

START

0033604

DEPARTMENT OF ECOLOGY

November 24, 1993

TO: Distribution List

FROM: Joe Witzak *JW*
Nuclear and Mixed Waste Management Program

SUBJECT: Hanford Facility RCRA Permit

Attached to this memo is the latest version of the draft Hanford Facility RCRA Permit. The language for Condition II.D. (Quality Assurance and Quality Control) has not been finalized so there is no need to review this Condition. Also, the last half of this permit is the portion to be issued simultaneously by EPA regarding Corrective Action. Therefore most of you need not review it. This is very likely the last opportunity for you to comment before we initiate the public comment period. Please provide any comments to me by December 9, 1993. If you need to see any of the attachments or supporting documents, please come see me or call me at (206) 407-7132.

Thanks!!

JW:jr
Attachment

Distribution List

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5 DANGEROUS WASTE PORTION OF THE RESOURCE
6 CONSERVATION AND RECOVERY ACT PERMIT
7 FOR THE TREATMENT, STORAGE AND DISPOSAL
8 OF DANGEROUS WASTE
9 (SECOND DRAFT)
10

11
12 Department of Ecology
13 Nuclear and Mixed Waste Management Program
14 P.O. Box 47600
15 Olympia, Washington 98504-7600
16 Telephone: (206) 407-7150
17

18
19 Issued in accordance with the applicable provisions of the Hazardous Waste
20 Management Act, Chapter 70.105 RCW, and the regulations promulgated thereunder
21 in Chapter 173-303 WAC.
22

23
24
25 ISSUED TO: U.S. Department of Energy
26 Richland Operations Office
27 (Owner/Operator)
28 Post Office Box 550
29 Richland, Washington 99352
30 Telephone: (509) 376-7395
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34 P.O. Box 1970 P.O. Box 999
35 Richland, Washington 99352 Richland, Washington 99352
36 Telephone: (509) 376-5107 Telephone: (509) 375-2201
37

38 This Permit is effective as of _____, and shall remain in effect
39 until _____, unless revoked and reissued under WAC 173-303-830(3), or
40 terminated under WAC 173-303-830(5), or continued in accordance with WAC 173-
41 303-806(7).
42

43 ISSUED BY: WASHINGTON STATE DEPARTMENT OF ECOLOGY
44

45
46
47 _____
48 Dru Butler, Program Manager
49 Nuclear and Mixed Waste Management
50 Department of Ecology

51 Date: _____
52



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1
2
3 INTRODUCTION
4
5

6 Pursuant to Chapter 70.105 RCW, the Hazardous Waste Management Act (HWMA) of
7 1976, as amended, Chapter 70.105D RCW, the Model Toxics Control Act, and
8 regulations promulgated thereunder by the Washington State Department of
9 Ecology (hereafter called the Department), codified in Chapter 173-303
10 Washington Administrative Code (WAC), Dangerous Waste Regulations, a Dangerous
11 Waste Permit is issued to the U.S. Department of Energy - Richland Operations
12 Office (USDOE), (owner/operator), and its contractors; Westinghouse Hanford
13 Company (Westinghouse Hanford) (co-operator), and Pacific Northwest Laboratory
14 (PNL) (co-operator) (hereafter called the Permittees), for the treatment,
15 storage and disposal of dangerous waste at the Hanford Facility.
16

17 This Dangerous Waste Permit, issued in conjunction with the Hazardous and
18 Solid Waste Amendments Portion of the Resource Conservation and Recovery Act
19 Permit for the Treatment, Storage and Disposal of Dangerous Waste (HSWA
20 Permit), constitutes the Resource Conservation and Recovery Act Permit (RCRA
21 Permit) for the Hanford Facility. Use of the term "Permit" within the
22 Dangerous Waste Permit shall refer to the Dangerous Waste Permit while use of
23 the term "Permit" within the HSWA Permit shall refer to the HSWA Permit.
24

25 The Permittees shall comply with all terms and Conditions set forth in this
26 Permit and those portions of the Attachments that have been specifically
27 incorporated into this Permit. When the Permit and the Attachments (except
28 Attachment 1) conflict, the wording of the Permit will prevail. The Permit is
29 intended to be consistent with the terms and conditions of the Hanford Federal
30 Facility Agreement and Consent Order (FFACO, Attachment 1). The Permittees
31 shall also comply with all applicable State regulations, including Chapter
32 173-303 WAC. Additionally, the Permittees shall comply with all applicable
33 Federal regulations, including 40 CFR Parts 260 through 266, Part 268, and
34 Part 270.
35

36 Applicable State and regulations are those which are in effect on the date of
37 issuance, or subsequent modifications of this Permit. In addition, applicable
38 State regulations include any self-implementing statutory provisions and
39 related regulations which, according to the requirements of the HWMA, as
40 amended, or other law(s), are automatically applicable to the Permittees'
41 dangerous waste management activities, notwithstanding the Conditions of this
42 Permit.
43

44 This Permit is based upon the administrative record, as required by WAC 173-
45 303-840. The Permittees' failure in the application or during the Permit
46 issuance process to fully disclose all relevant facts, or the Permittees'
47 misrepresentation of any relevant facts at any time, shall be grounds for the
48 termination or modification of this Permit and/or initiation of an enforcement
49 action, including criminal proceedings. The Permittees shall inform the
50 Department of any deviation from Permit Conditions or changes in the

1 information on which the application is based which would affect either the
2 Permittees' ability to comply or actual compliance with the applicable
3 regulations or Permit Conditions or which alters any Condition of this Permit
4 in any way.
5

6 The Department shall enforce all Conditions of this Permit for which the State
7 of Washington is authorized, or which are "state-only" provisions (i.e.,
8 conditions broader in scope or more stringent than the federal RCRA program.
9 Any challenges of any such Permit Condition may be appealed in accordance with
10 WAC 173-303-845, except that USDOE may invoke any applicable dispute
11 resolution procedure of Part Two of the Hanford Federal Facility Agreement and
12 Consent Order (FFACO, Attachment 1). In the event a decision of the
13 Department is challenged by USDOE under an applicable dispute resolution
14 procedure of the FFACO and by any Permittee under WAC 173-303-845, the
15 Department shall stay the decision as it pertains to the Permittees in
16 accordance with the same terms of any stay it grants to USDOE. Such a stay
17 constitutes a "stay by the issuing agency" within the meaning of RCW
18 43.21B.320(1).
19

20 This Permit has been developed to allow a step-wise permitting process on the
21 Hanford Facility to ensure the proper implementation of the FFACO. In order
22 to accomplish this, this Permit consists of five (5) Parts.
23

24 Part I, Standard Conditions, are those Conditions which appear in all
25 dangerous waste permits.
26

27 Part II, General Facility Conditions, combines typical dangerous waste Permit
28 Conditions with those Conditions intended to address issues specific to the
29 Hanford Facility. Where appropriate, the General Facility Conditions apply to
30 all final status dangerous waste management activities at the Facility. Where
31 appropriate, the General Facility Conditions also address dangerous waste
32 management activities which may not be directly associated with distinct TSD
33 units or which may be associated with many TSD units (i.e., spill reporting,
34 training, contingency planning, etc.).
35

36 Part III, Unit-Specific Conditions for Operating Units, contains those Permit
37 requirements which apply to each individual TSD unit operating under final
38 status. Conditions for each TSD unit are found in a Chapter dedicated to that
39 TSD unit. These unit-specific Chapters contain references to Standard and
40 General Conditions (Parts I and II), as well as additional requirements which
41 are intended to ensure that each TSD unit is operated in an efficient and
42 environmentally protective manner.
43

44 Part IV, Corrective Actions for Past Practice, contains a reference to the EPA
45 HSWA Permit which is considered part of this Permit. These Conditions contain
46 those Permit requirements that apply to the identification of Solid Waste
47 Management Units (SWMUs) at the Facility and conduct of investigations and
48 remediations at such SWMUs. This Part addresses both SWMUs that are located
49 on the USDOE managed portions of the Facility as well as SWMUs which are not

1 located on USDOE managed property (i.e leased lands). Any SWMUs located on
2 USDOE managed property are, or will be, included in the FFACO and assigned to
3 operable units. The processes and procedures to be followed, and the
4 schedules of compliance for investigation and subsequent remediation, will be
5 contained in the FFACO. SWMUs not located on USDOE managed property will
6 undergo investigations and remediations, as necessary, in accordance with the
7 requirements and schedules identified in the Permit.
8

9 It is intended that, once the Department receives authorization from EPA to
10 implement the Corrective Action provisions, these requirements will be
11 incorporated into this Part through a Permit modification. Until Ecology
12 receives authorization for the Corrective Action provisions of RCRA, EPA shall
13 maintain regulatory lead for these requirements.
14

15 Part V, Unit-Specific Conditions for Units Undergoing Closure, contains those
16 requirements which apply to those specific TSD units included in this Part
17 that are undergoing closure. In accordance with Section 5.3. of the Action
18 Plan of the FFACO, all TSD units that undergo closure, irrespective of permit
19 status, shall be closed pursuant to the authorized state Dangerous Waste
20 Program in accordance with WAC 273-303-610. Requirements for each TSD unit
21 undergoing closure are found in a Chapter dedicated to that TSD unit. These
22 unit-specific Chapters contain references to Standard Conditions (Part I) and
23 General Conditions (Part II), as well as additional requirements which are
24 intended to ensure that each TSD unit is closed in an efficient and
25 environmentally protective manner.
26
27

LIST OF ATTACHMENTS

The following listed documents are attached in their entirety. However, only those portions of the Attachments specified in Parts I through V are enforceable Conditions of this Permit and subject to the Permit modification requirements of Condition I.C.3. Changes to portions of the Attachments which are not subject to the Permit modification process shall be addressed in accordance with Conditions I.E.8., I.E.11., I.E.13., I.E.15. through I.E.20., and I.E.22. The Department has, as deemed necessary, modified specific language in these Attachments. These modifications are described in the Conditions (Parts I through V), and thereby supersede the language of the Attachment.

- | | |
|---------------|--|
| Attachment 1 | Hanford Federal Facility Agreement and Consent Order, May 1989 (As Amended) |
| Attachment 2 | Facility Description |
| Attachment 3 | FFACO Milestones Incorporated into the Permit |
| Attachment 4 | Hanford Facility Contingency Plan, Revision 1, June 1993 |
| Attachment 5 | Purgewater Management Plan, July 1990 |
| Attachment 6 | Hanford Well Remediation and Decommissioning Plan, Revision 0 |
| Attachment 7 | Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA, June 1990 |
| Attachment 8 | 616 Nonradioactive Dangerous Waste Storage Facility Part A & Part B Permit Applications, Revision 2, September 1991 |
| Attachment 9 | 616 Nonradioactive Dangerous Waste Shipping Lists |
| Attachment 10 | 616 Nonradioactive Dangerous Waste Facility Description of Procedures |
| Attachment 11 | 183-H Solar Evaporation Basins Part A Application and the Closure/Postclosure Plan, Revision 3, June 1991 |
| Attachment 12 | Decommissioning Work Plan "Concrete Sampling - 183-H Solar Evaporation Basins" (DWP-H-080-00001) 8-26-91, Revision A-3 |

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- 1 Attachment 13 Decommissioning Work Plan "Core Drill Sampling - 183-H
2 Solar Evaporation Basins (Phase I)" (DWP-H-080-00005)
3 2-8-91, Revision A-1
4
5 Attachment 14 "183-H Solar Evaporation Basins Vadose Zone Sampling
6 Plan" (WHC-SD-EN-AP-056) 6-25-91, Revision 0
7
8 Attachment 15 Decommissioning Work Plan "Berm Removal for 183-H
9 Solar Evaporation Basins" (DWP-H-026-00008) 1-16-91,
10 Revision A-0
11
12 Attachment 16 300 Area Solvent Evaporator Closure Plan, Revision 3b,
13 September 1992
14
15 Attachment 17 2727-S Nonradioactive Dangerous Waste Storage Facility
16 Closure Plan, Revision 3, January 1992
17
18 Attachment 18 305-B Storage Facility Part A and Part B Permit
19 Applications, Revision 2, October 1992

DEFINITIONS

All definitions contained in the FFACO, May 1989, as amended, are hereby incorporated, in their entirety, by reference into this Permit, except that any of the definitions used below, (a) through (o) shall supersede any definition of the same term given in the FFACO.

All definitions contained in WAC 173-303-040 are hereby incorporated, in their entirety, by reference into this Permit, except that any of the definitions used below, (a) through (o), shall supersede any definition of the same term given in WAC 173-303-040. However, the Permit is intended to be consistent with the FFACO.

Where terms are defined in both Chapter 173-303 WAC and the FFACO, the definitions contained in Chapter 173-303 WAC shall supersede any definition of the same term given in the FFACO.

Where terms are not defined in the regulations, the Permit or the FFACO, the meaning associated with such terms shall be defined by a standard dictionary reference or the generally accepted scientific or industrial meaning of the term.

As used in this Permit, words in the masculine gender also include the feminine and neuter genders, words in the singular include the plural, and words in the plural include the singular.

The following definitions apply throughout this Permit:

- a. The term "Critical Systems" as applied to determining whether a permit modification is required means those specific portions of a TSD unit's structure or equipment whose failure could lead to the release of dangerous waste into the environment and/or systems which include processes which treat, transfer, store or dispose of regulated wastes. A list identifying the critical systems of a specific TSD unit may be developed and included in Part III of this Permit. In developing a critical system list, or in the absence of a critical system list, WAC 173-303-830 modifications shall be considered.
- b. The term "Contractor(s)" means, unless specifically identified otherwise, in this Permit or attachments, Westinghouse Hanford Company (Westinghouse Hanford) and/or Pacific Northwest Laboratory (PNL).
- c. The term "Dangerous Waste" means those solid wastes designated under Chapter 173-303 WAC as dangerous or extremely hazardous waste. As used in the Permit, the word "dangerous waste" shall refer to the full universe of wastes regulated by Chapter 70.105 RCW and Chapter 173-303 WAC (including dangerous waste, hazardous

- 1 waste, extremely hazardous waste, mixed waste and acutely
2 hazardous waste).
- 3
- 4 d. The term "Days" means calendar days unless specifically identified
5 otherwise.
- 6
- 7 e. The term "Department" means the Washington State Department of
8 Ecology, (with the address as specified on page one (1) of this
9 Permit).
- 10
- 11 f. The term "Director" means the Director of the Washington State
12 Department of Ecology or a designated representative. The Program
13 Manager of the Nuclear and Mixed Waste Management Program (with
14 the address as specified on page one of this Permit) is a duly
15 authorized and designated representative of the Director for
16 purposes of this Permit.
- 17
- 18 g. The term "Facility" means all contiguous land, and structures,
19 other appurtenances, and improvements on the land used for
20 recycling, reusing, reclaiming, transferring, storing, treating,
21 or disposing of dangerous waste. The legal and physical
22 description of the Facility is set forth in Attachment 2 of this
23 Permit.
- 24
- 25 h. The term "FFACO" means the Hanford Federal Facility Agreement and
26 Consent Order, as amended.
- 27
- 28 i. The term "Independent" as used in such titles as 'independent
29 engineer', 'independent expert', and 'independent inspector';
30 means an individual who is not employed by the Permittees, or who
31 is not employed by a firm that has primary responsibility for the
32 specific project phase that requires the certification, such as
33 design, installation, construction or closure of the project or
34 equipment. For example, a firm that has primary responsibility
35 for the design of a project or equipment, but not for its
36 installation or construction, can provide the independent
37 installation and tank integrity assessment certifications.
38 Multiple certifications by the same individual will not nullify
39 the individual's independent status.
- 40
- 41 j. The term "RCRA Permit" means the Dangerous Waste Portion of the
42 RCRA Permit for the Treatment, Storage and Disposal of Dangerous
43 Waste (Dangerous Waste Permit) issued by the Washington State
44 Department of Ecology, pursuant to Chapter 70.105 RCW and Chapter
45 173-303 WAC coupled with the HSWA Portion of the RCRA Permit for
46 the Treatment, Storage, and Disposal of Dangerous Waste (HSWA
47 Permit) issued by the EPA, Region 10, pursuant to 42 U.S.C. 6901
48 et seq. and 40 CFR Parts 124 and 270.
- 49

- 1 k. The term "Permittees" means the United States Department of Energy
2 (owner/operator), Westinghouse Hanford Company (co-operator) and
3 Pacific Northwest Laboratory (co-operator).
4
- 5 l. The term "Registered Professional Engineer" means an individual
6 who has received a certificate of registration from the State of
7 Washington to practice engineering. This term is equivalent to
8 the term "licensed professional engineer".
9
- 10 m. The term "Reasonable Times" means normal business hours, hours
11 during which production, treatment, storage, construction,
12 disposal or discharge occurs or times when the Department suspects
13 a violation requiring immediate inspection.
14
- 15 n. The term "Significant Discrepancy" in regard to a manifest or
16 shipping paper means a discrepancy between the quantity or type of
17 dangerous waste designated on the manifest or shipping paper and
18 the quantity or type of dangerous waste a TSD unit actually
19 receives. A significant discrepancy in quantity is a variation
20 greater than ten (10) percent for bulk quantities (e.g., tanker
21 trucks, railroad tank cars, etc.), or any variation in piece count
22 for nonbulk quantities (i.e., any missing container or package
23 would be a significant discrepancy). A significant discrepancy in
24 type is a physical or chemical difference which can be discovered
25 by inspection or waste analysis (e.g., waste solvent substituted
26 for waste acid).
27
- 28 o. The term "Unit" (or "TSD unit"), as used in Parts I through V of
29 this Permit, means the contiguous area of land on or in which
30 dangerous waste is placed, or the largest area in which there is a
31 significant likelihood of mixing dangerous waste constituents in
32 the same area. A TSD unit, for purposes of this Permit, is a
33 subgroup of the Facility and has been identified in a Hanford
34 Facility Dangerous Waste Part A Permit Application Form 3.
35
36

ACRONYMS

1		
2		
3		
4		
5	APP	Used to Denote Appendix Page Numbers
6		
7	CERCLA	Comprehensive Environmental Response Compensation and
8		Liability Act of 1980 (as Amended by the Superfund
9		Reauthorization Act of 1986)
10	CFR	Code of Federal Regulations
11	CIP	Construction Inspection Plan
12	CLP	Contract Laboratory Program
13		
14	Department	Washington State Department of Ecology
15	DOE-RL	U. S. Department of Energy Field Office, Richland
16		
17	EC	Emergency Coordinator
18	Ecology	Washington State Department of Ecology
19	ECN	Engineering Change Notice
20	EPA	U.S. Environmental Protection Agency
21		
22	FFACO	Hanford Federal Facility Agreement and Consent Order
23		
24	HSWA	Hazardous and Solid Waste Amendments of 1984
25	HWMA	Hazardous Waste Management Act
26		
27	MTCA	Model Toxics Control Act
28		
29	NCR	Nonconformance Report
30	616 NRDWSF	616 Nonradioactive Dangerous Waste Storage Facility
31		
32	OSWER	Office of Solid Waste and Emergency Response
33		
34	PNL	Pacific Northwest Laboratory
35		
36	QA	Quality Assurance
37	QAPP	Quality Assurance Project Plan
38	QC	Quality Control
39		
40	RCRA	Resource Conservation and Recovery Act of 1976
41	RCW	Revised Code of Washington
42		
43	SARA	Superfund Amendments and Reauthorization Act of 1986
44		
45	SOP	Standard Operating Procedure
46	SWMU	Solid Waste Management Unit
47		
48	TCLP	Toxicity Characteristic Leaching Procedure
49	TSD	Treatment, Storage, and/or Disposal
50		

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1	USDOE	U.S. Department of Energy
2		
3	WAC	Washington Administrative Code
4	WAP	Waste Analysis Plan
5	Westinghouse	Westinghouse Hanford Company
6	Hanford	
7		
8		
9		

2025/11/24

PART I - STANDARD CONDITIONS

I.A. EFFECT OF PERMIT

I.A.1.a. The Permittees are authorized to treat, store and dispose of dangerous waste in accordance with the Conditions of this Permit and in accordance with the applicable provisions of Chapter 173-303 WAC (including provisions of the Chapter as they have been applied in the FFACO). Any treatment, storage, or disposal of dangerous waste by the Permittees at the Facility that is not authorized by this Permit, or by WAC 173-303-400 (including provisions of this regulation as they have been applied in the FFACO) for those TSD units not subject to this Permit, is prohibited.

The Conditions of this Permit do not apply to TSD units currently operating or closing under interim status. Such units shall maintain interim status until that TSD unit is incorporated into Part III or V of this Permit or until interim status is terminated under WAC 173-303-805(8). Interim status units shall be incorporated into this Permit through the modification process.

I.A.1.b. Lands leased by the State of Washington are subject only to the HSWA Permit (including references to Conditions in Parts I through V).

I.A.2. USDOE is responsible for activities which include, but are not limited to, the overall management and operation of the Facility.

Westinghouse Hanford is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

PNL is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

I.A.3. Coordination With The FFACO

Each TSD unit shall have an application for a final status permit or closure/postclosure plan submitted to the Department in accordance with the schedules identified in the FFACO (Milestone M-20-00). After completion of the permit application or closure plan review, a final permit

1 decision will be made pursuant to WAC 173-303-840. Specific
2 conditions for each TSD unit shall be incorporated into this
3 Permit in accordance with the Class 3 permit modification
4 procedure identified in Condition I.C.3.
5

6 I.A.4. Incorporation of the FFACO

7
8 The USDOE shall comply with all milestone schedules, not to
9 include target dates, contained within the FFACO as amended
10 and as specified in Attachment 3, which are hereby
11 incorporated by reference into this Permit in their
12 entirety. This Permit is intended to be consistent with the
13 conditions of the FFACO, as amended.
14

15 I.B. PERSONAL AND PROPERTY RIGHTS

16
17 This Permit does not convey property rights of any sort or
18 any exclusive privilege; nor does it authorize any injury to
19 persons or property, or any invasion of other private
20 rights, or any violation of federal, State, or local laws or
21 regulations.
22

23 I.C. PERMIT ACTIONS

24
25 I.C.1. Modification, Revocation, Reissuance, or Termination

26
27 This Permit may be modified, revoked and reissued, or
28 terminated by the Department for cause as specified in WAC
29 173-303-830(3),(4), and (5).
30

31 I.C.2. Filing of a Request

32
33 The filing of a request for a permit modification, or
34 revocation and reissuance, or termination, or a notification
35 of planned changes or anticipated noncompliance on the part
36 of the Permittees shall not stay the applicability or
37 enforceability of any Condition except as provided in WAC
38 173-303-830(3),(4) and (5).
39

40 I.C.3. Modifications

41
42 I.C.3.a. Except as provided otherwise by specific language in this
43 Permit, and except for the Department's approval of a Class
44 2 permit modification, or a Class 1 modification, in
45 accordance with WAC 173-303-830(4), any modification or
46 change in design or operation of this Facility or any
47 modification or change in a dangerous waste management
48 practice covered by this Permit shall be administered as a

1 Class 3 permit modification prior to such modification or
2 change taking place.

3
4 I.C.3.b. For corrective actions taken pursuant to provisions of the
5 FFACO, as amended, compliance with the public participation
6 provisions of the FFACO shall be deemed compliant with the
7 Class 3 permit modification procedures of WAC 173-303-
8 830(4). At the completion of the public involvement
9 requirements and when Department and/or EPA approval is
10 provided where applicable, documents will be incorporated
11 into Part IV of this Permit.

12
13 I.C.3.c. For any corrective actions required by this Permit that are
14 not addressed by the FFACO, the Permit modification
15 procedures identified in Condition I.C.3.a. shall be
16 followed.

17
18 I.D. SEVERABILITY

19
20 I.D.1. Effect of Invalidation

21
22 The provisions of this Permit are severable, and if any
23 provision of this Permit, or the application of any
24 provision of this Permit to any circumstance is contested
25 and/or held invalid, the application of such provision to
26 other circumstances and the remainder of this Permit shall
27 not be affected thereby. Invalidation of any State
28 statutory or regulatory provision which forms the basis for
29 any Condition of this Permit does not affect the validity of
30 any other State statutory or regulatory basis for said
31 Condition.

32
33 I.D.2. Final Resolution

34
35 In the event that a Condition of this Permit is stayed for
36 any reason, the Permittees shall continue to comply with the
37 related applicable and relevant interim status standards in
38 WAC 173-303-400 until final resolution of the stayed
39 Condition, unless the Department determines compliance with
40 the related applicable and relevant interim status standards
41 would be technologically incompatible with compliance with
42 other Conditions of this Permit which have not been stayed.

