#)
34 for the tank systems and containment buildings identified in Addendum A, unless these
35 requirements are replaced through the provisions of [WAC 173-303-610](#)(1)(e).
- 36 **V.25.L CONTAINMENT BUILDING**
- 37 **V.25.L.1.** The Permittees will maintain a certification by a qualified professional engineer that the
38 PUREX Containment Building documented in Addendum C, Section C.3 meets the
39 requirements of [40 CFR 264.1101](#)(a) and (c)(1), incorporated by reference by
40 [WAC 173-303-695](#). The Permittees will maintain this certification in the Hanford
41 Facility Operating Record, PUREX File required by Permit Condition III.2.
42 [[40 CFR 264.1101](#)(c)(2), incorporated by reference by [WAC 173-303-695](#)].

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