43
44 I.E. DUTIES AND REQUIREMENTS

45
46 I.E.1. Duty to Comply

47
48 The Permittees shall comply with all Conditions of this
49 Permit, except to the extent and for the duration such

1 noncompliance is authorized by an emergency permit issued
2 under WAC 173-303-804. Any Permit noncompliance other than
3 noncompliance authorized by an emergency permit constitutes
4 a violation of Chapter 70.105 RCW, as amended, and is
5 grounds for enforcement action, Permit termination,
6 modification or revocation and reissuance of the Permit,
7 and/or denial of a Permit renewal application.
8
9

10 I.E.2. Compliance Not Constituting Defense

11
12 Compliance with the terms of this Permit does not constitute
13 a defense to any order issued or any action brought under
14 Section 3007, 3008, 3013, or 7003 of RCRA (42 U.S.C.
15 Sections 6927, 6928, 6934, and 6973), Section 104, 106(a) or
16 107 of the Comprehensive Environmental Response,
17 Compensation, and Liability Act of 1980 (CERCLA) [42 U.S.C.
18 Sections 9604, 9606(a), and 9607], as amended by the
19 Superfund Amendments and Reauthorization Act of 1986 (42
20 U.S.C. 9601 et seq.), or any other federal, State or local
21 law governing protection of public health or the
22 environment.
23

24 I.E.3. Duty to Reapply

25
26 If the Permittees wish to continue an activity regulated by
27 this Permit after the expiration date of this Permit, the
28 Permittees must apply for and obtain a new Permit, in
29 accordance with WAC 173-303-806(6).
30

31 I.E.4. Permit Expiration and Continuation

32
33 This Permit, and all Conditions herein, will remain in
34 effect beyond the Permit's expiration date until the
35 effective date of the new permit if the Permittees have
36 submitted a timely, complete application for renewal per WAC
37 173-303-806 and, through no fault of the Permittees, the
38 Department has not made a final Permit determination as set
39 forth in WAC 173-303-840.
40

41 I.E.5. Need to Halt or Reduce Activity Not a Defense

42
43 It shall not be a defense in the case of an enforcement
44 action that it would have been necessary to halt or reduce
45 the permitted activity in order to maintain compliance with
46 the Conditions of this Permit.
47

48 I.E.6. Duty to Mitigate

49

1 In the event of noncompliance with the Permit, the
2 Permittees shall take all reasonable steps to minimize
3 releases to the environment, and shall carry out such
4 measures as are reasonable to minimize or correct adverse
5 impacts on human health and the environment. Such
6 mitigation shall not be a defense to any enforcement action.
7

8 I.E.7. Proper Operation and Maintenance
9

10 The Permittees shall at all times properly operate and
11 maintain all facilities and systems of treatment and control
12 which are installed or used by the Permittees to achieve
13 compliance with the Conditions of this Permit. Proper
14 operation and maintenance includes effective performance,
15 adequate funding, adequate operator staffing and training,
16 and adequate laboratory and process controls including
17 appropriate quality assurance/quality control procedures.
18 This provision requires the operation of backup or auxiliary
19 facilities or similar systems only when necessary to achieve
20 compliance with the Conditions of the Permit.
21

22 I.E.8. Duty to Provide Information
23

24 The Permittees shall furnish to the Department, within a
25 reasonable time, any relevant information which the
26 Department may request to determine whether cause exists for
27 modifying, revoking and reissuing or terminating this
28 Permit, or to determine compliance with this Permit. The
29 Permittees shall also furnish to the Department, upon
30 request, copies of records required to be kept by this
31 Permit.
32

33 I.E.9. Inspection and Entry
34

35 The Permittees shall allow the Department, or authorized
36 representatives, upon the presentation of Department
37 credentials, to:
38

39 I.E.9.a. During operating hours and at all other reasonable times,
40 enter and inspect the Facility or any unit or area within
41 the Facility where regulated activities are located or
42 conducted, or where records must be kept under the
43 Conditions of this Permit;
44

45 I.E.9.b. Have access to, and copy, at reasonable times, any records
46 that must be kept under the Conditions of this Permit;
47

48 I.E.9.c. Inspect at reasonable times any portion of the Facility,
49 equipment (including monitoring and control equipment),

- 1 practices, or operations regulated or required under this
2 Permit; and,
3
- 4 I.E.9.d. Sample or monitor, at reasonable times, for the purposes of
5 assuring Permit compliance or as otherwise authorized by
6 State law, as amended, for substances or parameters at any
7 location.
8
- 9 I.E.10. Monitoring and Records
- 10
- 11 I.E.10.a. Samples and measurements taken by the Permittees for the
12 purpose of complying with this Permit shall be
13 representative of the monitored activity. Sampling methods
14 shall be in accordance with WAC 173-303-110 or 40 CFR 261,
15 unless otherwise specified in this Permit. Analytical
16 methods shall be as specified in the most recently published
17 test procedure of the documents cited in WAC 173-303-
18 110(3)(a) through (d), unless otherwise specified in this
19 Permit.
20
- 21 I.E.10.b. The Permittees shall retain at the TSD unit(s), or other
22 location approved by the Department, as specified in Parts
23 III or V of this Permit, records of monitoring information
24 required for compliance with this Permit, including
25 calibration and maintenance records, copies of reports and
26 records required by this Permit, and records of data used to
27 complete the application for this Permit for a period of at
28 least ten (10) years from the date of the sample,
29 measurement, report, or application, unless otherwise
30 required for certain information by other Conditions of this
31 Permit.
32
- 33 I.E.10.c. The Permittees shall retain at the Facility, or other
34 approved location, records of all monitoring and maintenance
35 records, copies of all reports and records required by this
36 Permit, and records of all data used to complete the
37 application for this Permit which are not associated with a
38 particular TSD unit for a period of at least ten (10) years
39 from the date of certification of completion of postclosure
40 care or corrective action for the Facility, whichever is
41 later.
42
- 43 I.E.10.d. The record retention period may be extended by request of
44 the Department at any time by notification, in writing, to
45 the Permittees and is automatically extended during the
46 course of any unresolved enforcement action regarding this
47 Facility to ten (10) years beyond the conclusion of the
48 enforcement action.
49

1 I.E.10.e.

Records of monitoring information shall specify:

2
3 i. The date, exact places and time of sampling or
4 measurements;

5
6 ii. the individual who performed the sampling or
7 measurements and their affiliation;

8
9 iii. the dates the analyses were performed;

10
11 iv. the individual(s) who performed the analyses and their
12 affiliation;

13
14 v. The analytical techniques or methods used; and

15
16 vi. The results of such analyses.
17

18
19 I.E.11.

Reporting Planned Changes

20
21 The Permittees shall give notice to the Department as soon
22 as possible of any planned physical alterations or additions
23 to the Facility subject to this Permit. Such notice does
24 not authorize any noncompliance with or modification of this
25 Permit.
26

27 I.E.12.

Certification of Construction or Modification

28
29 The Permittees may not commence treatment, storage, or
30 disposal of dangerous wastes in a new or modified portion of
31 TSD units subject to this Permit until:
32

33 i. The Permittees have submitted to the Department, by
34 certified mail, overnight express mail, or hand
35 delivery, a letter signed by the Permittees and a
36 registered professional engineer stating that the TSD
37 unit has been constructed or modified in compliance
38 with the Conditions of this Permit; and
39

40 ii. The Department has inspected the modified or newly
41 constructed TSD unit, and finds that it is in
42 compliance with the Conditions of this Permit; or
43

44 iii. Within 15 days of the date of receipt of the
45 Permittees' letter, the Permittees have not received
46 notice from the Department of its intent to inspect,
47 prior inspection is waived, and the Permittees may
48 commence treatment, storage, and disposal of dangerous
49 waste.

1 I.E.13. Anticipated Noncompliance

2
3 The Permittees shall give at least 30 days advance notice to
4 the Department of any planned changes in the Facility
5 subject to this Permit or planned activity which might
6 result in noncompliance with Permit requirements.
7

8 If 30 days advance notice is not possible, then the
9 Permittees shall give notice immediately after the
10 Permittees become aware of the anticipated noncompliance.
11 Such notice does not authorize any noncompliance with or
12 modification of this Permit.
13

14 I.E.14. Transfer of Permits

15
16 This Permit may be transferred to a new owner or operator
17 only if it is modified or revoked and reissued pursuant to
18 WAC 173-303-830(3)(b). Before transferring ownership or
19 operation of the Facility during its operating life, the
20 Permittees shall notify the new owner or operator in writing
21 of the requirements of WAC 173-303-600 and -806 and this
22 Permit.
23

24 I.E.15. Immediate Reporting

25
26 I.E.15.a The Permittees shall verbally report to the Department any
27 release of dangerous waste or hazardous substances, or any
28 noncompliance with the Permit which may endanger human
29 health or the environment. Any such information shall be
30 reported within two (2) hours after the Permittees become
31 aware of the release and/or noncompliance.
32

33 I.E.15.b. The immediate verbal report shall contain all the
34 information needed to determine the nature and extent of any
35 threat to human health and the environment, including the
36 following:
37

- 38 i. Name, address, and telephone number of the Permittee
39 responsible for the release or noncompliant activity;
- 40
- 41 ii. Name, location, and telephone number of the unit at
42 which the release occurred;
- 43
- 44 iii. Date, time, and type of incident;
- 45
- 46 iv. Name and quantity of material(s) involved;
- 47
- 48 v. The extent of injuries, if any;
- 49

- 1 vi. An assessment of actual or potential hazard to the
2 environment and human health, where this is
3 applicable;
4
5 vii. Estimated quantity of released material that resulted
6 from the incident; and,
7
8 viii. Actions which have been undertaken to mitigate the
9 occurrence.

10
11 I.E.15.c.

The Permittees shall report, in accordance with Conditions I.E.15.a. and I.E.15.b., any information concerning the release or unpermitted discharge of any dangerous waste or hazardous substances that may cause an endangerment to drinking water supplies or ground or surface waters, or of a release or discharge of dangerous waste or hazardous or radioactive substances or of a fire or explosion at the Facility, which may potentially threaten human health or the environment. The description of the occurrence and its cause shall include all information necessary to fully evaluate the situation and to develop an appropriate course of action.

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23
24 I.E.15.d.

For any release or noncompliance not required to be reported to the Department immediately, a brief account must immediately be entered into the TSD operating record, for a TSD unit, or into the Facility operating record, inspection log or separate spill log, for non-TSD units. This account must include: the time and date of the release, the location and cause of the release, the type and quantity of material released, and a brief description of any response actions taken or planned.

25
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33
34 I.E.15.e.

All releases, regardless of location of release or quantity of release, shall be controlled and mitigated as required by WAC 173-303-145(3).

35
36
37
38 I.E.16.

Written Reporting

39
40 Within 15 days after the Permittees become aware of any
41 noncompliance with this Permit which may endanger human
42 health or the environment, the Permittees shall provide to
43 the Department a written report. The written report shall
44 contain a description of the noncompliance and its cause
45 (including the information provided in the verbal
46 notification); the period of noncompliance including exact
47 dates and times; the anticipated time noncompliance is
48 expected to continue if the noncompliance has not been
49 corrected; corrective measures being undertaken to mitigate

1 the situation, and steps taken or planned to reduce,
2 eliminate, and prevent reoccurrence of the noncompliance.
3
4 I.E.17. Manifest Discrepancy Report
5
6 I.E.17.a. For waste received from outside the Facility, whenever a
7 significant discrepancy in a manifest is discovered, the
8 Permittees shall attempt to reconcile the discrepancy. If
9 not reconciled within 15 days of discovery, the Permittees
10 shall submit a letter report in accordance with WAC 173-303-
11 370(4), including a copy of the applicable manifest or
12 shipping paper, to the Department.
13
14 I.E.17.b. For waste which is being transported within the Facility
15 (i.e., shipment of on-site generated waste), whenever a
16 significant discrepancy in the shipping papers (see
17 Condition II.Q.1.) is discovered, the Permittees shall
18 attempt to reconcile the discrepancy. If not reconciled
19 within 15 days of discovery, the Permittees shall submit a
20 letter report, including a copy of the applicable manifest
21 or shipping paper, to the Department.
22
23 I.E.18. Unmanifested Waste Report
24
25 The Permittees shall follow the provisions of WAC 173-303-
26 370 for the receipt of any waste shipment from off-site.
27 Whenever the Permittees are presented with waste which does
28 not have a manifest or shipping paper accompanying it, the
29 Permittees shall immediately notify the Department and the
30 generator of the waste. The Permittees shall also submit a
31 report in accordance with WAC 173-303-390(1) to the
32 Department within 15 days of receipt of the unmanifested
33 waste shipment.
34
35 I.E.19. Other Noncompliance
36
37 The Permittees shall report to the Department all instances
38 of noncompliance not otherwise required to be reported
39 elsewhere in this Permit at the time the Annual Dangerous
40 Waste Report is submitted.
41
42 I.E.20. Other Information
43
44 Whenever the Permittees become aware that they have failed
45 to submit any relevant facts in a permit application,
46 closure plan, or postclosure plan, or submitted incorrect
47 information in a permit application, closure plan, or
48 postclosure plan, or in any report to the Department, the

1 Permitees shall promptly submit such facts or corrected
2 information.

3
4 I.E.21. Reports, Notifications and Submissions

5
6 I.E.21.a. Except as specified in Condition I.E.21.b., all reports,
7 notifications or other submissions which are required by
8 this Permit to be sent or given to the Director or
9 Department should be sent certified mail, overnight express
10 mail or hand delivered to:

11
12 Hanford Project Manager
13 Nuclear and Mixed Waste Management Program
14 Department of Ecology
15 300 Desmond Drive
16 Lacey, Washington 98503
17 Telephone: (206) 407-7108
18

19 This is the current phone number and address and may be
20 subject to change. The Department shall give the Permitees
21 notice of a change in address or telephone number. It is
22 the responsibility of the Permitees to ensure any required
23 reports, notifications or other submissions are transmitted
24 to the addressee listed in this Condition.
25

26 I.E.21.b. All immediate reports and subsequent written reports
27 required by Condition I.E.15.a., I.E.15.b., I.E.15.c., or
28 I.E.15.d., shall be reported to the Department's Kennewick
29 office at:

30
31 Hanford Project
32 Department of Ecology
33 7601 W. Clearwater, Suite 102
34 Kennewick, Washington 99336
35 Telephone: (509) 736-3000
36

37 This is the current phone number and address and may be
38 subject to change. The Department shall give the Permitees
39 notice of a change in address or telephone number. It is
40 the responsibility of the Permitees to ensure any required
41 reports, notifications or other submissions are transmitted
42 to the addressee listed in this Condition.
43

44 I.E.22. Annual Report

45
46 The Permitees shall comply with the annual reporting
47 requirements of WAC 173-303-390(2).
48

49 I.F. SIGNATORY REQUIREMENT

1 All applications, reports, or information submitted to the
2 Department shall be signed and certified in accordance with
3 WAC 173-303-810(12) and (13).
4

5 I.G.

CONFIDENTIAL INFORMATION

6
7 The Permittees may claim confidential any information
8 required to be submitted by this Permit, at the time of
9 submission, in accordance with WAC 173-303-810(15).
10

11 I.H.

DOCUMENTS TO BE MAINTAINED AT FACILITY SITE

12
13 The Permittees shall maintain at the Facility, or some other
14 location approved by the Department, the following documents
15 and amendments, revisions, and modifications to these
16 documents:
17

- 18 1. This Permit and all attachments;
- 19 2. All dangerous waste Part B permit applications,
20 postclosure permit applications or closure plans; and
- 21 3. The Facility Operating Record.
22

23 These documents shall be maintained for ten (10) years after
24 postclosure care or corrective action for the Facility,
25 whichever is later, has been completed and certified as
26 complete.
27
28
29

PART II - GENERAL FACILITY CONDITIONS

II.A. FACILITY CONTINGENCY PLAN

II.A.1. The Permittees shall immediately carry out the provisions of the Contingency Plan as provided in Attachment 4, pursuant to WAC 173-303-360(2), whenever there is a release of dangerous waste or dangerous waste constituents, or other emergency circumstance which threatens human health or the environment.

II.A.2. The Permittees shall comply with the requirements of WAC 173-303-350(4), as provided in the Hanford Facility Contingency Plan (Attachment 4). The Hanford Facility Contingency Plan contains reference to unit-specific contingency plans included in Part III of this Permit.

II.A.3. The Permittees shall review and immediately amend, if necessary, the Hanford Facility Contingency Plan, as provided in Permit Attachment 4, pursuant to WAC 273-303-350(5) and in accordance with the provisions of WAC 273-303-830(4).

II.A.4. The Permittees shall comply with the requirements of WAC 173-303-350(3) and -360(1) concerning the emergency coordinator, except the names will be on file with the Occurrence Notification Center, phone number (509) 376-2900.

II.B. PREPAREDNESS AND PREVENTION

II.B.1. At a minimum, the Permittees shall equip the Facility with the equipment specified in the Contingency Plan, Permit Attachment 4, pursuant to WAC 173-303-340(1). Unit-specific preparedness and prevention provisions are included in Parts III and V of this Permit.

II.B.2. The Permittees shall test and maintain the equipment specified in the previous condition as necessary to assure proper operation in the event of emergency.

II.B.3. The Permittees shall maintain access to communications or alarms pursuant to WAC 173-303-340(2), as provided in the Contingency Plan, Attachment 4.

II.B.4. The Permittees shall comply with WAC 173-303-340(4) and WAC 173-303-355(1) pertaining to arrangements with local authorities.

1 II.C. PERSONNEL TRAINING

2
3 II.C.1. The Permittees shall conduct personnel training as required
4 by WAC 173-303-330. The Permittees shall maintain documents
5 and records in accordance with WAC 173-303-330(2) and (3).
6

7 II.C.2. All Hanford Facility personnel shall receive general
8 Facility training within 30 days of hire. This training
9 shall provide personnel with awareness of dangerous waste
10 management activities being conducted on the Hanford
11 Facility. This training shall include:
12

13 II.C.2.a. Description of emergency signals and appropriate personnel
14 response,
15

16 II.C.2.b. Identification of contacts for information regarding
17 dangerous waste management activities,
18

19 II.C.2.c. Introduction to waste minimization concepts,
20

21 II.C.2.d. Identification of contact(s) for emergencies involving
22 dangerous waste, and
23

24 II.C.2.e. Familiarization with the Facility Contingency Plan.
25

26 II.C.3. Description of training plans for personnel assigned to TSD
27 units subject to this Permit are delineated in the unit-
28 specific chapters in Parts III or V of this Permit.
29

30 II.C.4. The Permittees shall provide the necessary training to non-
31 Facility personnel (i.e., visitors, sub-contractors) as
32 appropriate for the locations such personnel will be at and
33 the activities that will be undertaken. At a minimum, this
34 training shall describe dangerous waste management hazards
35 and the appropriate responses to emergencies involving
36 dangerous waste.
37

38 II.D. WASTE ANALYSIS

39
40 II.D.1. All waste analyses required by this Permit shall be
41 conducted in accordance with a written waste analysis plan
42 (WAP). WAPs for TSD units shall be approved through
43 incorporation of the TSD unit into Part III or V of this
44 Permit. WAPs not associated with a particular TSD unit
45 shall be maintained by the Permittees and made available
46 upon request from the Department.
47

48 II.D.2. Until a WAP is implemented in accordance with Condition
49 II.D.1., any unit(s) identified in Parts III or V of this
50 Permit without a unit-specific waste analysis plan approved

1 by the Department shall not treat, store, or dispose of
2 dangerous waste, unless specified otherwise by the
3 Department in writing.
4

5 II.D.3.

Each TSD unit WAP shall include:

- 6
7 1. The parameters for which each dangerous waste will be
8 analyzed, and the rationale for selecting these
9 parameters;
10
11 ii. The methods of obtaining or testing for these
12 parameters;
13
14 iii. The methods for obtaining representative samples of
15 wastes for analysis (representative sampling methods
16 are discussed in WAC 173-303-110(2));
17
18 iv. The frequency with which analysis of a waste will be
19 reviewed or repeated to ensure that the analysis is
20 accurate and current;
21
22 v. The waste analyses which generators have agreed to
23 supply;
24
25 vi. Where applicable, the methods for meeting the
26 additional waste analysis requirements for specific
27 waste management methods as specified in WAC 173-303-
28 630 through 173-303-670; and
29
30 vii. For off-site facilities, the procedures for confirming
31 that each dangerous waste received matches the
32 identity of the waste specified on the accompanying
33 manifest or shipping paper. This includes at least:
34
35 (1) The procedure for identifying each waste movement
36 at the Facility; and
37
38 (2) The method for obtaining a representative sample
39 of the waste to be identified, if the identification
40 method includes sampling.
41

42 II.D.4

Each WAP not associated with a particular TSD unit shall
43 include the elements of Conditions II.D.3.(i) through
44 II.D.3.(iv).
45

46 II.E.

FACILITY WIDE QUALITY ASSURANCE/QUALITY CONTROL

47
48 II.E.1.

The Permittees shall follow all procedures identified in the
49 Facility Wide Quality Assurance/Quality Control (QA/QC) Plan
50 (Attachment 7), except as modified below.

- 1 II.E.2. The following are modifications to the Facility Wide QA/QC
2 Plan (Attachment 7):
3
- 4 II.E.2.a. Page APP 2C-1, line 4. The word "sample" under the
5 definition of "item" is deleted.
6
- 7 II.E.2.b. Page APP 2C-1, line 7. The definition of "Quality" is
8 replaced with: "The totality of features and characteristics
9 of a product or service that bear on its ability to satisfy
10 given needs."
11
- 12 II.E.2.c. Page APP 2C-1, line 9. The definition of "Quality
13 Assurance" is replaced with: "An integrated system of
14 activities in the area of quality planning, quality control,
15 quality assessment and quality improvement to provide to the
16 producer or user of a product or service the assurance that
17 it meets defined standards of quality."
18
- 19 II.E.2.d. Page APP 2C-1, line 11. The definition of "Quality Control"
20 is replaced with: "The overall system of activities whose
21 purpose is to control the quality of a product or service so
22 that it meets the needs of users. The aim is to provide
23 quality that is satisfactory, adequate, dependable and
24 economic."
25
- 26 II.E.2.e. Page APP 2C-3. The following is inserted after the first
27 sentence: "During the planning of an environmental data
28 collection program, QA activities focus on defining data
29 quality criteria and designing a QC system to measure the
30 quality of data being generated. During the implementation
31 of the data collection effort, QA activities ensure that the
32 deficiencies uncovered by the QC system are corrected.
33 After environmental data are collected, QA activities focus
34 on assessing the quality of the data obtained to determine
35 its suitability to support enforcement or remedial
36 decisions."
37
- 38 II.E.2.f. Page APP 2C-3. The third bullet is deleted and replaced
39 with; "The quality of items and processes shall be reliable
40 and shall adhere to prescribed methodologies.
41 Reproducibility shall be obtained."
42
- 43 II.E.2.g. Page APP 2C-3. The following is inserted as a new bullet to
44 this Section; "Laboratory Standard Operating Procedures
45 shall be implemented to ensure data of a high standard of
46 quality."
47
- 48 II.E.2.h. Page APP 2C-3. The following is inserted after "relevant
49 Ecology regulations" in the seventh bullet; "USEPA
50 requirements."

- 1 II.E.2.i. Page APP 2C-3. An additional bullet is added; "To maintain
2 integrity of samples and analyses, consistency with the EPA
3 requirements regarding sampling and analyses shall be
4 followed."
5
- 6 II.E.2.j. Page APP 2C-4. The word "invoke" is deleted from the first
7 bullet, first line, and is replaced with; "required to be
8 followed by contractors."
9
- 10 II.E.2.k. Page APP 2C-4. The word "invoke" is deleted from the first
11 bullet, line 2, and is replaced with; "stated in".
12
- 13 II.E.2.l. Page APP 2C-4. The following sentences are added to the
14 first bullet; "The contractor shall establish a quality
15 assurance program with the objective of providing sound
16 analytical chemical measurements. This program shall
17 incorporate the quality control procedures, any necessary
18 corrective actions, and all documentation required during
19 data collection as well as the quality assessment measures
20 performed by management to ensure production of acceptable
21 data."
22
- 23 II.E.2.m. Page APP 2C-4. The following is added to the fourth bullet;
24 "All contractors' QA programs shall have a set of standard
25 operating procedures (SOPs). These SOPs shall, at a
26 minimum:
27
- 28 i. Be consistent with current Ecology and EPA
29 regulations, guidelines, and the Permit's
30 requirements;
 - 31
 - 32 ii. Be consistent with instrument manufacturers' specific
33 instruction manuals;
 - 34
 - 35 iii. Be available to the Department during an On-Site
36 Laboratory Evaluation. A complete set of SOPs shall
37 be available for inspection at such evaluations.
38 Laboratory personnel may be asked to demonstrate the
39 application of SOPs;
 - 40
 - 41 iv. Provide for the development of documentation that is
42 sufficiently complete to record the performance of all
43 tasks required by the protocol;
 - 44
 - 45 v. Demonstrate the validity of data reported by the
46 laboratory and explain the cause of missing or
47 inconsistent results;
 - 48

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- 1 vi. Describe the corrective measures and feedback
2 mechanisms utilized when analytical results do not
3 meet protocol requirements;
4
5 vii. Be reviewed regularly and updated as necessary when
6 contract, facility, or laboratory procedural
7 modifications are made;
8
9 viii. Be archived for future reference in useability or
10 evidentiary situations;
11
12 ix. Be available at specific work stations as appropriate;
13
14 x. Be subject to a document control procedure that
15 precludes the use of outdated or inappropriate SOPs.
16
- 17 II.E.2.n. Page APP 2C-4. The word "opportunities" in the second
18 bullet, line 3, is replaced with "areas."
19
- 20 II.E.2.o. Page APP 2C-4. A second sentence is added to the third
21 bullet which states: "When performing QA/QC for laboratory
22 analytical procedures, personnel will be knowledgeable about
23 maintaining data integrity, validity and useability."
24
- 25 II.E.2.p. Section 2C5.3. A new sentence is added to the end of this
26 section which states: "For sample and analysis QC, SOPs or
27 defined by the Department or EPA's protocols as identified
28 in SW-846 or CLP shall be used".
29
- 30 II.E.2.q. Page APP 2C-5 line 6. The phrase "for the sample" is
31 replaced with "by the EPA."
32
- 33 II.E.2.r. Page APP 2C-5. A bullet is inserted between the first and
34 second bullets as follows: "Establishing a Project Plan and
35 Quality Assurance Project Plan (QAPP)."
36
- 37 II.E.2.s. Page APP 2C-6 bullet 9, line 2. The following is added to
38 the end of the last sentence: "following SW-846 or CLP
39 detection limits."
40
- 41 II.E.2.t. Page APP 2C-6 first paragraph, line 3. The phrase
42 "commensurate with intended use" is replaced with,
43 "technically sound and legally defensible."
44
- 45 II.E.2.u. Page APP 2C-6 first paragraph, line 4. The word "legally"
46 is added before the word "defensible."
47
- 48 II.E.2.v. Page App 2C-6 first paragraph line. The word "waste" which
49 is placed before the word "groundwater", is deleted.
50

- 1 II.E.2.w. Page APP 2C-6 line 1. The word "on-site" is inserted after
2 "Transportation."
3
4 II.E.2.x. Page APP 2C-7 seventh bullet, line 2. The word "Department"
5 is inserted after "in compliance with the relevant."
6
7 II.E.2.y. Page APP 2C-8 third bullet line 3. The word "dispositioned"
8 is replaced with "the original Permit, contract or
9 alternative approved by the Department."
10
11 II.E.2.z. Page APP 2C-9. The following is added to the end of the
12 fourth bullet: "as specified in the FFACO, Section 9-15."
13
14 II.E.2.aa. Page APP 2C-9 sixth bullet, line 4. The following is added:
15 "and those found in WAC 173-303-380."
16
17 II.E.2.bb. Page APP 2C-9 line 3. The phrase "to achieve an end result"
18 is replaced with "and to create technically sound and
19 legally defensible data."
20
21 II.E.2.cc. Page APP 2C-9 second bullet, line 2. The word "methods" is
22 inserted after "appropriate standards."
23
24 II.E.2.dd. Page APP 2C-9 fourth bullet, line 1. The phrase "A process"
25 is replaced with "An approved methodology as set forth by
26 Department protocols."
27
28 II.E.2.ee. Page APP 2C-9 sixth bullet, line 3. The following sentence
29 is added: "For sampling activities, the storage, handling
30 and cleaning of bottles shall include at a minimum the
31 requirements set forth in the USEPA 1990 OSWER Publication
32 titled, "Specifications and Guidance for Obtaining
33 Contaminant Free Sample Containers."
34
35 II.E.2.ff. Page APP 2C-9 seventh bullet, line 3. The following is
36 added as a new bullet: "For sampling and analyses, the
37 protocols specified by SW-846, CLP or Department approved
38 methods shall be followed as specifically determined for the
39 project."
40
41 II.E.2.gg. Page APP 2C-9 tenth bullet, line 3. The word "legally" is
42 inserted before "defensible."
43
44 II.E.2.hh. Page APP 2C-9 tenth bullet, line 5. The word "process" is
45 replaced with "Project Plan."
46
47 II.E.2.ii. Page APP 2C-9 tenth bullet, line 9. The word "process" is
48 replaced with "Project Plan."
49

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- 1 II.E.2.jj. Page APP 2C-11 second bullet, line 1. The word "invoke" is
2 replaced with "established."
3
- 4 II.E.2.kk. Page App 2C-12 first bullet, line 2. The following sentence
5 is added: "SOPs shall be established for all activities as
6 specified in the permit."
7
- 8 II.E.2.ll. Page APP 2C-12 third bullet, line 4. The following sentence
9 is added: "Follow USEPA SW-846 and CLP criteria as
10 appropriate for calibration checks, calibration
11 coefficients, etc, if applicable, also follow the
12 manufacturer recommendations when necessary."
13
- 14 II.E.2.mm. Page APP 2C-12, line 5. The following sentences are added:
15 "Instruments shall be calibrated daily or whenever the
16 instrument is used. Continuing calibration is run at a
17 frequency of 10% or every 2 hours during an analysis run,
18 whichever is more frequent. USEPA CLP, or SW-846 and
19 manufacturer standards must be followed for instrument
20 calibration. The criteria listed will be followed during
21 laboratory analyses of environmental samples."
22
- 23 II.E.3. In place of the requirements in Conditions II.E.1. and
24 II.E.2., the level of QA/QC for the collection,
25 preservation, transportation, and analysis of each sample
26 which is required for implementation of this Permit may be
27 based upon Department approved data quality objectives for
28 the sample. These data quality objectives shall be approved
29 by the Department, in writing, or through incorporation of
30 unit plans and permits into Part III of this Permit.
31
- 32 II.F. FACILITY WIDE GROUND WATER MONITORING
33
- 34 The Permittees shall comply with the ground water monitoring
35 requirements of WAC 173-303-645 and FFACO Milestone M-24.
36 The Permittees shall consult with the Department regarding
37 implementation of these requirements. Where agreed to by
38 the Department, integration of ground water and/or vadose
39 zone monitoring conducted for reasons other than this Permit
40 may be accommodated by this Permit. Results from other
41 investigation activities shall be used whenever possible to
42 supplement and/or replace sampling required by this Permit.
43
- 44 II.F.1. Purgewater Management
45
- 46 Purgewater shall be handled in accordance with the
47 requirements set forth in Attachment 5, *Purgewater*
48 *Management Plan*.
49

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- 1 II.F.2. Ground Water and Vadose Zone Well Remediation and
- 2 Abandonment
- 3
- 4 II.F.2.a. The Permittees shall evaluate wells according to Sections
- 5 4.1 through 4.8.3 of the *Hanford Well Remediation and*
- 6 *Decommissioning Plan* (Attachment 6) to determine if a well
- 7 has a potential use. The Permittees shall abandon or
- 8 remediate unusable wells according to the requirements of
- 9 Chapter 18.104 RCW, Chapter 173-160 WAC, and Chapter 173-162
- 10 WAC to ensure the integrity of ground water and vadose zone
- 11 monitoring wells subject to this Permit is maintained.
- 12
- 13 II.F.2.b. The Permittees shall inspect the integrity of all ground
- 14 water monitoring wells or vadose zone monitoring wells
- 15 identified in this Permit at least once every five (5)
- 16 years. These inspections must be recorded in the operating
- 17 record. The Permittees shall prepare a plan and schedule
- 18 within 120 days after the effective date of this Permit
- 19 specifying the schedule and technical standards for this
- 20 program. The Permittees shall provide a copy of this plan
- 21 upon the request of the Department.
- 22
- 23 II.F.2.c. The Department shall receive notice in writing at least 72
- 24 hours before the Permittees remediate or abandon any well
- 25 subject to this Permit.
- 26
- 27 II.F.2.d. The Permittees shall achieve full compliance with Chapter
- 28 173-162 and Chapter 18.104 RCW within eight (8) years from
- 29 the initial issuance of this Permit.
- 30
- 31 II.F.3. Ground Water and Vadose Zone Well Construction
- 32
- 33 II.F.3.a. All ground water and vadose zone wells constructed pursuant
- 34 to this Permit shall be constructed in compliance with the
- 35 standards set forth in *Policy on Remediation of Existing*
- 36 *Wells and Acceptance Criteria for RCRA and CERCLA, June 1990*
- 37 *(Attachment 7)*.
- 38
- 39 II.F.3.b. All existing ground water and vadose zone wells which the
- 40 Permittees wish to utilize for the ground water monitoring
- 41 program required by this Permit, but were constructed prior
- 42 to the effective date of this Permit, shall be evaluated
- 43 pursuant to Attachment 7. Only those wells meeting the
- 44 requirements set forth in this policy shall be included in
- 45 the ground water monitoring program(s) required by this
- 46 Permit.
- 47
- 48 II.G. SITING CRITERIA
- 49

1 The Permittees shall comply with the applicable notice of
2 intent and siting criteria of WAC 173-303-281 and WAC 173-
3 303-282, respectively.
4

5 **II.H. RECORDKEEPING AND REPORTING**

6
7 In addition to the recordkeeping and reporting requirements
8 specified elsewhere in this Permit, the Permittees shall
9 comply with the following:

10
11 **II.H.1. Cost Estimate for Facility Closure**

12 The Permittees shall submit an annual report updating
13 projections of anticipated costs for closure and postclosure
14 of TSD units incorporated into Parts III or V of this
15 Permit. This report will be submitted annually, by October
16 31, to the Department and reflect cost updates as of
17 September 30, of the past Fiscal Year.
18

19
20 **II.H.2. Cost Estimate for Postclosure Monitoring and Maintenance**

21 The Permittees shall submit an annual report updating
22 projects of anticipated costs for postclosure monitoring and
23 maintenance for TSD units incorporated into Parts III or V
24 of this Permit. This report will be submitted annually, by
25 October 31, to the Department and reflect cost updates as of
26 September 30, of the past Fiscal Year.
27

28
29 **II.I. FACILITY OPERATING RECORD**

30
31 **II.I.1.** The Permittees shall maintain a written Facility Operating
32 Record until ten (10) years after postclosure or corrective
33 action is complete and certified for the Facility, whichever
34 is later. Except as specifically provided otherwise in this
35 Permit, the Permittees shall also record all information
36 referenced in this Permit in the Facility Operating Record
37 within seven (7) working days after the information becomes
38 available. A unit-specific operating record shall be
39 maintained for each TSP unit at a location identified in
40 Parts III and V of this Permit. Each unit-specific
41 operating record shall be included by reference in the
42 Facility Operating Record. Information required in each
43 unit-specific operating record is identified on a unit-by-
44 unit basis in Part III or V of this Permit. The Facility
45 Operating Record shall include, but not be limited to, the
46 following information:

47
48 **II.I.1.a.** A current map showing the location of all dangerous waste
49 points of generation and TSD units within the Facility;

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- 1 II.I.1.b. Records and results of each waste analysis performed in
2 accordance with this Permit;
- 3
- 4 II.I.1.c. Assessment reports and details of all incidents that require
5 the preparation of an Unusual Occurrence Report, Off Normal
6 Occurrence Report at a TSD unit, or the implementation of
7 the contingency plan;
- 8
- 9 II.I.1.d. Off-site waste manifests and any required unmanifested
10 shipment reports or exception reports not specifically
11 identified in a unit-specific operating record;
- 12
- 13 II.I.1.e. Hanford Facility Contingency Plan;
- 14
- 15 II.I.1.f. Personnel training records;
- 16
- 17 II.I.1.g. Preparedness and prevention arrangements made pursuant to
18 WAC 173-303-340;
- 19
- 20 II.I.1.h. Record of all spills and releases not specifically reported
21 in a unit-specific operating record;
- 22
- 23 II.I.1.i. All closure and postclosure cost estimate documents prepared
24 pursuant to this Permit;
- 25
- 26 II.I.1.j. Reports to the Department regarding releases, fires and
27 explosions;
- 28
- 29 II.I.1.k. Facility operation and maintenance records and reports
30 prepared pursuant to this Permit;
- 31
- 32 II.I.1.l. Dates and methods of waste treatment not specifically
33 reported in a unit-specific operating record identified in
34 Part III of this Permit;
- 35
- 36 II.I.1.m. Annual Reports required by this Permit;
- 37
- 38 II.I.1.n. Records of all monitoring information, including all
39 calibration and maintenance records for activities conducted
40 pursuant to this Permit;
- 41
- 42 II.I.1.o. Records of monitoring information shall include:
 - 43 i. The date, exact place, and times of sampling,
44 measurements, and/or field observations;
 - 45
 - 46
 - 47 ii. The name, title, and affiliation of the individual who
48 performed the sampling and/or measurements;
 - 49
 - 50 iii. The date analyses were performed;

- 1 iv. The name, title, and affiliation of the individual who
- 2 performed the analyses;
- 3
- 4 v. The chemical preparation in methods and analytical
- 5 techniques or method used; and
- 6
- 7 vi. The raw analytical data and the analytical results,
- 8 including the QA/QC summary;
- 9
- 10 II.I.1.p. Summaries of all records of corrective action required
- 11 through Part IV of this Permit;
- 12
- 13 II.I.1.q. Progress reports and any notifications required by this
- 14 Permit;
- 15
- 16 II.I.1.r. All deed notifications required by this Permit (to be
- 17 included by reference);
- 18
- 19 II.I.1.s. All inspection reports required by this Permit; and
- 20
- 21 II.I.1.t. All other reports as required by this Permit, including ECNs
- 22 and NCRs.
- 23
- 24 II.I.2. The Permittees shall, by March 31 of each year, submit to
- 25 the Department a certification signed in accordance with WAC
- 26 173-303-810(12) and (13), that the Permittees have a program
- 27 in place to reduce the volume and toxicity of dangerous
- 28 waste that is generated to the degree determined by the
- 29 Permittees to be economically practicable; and have
- 30 determined that the proposed method of treatment, storage,
- 31 or disposal is the most practicable method currently
- 32 available to the Permittees which minimizes the present and
- 33 future threat to human health and the environment. The
- 34 Permittees shall describe, in a report attached to the
- 35 certification, the efforts undertaken during the past year
- 36 to reduce the volume and toxicity of waste generated. The
- 37 report shall also describe the changes in volume and
- 38 toxicity of waste actually achieved during the past year in
- 39 comparison to previous years under this Permit.
- 40
- 41 II.J. FACILITY WIDE CLOSURE PLAN
- 42
- 43 II.J.1. Final closure of the Hanford Facility will be achieved when
- 44 closure activities for all TSD units have been completed, as
- 45 specified in Parts III, IV, or V of this Permit. Completion
- 46 of these activities shall be documented using either
- 47 certifications of closure, in accordance with WAC 173-303-
- 48 610(6), or certifications of completion of postclosure care,
- 49 in accordance with WAC 173-303-610(11).
- 50

- 1 II.J.2. The Permittees shall close all TSD units as specified in
2 Parts III or V of this Permit.
3
- 4 II.J.3. The Permittees shall submit a written notification of or
5 request for a permit modification in accordance with the
6 provisions of WAC 173-303-610(3)(b) whenever there is a
7 change in operating plans, facility design, or the approved
8 closure plan, including changes to incorporate the addition
9 of TSD units to the Permit. The written notification or
10 request must include a copy of the amended closure plan for
11 review or approval by the Department.
12
- 13 II.J.4. The Permittees shall close the Facility in a manner that:
- 14 II.J.4.a Minimizes the need for further maintenance;
- 15 II.J.4.b. Controls, minimizes or eliminates to the extent necessary to
16 protect human health and the environment, postclosure escape
17 of dangerous waste, dangerous constituents, leachate,
18 contaminated run-off, or dangerous waste decomposition
19 products to the ground, surface water, ground water, or the
20 atmosphere; and
21
22
23
- 24 II.J.4.c. Returns the land to the appearance and use of surrounding
25 land areas to the degree possible given the nature of the
26 previous dangerous waste activity.
27
- 28 II.J.4.d. Meets the requirements of WAC 173-303-610(2)(b).
29
- 30 II.K. SOIL/GROUNDWATER CLOSURE PERFORMANCE STANDARDS
- 31
- 32 II.K.1. For purposes of Condition II.K., the term "clean closure"
33 shall mean the status of a TSD unit at the Facility which
34 has been closed to the levels prescribed by WAC 173-303-
35 610(2)(b). A TSD unit which achieves clean closure shall be
36 available to unrestricted use consistent with the future
37 site use of that TSD unit/area.
38
- 39 II.K.2. The Permittees may close a TSD unit to background levels as
40 defined in Department approved Hanford Site Background
41 Documents if background concentrations exceed the levels
42 prescribed by Condition II.K.1. Closure to these levels,
43 provided the Permittees comply with all other closure
44 requirements for a TSD unit as identified in Parts III or V
45 of this Permit, shall be deemed as "clean closure."
46
- 47 II.K.3. Except for those TSD units identified in Conditions II.K.1.,
48 II.K.2., or II.K.4., the Permittees may close a TSD unit to
49 a cleanup level specified under Method C of Chapter 173-340
50 WAC. Closure of a TSD unit to these levels, provided the

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1 Permitees comply with all other closure requirements for
2 the TSD unit as specified in Parts III or V of the Permit,
3 and provided the Permitees comply with Conditions II.K.3.a.
4 and II.K.3.b., shall be deemed as a "modified closure."

5
6 II.K.3.a.

7 For "modified closures," the Permitees shall provide
8 institutional controls in accordance with WAC 173-340-440
9 which restricts access to the TSD unit for a minimum of five
10 (5) years following completion of closure. The specific
11 details and duration of institutional controls shall be
12 specified in Parts III or V of this Permit for a particular
13 TSD unit.

14 II.K.3.b.

15 For "modified closures", the Permitees shall provide
16 periodic assessments of the TSD unit to determine the
17 effectiveness of the closure. The specific details of the
18 periodic assessments shall be specified in Parts III or V of
19 this Permit. The periodic assessments shall include, as a
20 minimum, a compliance monitoring plan in accordance with WAC
21 173-340-410 that will address the assessment requirements on
22 a unit by unit basis. At least one (1) assessment activity
23 shall take place after a period of five (5) years from the
24 completion of closure, which will demonstrate whether the
25 soils and groundwater have been maintained at or below the
26 allowed concentrations as specified in Parts III or V of
27 this Permit. Should the required assessment activities
28 identify contamination above the allowable limits as
29 specified in Parts III or V, the TSD unit must be further
30 remediated or the requirements of II.K.4. must be followed.
31 Should the required assessment activities demonstrate that
32 contamination has diminished or remained the same, the
33 Permitees may request that the Department reduce or
34 eliminate the assessment activities and/or institutional
35 controls.

36 II.K.4.

37 For any TSD unit which Conditions II.K.1., II.K.2., or
38 II.K.3., are not chosen as the closure option, closing the
39 TSD unit as a landfill may be selected, provided this option
40 is consistent with the future site use of the TSD unit/area.
41 Closure and postclosure of the TSD unit as a landfill must
42 follow the procedures and requirements specified in WAC 173-
43 303-610.

44 II.K.5.

45 The remediation levels selected shall be specified in Parts
46 III or V of this Permit and shall be based upon the future
47 site use for that TSD unit/area. Definitions contained
48 within Chapter 173-340 WAC shall apply to Condition II.K.
49 where definitions are not otherwise provided by this Permit,
50 the FFACO, or Chapter 173-303 WAC.

- 1 II.K.6. Deviations from a TSD unit closure plan required by
2 unforeseen circumstances encountered during closure
3 activities which do not impact the overall closure strategy
4 but provide equivalent results shall be documented in the
5 TSD unit operating record and made available to the
6 Department upon request or during the course of an
7 inspection.
8
- 9 II.K.7. Where agreed to by the Department, integration of other
10 statutorily or regulatory mandated cleanups may be
11 accommodated by this Permit. Results from other cleanup
12 investigation activities shall be used whenever possible to
13 supplement and/or replace TSD unit closure investigation
14 activities. All, or appropriate parts of, multipurpose
15 cleanup and closure documents can be incorporated into this
16 Permit through the Permit modification process. Cleanup and
17 closures conducted under any statutory authority with
18 oversight by either the Department or the Agency which meets
19 the equivalent of the technical requirements of Conditions
20 II.K.1. through II.K.4. may be considered as satisfying the
21 requirements of this Permit.
22
- 23 II.L. DESIGN AND OPERATION OF THE FACILITY
24
- 25 II.L.1. Proper Design and Construction
26
27 The Permittees shall design, construct, maintain, and
28 operate the Facility to minimize the possibility of a fire,
29 explosion, or any unplanned sudden or non-sudden release of
30 hazardous substances to air, soil, ground water, or surface
31 water which could threaten human health or the environment.
32
- 33 II.L.2. Design Changes, Nonconformance, and As-Built Drawings
34
- 35 II.L.2.a. The Permittees shall conduct all construction subject to
36 this Permit in accordance with the approved designs, plans
37 and specifications that are required by this Permit unless
38 authorized otherwise in Conditions II.L.2.b. or II.L.2.c.
39 For purposes of Conditions II.L.2.b. and II.L.2.c., a
40 Department construction inspector or TSD unit manager are
41 designated representatives of the Department.
42
- 43 II.L.2.b. During construction of a project subject to this Permit,
44 changes to the approved designs, plans and specifications
45 shall be formally documented with an Engineer Change Notice
46 (ECN). All ECNs shall be maintained in the TSD unit
47 operating record and shall be made available to the
48 Department upon request or during the course of an
49 inspection. The Permittees shall provide copies of ECNs

1 affecting any critical system to the Department within five
2 (5) working days of initiating the ECN. Identification of
3 critical systems shall be included by the Permittees in each
4 unit- specific dangerous waste permit application, closure
5 plan or Permit modification, as appropriate. The Department
6 will review an ECN modifying a critical system and inform
7 the Permittees within two (2) working days in writing
8 whether the proposed ECN, when issued, will require a Class
9 1,2 or 3 permit modification. If after two (2) working days
10 the Department has not responded, it will be deemed as
11 acceptance of the ECN by the Department.
12

13 II.L.2.c.

14 During construction of a project subject to this Permit, any
15 work completed which does not meet the standards of the
16 approved design, plans and specifications shall be formally
17 documented with a nonconformance report (NCR). All NCRs
18 shall be maintained in the TSD unit operating record and
19 shall be made available to the Department upon request or
20 during the course of an inspection. The Permittees shall
21 provide copies of NCRs affecting any critical system to the
22 Department within five (5) working days after identification
23 of the nonconformance. The Department will review an NCR
24 affecting a critical system and inform the Permittees within
25 two (2) working days in writing whether a permit
26 modification is required of any nonconformance and whether
27 prior approval is required from the Department before work
28 proceeds which affects the nonconforming item. If the
29 Department does not respond within two (2) working days, it
30 will be deemed as acceptance and no permit modification is
31 required.

32 II.L.2.d.

33 Upon completion of a construction project subject to this
34 Permit, the Permittees shall produce as-built drawings of
35 the project which incorporate the design and construction
36 modifications resulting from all project ECNs and NCRs as
37 well as modifications made pursuant to WAC 173-303-830. The
38 Permittees shall place the drawings into the operating
39 record within 12 months of completing construction, or
40 within an alternate period of time specified in a unit-
41 specific Condition in Part III or V of this Permit.

42 II.L.3.

43 Facility Compliance

44 The Permittees in receiving, storing, transferring,
45 handling, treating, processing, and disposing of dangerous
46 waste shall design, operate and/or maintain the Facility in
47 compliance with all applicable federal, state and local laws
48 and regulations, including but not limited to the Washington
49 State Dangerous Waste Regulations, Chapter 173-303 WAC.

1 II.M. SECURITY

2
3 The Permittees shall comply with the security provisions of
4 WAC 173-303-310. The Permittees shall comply with the
5 requirements of WAC 173-303-310(2) on a unit-by-unit basis.
6

7 II.N. RECEIPT OF DANGEROUS WASTES GENERATED OFF-SITE

8
9 II.N.1. Receipt of Off-Site Waste

10 Unless specified in Part III of this Permit, waste from a
11 foreign source and waste from off-site generators shall not
12 be allowed to be received at units subject to this Permit.
13 The Permittees shall comply with Conditions II.N.2. and
14 II.N.3. for any wastes which are received from either a
15 foreign source or from off-site generators.
16

17
18 II.N.2. Waste From a Foreign Source

19 The Permittees shall notify the Department in writing at
20 least four (4) weeks in advance of the date the Permittees
21 expect to receive dangerous waste from a foreign source, as
22 required by WAC 173-303-290. Notice of subsequent shipments
23 of the same waste from the same foreign source in the same
24 calendar year is not required.
25

26
27 II.N.3. Notice to Generator

28 For waste received from off-site sources (except where the
29 owner/operator is also the generator), the Permittees shall
30 inform the generator in writing that they have the
31 appropriate permits for, and will accept, the waste the
32 generator is shipping, as required by WAC 173-303-290(3).
33 The Permittees shall keep a copy of this written notice as
34 part of the unit-specific operating record.
35

36
37 II.O. GENERAL INSPECTION REQUIREMENTS

38
39 II.O.1. The Permittees shall inspect the Facility to prevent
40 malfunctions and deterioration, operator errors, and
41 discharges which may cause or lead to the release of
42 dangerous waste constituents to the environment, or a threat
43 to human health. Inspections must be conducted in
44 accordance with the provisions of WAC 173-303-320(2). In
45 addition to the TSD unit inspections specified in Parts III
46 or V, the following inspections will also be conducted.
47

48 II.O.1.a. The 100, 200 East, 200 West, 300, 400, and 1100 areas shall
49 be inspected annually.

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- 1 II.O.1.b. The Permittees shall inspect the banks of the Columbia
2 River, contained within the Facility boundary, two (2) times
3 yearly. One (1) inspection shall take place at the low
4 water mark of the year and one (1) inspection shall take
5 place at the high water mark of the year. This inspection
6 shall be performed from the river by boat, and the
7 inspectors shall follow the criteria in Condition II.O.2.c.
8
- 9 II.O.1.c. The Permittees shall visually inspect the areas identified
10 in Conditions II.O.1.a. and II.O.1.b. for malfunctions,
11 deterioration, operator errors, and discharges which may
12 cause or lead to the release of dangerous waste constituents
13 to the environment, or that threaten human health. Specific
14 items to be noted are as follows:
15
- 16 i. Remains of waste containers, labels or other waste
17 management equipment;
 - 18
 - 19 ii. Solid waste disposal sites not previously identified
20 for remedial action;
 - 21
 - 22 iii. Uncontrolled waste containers (e.g., orphan drums);
 - 23
 - 24 iv. Temporary or permanent activities that could generate
25 an uncontrolled waste form; and
 - 26
 - 27 v. Unpermitted waste discharges.
 - 28
- 29 II.O.1.d. The Permittees shall notify the Department at least seven
30 (7) days prior to conducting these inspections in order to
31 allow representatives of the Department to be present during
32 the inspections.
33
- 34 II.O.2. The Permittees shall comply with WAC 173-303-320(3)
35 regarding remedial actions.
36
- 37 II.P. MANIFEST SYSTEM
38
- 39 II.P.1. The Permittees shall comply with the manifest requirements
40 of WAC 173-303-370 for waste received from off-site and WAC
41 173-303-180 for waste shipped off-site.
42
- 43 II.P.2. Transportation of dangerous wastes along State Highways 240,
44 24, and 243, and Route 4 South (Stevens Drive) south of the
45 Wye Barricade, if such routes are not closed to general
46 public access at the time of shipment, shall be manifested
47 pursuant to Condition II.P.1.
48
- 49 II.Q. ON-SITE TRANSPORTATION
50

1 II.Q.1. Unless authorized otherwise by unit-specific Conditions in
2 Parts III or V, the Permittees shall maintain documentation
3 of all dangerous waste transported to or from any TSD unit
4 subject to this Permit. This documentation shall be
5 maintained in the receiving TSD unit's operating record from
6 the time the waste is received. This documentation must
7 accompany any on-site dangerous waste which is transported
8 through or within the 600 Area, unless the roadway is closed
9 to general public access at the time of shipment. Waste
10 transported by rail or by pipeline is exempt from this
11 Condition. This documentation shall include the following
12 information, unless other unit-specified provisions are
13 designated in Part III or V.

14
15 II.Q.1.a. Generator's name, location and telephone number;

16
17 II.Q.1.b. Receiving TSD unit's name, location, and telephone number;

18
19 II.Q.1.c. Description of waste;

20
21 II.Q.1.d. Number and type of containers;

22
23 II.Q.1.e. Total quantity of waste;

24
25 II.Q.1.f. Unit volume/weight;

26
27 II.Q.1.g. Dangerous waste number(s); and

28
29 II.Q.1.h. Any special handling instructions.

30
31 II.Q.2. All non-containerized solid, dangerous waste transported to
32 or from TSD units subject to this Permit shall be covered
33 such that no material can escape during transport.

34
35 II.R. EQUIVALENT MATERIALS

36
37 II.R.1. The Permittees may substitute an equivalent or superior
38 product for any equipment or materials specified in this
39 Permit. Use of equivalent or superior products shall not be
40 considered a modification of this Permit. A substitution
41 will not be considered equivalent unless it is at least as
42 effective as the original equipment or materials in
43 protecting human health and the environment.

44
45 II.R.2. The Permittees must place in the operating record (prior to
46 institution of such substitution) the substitution,
47 accompanied by a narrative explanation, and the date the
48 substitution became effective. The Department may judge the
49 soundness of the substitution and take appropriate action.
50

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1 II.R.3.

2 If the Department determines that a substitution was not
3 equivalent to the original, it may take enforcement action
4 against the Permittees. Such action may include, at a
5 minimum, requiring the Permittees to cease the use of the
6 substitute equipment or material.

7 II.S.

LAND DISPOSAL RESTRICTIONS

8
9 Unless specifically identified otherwise in the FFACO, the
10 Permittees shall comply with all Land Disposal Restriction
11 requirements as set forth in WAC 173-303-140.

12 II.T.

ACCESS AND INFORMATION

13
14 To the extent that work required by this Permit must be done
15 on property not owned or controlled by the Permittees, the
16 Permittees must utilize their best efforts to obtain access
17 and information at these locations.
18

19 II.U.

MAPPING OF UNDERGROUND PIPING

20 II.U.1.

21
22 Within 12 months of the effective date of the Permit, the
23 Permittee shall submit a report to the Department which
24 describes the procedures to be used to compile the
25 information required by Conditions II.U.2., II.U.3., and
26 II.U.4. The report shall describe the methods which will be
27 used to retrieve the piping information, the estimated
28 accuracy of the data to be provided, quality
29 assurance/quality control techniques to be employed
30 including field verification activities (i.e., surveying,
31 ground penetrating radar, etc.) to support information
32 gathered from existing drawings, and conceptual examples of
33 the product which will be submitted.
34

35 II.U.2.

36 Within 24 months of the effective date of this Permit, the
37 Permittees shall make an initial submittal to the Department
38 of maps showing the location of all dangerous waste
39 underground pipelines (including active, inactive, and
40 abandoned pipelines which contain or contained dangerous
41 waste subject to the provisions of Chapter 173-303 WAC) on
42 the Facility which are located outside of the fences
43 enclosing the 200 East, 200 West, 300, 400, 100N, and 100K
44 Areas. These maps shall identify the origin, destination,
45 size, depth and type (i.e., reinforced concrete, stainless
46 steel, cast iron, etc.) of each pipe and the location of
47 their diversion boxes, valve pits, seal pots, catch tanks,
48 receiver tanks, and pumps, utilizing Washington State Plane
49 Coordinates, NAD 83(91), meters. If the type of pipe
50 material is not documented on existing drawings, the most
probable material type shall be provided. These maps shall

1 be accompanied by a description of the quality assurance and
2 quality control measures used to compile the maps.

3
4 The age of all pipes required to be identified pursuant to
5 this Condition shall be documented in an attachment to the
6 submittal. If the age cannot be documented, an estimate of
7 the age of the pipe shall be provided based upon best
8 engineering judgement.

9
10 These maps, and any attachments, shall be maintained in the
11 Facility Operating Record and updated annually after the
12 initial submittal with new or revised information.

13
14 II.U.3.

15 Within 36 months of the effective date of this Permit, the
16 Permittees shall make an initial submittal to the Department
17 of piping schematics for all dangerous waste underground
18 pipelines (including active, inactive, and abandoned
19 pipelines which contain or contained dangerous waste subject
20 to the provisions of Chapter 173-303 WAC) within the 200
21 East, 200 West, 300, 400, 100N, and 100K Areas. The piping
22 schematics shall identify the origin, destination and
23 direction of flow for each pipe, as well as whether the pipe
24 is active, inactive, or abandoned. These diagrams need not
25 include the pipes within a fenced tank farm or within a
26 building/structure. These maps shall be accompanied by a
27 description of the quality assurance and quality control
28 measures used to compile the maps.

29 These diagrams, and any attachments, shall be maintained in
30 the Facility Operating Record and updated annually after the
31 initial submittal with new or revised information.

32
33 II.U.4.

34 Within 36 months of the effective date of this Permit, the
35 Permittees shall make an initial submittal to the Department
36 of maps showing the location of dangerous waste underground
37 pipelines (including active, inactive, and abandoned
38 pipelines which contain or contained dangerous waste subject
39 to the provisions of Chapter 173-303 WAC) within the 200
40 East, 200 West, 300, 400, 100N, and 100K Areas. These maps
41 will incorporate information available six months prior to
42 the scheduled submittal date. Thereafter, the maps will be
43 updated on an annual basis to incorporate additional
44 information, as such information becomes available in
45 accordance with the FFACO milestone schedule. A schedule
46 for the provision of map input shall be included in the
47 report specified in Condition II.U.1.

48 The maps shall identify the origin, destination, size, depth
49 and type (i.e., reinforced concrete, stainless steel, cast
50 iron, etc.) of each pipe and the location of their diversion

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1 boxes, valve pits, seal pots, catch tanks, receiver tanks,
2 and pumps, and utilize Washington State Plan Coordinates,
3 NAD 83(91), meters. If the type of pipe material is not
4 documented on existing drawings, the most probable material
5 type shall be provided. These maps need not include the
6 pipes within a fenced tank farm or within a
7 building/structure. These maps shall be accompanied by a
8 description of the quality assurance/quality control used to
9 compile the maps.

10
11 The age of all pipes required to be identified pursuant to
12 this Condition shall be documented in an attachment to the
13 submittal. If the age cannot be documented, an estimate of
14 the age of the pipe shall be provided based upon best
15 engineering judgement.

16
17 These diagrams, and any attachments, shall be maintained in
18 the Facility Wide Operating Record and updated annually
19 after the initial submittal with new or revised information.

20
21 II.V.

MARKING OF UNDERGROUND PIPING

22
23 Within 24 months of the effective date of this Permit, the
24 Permittees shall mark the underground pipelines identified
25 in Condition II.U.2. These pipelines shall be marked at the
26 point they pass beneath a fence enclosing the 200 East, 200
27 West, 300, 400, 100N or 100K Areas, at their origin and
28 destination, at any point they cross an improved road and
29 every 100 meters along the pipeline corridor where
30 practicable. The markers shall be labeled with a sign that
31 reads "Buried Dangerous Waste Pipe" and shall be visible
32 from a distance of 15 meters.

33
34 II.W.

OTHER PERMITS AND/OR APPROVALS

35
36 II.W.1.

37 To the extent that work required by this Permit must be done
38 under a permit and/or approval pursuant to other regulatory
39 authority, the Permittees shall use their best efforts to
40 obtain such permits. For the purposes of this Condition,
41 "best efforts" means submittal of a complete application for
42 the permit and/or approval in accordance with a schedule
43 approved by the Department. "Best efforts" also means
44 submittal of the complete application for the Permit and/or
45 approval with lead time for issuance of such permit and/or
46 approval as is typical for that action. Copies of all
47 documents relating to actions taken, pursuant to this
48 Condition, shall be kept in the unit-specific operating
49 record.

1 II.W.2.

2 All other permits incorporated into this Permit are
3 severable and enforceable through the permitting authority
4 under which they are issued.

5 II.W.3.

6 All air emissions from TSD units subject to this Permit
7 shall comply with all applicable State and federal
8 regulations pertaining to air emission controls, including
9 but not limited to, Chapter 173-400 WAC, General Regulations
10 for Air Pollution Sources; Chapter 173-460 WAC, Controls for
11 New Sources of Toxic Air Pollutants; and Chapter 173-480
12 WAC, Ambient Air Quality Standards and Emission Limits for
13 Radionuclides.

14 II.X.

SCHEDULE EXTENSIONS

15
16 II.X.1

17 To the extent that activities required by this Permit are
18 not completed in accordance with the schedules of this
19 Permit, and the Permittees can demonstrate to the
20 Department's satisfaction that the Permittees used best
21 efforts to accomplish the activity within the required
22 schedule, the Department may grant the Permittees an
23 extension to the schedule.

24 For purposes of this Condition "best efforts" means
25 performance of all activities necessary to award contracts
26 to outside contractors at the earliest opportunity after the
27 information necessary to award the contract is available to
28 the Permittees. "Best efforts" also means adequate
29 planning, adequate funding, adequate operator staffing, and
30 adequate laboratory and process controls when necessary to
31 meet the schedules of this Permit.

32
33 The Permittees shall notify the Department in writing as
34 soon as possible of any deviations or expected deviations
35 from the schedules of this Permit. The Permittees shall
36 include with the notification all information supporting
37 their claim that they have used best efforts to meet the
38 required schedules. If the Department determines that the
39 Permittees have made best efforts to meet the schedules of
40 this Permit, the Department shall notify the Permittees in
41 writing by certified mail that the Permittees have been
42 granted an extension. Such an extension shall not require a
43 permit modification under Condition I.C.3. Should the
44 Department determine that the Permittees have not made best
45 efforts to meet the schedules of this Permit, the Department
46 may take such action as deemed necessary.

47
48 Copies of all correspondence regarding schedule extensions
49 shall be kept in the Facility Operating Record.
50

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1 II.X.2 Any schedule extension granted through the approved change
2 control process identified in the FFACO shall be
3 incorporated into this Permit. Such a revision shall not
4 require a permit modification under Condition I.C.3.
5
6

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PART III - UNIT-SPECIFIC CONDITIONS FOR FINAL STATUS OPERATIONS

CHAPTER 1

616 Nonradioactive Dangerous Waste Storage Facility

The 616 Nonradioactive Dangerous Waste Storage Facility (NRDWSF) is an active storage unit for dangerous wastes that are shipped to off-site commercial treatment or disposal facilities. This Chapter sets forth the operating Conditions for this TSD unit.

III.1.A. COMPLIANCE WITH APPROVED PERMIT APPLICATION

The Permittees shall comply with all the requirements set forth in the *616 Nonradioactive Dangerous Waste Storage Facility Permit Application, Rev. 2*, as found in Attachment 8, including the amendments specified in Condition III.1.B. Enforceable portions of the application are listed below (All subsections, figures and tables included in these portions are also enforceable unless stated otherwise):

Part A Application

Section 2.1.3 The 616 Non-radioactive Dangerous Waste Storage Facility Description

Section 2.2 Topographic Maps

Section 2.5 Performance Standards

Section 2.7 Spills and Discharges Into the Environment

Section 2.8 Manifest System

Chapter 3.0 Waste Characteristics

Chapter 4.0 Process Information

Chapter 6.0 Procedures to Prevent Hazards

Chapter 7.0 Contingency Plan

Chapter 8.0 Personnel Training

Chapter 10.0 Waste Minimization Plan

Chapter 11.0 Closure and Postclosure Requirements

Chapter 12.0 Reporting and Recordkeeping

1 Section 13.7 Toxic Substance Control Act of 1976

2
3 Section 13.8 Other Requirements

4 Appendix 2A Drawing H-13-000014, 616 NRDWSF Topographic Map

5
6 Appendix 4A Construction Specification

7
8 Appendix 4B Drawing H-6-1553, Architectural Plan,
9 Elevations and Sections, Rev. 3

10 Appendix 4B Drawing H-6-1556, Structural Plan and Sections,
11 Rev. 2

12 Appendix 7A Building Emergency Plan - 616 Building

13 Appendix 11B Description of Procedures

14
15
16
17
18
19 III.1.B. AMENDMENTS TO THE APPROVED PERMIT APPLICATION

20
21 III.1.B.a. Page 2-7, line 25. The words "can be" are changed to "shall
22 be."

23
24 III.1.B.b. Page 2-16, line 45. An additional bullet is added to the
25 text which reads as follows: "In addition, all reporting
26 requirements identified in Conditions I.E.15-I.E.20 of this
27 Permit shall be complied with."

28
29 III.1.B.c. Page 2-17, line 24. The word "voluntarily" is deleted from
30 the text.

31
32 III.1.B.d. Page 2-17, line 26. The words "information on" is changed
33 to "requirements for."

34
35 III.1.B.e. Page 3-6, line 44. The term "Table 3-3" is deleted and
36 replaced with "Sections 3.2.2 through 3.2.4 and 3.2.6".

37
38 III.1.B.f. Page 3-7, lines 8-11. These lines are deleted and replaced
39 with the following:

40
41 "Prior to acceptance of wastes at 616 NRDWSF, confirmation
42 of designation may be required by Solid Waste Engineering
43 (Section 3.2.4). The wastes which undergo confirmation of
44 designation may be divided into two general groups; those
45 that easily yield a representative sample (Category I), and
46 those that do not (Category II). The steps for each type
47 are outlined below along with a description of which waste
48 fall into each category:
49

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- I. If a representative sample cannot be obtained (for example, discarded machinery or shop rags) or if the waste is a labpack or discarded chemical product, the following steps will be performed:
- a. Visually verify the waste. Labpacks and combination packages must be removed from the outer container. If the waste meets the parameters specified in its documentation, confirmation of designation is complete. If it does not meet these parameters, proceed to the next step. This is considered a significant error under Section 3.2.4.
 - b. If possible and necessary, segregate/repackage the waste for shipment in a compliant manner. If the waste is not packaged in compliance with shipping requirements, proceed to the next step.
 - c. The waste must be re-designated using methods identified in WAC 173-303-110.
- II. All wastes that do not fit in category I will undergo the following steps:
- a. A representative sample will be taken of the waste (if more than one phase is present, each phase must be tested individually), and the following field tests will be performed:
 - Reactivity - HAZCAT™ oxidizer, cyanide, and sulfide tests. These tests will not be performed on materials known to be organic peroxides, ethers, and/or water reactive compounds.
 - Flashpoint/explosivity - by HAZCAT™ flammability procedure B, explosive atmosphere meter,¹ or a closed cup flashpoint measurement instrument.¹
 - pH - by pH meter¹ or pH paper (SW-846 9041).² This test will not be performed on non-aqueous materials.
 - Halogenated organic compounds - by Chlor-D-Tect™ kits, or the HAZCAT™ fluoride, chlorine, bromine, and iodine tests.
 - Volatile organic compounds - by photo or flame ionization tester.¹

¹These instruments are field calibrated daily.

1 ²The pH paper must have a distinct color change every
2 0.5 pH unit and each batch must be calibrated versus
3 certified pH buffers or by comparison with a pH meter
4 calibrated with certified pH buffers.
5

6 If the waste meets the parameters specified in its
7 documentation, confirmation of designation is
8 complete. If it does not meet these parameters
9 proceed to the next step. This is considered a
10 significant error under Section 3.2.4.
11

12 b. Sample and analyze the materials in accordance with
13 WAC 173-303-110. See Table 3-4 for a list of
14 analytical methodologies and Table 3-5 for sampling
15 methodologies.
16

17 c. Re-assess and redesignate the waste. Repackage and
18 label as necessary or return to the generating unit.
19

20 At least half of the containers to undergo confirmation of
21 designation must fall into category II.
22

23 III.1.B.g. Page 3-7, line 17. The following line is added: "Petitions
24 to use an alternate test method shall be submitted in
25 accordance with WAC 173-303-910."
26

27 III.1.B.h. Page 3-7, line 18. The following paragraph is added: "All
28 analytical tests performed to fulfill the requirements of
29 Sections 3.2.4 and 4.1.1.8 (Frequency of Analysis and
30 Removal of Liquids from Containment System, respectively)
31 shall be performed in accordance with WAC 173-303-110. New
32 test methods shall be used within 90 days of the effective
33 date of the State regulations or laws that mandate the use
34 of the test method. To ensure analytical quality control,
35 all analyses must fulfill, at a minimum, the quality
36 procedures specified in SW-846 Volume II".
37

38 III.1.B.i. Page 3-7, line 33. The words "is adequate" are deleted and
39 replaced with "must be adequate."
40

41 III.1.B.j. Page 3-7, line 35. The words "is performed" are deleted and
42 replaced with "must be performed."
43

44 III.1.B.k. Page 3-7, line 40. The word "representative" is inserted
45 between the words "obtaining" and "samples."
46

47 III.1.B.l. Page 3-8, line 1. The following sentence is inserted before
48 the word "Appropriate": "To ensure sample quality control,
49 all sampling efforts must, at a minimum, be in accordance
50 with the procedures specified in SW-846."

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- 1 III.1.B.s. Page 4-5, line 4. Add the following after the word
2 "performed": "after determination by the Building Emergency
3 Director (BED) that implementation of the Emergency Plan
4 pursuant to Appendix 7A is not necessary or all necessary
5 actions in accordance with the Emergency Plan have been
6 implemented. Either case must be recorded and signed in the
7 Operating Record by the BED."
8
- 9 III.1.B.t. Page 4-5, line 12. The following sentence is added: "Any
10 waste releases for which remedial actions have not been
11 completed shall be reported in writing to the Department on
12 a monthly basis by the 21st of the subsequent month unless
13 specified otherwise in writing by the Department."
14
- 15 III.1.B.u. Page 4-5, line 32. The following sentence is added: "The
16 616 NRDSWF staff will ensure that waste is properly
17 packaged, labeled, marked and stored."
18
- 19 III.1.B.v. Page 4-5, line 46. The sentence "Wherever possible, organic
20 free water will be used as the collection medium to minimize
21 the generation of additional dangerous waste." is deleted.
22
- 23 III.1.B.w. Page 4-5, line 46. The following sentence is added after
24 "spilled material": "All samples taken to verify that the
25 site of a release is clean will be obtained in accordance
26 with the applicable standards of Section 11.1.5. et seq."
27
- 28 III.1.B.x. Figure 6-2, Section 2.0, Hallway. Revise the checklist to
29 read "Protective equipment supply present per the emergency
30 equipment list." This equipment shall be individually
31 inspected and documented by type, and be in adequate
32 condition, and in the quantities listed. The revised
33 checklist shall be submitted for approval to the Department
34 within 30 days of the effective date of this Permit.
35
- 36 III.1.B.y. Page 8-28, lines 5 through 8. These lines are deleted.
37
- 38 III.1.B.z. Chapter 11. All sampling and analyses necessary for soils
39 underneath a contaminated concrete layer must be performed
40 prior to removal of the overlying concrete. All soils which
41 exceed the clean closure standards of WAC 173-303-610(2)(b)
42 shall be managed in a manner analogous to that for
43 contaminated surrounding soil as described in Chapter 11 of
44 Attachment 8.
45
- 46 III.1.B.aa. Page 11-2, line 1. The words "In general," are deleted from
47 the text. The "t" on "these" is capitalized to read
48 "These".
49

- 1 III.1.B.bb. Table 11-1, page T11-1. In addition to the analyses in
2 Table 11-1, the concrete samples shall also be analyzed for
3 all dangerous waste constituents documented to have been
4 spilled at the 616 NRDWSF during its operating life. These
5 analyses shall be performed in accordance with WAC 173-303-
6 110 including the quality assurance and quality control
7 requirements delineated in SW-846. Action levels shall be
8 based on the level of quantitation for each analyte. Final
9 decisions based on health based standards shall be subject
10 to approval or rejection by the Department.
11
12 III.1.B.cc. Page 12-5, line 28. Replace the words "via line management,
13 that the" with "via line management, when the."
14
15 III.1.B.dd. Page 12-5, line 41. The words, "outside the Hanford
16 Facility" are deleted.
17
18 III.1.B.ee. Page 12-12, line 16. The last two sentences of this
19 paragraph are deleted.
20
21 III.1.B.ff. Table 12-1 "Reports and Records." A definition of the
22 footnote "a" is added to the bottom of the table as follows:
23
24 ** Hanford Facility means the reports and records are
25 available through the Facility Regulatory File index
26 pursuant to Section 12.0. Until the index is implemented,
27 reports and records will be available at the Facility, but
28 not necessarily at the 616 NRDWSF.
29
30 616 NRDWSF means the reports and records are available at
31 the 616 NRDWSF office".
32
33 III.1.B.gg. Chemical, biological, and physical analyses of the dangerous
34 waste to be handled at 616 NRDWSF pursuant to WAC 173-303-
35 806(4)(a), entitled "616 Nonradioactive Dangerous Waste
36 Facility Off-Site Shipping Lists," is found in Attachment 9
37 of this Permit.
38
39 III.1.B.hh. The description of procedures as referenced in Appendix 11B
40 are provided in various sections of *Procedure Description*,
41 January 13, 1991 (Attachment 10). The specific sections of
42 Attachment 10 which are incorporated into the Permit are
43 listed in Table III-1, below, by procedure. No part of
44 Attachment 10 shall supersede any part of Attachment 8.
45
46

47

Number	Procedure	Pages	Sections
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1	11B-1	Preparing Health and Safety Plan	1-4	1.0, 2.0, 3.0, 4.2, 5.0, 5.1, 5.2, 6.0, 6.1, 6.2
2	11B-2	Decontaminating Sampling Equipment	23-24	1.0, 2.0, 3.0, 5.2, 5.3, 6.1, 6.2, 6.3
3	11B-3	Evaluating Data	25-26, 28-29	1.0, 2.0, 3.0, 4.7, 5.0
4	11B-4	Packaging Samples	32-35	1.0, 4.0, 4.1, 5.0, 5.1, 5.2
5	11B-5	Soil and Sediment Sample Containers	6-11	1.0, 3.0, 4.2, 6.2, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8
6	11B-6	Ensuring Quality Control of Records and Documentation	70-77	1.0, 3.0, 4.0, 4.1, 4.2, 4.3, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 5.7, 6.0, 6.2, 6.3, 6.4, 6.5, 6.6
7	11B-7	Maintaining a Field Logbook	44-48	1.0, 3.0, 5.0, 5.1, 5.1.1, 5.1.2, 5.1.3, 5.1.4, 5.1.5, 6.0, 6.1, 6.2, 7.0
8	11B-8	Chain-of-Custody	39-43	1.0, 3.0, 4.0, 4.1, 4.2, 4.3, 4.4, 4.5, 5.0, 6.0, 6.1, 6.2, 6.3, 6.4, 6.5, 6.7
9	11B-9	Controlling Unknown Suspected Waste	49-59	1.0, 3.0, 4.1, 4.2, 4.3, 4.4, 4.5, 5.0, 5.1, 5.2, 6.0, 6.1, 6.2, 6.3, 6.4, 6.6, 6.7, 6.8, 6.9, 6.10, 6.11
10	11B-10	Deviating from Procedures Used During Closure	60-64	1.0, 2.0, 4.0, 4.2, 5.0, 5.1, 5.2, 5.2.1, 5.2.2, 5.3

11 Table III-1: Procedures from Attachment 10.

CHAPTER 2

305-B Storage Facility

The 305-B Storage Facility (305-B) is an active storage unit for dangerous wastes and mixed wastes. These wastes are derived primarily from research and development activities and laboratory activities in the 300 Area. This Chapter sets forth the operating Conditions for this TSD unit.

III.2.A. COMPLIANCE WITH APPROVED PERMIT APPLICATION

The Permittees shall comply with all the requirements set forth in the 305-B Storage Facility Dangerous Waste Permit Application, as found in Attachment 18 including the amendments specified in Condition III.2.B. Enforceable portions of the application are listed below (All subsections, figures, and tables included in these portions are also enforceable unless stated otherwise):

Part A Application

Section 2.1.2 The 305-B Storage Unit

Section 2.2.1 General Requirement

Section 2.5 Performance Standard

Section 2.6 Buffer Monitoring Zones

Section 2.7 Spills and Discharges Into the Environment

Section 2.8 Manifest System

Chapter 3.0 Waste Characteristics

Chapter 4.0 Process Information

Chapter 6.0 Procedures to Prevent Hazards

Chapter 7.0 Contingency Plan

Chapter 8.0 Personnel Training

Chapter 10.0 Waste Minimization Plans

Chapter 11.0 Closure and Postclosure Requirements

Chapter 12.0 Reporting and Recordkeeping

1 Section 13.8 Toxic Substances Control Act

2
3 Section 13.9 Other Requirements

4
5 Appendix 2A Hanford Site and 300-Area Topographic Maps,
6 Plates 2-2 Through 2-9

7
8 III.2.B. AMENDMENTS TO THE APPROVED PERMIT APPLICATION

9
10 III.2.B.a. For all shipments of waste to or from this TSD unit, 305-B
11 personnel shall comply with Conditions II.P. and II.Q. of
12 this Permit regarding waste shipment manifesting and
13 transportation.

14
15 III.2.B.b. Page 3-5, line 41. The following text is added: "The 305-B
16 personnel shall collect from the generating unit(s) the
17 information pursuant to 40 CFR 268.7(a) regarding Land
18 Disposal Restricted (LDR) wastes, the appropriate treatment
19 standards, whether the waste meets the treatment standards,
20 and the certification that the waste meets the treatment
21 standards, if necessary, as well as any waste analysis data
22 that supports the generator's determinations. If this
23 information is not supplied by the generating unit, then the
24 305-B personnel shall be responsible for completion and
25 transmittal of all subsequent information regarding LDR
26 wastes, pursuant to 40 CFR 268.7(b). All waste streams must
27 be re-characterized at least annually, or when generating
28 unit and/or 305-B personnel have reason to believe the waste
29 stream has changed, to determine compliance with LDR
30 requirements in 40 CFR 268."

31
32 III.2.B.c. Page 3-9, line 16. The following is added to the end of
33 this section: "Storage limits for all chemicals are listed
34 in Table 4-1, page 4-18, and 4-19, (Uniform Building Code,
35 Table numbers 9-A and 9-B). This table is incorporated into
36 this section by reference."

37
38 III.2.B.d. Page 3-10, line 27. The following paragraphs are
39 inserted into this section:

40
41 "Prior to acceptance of wastes at 305-B, confirmation of
42 designation may be required (Section 3.2.4). The wastes
43 which undergo confirmation of designation may be divided
44 into two general groups; those that easily yield a
45 representative sample (Category I), and those that do not
46 (Category II). The steps for each type are outlined below
47 along with a description of which waste fall into each
48 category:
49

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- I. If a representative sample cannot be obtained (for example, discarded machinery or shop rags) or if the waste is a labpack or discarded chemical product, the following steps will be performed:
- a. Visually verify the waste. Labpacks and combination packages must be removed from the outer container. If the waste meets the parameters specified in its documentation, confirmation of designation is complete. If it does not meet these parameters, proceed to the next step.
 - b. If possible and necessary, segregate/repackage the waste for shipment in a compliant manner. If the waste is not packaged in compliance with shipping requirements, proceed to the next step.
 - c. The waste must be re-designated using methods identified in WAC 173-303-110.
- II. All wastes that do not fit in category I will undergo the following steps:
- a. A representative sample will be taken of the waste (if more than one phase is present, each phase must be tested individually), and the following field tests will be performed:
 - Reactivity - HAZCAT™ oxidizer, cyanide, and sulfide tests. These tests will not be performed on materials known to be organic peroxides, ethers, and/or water reactive compounds.
 - Flashpoint/explosivity - by HAZCAT™ flammability procedure B, explosive atmosphere meter,¹ or a closed cup flashpoint measurement instrument.¹
 - pH - by pH meter¹ or pH paper (SW-846 9041).² This test will not be performed on non-aqueous materials.
 - Halogenated organic compounds - by Chlor-D-Tect™ kits, or the HAZCAT™ fluoride, chlorine, bromine, and iodine tests.
 - Volatile organic compounds - by photo or flame ionization tester.¹

¹These instruments are field calibrated daily.

²The pH paper must have a distinct color change every 0.5 pH unit and each batch must be calibrated versus

1 certified pH buffers or by comparison with a pH meter
2 calibrated with certified pH buffers.

3
4 If the waste meets the parameters specified in its
5 documentation, confirmation of designation is
6 complete. If it does not meet these parameters
7 proceed to the next step.

- 8
9 b. Sample and analyze the materials in accordance with
10 WAC 173-303-110. See Table 3-2 for a list of
11 analytical methodologies.
12
13 c. Re-assess and redesignate the waste. Repackage and
14 label as necessary or return to the generating unit.

15
16 At least half of the containers to undergo confirmation of
17 designation must fall into category II.

18
19 III.2.B.e. Page 3-10, line 32. The following is added to the end of
20 this section: "Wastes must be analyzed using the TCLP in
21 accordance with Appendix II of 40 CFR 261, as amended, in
22 order to provide sufficient information for proper management
23 and for decisions regarding Land Disposal Restrictions
24 pursuant to 40 CFR 268."

25
26 III.2.B.f. Page 3-16, lines 24-28. Replace the existing language with:
27
28 "At least five percent (5%) of the waste containers stored
29 at 616 NRDWSF during a federal fiscal year (October 1
30 through September 30) will undergo confirmation of
31 designation pursuant to Sections 3.2.2 and 3.2.3 (Test
32 Methods and Sampling Methods, respectively). The number of
33 containers to meet the 5% requirement is the average of
34 containers for the previous three months. For example, if
35 200 containers are received in January, 180 in February, and
36 220 in March then 10 containers of inbound waste must
37 undergo confirmation of designation in April. All
38 generating units which ship more than twenty (20)
39 containers through 616 NRDWSF in a fiscal year will have at
40 least one (1) container sampled and analyzed. Containers
41 for which there is insufficient process knowledge or
42 analytical information to designate without sampling and
43 analysis may not be counted as part of the five (5) percent
44 requirement unless there is additional confirmation of
45 designation independent of the generator designation. The
46 generating unit's staff shall not select the waste
47 containers to be sampled and analyzed other than identifying
48 containers for which insufficient information is available
49 to designate".
50

- 1 "Unopened containers of chemicals intended for recycling
2 must be dated upon receipt at the 305-B and may be held for
3 one year or less. Unopened containers, properly dated, are
4 exempted from this Condition, unless they exceed the one-
5 year time period. Upon exceeding the one-year period, these
6 containers must be included in the verification sampling as
7 required by this Condition."
8
- 9 III.2.B.g. Page 4-1, line 30. "and -630" is added after "WAC 173-303-
10 190" in this sentence.
- 11
12 III.2.B.h. Page 4-1, line 45. Added to the end of this section is the
13 following sentence: "Containers utilized for off-site
14 shipment shall also comply with WAC 173-303-190(2) and (3).
15 305-B personnel shall comply with WAC 173-303-190(4)."
16
- 17 III.2.B.i. Page 4-24, line 21. The following paragraph is added to the
18 end of Section 4.1.1.8.: "Verification sampling shall be
19 carried out in accordance with Section 11.1.4.4. (Methods
20 for sampling and testing to demonstrate success of
21 decontamination)."
22
- 23 III.2.B.j. Page 7-3, line 1. This line is deleted.
- 24
25 III.2.B.k. Page 7-3, line 28. The following is added to the end of
26 this Section: "The names and work phone numbers of the 305-B
27 Emergency Coordinator(s) shall be submitted to Ecology and
28 the EPA and kept at the Single Point contact and with the
29 contingency plan at the 305-B Unit."
30
- 31 III.2.B.l. Page 7-6, line 2. The following is added to this Section:
32 "Samples of spilled or released material(s) shall be taken
33 in accordance with WAC 173-303-110 and analyzed in
34 accordance with WAC 173-303-110 and SW-846 (EPA)."
35
- 36 III.2.B.m. Page 7-13, line 46. The last sentence in this Section is
37 deleted. Added to the end of the previous sentence is the
38 following: "pursuant to WAC 173-303-360(2)(j)."
39
- 40 III.2.B.n. Page 7-23, line 35. The following bullet is added to this
41 Section: "All local police and fire departments, hospitals,
42 and State and local response teams that may be called upon
43 to provide emergency services."
44
- 45 III.2.B.o. Page 8-2, line 28. The "I"s are replaced by "A"s on this
46 line, changing the training frequency for Hazardous Waste
47 Shipment Certification from initially to annually.
- 48
49 III.2.B.p. Page 8-2, line 30. A "B" is inserted replacing the "N"
50 under the vertical column for TS (Waste Management

- 1 Technicians and Technical Specialists), requiring that they
2 receive Radioactive Material Shipping Representative
3 training biennially. The footnote "4" is removed from the
4 "E" vertical column.
5
6 III.2.B.q. Page 11-1, line 44. Added to the end of this Section is the
7 following: "Spill reports and logs shall be consulted to
8 determine potential areas of contamination."
9
10 III.2.B.r. Page 11-3, line 51. Prior to the words "will also be
11 performed.", the following is added: "or areas of documented
12 spills or releases."
13
14 III.2.B.s. Page 11-8, lines 4 and 7. The following language is
15 inserted after the words Low-Level Radioactive on line 4 and
16 Nonregulated on line 7, respectively, replacing the current
17 language: "Shall be handled in accordance with the liquid
18 effluent consent order (No. DE 91NM-177) and Milestone M-17
19 of the Hanford Federal Facility Agreement and Consent
20 Order."
21
22 III.2.B.t. Page 11-8, line 25. Prior to the words ". . . will also be
23 performed", the following is added: "or areas of documented
24 spills or releases."
25
26 III.2.B.u. Page 11-14, line 39. The words "annually during closure
27 activities" are deleted from the end of this sentence and
28 replaced with: "in accordance with Condition II.H.1." of
29 this Permit.
30
31 III.2.B.v. Page 12-1, lines 7-9. The sentence beginning "Many of the
32 records. . ." is deleted.
33
34 III.2.B.w. Page 12-4, line 52. The following is inserted into this
35 section: "Entries into the operating record pursuant to WAC
36 173-303-145(2)(d) . . . Life of Facility . . . Hanford
37 Site."
38
39 III.2.B.x. Page 12-10, line 37. Added to the end of this sentence is
40 the following: "and Condition I.E.15. of the Facility Wide
41 Permit."
42
43 III.2.B.y. Page 12-12, line 48. A bullet is added to this Section
44 stating: "An account of spills or discharges in accordance
45 with WAC 173-303-145."
46
47 III.2.B.z. Page 13-1, line 3. The first sentence is deleted.
48
49 III.2.B.aa. Page 13-2, line 42. This sentence is deleted and replaced
50 with the following: "Wastes containing polychlorinated

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Revised Draft
November 24, 1993

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biphenyls (PCB), which are subject to regulation under the Toxic Substances Control Act (TSCA), are stored in the 305-B Storage Unit. These wastes are stored for periods less than one (1) year before shipment to a disposal facility permitted under TSCA. Storage of PCB wastes in 305-B for periods less than one (1) year will continue to be done in compliance with applicable TSCA regulations in 40 CFR Part 761."

PART IV - CORRECTIVE ACTIONS FOR PAST PRACTICE

1
2
3 IV.A. INCORPORATION OF CORRECTIVE ACTION REQUIREMENTS

4
5 The HSWA Permit issued by the U.S. Environmental Protection
6 Agency, is hereby incorporated by reference. Compliance
7 with the terms of the referenced provisions, shall be deemed
8 as compliance with WAC 173-303-645(12).
9

10 IV.B. MODIFICATION OF PERMIT FOR CORRECTIVE ACTION REQUIREMENTS

11
12 Upon delegation of the Corrective Action requirements of the
13 HSWA by the Agency to the Department, the Permit shall be
14 modified to incorporate the specific requirements of the
15 HSWA Permit into this Permit. This modification shall be
16 considered a Class 3 modification in accordance with
17 Condition I.C.3. Until this modification is complete, the
18 Permittees shall comply with all terms of the HSWA Permit.

PART V - UNIT-SPECIFIC CONDITIONS FOR UNITS UNDERGOING CLOSURE

CHAPTER 1

183-H Solar Evaporation Basin

The 183-H Solar Evaporation Basins (Basins) comprise an inactive TSD unit that is currently undergoing permanent closure activities. This TSD unit was operated as an evaporation treatment unit for dangerous wastes. This Chapter sets forth the closure requirements for this TSD unit.

V.1.A. COMPLIANCE WITH APPROVED CLOSURE PLAN

The Permittees shall comply with all requirements set forth in the *183-H Solar Evaporation Basins Closure Plan/Postclosure Plan (Plan)*, found in Attachment 11, including the amendments specified in Condition V.1.B. Enforceable portions of the Plan are listed below (All subsections, figures, and tables included in these portions are also enforceable unless stated otherwise):

Part A Application

Section I. General Closure Requirements, Introduction
(Pages I-1 through I-6)

Section I.A-1. Minimize need for Post-closure maintenance and Controls

Section I.A-2. Minimize Post-closure Escape of Dangerous Waste

Section I.B. Content of Closure Plan

Section II.B-1. Preliminary Cover Design

Section III.A-1. Inspection Plan

Section III.A-2g. Monitoring Plan Proposed to be Conducted Until Issuance of Final status Post-closure Permit

Section III.A-3. Maintenance Plan

Section III.B. Personnel Training

Section III.C. Procedures to Prevent Hazards

Section III.D. Post-closure Contact

- 1 Section III.E. Amendment of Post-closure Plan
2
3 Section III.F. Certification of Completion of Post-closure
4 Care
5
6 Appendix A Topographical Maps
7
8 Appendix L Procedures for Sample Collection, Chain of
9 Custody, and Field Measurements
10
11 Appendix M Analytical Methods and Quality Control
12 Procedures
13
14 Appendix N Personnel Training for Closure Activities
15
16 V.1.B. AMENDMENTS TO THE APPROVED CLOSURE PLAN
17
18 V.1.B.a. Page I-1, lines 9-12. The sentence found here is deleted
19 and replaced with the following: "Additionally, the 183-H
20 Basins will be closed in accordance with the most current
21 version of all applicable environmental regulations and laws
22 as well as the FFACO. New or modified regulations and laws
23 may require closure activities and/or the closure plan to be
24 modified."
25
26 V.1.B.b. Page I-108, line 46. The reference to WAC 173-303-700 is
27 deleted.
28
29 V.1.B.c. Page I-150, line 53. The date of "October 1991" is deleted
30 and replaced with "the first October after the effective
31 date of this Permit".
32
33 V.1.B.d. Page III-77, line 5. The phone number (509) 376-5411 is
34 changed to (509) 376-6628.
35
36 V.1.B.e. A copy of any Unusual Occurrence Report or Off Normal
37 Occurrence Report issued after approval of the Plan which is
38 directly related to Basin closure shall be provided to the
39 Department's Basin unit manager within seven (7) days after
40 issuance. This does not relieve the Permittees from any
41 other reporting requirements specified in Part I or II of
42 this Permit.
43
44 V.1.B.f. Annual closure cost estimates shall be provided to the
45 Department as described in Section I.C.4. of this closure
46 plan and Condition II.H.1. of this Permit.
47
48 V.1.B.g. A written notification that closure has begun and will be
49 conducted in accordance with the Plan, including these
50 conditions to the Plan, shall be submitted to the Department

- 1 within 30 days after the Plan is approved through issuance
2 of this Permit.
3
- 4 V.1.B.h. Concrete sampling and analyses activities (basin and
5 background sampling) shall be conducted as described within
6 the Plan and as augmented by the Decommissioning Work Plan
7 (DWP) entitled "Concrete Sampling - 183-H Solar Evaporation
8 Basins" (DWP-H-080-00001) as found in Attachment 12 of this
9 Permit.
- 10
- 11 V.1.B.i. Soil sampling and analyses activities (including Phases I
12 and II, berm and background sampling) shall be conducted as
13 described within the Plan and as augmented by DWP-H-080-
14 00005 entitled "Core Drill Sampling - 183-H Solar
15 Evaporation Basins (Phase I)", the Westinghouse Hanford
16 Company document WHC-SD-EN-AP-056 entitled "183-H Solar
17 Evaporation Basins Vadose Zone Sampling Plan", and DWP-H-
18 026-00008 entitled "Berm Removal For 183-H Solar Evaporation
19 Basins" as found in Attachments 13, 14, and 15,
20 respectively, of this Permit.
- 21
- 22 V.1.B.j. The results of Basin concrete sampling (including background
23 sampling) shall be received by the Department within 30 days
24 of the effective date of this Permit. This submittal shall
25 include the raw analytical data, a summary of analytical
26 results, a data validation package, and a narrative summary
27 with conclusions.
- 28
- 29 V.1.B.k. The results of Basin soil sampling (including Phases I and
30 II, berm and background sampling) shall be received by the
31 Department within 30 days of the effective date of this
32 Permit. This submittal shall include the raw analytical
33 data, a summary of analytical results, a data validation
34 package, and a narrative summary with conclusions.
- 35
- 36 V.1.B.l. The Department shall be provided, for review and approval, a
37 sampling plan and the date of sampling for any sampling
38 event not addressed above which provides data used to
39 support Basin closure activities at least 30 days prior to
40 initiating actual sampling activities. This condition
41 applies to, but is not limited to, equipment and non-
42 concrete structural sampling and verification sampling. The
43 results of this sampling shall be submitted to the
44 Department. These submittals shall include the raw
45 analytical data, a summary of analytical results, a data
46 validation package, and a narrative summary with
47 conclusions.
- 48
- 49 V.1.B.m. The Permittees shall submit to the Department, for approval,
50 a notification indicating which closure option identified in

1 Condition II.K. of this Permit will be utilized for the
2 Basins. This notification shall be submitted at least 60
3 days prior to implementation of the option and shall be
4 accompanied by the technical and regulatory justification
5 for choosing the closure option along with any supporting
6 documentation including, if necessary, the result of
7 sampling per Conditions V.l.B.h. through V.l.B.l. This
8 notification shall also be accompanied by a revised Figure
9 I.B-20 of the Plan indicating a new closure schedule;
10 however, the date of final closure shall not exceed six
11 months after the effective date of this Permit.
12 Implementation of the option cannot commence until receipt
13 of the Department's written approval for the closure option.
14

15 V.l.B.n.

15 Regardless of the option chosen from Condition II.K., the
16 Permittees and the independent, registered, professional
17 engineer certifications of closure shall be prepared and
18 submitted to the Department within 60 days of closure as
19 described in Section I.C-1. of the closure plan.
20

21 V.l.B.o.

21 If a landfill closure is chosen, the definitive design
22 documents, construction specifications, construction
23 drawings, and construction quality assurance plans for any
24 engineered system (including a final cover system) shall be
25 submitted to the Department pursuant to Condition I.C.3.
26

27 V.l.B.p.

27 After review of the documents identified in Condition
28 V.l.B.o., the Department may issue a unit-specific
29 Construction Inspection Plan (CIP). If the Department
30 chooses to issue a CIP, the Department shall be provided
31 with all submittals and notifications required by the CIP
32 and within the time period identified in the CIP.
33

34 V.l.B.q.

34 If a landfill closure is chosen, notification of any of the
35 following occurrences shall be provided to the Department
36 within 30 days of observance until a postclosure permit is
37 issued: settlement/sedimentation in the final cover greater
38 than one (1) foot; actual vegetative cover canopy on the
39 final cover less than 50 percent of a typical Hanford cover
40 canopy six (6) months after closure; erosion of the final
41 cover greater than six (6) inches; tampering or damage to
42 wells or well heads. The notification must include the
43 extent and cause of the occurrence as well as actions taken
44 (or to be taken) to mitigate the occurrence.
45

46 V.l.B.r.

46 If a modified closure is chosen, the Permittees shall
47 request any reduction of landfill requirements identified in
48 the Plan pursuant to Condition I.C.3. This request shall be
49 based upon the quantity and concentration of contamination
50 which will remain in place.

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- V.1.B.s. If a modified closure or landfill closure is chosen, a survey plat shall be prepared and submitted to the Department, and the Benton County Planning Department no later than 60 days after certification of closure as described in Section I.C-2. of the Plan.
- V.1.B.t. If a modified closure or a landfill closure is chosen, a notice on the deed to the property shall be prepared and submitted to the Auditor of Benton County no later than 60 days after certification of closure as described in Section I.C-3. of the Plan. No later than 30 days after submitting this notice, a certification signed by the Permittees must be submitted to the Department that the notification has been recorded along with a copy of the notice itself.
- V.1.B.u. If a modified closure or landfill closure is chosen, a revision to the "Final Status Postclosure Permit Application, 183-H Solar Evaporation Basins" (June 1988), shall be submitted pursuant to Condition I.C.3. within 12 months of the Department's approval of the closure option.
- V.1.B.v. Quarterly and annual ground water monitoring reports for the wells specified in the Plan shall continue to be submitted to the Department until clean closure is acknowledged by the Department in writing or as specified otherwise in a Basin postclosure permit.

CHAPTER 2

300 Area Solvent Evaporator

The 300 Area Solvent Evaporator (300 ASE) is an inactive treatment unit which is currently undergoing permanent closure activities. This TSD unit was operated as an evaporation treatment unit for dangerous wastes. This Chapter sets forth the closure requirements for this TSD unit.

V.2.A.

COMPLIANCE WITH THE APPROVED CLOSURE PLAN

The Permittees shall comply with all the requirements set forth in the 300 Area Solvent Evaporator Closure Plan (Plan), as found in Attachment 16, including the amendments specified in Condition V.2.B. Enforceable portions of the Plan are listed below (All subsections, figures, and tables included in these portions are also enforceable unless stated otherwise):

Part A Application

Section 1.1.1 Location and General Description

Section 1.1.2 The 300-Area Solvent Evaporator

Section 1.2 Security Information

Chapter 2.0 Closure Performance Activities

Chapter 3.0 Description of Closure Activities

Chapter 4.0 Certification of Closure

Chapter 5.0 Post-closure

Chapter 6.0 Procedures to Prevent Hazards

Chapter 7.0 Contingency Plan

Chapter 8.0 Personnel Training

Section 9.8 Other Requirements

Appendix E Soil and Concrete Sampling and Analysis Plan for the 300 Area Solvent Evaporator

V.2.B.

AMENDMENTS TO THE APPROVED CLOSURE PLAN

- 1 V.2.B.a. A written notification that closure has begun and will be
2 conducted in accordance with the Plan, including these
3 Conditions to the Plan, shall be submitted to the Department
4 within 30 days after the Plan is approved through issuance
5 of this Permit.
6
- 7 V.2.B.b. The results of all sampling required by this Plan shall be
8 provided to the Department. This submittal shall include
9 the raw analytical data, a summary of analytical results, a
10 data validation package, and a narrative summary with
11 conclusions.
12
- 13 V.2.B.c. The Department shall be provided, for review and approval, a
14 sampling plan and the date of sampling for any sampling
15 event not addressed in the Plan which provides data used to
16 support 300 ASE closure activities at least 30 days prior to
17 initiating actual sampling activities. The results of this
18 sampling shall be submitted to the Department. These
19 submittals shall include the raw analytical data, a summary
20 of analytical results, a data validation package, and a
21 narrative summary with conclusions.
22
- 23 V.2.B.d. Annual cost estimates shall be provided to the Department as
24 described in Section 5.2. of this closure plan and Condition
25 II.H.1. of this Permit.
26
- 27 V.2.B.e. The Permittees shall notify the Department, in writing, if
28 the initial action levels in Table 3-2 of the Plan are
29 exceeded. The notification shall either include a request
30 for the Department's approval of alternative action levels
31 or identify the interim measures to be taken at the 300 ASE
32 until closure activities are performed in conjunction with
33 the 300-FF-2 Operable Unit.
34
- 35 V.2.B.f. The Permittees and the independent, registered, professional
36 engineer certifications of closure shall be prepared and
37 submitted to the Department by registered mail within 60
38 days of closure as described in Section 4.0. of the Plan.
39 The Permittees shall continue to address the 300 ASE as a
40 dangerous waste management unit until receipt of the
41 Department's written notification that the 300 ASE is
42 accepted as clean closed.
43
- 44 V.2.B.g. The Permittees shall complete 300 ASE closure activities
45 within 180 days after the effective date of this Permit.

CHAPTER 3

2727-S Nonradioactive Dangerous Waste Storage Facility

The 2727-S Nonradioactive Dangerous Waste Storage Facility (2727-S) is an inactive storage unit which is currently undergoing permanent closure activities. This TSD unit was operated as a storage unit for dangerous wastes. This Chapter sets forth the closure requirements for this TSD unit.

V.3.A. COMPLIANCE WITH THE APPROVED CLOSURE PLAN

The Permittees shall comply with all the requirements set forth in the 2727-S Nonradioactive Dangerous Waste Storage Facility Closure Plan (Plan), as found in Attachment 17, including the amendments specified in Condition V.3.B. Enforceable portions of the Plan are listed below (All subsections, figures, and tables included in these portions are also enforceable unless stated otherwise):

Part A Application

Section 1.1 Location Information

Section 1.2 Security

Section 1.3 Facility Description and Operations

Chapter 2.0 Closure Performance Standard

Chapter 4.0 Closure Activities

Chapter 5.0 Contingency Plan

Chapter 6.0 Training Requirements

Chapter 7.0 Closure Plan Schedule

Appendix F Sampling and Handling Procedures

Appendix G Quality Assurance Project Plan

Appendix H Personnel Training

Appendix I Certification Statements

V.3.B. AMENDMENTS TO THE APPROVED CLOSURE PLAN

V.3.B.a. A written notification that closure has begun and will be conducted in accordance with the Plan, including these

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- 1 Conditions to the Plan, shall be submitted to the Department
2 within 30 days after the Plan is approved through issuance
3 of this Permit.
4
- 5 V.3.B.b. The results of all sampling required by this Plan shall be
6 provided to the Department. This submittal shall include
7 the raw analytical data, a summary of analytical results, a
8 data validation package, and a narrative summary with
9 conclusions.
10
- 11 V.3.B.c. The Department shall be provided, for review and approval, a
12 sampling plan and the date of sampling for any sampling
13 event not addressed in the Plan which provides data used to
14 support 2727-S closure activities at least 30 days prior to
15 initiating actual sampling activities. The results of this
16 sampling shall be submitted to the Department. These
17 submittals shall include the raw analytical data, a summary
18 of analytical results, a data validation package, and a
19 narrative summary with conclusions.
20
- 21 V.3.B.d. Annual cost estimates shall be provided to the Department as
22 described in Section 4.6. of this closure plan and Condition
23 II.H.1. of this Permit.
24
- 25 V.3.B.e. The Permittees shall notify the Department, in writing, if
26 background concentrations cannot be achieved. The
27 notification shall include a justification for not
28 completing clean closure requirements and a plan to address
29 dangerous waste postclosure requirements at 2727-S.
30
- 31 V.3.B.f. The Permittees and the independent, registered, professional
32 engineer certifications of closure shall be prepared and
33 submitted to the Department by registered mail within 60
34 days of closure as described in Section 4.7 of the Plan.
35 The Permittees shall continue to address 2727-S as a
36 dangerous waste management unit until receipt of the
37 Department's written notification that 2727-S is accepted as
38 clean closed.
39
- 40 V.3.B.g. The Permittees shall complete 2727-S closure activities
41 within 180 days after the effective date of this Permit.
42

2007-2013

**HAZARDOUS AND SOLID WASTE AMENDMENTS PORTION
OF THE RESOURCE CONSERVATION AND RECOVERY ACT PERMIT
FOR THE TREATMENT, STORAGE, AND DISPOSAL OF HAZARDOUS WASTE**

**U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE, HW-112
SEATTLE, WASHINGTON
(206) 553-1261**

Issued in accordance with the applicable provisions of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA) and the Hazardous and Solid Waste Amendments of 1984 (HSWA), and the regulations promulgated thereunder in Title 40 of the Code of Federal Regulations.

**ISSUED TO: U.S. DEPARTMENT OF ENERGY
RICHLAND OPERATIONS OFFICE
825 JADWIN AVENUE
RICHLAND, WASHINGTON 99352
EPA I.D. Number: WA7 89000 8967**

This permit is effective as of _____, and shall remain in effect until _____, unless revoked and reissued (40 CFR § 270.41), terminated (40 CFR § 270.43), or continued in accordance with 40 CFR § 270.51.

ISSUED BY THE ENVIRONMENTAL PROTECTION AGENCY

**Randall F. Smith, Director
Hazardous Waste Division,
Environmental Protection Agency
Region 10**

Date

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INTRODUCTION

Permittee: US Department of Energy
EPA I.D. No.: WA7 89000 8967

Pursuant to the Solid Waste Disposal Act (42 U.S.C. § 3251 et seq.), as amended by the Resource Conservation and Recovery Act of 1976 (42 U.S.C. § 6901 et seq., commonly known as "RCRA"), and the Hazardous and Solid Waste Amendments of 1984 ("HSWA") and regulations promulgated thereunder by the U.S. Environmental Protection Agency (EPA), which are codified and, to be codified in Title 40 of the Code of Federal Regulations ("CFR"), a HSWA permit is issued to the U.S. Department of Energy (hereafter called the "Permittee"), who owns and operates a dangerous waste treatment, storage and disposal facility located at Richland, Washington.

This HSWA Permit issued in accordance with 40 CFR § 271.19(f) and in conjunction with the Dangerous Waste Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Dangerous Waste (Dangerous Waste Permit), issued by the Washington State Department of Ecology, constitutes the RCRA permit for this facility. Use of the term "Permit" within the HSWA Permit shall refer to the HSWA Permit while use of the term "Permit" in the Dangerous Waste Permit shall refer to the Dangerous Waste Permit.

The Permittee, pursuant to this permit, shall be required to investigate any releases of hazardous waste or hazardous constituents (from any Solid Waste Management Unit (SWMU)) at the facility regardless of the time at which waste was placed in such unit. The Permittee shall be required to take corrective action for any such releases on-site and/or off-site where necessary to protect human health and the environment. The Permittee shall also be required to comply with all land disposal restrictions applicable to this facility as set forth in the FFACO, and to certify annually that on-site generation of hazardous waste is minimized to the extent practicable.

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein and applicable regulations contained in 40 CFR Parts 124, 260 through 264, 266, 268, and 270. Nothing in this permit shall preclude the Administrator from reviewing and modifying the permit at any time during its term in accordance with 40 CFR § 270.41.

Applicable federal regulations are those which are in effect on the date of final administrative action on this permit and any self implementing statutory provisions and related regulations

which, according to HSWA are automatically applicable to the Permittee's dangerous waste management activities, notwithstanding the conditions of this Permit.

This permit is based on the administrative record and the assumption that information and reports submitted to date, and subsequent to issuance of this permit, by the Permittee, are accurate. Any inaccuracies found in this information may be grounds for termination or modification of this permit, in accordance with 40 CFR §§ 270.41, 270.42, and 270.43 and potential enforcement action. The Permittee must inform EPA of any deviation from or changes in the information in the application, which would affect the Permittee's ability to comply with the applicable regulations or permit conditions, or which may affect substantive provisions of the permit.

During the lifetime of this Permit, the state of Washington may become authorized pursuant to Section 3006 of RCRA, as amended, to issue the Hazardous and Solid Waste Amendments (HSWA) portion of RCRA Permits. This authorization shall not change the conditions of this permit in any substantive manner. However, any citations to federal statutes or regulations shall become citations to equivalent state statutes or regulations. Any citations to the Agency and the Department, or to the Administrator and the Director, shall become citations to the Department and the Director. Upon delegation of the Corrective Action requirements of the HSWA by the Agency to the Department, the RCRA permit shall be modified to incorporate the specific requirements of the HSWA permit into the Department's Dangerous Waste Permit. This modification shall be considered a Class 3 modification in accordance with Dangerous Waste Permit Condition I.C.3. The Agency shall maintain an oversight role of the state authorized program and, in such capacity, may enforce any Federally required permit condition based on equivalent state requirements, if in the Agency's judgment, the Department should fail to enforce that permit condition.

DEFINITIONS

For purposes of this permit, the following definitions shall apply:

- a. **"Action Levels"** shall mean those specified concentration levels for constituents in groundwater in an aquifer, surface water, soil or air, which, when exceeded by releases of constituents from a solid waste management unit or RCRA Past Practice unit at a facility, may require corrective action.
- b. **"Administrator"** shall mean the Administrator of the U.S. Environmental Protection Agency (EPA) or a designated representative. The Director, Hazardous Waste Division, EPA Region 10 (with the address as specified on page one of this permit) is a duly authorized and designated representative of the Administrator for purposes of this permit.
- c. **"Agency"** shall mean the U.S. Environmental Protection Agency, Region 10 (with the address specified on page one of this permit).
- d. **"Corrective Action Management Unit (CAMU),"** shall mean an area within a facility that is designated by the Administrator under Part 264 Subpart S, for the purpose of implementing corrective action requirements under 40 CFR § 264.552 and Section 3008(h) of RCRA, 42 U.S.C. § 6928(h). A CAMU shall only be used for the management of remediation wastes, which may include wastes generated as part of CERCLA response actions as well as wastes generated as part of in lieu of RCRA corrective actions, pursuant to implementing such corrective action requirements at the facility.
- e. **"Director"** shall mean the Director of the Washington State Department of Ecology or a designated representative of the Director for purposes of this permit.
- f. **"Department"** shall mean the Washington State Department of Ecology (with the address specified on page fifteen of this permit).
- g. **"facility"** or **"site"** shall mean, for purposes of implementing corrective action under 40 CFR § 264.101, all contiguous property under the control of the owner or operator seeking a permit under Subtitle C of RCRA or facilities implementing corrective action under RCRA Section 3008(h). The facility shall mean that portion of the approximately 560 square miles in Southeastern Washington State including leased lands, which is owned by the United States Department of Energy and which is commonly known as the Hanford Reservation. The facility includes that identified in the physical description of the contiguous property (including structures, appurtenances, and improvements) used to manage dangerous waste. For purposes

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of corrective action the Hanford Federal Facility property description is as set forth in Attachment 2 of the Department portion of the RCRA permit (Dangerous Waste Permit) and shall include Parcels B~~7~~-C, B~~7~~ E, F, and G.

- h. "FFACO" means the Hanford Federal Facility Agreement and Consent Order, as amended.
- i. "Hazardous Constituent" means any constituent identified in Appendix VIII of 40 CFR Part 261, or any constituent identified in Appendix IX of 40 CFR Part 264.
- j. "Information Repository" shall mean a repository which is accessible to interested parties which contains or provides access to data, documents, reports, and other public information relevant to the public understanding of the activities, findings, and plans for and developed pursuant to corrective action investigations and activities for specific units as identified in the FFACO or in Part III of the HSWA permit.
- k. "Lessee" shall mean the entity or entities that hold real property under the terms of a written lease executed by the Permittee. This term shall also include any sublessee that holds real property under the terms of a written lease executed by the Permittee's lessee.
- l. "Permittee" shall mean the United States Department of Energy holding the legal title to the land subject to corrective action requirements.
- m. "Raw Data" shall mean laboratory reports, drilling logs, and other supporting information generated from investigations and available to the Permittee.
- n. "RCRA Past Practice Units" shall mean any waste management unit, with exception of regulated (i.e. TSD) units, as defined by the FFACO, the investigation of which will be addressed in the FFACO for corrective action under RCRA. The term "waste management unit" includes all SWMUs and other non-SWMUs (e.g. one-time releases) regardless of the date waste was received or discharged at the unit.
- o. "RCRA Permit" shall mean the Dangerous Waste Portion of the RCRA Permit for Treatment, Storage, and Disposal of Dangerous Waste (Dangerous Waste Permit) issued by the Washington State Department of Ecology, pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC, and the HSWA Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Hazardous Waste (HSWA Permit) issued by Environmental Protection Agency, Region 10, pursuant to 42 U.S.C. § 6901 et seq. and 40 CFR Parts 124 and 270.
- p. "Release" shall mean any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting,

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escaping, leaching, dumping, or disposing into the environment of any hazardous waste or hazardous constituents, including the abandonment or discarding of barrels, containers, and other closed receptacles containing hazardous wastes or hazardous constituents.

- q. **"Remediation Waste"** shall mean all solid and hazardous wastes, and all media (including groundwater, surface water, soils, and sediments), and debris, which contain listed hazardous wastes or which themselves exhibit a hazardous waste characteristic, that are managed for the purpose of implementing corrective action requirements under 40 CFR § 264.101 and Section 3008(h) of RCRA, 42 U.S.C. § 6928(h). For a given facility, remediation wastes may originate only from within the facility boundary, but may include waste managed in implementing Sections 3004(v) or 3008(h) of RCRA, 42 U.S.C. §§ 6928(v) or 6928(h) for releases beyond the facility boundary. Remediation wastes may include wastes generated as part of CERCLA response actions **as well as part of RCRA corrective actions.**
- r. **"Solid Waste Management Unit (SWMU)"** shall mean any discernible unit at which solid waste has been placed at any time, irrespective of whether the unit was intended for the management of solid or hazardous waste. Such units include any area at a facility at which hazardous waste or hazardous constituents have been routinely and systematically released.
- s. **"Technical Impracticability"** shall mean that compliance with a requirement(s) for a selected remedy is not technically practical as determined by the Administrator.
- t. **"Temporary Unit(s)"** shall mean a unit **within a facility** consisting of tanks or container storage areas located at the facility which are used only for the storage or treatment of hazardous wastes (including hazardous constituents) for a period not exceeding one year, unless extended by the Regional Administrator in accordance with 40 CFR § 264.553(e). **Temporary units shall be designated by the Administrator for the purpose of implementing corrective actions under 40 CFR § 264.101 or Section 3008(h) of RCRA, 42 U.S.C. § 6928(h), in accordance with the procedures and requirements set forth in 40 CFR § 264.553.**
- u. Unless otherwise noted, all schedules refer to calendar time; i.e., thirty (30) days means thirty (30) calendar days.
- v. All definitions contained in 40 CFR Parts 124, 260 through 264, 266, 268 and 270 are hereby incorporated by reference into this permit, except that any of the definitions used above shall supersede any definition of the same term given in the respective regulations. Where terms are not defined in the regulations or the permit, the meaning associated

with such terms shall be the standard dictionary definition or their generally accepted scientific or industrial meaning.

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PART I. STANDARD CONDITIONS

I.A EFFECT OF PERMIT

I.A.1 This permit requires the Permittee to investigate any releases of hazardous waste or hazardous constituents from SWMUs listed in HSWA permit condition III.B. These SWMUs are further described in the July 20, 1992 US Ecology RCRA Facility Assessment, the August 18, 1992 Washington Public Power Supply System Hanford Generating Plant RCRA Facility Assessment, and the February 16, 1993 State Leased Lands RCRA Facility Assessment. This permit also provides procedures for reporting new units, requires the Permittee to comply with all land disposal restrictions applicable to this facility and requires annual certification that on-site generation of hazardous waste is minimized to the extent practicable.

I.B PERSONAL AND PROPERTY RIGHTS

I.B.1. This permit does not convey property rights of any sort, or any exclusive privilege, nor authorize any injury to persons or property or invasion of other private rights, or any infringement of Federal, State, or local laws or regulations.

I.C PERMIT ACTIONS

I.C.1 This permit may be modified, revoked and reissued, or terminated for cause, as specified in 40 CFR §§ 270.41, 270.42 and 270.43.

I.C.2 The filing of a request for a permit modification, or revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance on the part of the Permittee shall not stay the applicability or enforceability of any permit condition.

I.C.3 For past practice actions taken pursuant to the provisions of the FFACO, as amended, compliance with the public participation provisions of the FFACO shall be deemed compliance with the Class 3 permit modification procedures of 40 CFR §§ 270.41, 270.42 and 270.43. At the completion of the public involvement requirements for RCRA Facility Investigation/Corrective Measures Study (RFI/CMS) workplans and Corrective Measures Study (CMS) Reports in compliance with the FFACO, and when the Agency approval is provided where applicable, documents will be referenced in Part III of the HSWA permit, and maintained in accordance with the FFACO.

The selected remedies shall be documented through permit modifications in accordance with **HSWA permit condition III.A.2.**

1.D SEVERABILITY

- I.D.1 The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. Invalidation of any state or federal statutory or regulatory provision which forms the basis for any condition of this permit does not affect the validity of any other state or federal statutory or regulatory basis for said condition.
- I.D.2 If any permit condition is contested, that permit condition, as well as any nonseverable conditions, shall be automatically stayed in accordance with 40 CFR § 124.16.
- I.D.3 In the event that a condition of this permit is stayed for any reason, the Permittee shall continue to comply with the corresponding interim status standards in 40 CFR Part 265 until final resolution of the stayed condition.

I.E DUTY TO COMPLY

- I.E.1 The Permittee shall comply with all conditions of this permit, except that the Permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit issued under 40 CFR § 270.61. Any permit noncompliance, except under the terms of an emergency permit, constitutes violation of RCRA, as amended by HSWA, and is grounds for enforcement action, permit termination, modification, revocation and reissuance of the permit, and/or denial of a permit renewal application.
- I.E.2 Compliance with the terms of this permit does not automatically constitute a defense to any action brought under Sections 3004, 3007, 3008(a), 3008(c), 3008(v), 3013, and 7003 of RCRA (42 U.S.C. §§ 6927, 6928, 6934, and 6973) or Sections 104, 106(a), 106(e), and 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, (CERCLA) as amended, 42 U.S.C. § 9606(a), or any other federal law governing protection of public health or the environment. However, compliance with

the terms of this permit does constitute a defense to any action alleging failure to comply with the applicable standards upon which this permit is based.

I.F DUTY TO REAPPLY

I.F.1 The Permittee must submit a complete application for a new RCRA permit at least one hundred and eighty (180) calendar days before the RCRA permit expires, unless a later date is granted by both the Director and the Administrator.

I.G CONTINUATION OF EXPIRING PERMIT

I.G.1 As set forth in 40 CFR § 270.51, this permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 40 CFR § 270.13 through § 270.21), and through no fault of the Permittee both the Director and the Administrator have not made a final permit renewal determination.

I.H NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

I.H.1 It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

I.I DUTY TO MITIGATE

I.I.1 In the event of noncompliance with this permit, the Permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent significant adverse impacts on human health or the environment. Such mitigation shall not be a defense to enforcement action.

I.J DUTY TO PROVIDE INFORMATION

I.J.1 The Permittee shall furnish to the Administrator within a reasonable time any relevant information which the Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Administrator, upon request, copies of records required to be kept by this permit.

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I.K INSPECTION AND ENTRY

- I.K.1 The Permittee shall allow the Administrator, or their authorized representatives, upon the presentation of identification, credentials, or other documents as may be required by law, to:
- I.K.1.a Enter at reasonable times upon the Permittee's premises where hazardous or solid waste management units are located or corrective action activities are conducted, or where records are kept under the conditions of the RCRA permit;
- I.K.1.b Have access to and copy, at reasonable times, any records that must be kept under the conditions of the RCRA permit;
- I.K.1.c Inspect, at reasonable times, any portion of the facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under the RCRA permit; and,
- I.K.1.d Sample or monitor, at reasonable times, for the purposes of assuring permit compliance, or as otherwise authorized by RCRA, any substances or parameters at any location.
- I.K.1.e In case of lands owned by the Permittee but leased to other parties, the Permittee shall forward any requests for access by the Agency to the Lessee. If access to land owned by the Permittee but leased to other parties is denied the Permittee shall use its best efforts to obtain signed access agreements and to obtain access for itself, EPA, Ecology and their contractors representatives or agents.

I.L MONITORING AND RECORDS

- I.L.1 Samples and measurements taken by the Permittee pursuant to the terms of this permit shall be representative of the monitored activity. The method used to obtain a representative sample to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261 or an equivalent method approved by the Regional Administrator. When required by regulation, laboratory methods shall be those identified in the most recent edition of Test Methods for Evaluating Solid Waste, EPA SW-846, Third Edition, November 1986, or as updated, or an equivalent method approved by the Regional Administrator.
- I.L.2 The Permittee shall retain, or ensure the retention of, at the facility, or other approved location, all records of all sampling and analysis information

(including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation), records and results of inspections, copies of all reports required by this permit, other documentation produced pursuant to 40 CFR Part 268, unless authorized in the FFACO or in 40 CFR §§ 264.552 and 264.553, and records of all data used to complete the application for this permit, for a period of at least five (5) years from the date of the sample, measurement, report, certification, or recording unless a longer retention period for certain information is required by other conditions of this permit. This five (5) year period may be extended by the Administrator at any time by notification, in writing, to the Permittee, and is automatically extended to five (5) years after the successful conclusion of any enforcement action.

- I.L.3 Records of monitoring information shall include:
- I.L.3.a The date(s), exact place, and time of sampling or measurements;
- I.L.3.b The name, title, and affiliation of the individual(s) who performed the sampling or measurements;
- I.L.3.c The date(s) analyses were performed;
- I.L.3.d The name, title, and affiliation of the individual(s) who performed the analyses;
- I.L.3.e The analytical techniques or methods used; and,
- I.L.3.f The results of such analyses, including the QA/QC summary.
- I.L.4 The Permittee may substitute analytical methods which are equivalent to those specifically approved for use in this permit in accordance with the following:
- I.L.4.a The Permittee submits to the Administrator a request for substitution of an analytical method(s) which is equivalent to the method(s) specifically approved for use in this permit. The request shall provide information demonstrating that the proposed method(s) is equal or superior to the approved analytical method(s) in terms of sensitivity, accuracy, and precision (i.e. reproducibility); and,
- I.L.4.b The Administrator notifies the Permittee in writing, by certified mail or hand delivery, that the substitution of the analytical method(s) is

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approved. Such approval shall not require a permit modification.

- I.L.5 The Permittee shall establish and maintain an information repository for the purpose of making accessible to interested parties documents, reports, and other public information developed pursuant to investigations and activities under this permit. The information repository shall be accessible to the public during reasonable hours and shall be located within a reasonable distance from the facility. The Permittee shall inform the public about this information repository through written notice to all individuals on the mailing list. The repository shall be maintained at a location approved by the Administrator. The Permittee shall also ensure that all raw data available to the Permittee is included with all corrective action reports and investigations including RFIs and CMSs.

I.M. REPORTING PLANNED CHANGES

- I.M.1 The Permittee shall give prior notice to the Administrator, as soon as possible, of any planned physical alterations or additions to the permitted facility for the management of hazardous waste (including hazardous substances).

I.N. ANTICIPATED NONCOMPLIANCE

- I.N.1 The Permittee shall give at least thirty (30) calendar days advance notice, in writing, to the Administrator of any activity that might result in noncompliance with permit requirements. If advance notice is not possible, then the Permittee shall give notice within twenty-four (24) hours of the time it becomes aware of the anticipated noncompliance. Such notice does not authorize any noncompliance with or modification of this permit.

I.O. TRANSFER OF PERMIT

- I.O.1 This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR § 270.40(b) or § 270.41(b)(2). Before transferring ownership or operation of the facility during the post-closure period, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270, HSWA and the RCRA permit.

I.P. TWENTY FOUR HOUR REPORTING

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I.P.1 The Permittee shall verbally report to the Administrator any noncompliance with this permit that might endanger human health or the environment within twenty-four (24) hours from the time the Permittee becomes aware of the noncompliance.

I.P.2 Within fifteen (15) calendar days of the time the Permittee becomes aware of any noncompliance that might endanger human health or the environment, the Permittee shall provide to the Director and the Administrator a written submission. The written submission shall contain a description of the noncompliance and its cause, the period of noncompliance including exact dates and times, the anticipated time noncompliance is expected to continue if the noncompliance has not been corrected, corrective measures taken to mitigate the situation, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.Q OTHER NONCOMPLIANCE

I.Q.1 The Permittee shall report to the Administrator all other instances of noncompliance with this HSWA permit not reported under permit condition I.N at the time of submittal of the TSD Facility Report (Form 5) required by WAC 173-303-390(2). The reports shall contain the applicable information listed in HSWA permit condition I.N.

I.R OTHER INFORMATION

I.R.1 Whenever the Permittee becomes aware that it failed to submit any relevant facts in the permit application, or submitted incorrect information in the permit application or in any report to the Administrator, the Permittee shall promptly submit such facts or corrected information.

I.S BIENNIAL REPORT

I.S.1 The Permittee shall comply with the Biennial Report requirements of 40 CFR § 264.75.

I.T SIGNATURE AND CERTIFICATION

I.T.1 All applications, reports, or other information submitted to Administrator by the Permittee pursuant to the permit shall be signed and certified in accordance with 40 CFR § 270.11.

I.T.2 All reports and other information required to be maintained by HSWA Permit condition I.L.2 shall be

signed and certified in accordance with 40 CFR
§ 264.73(b)(9).

I.U CONFIDENTIAL INFORMATION

I.U.1 Any information submitted by the Permittee to the Administrator may be claimed as confidential by the Permittee in accordance with applicable provisions of 40 CFR §§ 260.2 and 270.12.

I.V REPORTS, NOTIFICATIONS, AND SUBMISSIONS

I.V.1 All reports, notifications, and submissions which are required by this HSWA permit to be sent or given to the Administrator should be sent or given to:

Chief, Waste Management Branch,
EPA Region 10, HW-102,
1200 Sixth Avenue, Seattle, Washington 98101
(206) 553-2782, and

Hanford Project Manager,
Nuclear and Mixed Waste Management Program,
Post Office Box 47600,
Olympia, Washington, 98504-7600
(206) 438-7021.

For all reports, notifications, and submissions which are required by this HSWA permit for activities under the FFACO should also be sent to:

Hanford Project Manager
EPA Region 10, B5-10,
712 Swift Boulevard, Suite 5
Richland, Washington, 99352
(509) 376-6623

I.V.2 Two (2) copies of all reports, notifications and submissions which are required by this permit shall be given or sent to the Administrator and three (3) copies shall be given or sent to the Director. One (1) copy shall be placed by the Permittee in the information repository in accordance with HSWA permit condition I.L.5.

These are the current phone numbers and addresses and may be subject to change.

I.W EQUIVALENT MATERIALS/INFORMATION

If certain equipment, materials, procedures, and administrative information (such as names/job titles, phone numbers, addresses) are specified in

this permit, the Permittee is allowed to use an equivalent or superior. Use of such equivalent or superior items shall not be considered a modification to this permit, but the Permittee must place in the operating record (prior to institution of the revision), the revision, accompanied by a narrative explanation, and the date the revision became effective. The Agency may judge the soundness of the revision during inspections and reviews, and take appropriate action. The format of tables or forms, are not subject to the provisions of this permit, and may be revised at the Permittee's discretion. Updates to EPA reference document SW-846 (changes made after the Third Edition, November 1986) may also be considered equivalent or superior.

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PART II. GENERAL FACILITY STANDARDS

II.A OPERATION OF FACILITY

II.A The Permittee shall at all times properly operate and maintain, in accordance with sound engineering and scientific practice, all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee so as to achieve compliance with the conditions of this permit. Proper operation and maintenance includes, but is not limited to, effective performance, seeking adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when necessary to achieve compliance with the conditions of this permit.

II.B ACCESS AND INFORMATION

II.B.1 To the extent that work required by Part III of this HSWA permit must be done on property not owned or controlled by the Permittee, the Permittee shall use its best efforts to obtain site access agreements from the present owner(s) or lessee(s) of such property no later than two weeks prior to the scheduled commencement of work in accordance with the requirements set forth in Paragraph 106 of the FFACO which are specifically incorporated into the HSWA Permit. "Best efforts" shall mean, at a minimum, a certified letter from the Permittee to the current property owner(s) or lessee(s) requesting access to such property and if a reply is received from the property owner or lessee, follow-up letters from the Permittee, as appropriate, to clarify the work contemplated and address the owner's or lessee's reasonable concerns. In the event that the Permittee cannot obtain the necessary access agreements, the Permittee shall notify the Administrator in writing. The Administrator may, consistent with his/her legal authority, assist the Permittee in obtaining such agreements.

II.C OTHER PERMITS AND APPROVALS

II.C.1 To the extent that work required by Part III of this HSWA permit must be done under permit(s) or approval(s) pursuant to other federal, state, or local regulatory authorities, the Permittee shall use its best efforts to obtain such permits. For the purposes of this permit condition the term "best

efforts" shall, at a minimum, mean submittal of a complete application for the permit(s) and/or approval(s) no later than sixty (60) calendar days after the information necessary to prepare the application is available to the Permittee.

II.D SCHEDULE EXTENSIONS

II.D.1 To the extent that activities required by Part III of this HSWA permit are not completed in accordance with the schedules contained therein, and the Permittee can demonstrate to the Administrator's satisfaction that the Permittee used best efforts to accomplish the activity within the required schedule, the Administrator shall grant the Permittee an extension to the schedule.

II.D.1.a For the purposes of this permit condition the term "best efforts" shall, at a minimum include performance of all activities necessary to award contract(s) to outside contractors no later than sixty (60) calendar days after the information necessary to award the contract(s) is available to the Permittee. "Best efforts" shall also mean adequate planning, seeking funding, staffing, laboratory and process controls, and operation of backup or auxiliary facility or similar systems by the Permittee when necessary to meet the required schedules.

II.D.2 The Permittee shall notify the Administrator, in writing, no later than fifteen (15) calendar days after the Permittee determines that such schedules will not be met. The Permittee shall include with the notification all information supporting its claim that it has used best efforts to meet the required schedules. If the Administrator determines that the Permittee has made best efforts to meet such schedules, the Administrator shall notify the Permittee in writing by certified mail that the Permittee has been granted an extension and provide the Permittee a revised schedule reflecting this extension. Such a revision shall not require a permit modification.

II.E DISPUTE RESOLUTION

II.E.1 In the event the Administrator rejects, in whole or in part, any plan, report, or schedule required by Part III of this HSWA permit, the Agency or the Permittee may initiate the dispute resolution process and the following procedure will apply, except as specifically provided for under Article XV

of the FFACO for solid waste management units covered by the FFACO.

- II.E.1.a. The Administrator will notify the Permittee in writing of the acceptance, rejection, or proposed modification to, the plan, schedule, or submittal. Such notice shall:
- II.E.1.a.(i) Identify the problem(s) and, where appropriate, suggest the ~~exact~~ change(s) which need to be made to the plan, schedule or submittal;
- II.E.1.a.(ii) Provide an explanation and supporting documentation or data of why modification is needed; and,
- II.E.1.a.(iii) In the event the Administrator proposes a modification, the notice will provide a date by which comments on the proposed modification must be received from the Permittee. Such date will not be less than thirty (30) calendar days from the date of the Permittee's receipt of the notice under HSWA Permit Condition II.E.1.a.
- II.E.1.b. If the Administrator receives no written comments on the proposed modification from the Permittee, the modification will become effective five (5) calendar days after the close of the comment period specified under HSWA Permit Condition II.E.1.a.(iii). The Administrator will promptly notify the Permittee that the modification has become effective.
- II.E.1.c. If the Permittee submits written comments on the proposed modification, the Administrator shall make a final determination concerning the modification within thirty (30) calendar days after the end of the comment period, if practicable. The Administrator shall then notify the Permittee in writing of the final decision. Such notification shall:
- II.E.1.c.(i) Indicate the effective date of the modification, which shall be not later than fifteen (15) calendar days after the date of notification of the final modification decision;
- II.E.1.c.(ii) Include an explanation of how comments were considered in developing the final modification; and,
- II.E.1.c.(iii) Provide a copy of the final modification.

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II.E.1.d The following dispute resolution procedures apply only to Agency revisions of the Permittee's interim submissions which generally consist of proposals and reports that carry out general obligations for an RFI, CMS or interim measures specified in the HSWA Permit, shall be followed before the Permittee shall comply with an Agency revision to an interim submission.

II.E.1.d.(i) The Administrator will provide the Permittee a notice which details the Agency's reasons for proposing to revise or require revision of an interim submission.

II.E.1.d.(ii) The Permittee may submit written comments to, and meet with, the EPA staff responsible for making the revisions.

II.E.1.d.(iii) The Permittee may submit written arguments and supporting evidence to the EPA Region 10 Hazardous Waste Division Director.

II.E.1.d.(iv) The Hazardous Waste Division Director shall make the final decision on interim submissions required under the HSWA permit.

II.E.1.d.(v) The Hazardous Waste Division Director shall provide the Permittee a statement of the reasons explaining the final decision and a response to the Permittee's arguments. This response shall be based on the administrative record for the HSWA Permit.

II.E.2 Modifications initiated and finalized by the Administrator using the procedure specified in HSWA Permit Condition II.E.1 are not subject to administrative appeal. Judicial review is available in accordance with applicable federal law.

II.F. WASTE MINIMIZATION

II.F.1 In accordance with 40 CFR § 264.73(b)(9), RCRA Section 3005(h), 42 U.S.C. § 6925(h), the Permittee must place a certification in the operating record on an annual basis that:

II.F.1.a. A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and,

II.F.1.b. The proposed method of treatment, storage or disposal is that practicable method currently available to the Permittee which minimizes the

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present and future threat to human health and the environment.

II.F.2 The Permittee shall maintain each such certification of waste minimization in the operating record as required by 40 CFR 264.73(b) until closure of such facility.

II.G. LAND DISPOSAL RESTRICTIONS

II.G.1 Unless authorized in the FFACO, or in 40 CFR §§ 264.552 and 264.553, the Permittee shall comply with all applicable requirements of the land disposal restrictions of 40 CFR Part 268. The Permittee shall develop and implement treatment technologies necessary to achieve full compliance with LDR requirements for mixed wastes at the facility in accordance with the LDR provisions and schedule specified in Appendix D of the FFACO.

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PART III. CORRECTIVE ACTION

III.A. INTEGRATION WITH THE FFACO

III.A.1. Section 3004(u) of RCRA (Section 206 of HSWA) and regulations promulgated at 40 CFR § 264.101 require corrective action, as necessary, be included in all permits issued after November 8, 1984, to protect human health and the environment for all releases of hazardous waste or hazardous constituents from any solid waste management unit (SWMU) at a facility seeking a RCRA permit.

The Hanford Federal Facility Agreement and Consent Order (FFACO), issued pursuant to Sections 6001, 3008(h), and 3004(u) and (v) of RCRA, 42 U.S.C. §§ 6961, 6924(h), 6924 (u) and (v), as amended by HSWA, and Section 120(e)(2) of the Comprehensive Environmental Response, Compensation and Liability Act, as amended (CERCLA) 42 U.S.C. § 9620(e)(2), provides another mechanism which can be used to investigate and remediate releases of hazardous substances (including hazardous waste) where necessary to protect human health and the environment.

The corrective action for the facility will generally be satisfied as specified in the FFACO, as amended, except as integrated into the HSWA portion of the permit in accordance with HSWA permit condition III.A.2. For those solid waste management units not covered by the FFACO, RCRA corrective action requirements will be addressed by HSWA permit conditions III.B through III.I.

III.A.2 RCRA Past Practice Units

III.A.2.a Except as specifically identified in this permit, all RCRA Past Practice (RPP) Unit work plans, including schedules for completion of investigations and corrective actions, developed pursuant to the FFACO, as amended, for RCRA Past Practice units identified in Appendix C of the FFACO, will be subject to this section of the permit when incorporated into this permit, in accordance with HSWA permit condition I.C.3.

III.A.2.b. The Permittee shall conduct corrective action under RCRA for RCRA Past Practice Units which have the potential for release or have released hazardous waste or hazardous constituents as specified in the FFACO for corrective action, regardless of the date waste was received at or released from the unit, as

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necessary to protect human health and the environment.

- III.A.2.c. The Permittee shall follow the dispute resolution process for RPP Units in accordance with Article XV of the FFACO.
- III.A.2.d. The Permittee shall maintain an information repository for RPP Units covered under the FFACO in accordance with HSWA Permit condition I.L.5. and Sections 9.0 and 10.0 of the FFACO Action Plan.
- III.A.2.e. Following approval of the proposed remedy, the Administrator shall initiate a major permit modification to this permit, pursuant to HSWA permit condition I.D.3.
- III.A.2.f. The modification shall specify the selected remedy and include, at a minimum the following:
- III.A.2.f.(i) Description of all technical features of the remedy that are necessary for achieving the standards for remedies established under HSWA permit condition III.D., including the length of time for which compliance must be demonstrated at specified points of compliance;
 - III.A.2.f.(ii) All concentration levels of hazardous waste and/or hazardous constituents in each medium, that the remedy must achieve to be protective of human health and the environment;
 - III.A.2.f.(iii) All requirements for achieving compliance with these concentrations;
 - III.A.2.f.(iv) All requirements for complying with the standards for management of wastes;
 - III.A.2.f.(v) Requirements for removal, decontamination, closure, or postclosure of units, equipment, devices or structures that will be used to implement the remedy;
 - III.A.2.f.(vi) A schedule for initiating and completing all major technical features of the remedy; and
 - III.A.2.f.(vii) Requirements for submission of reports and other information.
- III.A.2.g. For past practice corrective action under the FFACO, the RFI/CMS shall be the basis for the revision of the HSWA portion of the permit in accordance with HSWA Permit condition I.D.3. The public participation requirements under the FFACO shall fulfill the public review requirements for permit

modification pursuant to 40 CFR §§ 270.41, 270.42 and 271.43, to incorporate the CMS workplan into the HSWA portion of the permit. The CMI shall be conducted in accordance with the schedule of compliance specified in the HSWA portion of the permit and the work schedule in Appendix D of the FFACO.

III.A.2.h. Interim Measures for Solid Waste Management Units covered under the FFACO shall be developed and implemented by the Permittee in accordance with Article XIII of the FFACO.

III.A.2.i Notification of newly identified solid waste management units within these areas of the facility covered by the FFACO shall be in accordance with Section 3.0 of the FFACO Action Plan.

III.B. CORRECTIVE ACTION REQUIREMENTS

III.B.1 The following solid waste management units require further investigation to determine whether releases of hazardous wastes or constituents are occurring or have occurred which threaten human health and the environment.

III.B.1.a US Ecology, Inc.

III.B.1.a.(i) SWMU 1: Chemical Trench

III.B.1.a.(ii) SWMUs 2-13: Low-Level Radioactive Waste Trenches
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III.B.1.b WPPSS Hanford Generating Plant

III.B.1.b.(i) SWMU 1: Transformer Yard

III.B.1.b.(ii) SWMU 3: HGP Building Floor Drains

III.B.1.b.(iv) SWMU 5: Tile Field

III.B.1.b.(v) SWMU 6: Settling Pond

III.B.1.b.(vi) SWMU 8: Maintenance Garage

III.B.1.b.(vii) SWMU 9: Wastewater Treatment Unit

III.B.1.b.(viii) SWMU 10: Disposal and Storage Yard

III.C RCRA FACILITY INVESTIGATION

III.C.1 Within one hundred and eighty (180) calendar days of the Permittee's receipt of a written request by the Administrator, the Permittee shall submit a draft RCRA Facility Investigation (RFI) workplan to determine the nature and extent of potential releases from SWMUs identified in HSWA permit condition III.B.1.

The RFI workplan shall include the information specified in Attachments A and B and shall also include the following:

III.C.1.a. Identify the disposition of any wastes generated as a result of the investigation (e.g., decontamination rinse water), including an Individual Investigative Derived Waste Management Plan as required; and (Added 11/01/93)

III.C.1.b. Identify the disposition of purgewater generated as a result of the investigation in a Purgewater Management Plan. (Added 11/01/93)

III.C.1.c. Include the general description of the contractor performing or directing the investigations and the overall management of the RFI. (Added 11/01/93).

III.C.2 The RFI report shall include an analysis and summary of all facility investigations and the results of such investigations including quality assured results of all analytical tests, and laboratory detection limits achieved for each constituent.

III.C.3 The Agency will review, and then approve or disapprove the RFI workplan and RFI report. The Agency will distribute review comments and determinations to the Permittee and appropriate Lessee(s). If disapproved, the Permittee will be directed to modify the RFI workplan and/or RFI report to meet the Agency's concerns.

III.C.4 Final acceptance of the RFI workplan and the RFI report shall not require a permit modification. The Permittee shall implement this RFI workplan in accordance with its terms and schedules upon acceptance or modification of the workplan by the Agency.

III.C.5 The Permittee shall maintain the final RFI report in the information repository as required by HSWA permit condition I.L.5 during the life of the permit, including the term of any reissued permits.

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III.D CORRECTIVE MEASURES STUDY AND IMPLEMENTATION

III.D.1 If the Administrator determines, on the basis of the RFI report, and appropriate action levels described in HSWA permit condition III.G, that corrective measures to remediate releases of hazardous waste or hazardous constituents from units identified in HSWA permit condition III.B.1 are necessary to protect human health and the environment, the Administrator will advise the Permittee and appropriate Lessee(s) of this determination, and the reasons therefore, in writing.

III.D.1.a. Within one hundred and eighty (180) calendar days of receipt of the Administrator's notification of determination, the Permittee shall submit a corrective measures implementation (CMI) workplan to remediate releases documented by the RFI report.

The CMI workplan shall include a description of the proposed corrective measures, a sampling program to confirm the extent of each corrective measure, and a schedule for implementation of these corrective measures and the sampling program. The Corrective Measures Implementation (CMI) workplan shall include the information specified in Attachment D.

Alternatively, the Permittee may submit a corrective measures study (CMS) workplan to evaluate the effectiveness of various technologies. Such a CMS plan must include thorough procedures for testing and verification of test results, as well as a schedule for CMS completion and submittal of final report.

III.D.1.b. The Corrective Measure Study (CMS) workplan shall include the information specified in Attachment C. The Agency will review, and then approve or disapprove the CMI or CMS workplan (or CMS report). If disapproved, the Permittee will be directed to modify the CMI or CMS workplan (or CMS report) to meet the Agency's concerns. The Agency will distribute review comments and determinations to the Permittee and appropriate Lessee(s).

III.D.1.c. Should the Permittee choose to submit a CMS workplan for all or part of the remediation needs, the Permittee shall, upon Agency acceptance of the CMS report, commence the CMI workplan approval process described under HSWA Permit Conditions III.D.1.

III.D.1.d. Upon Agency approval of the CMI workplan, the Permittee shall request a permit modification pursuant to 40 CFR § 270.42 to implement the workplan.

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III.D.2 Upon the effective date of the permit modification required by HSWA permit condition III.D.1 (d), the CMI workplan shall be implemented by the Permittee according to its terms and schedule.

III.E. INTERIM MEASURES

III.E.1 If the Administrator or the Permittee determine, on the basis of information submitted by the Permittee pursuant to HSWA permit condition III.B, or any other information, that interim measures are necessary to protect human health and the environment from a release of hazardous waste or hazardous constituents from a solid waste management unit which is not subject to the FFACO, the Permittee may be required to implement interim measures. Such interim measures may be included in this permit pursuant to 40 CFR § 270.41 or § 270.42.

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III.E.2 The Permittee shall, when directed by the Administrator, implement interim measures without prior approval of an Interim Measures Plan or revisions to an approved Interim Measures Plan where such actions have been deemed necessary by the Administrator to protect human health and the environment.

III.E.3 When directed to implement interim measures by the Administrator, the Permittee shall implement the specified actions as soon as practicable, in accordance with the schedule specified by the Administrator.

III.E.4 The interim measures plan shall identify specific action(s) to be taken to implement the interim measures and a schedule for implementing the required measures. At a minimum, the interim measures plan shall include the information specified in Attachment E, and shall contain information which will allow the Administrator to make an informed decision regarding the interim measures plan, taking into account the following factors:

III.E.4.a. Time required to develop and implement a final remedy;

III.E.4.b. Actual and potential exposure of human and environmental receptors;

III.E.4.c. Actual and potential contamination of drinking water supplies and sensitive ecosystems;

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- III.E.4.d. The potential for further degradation of the medium absent the interim measures;
 - III.E.4.e. Presence of hazardous waste in containers that may pose a threat of release;
 - III.E.4.f. Presence and concentration of hazardous waste including hazardous waste constituent(s) in soils that have the potential to migrate to ground or surface water.
 - III.E.4.g. Weather conditions that may affect the current levels of contamination;
 - III.E.4.h. Risks of fire, explosion, or accident; and
 - III.E.4.i. Other situations that may pose threats to human health and the environment.
 - III.E.5 Interim measures and schedules for implementation of the Interim Measures Plan shall may be incorporated into this HSWA permit through permit modification initiated by the Administrator in accordance with either 40 CFR §§ 270.34 or 270.41, as appropriate.

III.F. DISCOVERY OF NEW SOLID WASTE MANAGEMENT UNITS

- III.F.1 The Permittee shall notify the Administrator in writing of any newly-identified SWMU within all areas of the facility not covered by the FFACO no later than thirty (30) calendar days after the date of discovery. The notification shall include, but not be limited to, the following information as required by 40 CFR § 270.14(d):
 - III.F.1.a. A description of the SWMU's type, function, dates of operation, location (including a map), design criteria, dimensions, materials of construction, capacity, ancillary systems (e.g., piping), release controls, alterations made to the unit, engineering drawings, and all closure and post-closure information available, particularly whether wastes were left in place;
 - III.F.1.b. A description of the composition and quantities of solid wastes processed by the units with emphasis on hazardous wastes and hazardous constituents; and
 - III.F.1.c. A description of any release (or potential release) of hazardous waste or hazardous constituents originating from the unit. Include information on the date(s) of release, type of hazardous waste or hazardous constituents, quantity released, nature of the release, extent of release migration, and cause

of release (e.g., overflow, broken pipe, tank leak, etc.). Also provide any available data which would quantify the nature and extent of environmental contamination, including the results of soil and/or groundwater sampling and analysis efforts. Likewise, submit any existing monitoring information that indicates releases of hazardous waste or hazardous constituents have not occurred or are not occurring.

- III.F..1.d. The additional solid waste management units may be added to those listed in HSWA permit condition ~~III.B.1.a through III.B.1.e~~, based upon additional information received by the Permittee, the Administrator, or any other knowledgeable source. Additional solid waste management units subject to corrective action under the FFACO may also be added in accordance with HSWA Permit condition III.A.1 for corrective action.
- III.F..2 Upon receipt of the notification of any newly-identified SWMU, the Administrator may request the Permittee to submit a draft RFI workplan and/or perform corrective measures in accordance with the specifications contained in HSWA Permit conditions III.C through III.E.
- III.F..3 In lieu of a new RCRA Facility Investigation, the Permittee may propose either to incorporate any newly-identified SWMU into an ongoing RCRA Facility Investigation or to submit a proposal for the performance of corrective measures at such newly-identified SWMU in accordance with the provisions of HSWA Permit condition III.D., or interim measures in accordance with the provisions of HSWA Permit condition III.E. Any such proposal shall be submitted to the Administrator along with notification of the discovery of the SWMU(s).
- III.G. ACTION LEVELS**
- III.G.1. The Permittee shall consider the Washington State Model Toxics Control Act Standards, and Federal regulatory requirements including EPA health-based values ¹, in all recommendations for

¹ The EPA-health based concentration levels for hazardous wastes and constituents are derived in a manner consistent with guidelines set forth in 51 FR 33992, 34006, 34014, and 34028. The health-based level for carcinogens represents a concentration associated with an excess upper bound lifetime risk of 0.000001 due to a continuous as well as constant lifetime exposure. The level for systemic toxicants represents a concentration to which the human population, if exposed on a daily basis, will be

investigatory/corrective actions conducted pursuant to.

III.H. TECHNICAL IMPRACTICABILITY

The Agency may determine, based on information developed by the Permittee, that compliance with a requirement(s) for a remedy is not technically practicable. The Permittee shall submit the following information to the Agency:

- III.H.1 The Permittee's efforts to achieve compliance with the requirement(s); and
- III.H.2 Whether other currently available or new and innovative methods or technologies could practicably achieve compliance with the requirements;
- III.H.3 If the Agency determines that compliance with a remedy requirement is not technically practicable, the HSWA Permit shall be modified to include schedules of compliance to specify as necessary and appropriate:
 - III.H.3.a. Further measures that may be required of the Permittee to control exposure of humans or the environment to residual contamination, as necessary to protect human health and the environment; and
 - III.H.3.b. Alternate levels or measures for cleaning up contamination media, controlling the source(s) of contamination, or for the removal or decontamination of equipment, units, devices, or structures required to implement the remedy.

III.I CORRECTIVE ACTION MANAGEMENT UNIT(S) AND TEMPORARY UNITS.

- III.I.1 The Permittee may propose the use of either a corrective action management unit (CAMU) and/or a temporary unit (TU) to the Agency during the corrective action process. Upon Agency approval and designation such units must be operated in

unlikely to suffer an appreciable risk of deleterious effects during the course of a lifetime. Any constituent values, accepted and formally published by EPA, and using these criteria, may be considered EPA health-based levels. Tables of these values are available in the Proposed Rule for "Corrective Action for Solid Waste Management Units (SWMUs) at Hazardous Waste Management Facilities," 55 FR 30798-30884, (July 27, 1990). Sources may be revised at any time. The Permittee should contact EPA before consulting such sources to verify that the most recent editions are being used.

accordance with all operating requirements, federal regulations, and applicable state laws and regulations.

III.I.2 Before Agency approval and designation of a CAMU or TU, the Permittee shall initiate a Class III permit modification to request such approval and designation in accordance with 40 CFR § 270.42.

III.J. CONFIRMATORY SAMPLING (Added 11/12/93)

III.J.1 The Permittee shall prepare and submit to the Agency, within ninety (90) calendar days of the effective date of this HSWA permit, a Confirmatory Sampling (CS) Workplan to determine any release from SWMUs identified in HSWA Permit Condition III.B. The CS workplan shall include schedules of implementation and completion of specific actions necessary to confirm a release. It should also address applicable requirements and affected media. Completion of all Confirmatory Sampling shall not exceed one-hundred and eighty (180) calendar days.

III.J.2 The CS Workplan must be approved by the Agency, in writing, prior to implementation. The Agency shall specify the start date of the CS Workplan schedule in a letter approving the CS Workplan. If the Agency disapproves the CS Workplan, the Agency shall either (1) notify the Permittee in writing of the CS Workplan's deficiencies and specify a due date for submission of a revised CS Workplan, or (2) revise the CS Workplan and notify the Permittee of the revisions.

III.J.3. The Permittee shall implement the confirmatory sampling in accordance with the approved CS Workplan.

III.J.4. The Permittee shall prepare and submit to the Agency in accordance with the approved schedule, a Confirmatory Sampling (CS) Report identifying those SWMUs listed in HSWA permit condition III.B. that have released hazardous constituents into the environment. The CS Report shall include all data, including raw data, and a summary and analysis of the data, that supports the above determination.

III.J.5. Based on the results of the CS Report, the Agency shall determine the need for further investigations at the SWMUs covered in the CS Report. If the Agency determines that such investigations are needed, the Permittee shall be required to prepare a plan for such investigations as outlined in HSWA permit condition III.C. The Agency will notify the Permittee of any further corrective action decision.

ATTACHMENT A

**RCRA FACILITY INVESTIGATION WORK PLAN
REQUIREMENTS**

The RFI Work Plan shall meet the following requirements, in addition to the specific requirements and deadlines set forth in the HSWA permit:

1. The RFI Guidance in Volume I Section 2 of Agency Document Number Agency 530/SW-89-031, "RCRA Facility Investigation (RFI) Guidance," (May, 1989) shall be followed when developing the RFI Work Plan.
2. The RFI Work Plan shall include a Project Management Plan which will include schedules and a description of the technical approach.
3. The RFI Work Plan shall include a Data Collection Quality Assurance Plan and a Data Management Plan, developed as per the requirements set forth in Attachment "B" of the HSWA permit.
4. The RFI Work Plan shall include a Sampling and Analysis Plan. This plan shall address the sampling techniques, analytical parameters, and analytical methods to be used for characterization of all media. Rational shall be provided to support the selection of each technique, parameter and method.
5. The RFI Work Plan shall include a Public Involvement Plan, to be developed in consultation with the Agency, for the dissemination of information to the public regarding RFI activities and results. The Community Relations Plan shall specify the information repositories and other approved locations for all submittals and reports required by the HSWA permit. The Public Involvement Plan shall also specify the methodology for identifying interested members of the Public that will be notified of the placement of any information in the repository. Interested members of the Public shall include, but not be limited to, the owners and operators of adjacent properties.
6. The RFI Work Plan shall include provisions for carrying out investigations necessary to characterize geology, stratigraphy and hydrogeology beneath the Facility, define the sources, nature and extent of contamination, and identify actual or potential receptors. The investigations must result in data of adequate technical quality to support the development and evaluation of corrective measures in a Corrective Measures Study (CMS) and must assure that the full extent of each hazardous waste and/or hazardous constituent released at or from the Facility has been identified in each media to Agency's satisfaction. Detailed

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workplans and technical specifications for specific investigative activities within the RFI may be submitted and implemented in a phased manner, and may utilize information obtained during prior phases of investigation. The RFI Work Plan shall include provisions for characterizing the following:

A. Environmental Setting

The RFI Work Plan shall include provisions to collect information to supplement and verify existing information on the environmental setting at the Facility. Such characterization shall extend at a minimum as necessary to confirm that the full extent of each hazardous waste and/or hazardous constituent released at or from the Facility has been identified. The RFI Work Plan shall provide for characterization of the following:

(1) Hydrogeology

The following shall be provided:

- a. A description of regional and Facility-specific geologic and hydrogeologic characteristics affecting ground water flow and contaminant migration beneath and from the Facility. This description shall include, but not be limited to:
 - i) Regional and Facility-specific stratigraphy. At a minimum, this shall include a detailed lithologic description of the Facility from the surface to the base of the upper most aquifer which may include the upper basalt confining aquifer system ("Rattlesnake Ridge interbed aquifer"). All soil borings shall be logged continuously or at intervals approved by Agency. Lithologic descriptions shall include, but not be limited to, items such as grain size and sorting, depositional environment, and classification according to the Unified Soil Classification System.
 - ii) An identification of areas of groundwater recharge and discharge, their location and characteristics.
 - iii) An evaluation of the continuity of stratigraphic units within the Facility, and a correlation of these units and those of adjacent Facilities.

- b. A description of each hydrogeologic unit which may serve as a contaminant migration pathway at or from the Facility. This description shall be based upon, at a minimum, field studies, soil and aquifer tests, and soil borings and cores. The description shall identify all distinct water bearing zones and/or systems and any intervening saturated or unsaturated units at the Facility. The description shall include, but not be limited to, the following information:
- i) Hydrogeologic cross sections, indicating the location and extent of each hydrogeologic unit;
 - ii) An identification of each geologic formation, group of formations, or part of a formation in all water bearing zones capable of yielding a significant amount of ground water to wells or springs. This shall include, at a minimum, all water-bearing zones that may serve as a pathway for contaminant migration, including perched saturated zones;
 - iii) Hydraulic conductivity and porosity (total and effective) of each hydrogeologic unit as necessary to characterize the impact of each such unit on groundwater flow and potential contaminant transport;
 - iv) An identification of zones of contrasting hydraulic conductivity that may affect the migration of contaminants as necessary to characterize groundwater flow and potential contaminant transport;
- c. A description of the regional and Facility-specific hydrogeologic flow for each hydrogeologic unit pursuant to Section 6.A.1.b. of this Attachment and any other contaminant migration pathways identified pursuant to this HSWA permit. At a minimum, the hydrogeologic flow description shall include the following:
- i) Water level contour and/or potentiometric surface maps using measurements from existing and newly

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installed wells. These maps shall meet the following requirements:

- A) Contour maps shall incorporate data obtained from twelve monthly rounds of water level or fluid pressure measurements from all ground water monitoring wells used to fulfill the requirements of this HSWA permit.
 - B) Contour maps shall be prepared for each water bearing zone identified.
 - C) Contour maps shall reflect the influence of barometric pressure, if any, on water level measurements. Barometric pressure shall be recorded at the beginning and end of every period during which ground water levels are measured to fulfill the requirements of this HSWA permit.
 - D) Contour maps shall reflect the presence and influence of any non-aqueous phase liquids. Any measurements necessary to correct water levels for the presence of these liquids shall be taken at the time of water level measurements.
- ii) Hydrogeologic cross sections showing the magnitude of vertical gradients;
 - iii) The flow system, including the vertical and horizontal components of flow, as described through flow vectors or the construction of flow nets, as necessary to identify and characterize potential contaminant transport pathways;
 - iv) Any changes in the hydraulic flow regime due to seasonal influences;
 - v) An identification and interpretation of any hydraulic interconnections within and between saturated zones at the Facility and all downgradient areas potentially impacted by releases from the Facility, including quantification to these aquifers;

- vi) Hydrographs depicting the variation of water levels in each well over the period of water level measurements.
 - vii) An evaluation and investigation of any possible groundwater mounding at the Facility which may affect transport pathways.
 - viii) An identification of the location and amount of groundwater recharge and discharge, including any discharges of groundwater that flows at or from the Facility to the surface in drainage ditches.
- d. A description of human influences, including off facility structures and conditions, that may affect the hydrogeology of and migration of any contaminants at or from the facility, identifying:
- i) Active and inactive local water withdrawal wells with the potential to affect groundwater flow at the Facility, and approximate pumping schedules;
 - ii) Structures including, but not limited to, gas and electric utilities, pipelines, french drains, ditches, unlined ponds, septic tanks, NPDES outfalls, sewer pipes, stormwater drains, and retention areas etc.);

(2) Soils

The RFI shall include characterization of the soil and fill units in the vicinity of known and suspected contaminant releases. Such characterization shall include all factors necessary and appropriate to define the potential for contaminant migration and to evaluate contaminant fate and transport in the soil system. Examples of the descriptions and measurements which may be required include:

- a. Soil descriptions in accordance with the Unified Soil Classification system;
- b. Surface soil distribution;
- c. Hydraulic conductivity (saturated);
- d. Bulk density;
- e. Porosity;
- f. Cation exchange capacity (CEC);
- g. Soil organic matter content;
- h. Soil pH;

- i. Particle size distribution based on sieve analyses;
- j. Moisture content;
- k. Presence of stratification or soil structures that may affect unsaturated flow;
- l. Infiltration;
- m. Evapotranspiration;
- n. Storage capacity;
- o. Mineral content;
- p. Contaminant attenuation or absorption capacity and mechanisms;
- q. Color photographs of all samples intervals, with a size scale present in each photograph.

All soil borings conducted under the RFI Work Plan shall be logged continuously or at intervals approved by Agency, for a detailed lithologic description from the ground surface to the base of the Uppermost Aquifer which may include the upper basalt confining aquifer system ("Rattlesnake Ridge interbed aquifer"). Soil characterization shall occur for each distinct soil type in all soil borings. All soil borings shall be abandoned using bentonite or bentonite grout, unless such a soil boring is completed as a groundwater monitoring well under the HSWA permit.

B. Contamination Characterization

The RFI Work Plan shall include requirements to collect analytical data on ground water, soils, air, surface water, and sediment contamination at and from the Facility and other areas affected by Facility operations. This data shall be sufficient to define the origin, nature and extent, and direction and rate of contaminant migration. Data shall include time and location of sampling, environmental conditions during sampling, media sampled, contaminant concentrations, and the identity of the individuals performing the sampling and analysis. Analytical methods must be those specified in Test Methods for Evaluating Solid Waste-Physical/Chemical Methods, U.S. Agency Publication No. SW-846, 3rd Edition, September 1986, methods for Chemical Analysis of Waster and Wastes, Agency Report 600/4-79-020, March 1983, or alternate methods approved by Agency and which have been demonstrated will perform equal or better than SW-846 methods under conditions expected in the investigation.

The following types of contamination shall be addressed at and from the Facility:

(1) Ground Water Contamination:

a. The RFI Work Plan shall include requirements to characterize any groundwater contamination at or from the Facility. This investigation shall, at a minimum, provide the following information:

- i) A description of the horizontal and vertical extent of any immiscible or dissolved contaminants originating from the Facility, including concentration profiles of all parameters identified in Section 6.B.1.d.(i) of this Attachment;
- ii) The rate of contaminant migration;
- iii) An evaluation of factors influencing the migration of contaminants;
- iv) A prediction of future contaminant migration, and a justification of any assumptions, calculations or models used to develop the prediction;

The RFI Work Plan shall document the procedures to be used in making the above determinations (e.g., well design, well construction, geophysical investigative methods, ground water modeling, etc.).

b. The RFI Work Plan shall include provisions for installation of all groundwater monitoring wells needed to delineate the nature and extent of any contamination at or from the Facility. These requirements shall define the criteria for placement of wells, and the design and installation procedures to be used. The RFI Workplan shall include provisions to extend the groundwater monitoring well system as necessary both horizontally and vertically to determine the full extent of groundwater contamination. The proposed groundwater monitoring system and monitoring well network shall meet the following requirements:

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- i) The network shall contain upgradient wells or functional equivalents capable of yielding samples representative of background water quality in each hydrogeologic unit identified pursuant to Section 6.A.1.b. of this Attachment and that are not affected by releases of hazardous waste and/or hazardous constituents from any solid waste management unit at the Facility. The number and location of the wells must be sufficient to characterize the spatial variability of background water quality.
 - ii) The network shall contain downgradient wells capable of detecting any release to groundwater in each hydrogeologic unit identified pursuant to Section 6.A.1.b of this Attachment of hazardous waste and/or hazardous constituents from solid waste management units at the Facility. The number and location of these wells must be sufficient to characterize the nature and extent of any such releases, including any such releases which may have migrated off-facility.
 - iii) The network shall be capable of operating for a period of time sufficient to provide representative ground water samples during the RFI and the evaluation and implementation of any corrective measures required at the Facility.
 - iv) Any existing wells at the Facility included in the monitoring network that cannot meet these requirements shall be replaced and/or abandoned, or supplemented by new monitoring wells.
 - v) The groundwater monitoring system shall include provisions to evaluate results of sampling and analysis throughout the investigation, and to modify the groundwater monitoring network and the sampling and analysis plan as necessary,

based on this evaluation, to meet the objectives of the investigation.

The guidelines and specifications in the RCRA Groundwater Monitoring: Draft Technical Guidance (Agency/530-R-93-001, November, 1992), and the Technical Enforcement Guidance Document (Agency OSWER 9950.1, September 1986) (TEGD) shall be followed.

- c. The RFI Work Plan shall include provisions to provide the following information for all groundwater monitoring wells used to meet the RFI requirements:
- i) A description and map showing well locations, including each well's surveyed surface reference point and vertical reference point elevation. Wells shall be surveyed using, or existing well elevations converted to, the National Geodetic Vertical Datum (NGVD), 1929, to an accuracy of within 0.01 foot in accordance with the TEGD. Horizontal surveying accuracy shall be within 1.0 foot;
 - ii) The boring and casing diameter and depth of each well;
 - iii) Specification of well intake design, including screen slot type, size and length, filter pack materials, and method of filter pack emplacement;
 - iv) Specification of the well casing and screen materials. Well construction materials shall be chosen based on parameters to be monitored, and the nature of contaminants that could potentially migrate from the Facility. Well materials shall: (1) minimize the potential of adsorption of constituents from the samples, and (2) not be a source of sample contamination. Wells shall be constructed for the purpose of long term monitoring in accordance with all applicable federal, state, and local laws;

- v) Documentation of methods used to seal the well from the surface to prevent infiltration of water into the well and downward migration of contaminants through the well annulus;
- vi) Description of well development methods and procedures;
- vii) Documentation of all well design and installation parameters specified in Section 3.5 of the TEGD; and
- viii) Documentation that all boring, well installation, and well abandonment procedures comply with all applicable federal, state, and local laws, and were conducted by a licensed driller.
- d. The RFI Work Plan Sampling and Analysis Plan shall include the following elements specific to the groundwater monitoring network:
- i) Parameters for chemical analysis of groundwater samples. Selected samples from the initial round of sampling shall be analyzed for all constituents specified in Appendix IX of 40 C.F.R. Part 264. Parameters for subsequent sampling events shall be selected, subject to Agency review and approval, based on the results of initial ground water sampling and analysis, and upon the composition of wastes that are or have been managed at the Facility. The rationale for selection of all parameters shall be provided.
- ii) A sampling schedule for groundwater monitoring. At a minimum, this schedule shall include collection of ground water samples for chemical analysis from each well on a quarterly basis to characterize temporal trends and variations in ground water contaminant concentration.

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iii) Provisions for sampling and reporting of the occurrence, amount, thickness, and composition of any non-aqueous phase liquids encountered in any monitoring wells.

(2) Soil Contamination

a. The RFI Work Plan shall include requirements to characterize the contamination of the soil and fill materials at and from the Facility and any contaminant releases. The Work Plan shall include provisions to extend this characterization as necessary both vertically and horizontally to determine the full extent of soil contamination. Soil sampling shall occur at the following locations, and where necessary to meet the RFI objectives:

- i) From all soil borings, from the surface as necessary to determine the full extent of contamination, and specify the intervals and depths of the soil borings. If Agency determines that contamination has impacted the fill aquifer, or existing data or field observations so indicate, soil borings and sampling shall be extended vertically as necessary to determine the full extent of contamination;
- ii) At all stratigraphic unit contacts;
- iii) At the location of any preferred routes of contaminant migration;
- iv) Where field observation or testing indicate greater concentration of contaminants relative to the nearest strata that would otherwise be sampled.

b. The RFI Work Plan Sampling and Analysis Plan shall document the following for soil sampling:

- i) The sampling techniques and equipment to be used;

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- ii) The parameters for chemical analysis. Selected samples from the initial round of sampling shall be analyzed for all constituents specified in Appendix IX of 40 CFR Part 264. Parameters for subsequent sampling events shall be selected, subject to Agency review and approval, based on the results of initial soil sampling and analysis, and upon composition of the waste that are or have been managed at the Facility. The rationale for selection of all parameters shall be provided.
- c. The RFI Work Plan shall provide for documentation of the following information, including any associated calculations, derivations or assumptions:
- i) A description of the vertical and horizontal extent of contamination for all 40 C.F.R. Part 264, Appendix IX contaminants detected in soil at the Facility.
- ii) A description of contaminant properties and contaminant/soil interactions within the contaminant source area and plume. Examples of properties and interactions which may be required include contaminant solubility, speciation, adsorption, leachability, retardation coefficients, biodegradability, hydrolysis, photolysis, oxidation, soil cation exchange capacity, and other factors that might affect contaminant migration and transformation. This information shall be presented in sufficient detail to fulfill the objectives of the RFI.
- iii) Concentrations of each contaminant in all soil samples.
- iv) The rate and direction of contaminant migration and a prediction of future contaminant migration rate, including consideration of releases of
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contamination from soils and fill to ground water.

- d. The RFI Work Plan may allow submittal of existing information on soil contamination at the Facility as part of the Investigation, if the respondent can determine and certify that the existing data meets the technical, representativeness, and quality assurance/quality control requirements of the RFI Work Plan.

(3) **Surface Water Contamination**

The RFI Work Plan shall include requirements to determine the nature and extent of surface water and sediment contamination due to releases to surface water at or from the Facility and due to discharges of contaminated ground water at or from the Facility. The Work Plan shall specify the methods and procedures to be used to characterize the following:

- a. The contribution of contaminated groundwater discharges to surface water at and downgradient from the Facility, including discharges of contaminated ground water to surface drainage ways and surface waters, and discharges of ground water to subsurface drainage facilities for stormwater management at or from the Facility.
- b. The contribution of contaminated runoff at or from the Facility to surface water, including uncontrolled runoff from the Facility as determined through sampling of overland flow during storm events, and through any discharges from stormwater collection and management controls structures.
- c. The nature and extent of surface water and sediment contamination due to contributions of hazardous waste and/or hazardous constituents from the Facility, including those sources identified above.
- d. The RFI Work Plan shall include specifications for the following aspects of

the surface water contamination
investigation:

- i) The methods and equipment used to collect surface water and sediment samples for analysis.
- ii) The locations for surface water and sediment sampling, and the rationale for their selection (e.g., ground water discharge areas identified through flow net construction performed for the hydrogeologic characterization of the Facility and potentially affected downgradient areas). At a minimum, sediment samples shall be taken at any onfacility or offfacility discharges, outfalls, outlets, catch basins or manholes associated with surface water flow from the Facility.
- iii) Surface water and sediment samples shall be analyzed for all priority pollutant metals, total petroleum hydrocarbons, total solids, and those Appendix IX volatile and semivolatile organic compounds which are or have been present at the Facility. Parameters for subsequent sampling events shall be selected, subject to Agency review and approval, based on the results of initial surface water and sediment sampling and analysis, and upon composition of wastes that are or have been managed at the Facility. The rationale for selection of all parameters shall be provided.
- iv) Analytical methods must be those specified in Test Methods For Evaluating Solid Waste-Physical/Chemical Methods, U.S. Agency Publication No. SW-846, 3rd edition, September 1986, methods for Chemical Analysis of Water and Wastes, Agency Report 600/4-79-020, March 1983, or alternate methods approved by Agency and which Permittee has demonstrated will perform equal to or better than SW-

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846 methods under conditions expected in the investigation.

c. Reporting

The RFI Work Plan shall specify the outline and format for the RFI Report to present the findings of the investigation. The RFI Work Plan shall specify ground-water data reporting procedures which are consistent with Agency Region X Ground-Water Data Management System. These specifications shall include, but are not limited to, the following:

1. Construction of contour maps of ground water concentrations for all parameters selected based on the results of initial round of sampling, or subsequent sampling, and subject to Agency review and approval. Contoured parameters will include the most abundant and representative constituents from each group including volatile organic, semi-volatile organic, metals, and pesticides, if detected. Additional constituents may be selected for contouring due to their high mobility or high toxicity. All contour maps shall be presented at a scale of one inch equals 50 feet or other such scale approved by Agency, and shall show facility cultural features sufficient for clear representation of any plume, and all affected down-gradient areas. All wells in the sampling program shall be accurately located on the map, and the concentrations of each constituent shall be clearly visible. Data manipulation, such as kriging, is not to be employed. Contour intervals shall be selected to clearly indicate changes in concentration within any plume, and are subject to Agency review and approval.
2. Construction of flow nets, maps and cross sections showing surface discharges of ground water that flows beneath the Facility, and delineating the extent of discharge of contaminated ground water, and showing areas of ground water discharge that may become contaminated due to continued migration of contaminants in the subsurface;

3. Maps and cross sections depicting the estimated migration rates for contaminants in ground water, considering advection, dispersion, adsorption, and degradation processes.
The RFI report shall describe all input data algorithms, estimates, assumptions, boundary conditions, sensitivity analyses, and model calibration procedures used to derive these predictions of ground water contaminant migration;
4. The nature and extent of surface water and sediment contamination due to releases from the Facility, including maps depicting the concentration distribution over the sample locations illustrated at a scale of one inch equals 50 feet, or other such intervals as specified by Agency;
5. An assessment of the fate and transport of contamination in surface water and sediment, including maps depicting the maximum extent of exposure of aquatic organisms to contaminant concentrations at levels that may have adverse impacts, to the extent these impacts can be distinguished from ambient surface water and sediment quality in the area.

ATTACHMENT B

**SAMPLING AND ANALYSIS AND DATA MANAGEMENT PROGRAM
REQUIREMENTS**

Each RCRA Facility Investigation Work Plan shall include a plan to document all monitoring procedures (including all sampling, field measurements, and sample analysis performed during the investigation to characterize the environmental setting, source of contamination, and concentration of contaminants) so as to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented. The plan shall include the following:

A. Data Quality Assurance Plan

1. Data Collection Strategy

The strategy section of the Data Collection Quality Assurance Plan shall include, but not be limited to, the following:

- a. Description of the intended uses for the data, and the necessary level of precision and accuracy for these intended uses; and
- b. Description of methods and procedures to be used to assess the precision, accuracy, and completeness of the measurement data;

2. Sampling

The Sampling section of the Data Collection Quality Assurance Plan shall discuss:

- a. Sampling methods including, identification of sampling equipment, purging procedures, and decontamination procedures to be used;
- b. Criteria for selecting appropriate sampling locations, depths, etc.;
- c. Criteria for providing a statistically sufficient number of sampling sites;
- d. Methods for measuring all necessary ancillary data;

- e. Criteria for determining conditions under which sampling should be conducted;
- f. Criteria for identifying which parameters are to be measured, and criteria for determining where specific parameters will be measured;
- g. Criteria for identifying the type of sampling (e.g., composites vs. grabs) and number of samples to be collected;
- h. Measures to be taken to prevent contamination of the sampling equipment and cross contamination between sampling points;
- i. Methods and documentation of field sampling operations and procedures, including:
 - (1) Documentation of procedures for preparation of reagents or supplies which become an integral part of the sample (e.g., filters and adsorbing reagents);
 - (2) Procedures and forms for recording the exact location, sampling conditions, sampling equipment and visual condition of samples;
 - (3) Documentation of specific sample preservation method;
 - (4) Calibration of field devices;
 - (5) Collection of replicate samples;
 - (6) Submission of field-biased blanks, where appropriate;
 - (7) Potential interferences present at the facility;
 - (8) Field equipment listing and sample containers;
 - (9) Sampling order; and
 - (10) Decontamination procedures.
- j. Selection of appropriate sample containers;

- k. Sample preservation methods; and
- l. Chain-of-custody procedures, including:
 - (1) Standardized field tracking reporting forms to establish sample custody in the field prior to and during shipment; and
 - (2) Pre-prepared sample labels containing all information necessary for effective sample tracking.

3. Field Measurements

The Field Measurements section of the Data Collection Quality Assurance Plan shall discuss:

- a. Selecting appropriate field measurement locations, depths, etc.;
- b. Providing a statistically sufficient number of field measurements;
- c. Measuring all necessary ancillary data;
- d. Determining conditions under which field measurements should be conducted;
- e. Determining which media are to be addressed by appropriate field measurements (e.g., ground water, air, soil, sediment, etc.);
- f. Determining which parameters are to be measured and where;
- g. Selecting the frequency of field measurement and length of field measurements period; and
- h. Documenting field measurement operations and procedures, including:
 - (1) Procedures and forms for recording raw data and the exact location, tidal conditions, time, and sampling conditions;
 - (2) Calibration of field devices;
 - (3) Collection of replicate measurements;

- (4) Submission of field-biased blanks, where appropriate;
- (5) Potential interferences present at the facility;
- (6) Field equipment listing; and
- (7) Decontamination procedures.

4. Sample Analysis

The Sample Analysis section of the Data Collection Quality Assurance Plan shall specify the following:

- a. Chain-of-custody procedures, including:
 - (1) Certification that all samples obtained pursuant to this Order for analysis will be delivered to a responsible person at the recipient laboratory who is authorized to sign for incoming field samples, obtain documents of shipment, and verify the data entered onto the sample custody records;
 - (2) Provision for a laboratory sample custody log consisting of serially numbered standard lab-tracing report sheets; and
 - (3) Specification of chain-of-custody procedures for sample handling, storage, and dispersment for analysis.
- b. Sample storage procedures and storage times;
- c. Sample preparation methods;
- d. Analytical procedures, including:
 - (1) Scope and application of the procedure;
 - (2) Sample matrix;
 - (3) Potential interferences;
 - (4) Precision and accuracy of the methodology; and
 - (5) Method detection limits.

- e. Calibration procedures and frequency;
- f. Data reduction, validation, and reporting;
- g. Internal quality control checks, laboratory performance, and systems audits and frequency, including:
 - (1) Method blank(s);
 - (2) Laboratory control sample(s);
 - (3) Calibration check sample(s);
 - (4) Replicate sample(s);
 - (5) Matrix-spiked sample(s);
 - (6) "Blind" quality control;
 - (7) Control charts;
 - (8) Surrogate samples;
 - (9) Zero and span gases; and
 - (10) Reagent quality control checks.

B. Data Management Plan

A Data Management Plan shall be developed and initiated to document and track investigation data and results. This plan shall identify and establish data documentation materials and procedures, project file requirements, and project-related progress reporting procedures and documents. The plan shall also provide the format to be used to present the raw data and conclusions of the investigation.

1. Data Record

The data record shall include the following:

- a. Unique sample or field measurement code;
- b. Sampling or field measurement location including surveyed horizontal coordinates and elevation of the sample location, and sample or measurement type;

- c. Sampling or field measurement raw data;
- d. Laboratory analysis ID number;
- e. Result of analysis (e.g., concentration);
- f. Elevations of reference points for all ground water level measurements, including water level elevation, top of casing elevation, and ground surface elevation; and
- g. Magnetic computer records of all ground water, soil, surface water, and sediment analytical data meeting the format specifications of Agency Region 10 ground-water data management system.

2. Tabular Displays

The following data shall be presented in tabular displays, as appropriate:

- a. Unsorted (raw) data;
- b. Results for each medium and each constituent monitored;
- c. Data reduction for statistical analysis;
- d. Sorting of data by potential stratification factors (e.g., location, soil layer, topography); and
- e. Summary data.

3. Graphical Displays

At a minimum, the following data shall be presented in graphical formats (e.g., bar graphs, line graphs, area or plan maps, isopleth plots, cross-sectional plots or transects, three dimensional graphs, etc.):

- a. Displays of sampling location and sampling grid;
- b. Identification of boundaries of sampling area and areas where more data are required;

- c. Displays of concentrations of contamination at each sampling location;
- d. Displays of geographical extent of contamination;
- e. Areal and vertical displays of contamination concentrations, concentration averages, and concentration maxima, including isoconcentration maps for contaminants found in environmental media at the Facility;
- f. Illustrations of changes in concentration in relation to distance from the source, time, depth, or other parameters;
- g. Identification of features affecting intramedia transport and identification of potential receptors;
- h. For each round of ground water level measurements, maps showing the distribution of head measurements in each aquifer at a scale of one inch equals 50 feet and a contour interval of one-half foot; and
- i. For each well, provide a hydrograph that shows the distribution of water level measurements taken during the RFI for the time interval of the investigation.

C. Data Reporting

Permittee shall provide notification of availability to Agency and Ecology of all data obtained pursuant to this order within thirty (30) days of receipt by Permittee, or after completion of quality assurance/quality control activities, if applicable. This notification requirement shall also apply to any other information obtained from activities conducted, or data obtained, that may influence activities pursuant to this HSWA permit.

ATTACHMENT C

SCOPE OF WORK FOR CORRECTIVE MEASURE STUDY

PURPOSE

The purpose of this Corrective Measure Study (CMS) is to develop and evaluate corrective action alternatives and to recommend corrective measure(s) to be taken at the Facility.

SCOPE

The scope of the CMS will depend on the needs at the Facility as determined by the RFI; Agency may determine that an abbreviated CMS is sufficient for the Facility. Deviations from this scope of work may be made only with prior Agency approval, based on the findings of the RFI. In general, the CMS will consist of the following four tasks:

TASK 1: IDENTIFICATION AND DEVELOPMENT OF THE CORRECTIVE ACTION ALTERNATIVES

Based on the results of the RFI, Permittee shall identify, screen, and develop the alternatives for removal, containment, treatment, and/or other remediation of the contamination based on the objectives established for the corrective action.

A. Description of Current Situation

The Permittee shall submit an update to the information describing the current situation at the Facility and the known nature and extent of the contamination as documented by the RFI. The Permittee shall also make a Facility-specific statement of the purpose for the response, based on the results of the RFI. The statement of purpose should identify the actual or potential exposure pathways that should be addressed by corrective measures.

B. Screening of Corrective Measure Technologies

The Permittee shall review the results of the RFI and identify technologies which are applicable at the Facility. The Permittee shall screen corrective measure technologies and any supplement technologies to eliminate those that may prove infeasible to implement, that rely on technologies unlikely to perform satisfactorily or reliably, or that do not achieve the corrective measure objective within a reasonable time period. This screening process focuses on

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eliminating those technologies which have severe limitations for a given set of waste and Facility-specific conditions. The screening step may also eliminate technologies based on inherent technology limitations.

Facility, waste, and technology characteristics which are used to screen inapplicable technologies are described in more detail below:

1. Facility Characteristics

Facility data should be reviewed to identify conditions that may limit or promote the use of certain technologies. Technologies whose use is clearly precluded by Facility characteristics should be eliminated from further consideration.

2. Waste Characteristics

Identification of waste characteristics that limit the effectiveness or feasibility of technologies is an important part of the screening process. Technologies clearly limited by waste characteristics at the Facility may be eliminated from consideration. Waste characteristics particularly affect the feasibility of on-facility methods, direct treatment methods, and land disposal; and

3. Technology Limitations

During the screening process the level of technology development, performance record, and inherent construction, operation, and maintenance problems should be identified for each technology considered. Technologies that are unreliable, perform poorly, or are not fully demonstrated may be eliminated in the screening process.

C. Identification of Corrective Measure Alternatives

Permittee shall develop the corrective measure alternative or alternatives based on the corrective action objectives and analysis of corrective measure technologies. Permittee shall rely on engineering practice to determine which of the identified technologies appear most suitable for the facility. Technologies can be combined to form the overall corrective action alternative or alternatives. The alternative or alternatives developed should represent a workable number of option(s) that each appear to adequately

address all facility problems and corrective action objectives. Each alternative may consist of an individual technology or a combination of technologies. The Permittee shall document the reasons for excluding technologies.

TASK 2: EVALUATION OF THE CORRECTIVE MEASURE ALTERNATIVE OR ALTERNATIVES

The Permittee shall describe each corrective measure alternative that passes through the initial screening in Task 1 and evaluate each corrective measure alternative and its components. The evaluation shall be based on technical, environmental, human health, and institutional concerns. The Permittee shall also develop cost estimates of each corrective measure.

A. Technical/Environmental/Human Health/Institutional

The Permittee and Permittee's Lessee shall provide a description of each corrective measure alternative which includes, but is not limited to, an evaluation of the following factors:

1. Technical

The Permittee shall evaluate each corrective measure alternative based on performance, reliability, implementability, and safety.

- a. The Permittee shall evaluate performance based on the effectiveness and useful life of the corrective measure:
 - i) Effectiveness shall be evaluated in terms of the ability to perform intended functions, such as containment, diversion, removal, destruction, or treatment. The effectiveness of each corrective measure shall be determined either through design specifications or by performance evaluation. Any specific waste or facility characteristics which could potentially impede effectiveness shall be considered. The evaluation should also consider the effectiveness of combinations of technologies; and
 - ii) Useful life is defined as the length of time the level of effectiveness can be maintained. Most corrective measure technologies, with the exception of destruction, deteriorate with time.

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Often, deterioration can be slowed through proper system operation and maintenance, but the technology eventually may require replacement. Each corrective measure shall be evaluated in terms of the projected service lives of its component technologies. Resource availability in the future life of the technologies, as well as appropriateness of the technologies, must be considered in estimating the useful life of the project.

- b. The Permittee shall provide information on the reliability of each corrective measure including their operation and maintenance requirements and their demonstrated reliability:
- i) Operation and maintenance requirements include the frequency and complexity of necessary operation and maintenance. Technologies requiring frequent or complex operation and maintenance activity should be regarded as less reliable than technologies requiring little or straightforward operation and maintenance. The availability of labor and materials to meet these requirements shall also be considered; and
 - ii) Demonstrated and expected reliability is a way of measuring the risk and effect of failure. The Permittee should evaluate: whether the technologies have been used effectively under similar conditions; whether the combination of technologies have been used together effectively; whether failure of any one technology has an immediate impact on receptors; and whether the corrective measure has the flexibility to deal with uncontrollable changes at the Facility.
- c. Permittee shall describe the implementability of each corrective measure including the relative ease of installation (constructability) and the time required to achieve a given level of response;
- i) Constructability is determined by conditions both internal and external to the Facility conditions and include such items as location of underground utilities, depth to water table, heterogeneity of subsurface materials, and location of the Facility (e.g., remote location

vs. a congested urban area). The Permittee shall evaluate what measures can be taken to facilitate construction under these conditions. External factors which affect implementation include the need for special permits or agreements, equipment availability, and the location of suitable off-facility treatment or disposal facilities; and

ii) Time has two components that shall be addressed: the time it takes to implement a corrective measure; and, the time it takes to actually see beneficial results. Beneficial results are defined as the reduction of contaminants to some acceptable, pre-established level.

d. The Permittee shall evaluate each corrective measure alternative with regard to safety. This evaluate shall include threats to the safety of nearby communities and environments as well as those to workers during implementation. Factors to consider are fire, explosion, and exposure to hazardous substances.

2. Environmental

The Permittee shall perform an Environmental Assessment for each alternative. The Environmental Assessment shall focus on the Facility conditions and pathways of contamination actually addressed by each alternative. The Environmental Assessment for each alternative will include, at a minimum, an evaluation of: the short and long-term beneficial and adverse effects of the response alternative; adverse effects on environmentally sensitive areas; and an analysis of measures to mitigate adverse effects.

3. Human Health

The Permittee shall assess each alternative in terms of the extent of which it mitigates short and long-term exposure to any residual contamination and protects human health both during and after implementation of corrective measure. The assessment will describe the levels and characterizations of contaminants on-facility, potential exposure routes, and potentially affected population. Each alternative will be evaluated to determine the level of exposure to contaminations and the reduction over time. For management of mitigation

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measures, the relative reduction of impact will be determined by comparing residual levels of each alternative with existing criteria, standards, or guidelines acceptable to Agency.

4. **Institutional**

The Permittee shall assess relevant institutional needs for each alternative. Specifically, the effects of federal, state, and local environmental and public health standards, regulations, guidance, advisories, ordinances, or community relations on the design, operation, and timing of each alternative.

B. **Cost Estimate**

The Permittee shall develop an estimate of the cost of each corrective measure alternative (and for each phase of segment of the alternative). The cost estimate shall include both capital and operation and maintenance costs.

TASK 3: JUSTIFICATION AND RECOMMENDATION OF CORRECTIVE MEASURES

The Permittee shall justify and recommend a corrective measure alternative using technical, human health, and environmental criteria. This recommendation shall include summary tables which allow the alternatives to be understood easily. Trade-offs among health risks, environmental effects, and other pertinent factors shall be highlighted. Agency will select the corrective measure(s) to be implemented based on the results of Tasks 2 and 3. At a minimum, the following criteria will be used to justify the final corrective measure(s).

A. **Technical**

1. Performance -- Corrective measures which are most effective at performing their intended functions and maintaining the performance over extended periods of time will be given preference;
2. Reliability -- Corrective measures which do not require frequent or complex operation and maintenance activities and that have proven effective under waste and Facility conditions similar to those anticipated will be given preference;

3. Implementability -- Corrective measures which can be constructed and operated to reduce levels of contamination to attain or exceed applicable standards in the shortest period of time will be preferred; and
4. Safety -- Corrective measures which post the least threat to the safety of nearby residents and environments as well as workers during implementation will be preferred.

B. Human Health

Corrective measures must comply with existing Agency criteria, standards, or guidelines for the protection of human health. Corrective measures which provide the minimum level of exposure with time are preferred.

C. Environmental

Corrective measures posting the least adverse impact (or greatest improvement) over the shortest period of time on the environment will be favored.

TASK 4: REPORTS

The Permittee shall prepare a Corrective Measure Study Report presenting the results of Tasks 1 through 3 and recommending a corrective measure alternative.

A. Draft

The Report shall, at a minimum, include:

1. A description of the Facility
 - a. Facility topographic map and preliminary layouts
2. A summary of the corrective measure(s):
 - a. Description of the corrective measure or measures and rationale for selection;
 - b. Performance expectations, including an evaluation of the overall protectiveness of human health and the environment, ability to attain the corrective action objectives, ability to control the source(s) of release(s), and an assessment of short-term and of long-term reliability and effectiveness, including but not limited to, the methodology used to estimate

the short-term an long-term reduction of toxicity, mobility , or volume of waste and the resulting estimate;

- c. Preliminary design criteria and rationale, including an estimate and analysis of quantity, volume, and/or toxicity of the waste generated, including but not limited to, contaminated soil, sludge, and groundwater, and methods to minimize the volume, toxicity, and/or mobility of the waste to be generated;
 - d. General operation and maintenance requirements; and
 - e. Long-term monitoring requirements.
3. A summary of the RFI and impact on the selected corrective measure or measures:
- a. Field studies (groundwater, surface water, soil, air); and
 - b. Treatability studies (bench scale, pilot scale).
4. Design and Implementation Precautions:
- a. Special technical problems;
 - b. Additional engineering data required;
 - c. Permits and regulatory requirements, including an assessment of how institutional and legal requirements including federal, State, or local environmental or public health standards. regulations, and/or ordinances will affect the design, operation, and timing of each corrective measure studied;
 - d. Access, easement, right-of-way;
 - e. Health and safety requirements; and
 - f. Community relations activities.
5. Cost Estimates and Schedules:
- a. Capital cost estimate;
 - b. Operation and maintenance cost estimate; and

ATTACHMENT D

SCOPE OF WORK FOR THE CORRECTIVE MEASURE IMPLEMENTATION

PURPOSE

The purpose of this Corrective Measure Implementation (CMI) program is to design, construct, operate, maintain, and monitor the performance of the corrective measure(s) selected to protect human health and the environment.

SCOPE

The scope of the Corrective Measure Implementation Plan will depend on the needs of the Facility as determined by the Corrective Measures Study. Deviations from this Scope of Work may be made only with prior Agency approval, based on the nature of the selected Corrective Measure. In general, the Corrective Measure Implementation program will consist of the following four tasks:

TASK 1: CORRECTIVE MEASURE IMPLEMENTATION PLAN

The Permittee shall prepare a Corrective Measure Implementation Plan. This program will include the development and implementation of several plans, which require concurrent preparation. It may be necessary to revise plans as the work is performed to focus efforts on a particular problem. The Program Plan includes the following:

A. Program Management Plan

Permittee shall prepare a Program Management Plan which will document the overall management strategy for performing the design, construction, operation, maintenance, and monitoring of corrective measure(s). The plan shall document the responsibility and authority of all organizations and key personnel involved with the implementation. The Program Management Plan will also include a description of qualifications of key personnel directing the Corrective Measure Implementation program, including contractor personnel.

B. Community Relations Plan

The Permittee shall revise the Community Relations Plan to include any changes in the level of concern or information

needs of the community for design and construction activities.

1. Specific activities which must be conducted during the design stage are the:
 - a. Revise the Public Involvement Plan to reflect knowledge of citizen concerns and involvement at this stage of the process; and,
 - b. Prepare and distribute a public notice and an updated fact sheet at the completion of engineering design.
2. Depending on citizen interest, specific activities to be conducted during the construction stage could range from group meetings to fact sheets on the technical status.

TASK 2: CORRECTIVE MEASURE DESIGN

The Permittee shall prepare final construction plans and specifications to implement the corrective measure(s) at the Facility as defined in the CMS and approved or modified and approved by Agency.

A. Design Plans and Specifications

The Permittee shall develop clear and comprehensive design plans and specifications which include, but are not limited to, the following:

1. Discussion of the design strategy and the design basics, including:
 - a. Compliance with all applicable or relevant environmental and public health standards; and
 - b. Minimization of environmental and public impacts.
2. Discussion of the technical factors of importance including:
 - a. Use of currently accepted environmental control measures and technology;
 - b. The constructability of the design; and
 - c. Use of currently acceptable construction practices and techniques.

3. Description of assumptions made and detailed justification of these assumptions;
4. Discussion of the possible sources of error and references to possible operation and maintenance problems;
5. Detailed drawings of the proposed design;
6. Tables listing equipment and specifications;
7. Appendices including:
 - a. Sample calculations (one example presented and explained clearly for significance or unique design calculations);
 - b. Results of laboratory or field tests.

B. Operation and Maintenance Plan

The Permittee shall prepare an Operation and Maintenance Plan to cover both implementation and long-term maintenance of the corrective measure. The plan shall be composed of the following elements:

1. Description of potential operating problems:
 - a. Description of analysis of potential operation problems;
 - b. Sources of information regarding problems; and
 - c. Common and/or anticipated remedies.
2. Description of alternate operation and maintenance:
 - a. Should systems fail, alternate procedures to prevent undue hazard; and
 - b. Analysis of vulnerability and additional resource requirements should a failure occur.
3. Safety Plan:
 - a. Description of precautions, or necessary equipment, etc., for facility personnel; and
 - b. Safety tasks required in event of systems failure.

4. Description of equipment; and
 - a. Equipment identification;
 - b. Installation of monitoring components;
 - c. Maintenance of facility equipment; and
 - d. Replacement schedule for equipment and installed components.
5. Records and reporting mechanisms required.
 - a. Daily operating logs;
 - b. Laboratory records;
 - c. Records for operating costs;
 - d. Mechanism for reporting emergencies; and
 - e. Personnel and maintenance records.

A Draft Operation and Maintenance Plan shall be submitted simultaneously with the Prefinal Design Document required by Task II.F.6 of this Attachment, and the Final Operation and Maintenance Plan shall be submitted simultaneously with the Final Design Documents.

C. Cost Estimate

The Permittee shall develop cost estimates for the purpose of assuring that the Facility has the financial resources necessary to construct and implement the corrective measure(s). The cost estimate developed in the CMS shall be refined to reflect the more detailed/accurate design plans and specifications being developed. The cost estimate shall include both capital and operation and maintenance costs. An Initial Cost Estimate shall be submitted simultaneously with the Prefinal Design submission and the Final Cost Estimate with the Final Design Document.

D. Project Schedule

The Permittee shall develop a Project Schedule for construction and implementation of the corrective or measure(s) which identify timing for initiation and completion of all critical path tasks. The Permittee shall specifically identify dates for completion of the project

and major interim milestones. An Initial Project Schedule shall be submitted simultaneously with the Prefinal Design Document submission and the final Project Schedule with the Final Design Document.

E. Construction Quality Assurance Objectives

The Permittee shall identify and document the objectives and framework for the development of a construction quality assurance program including, but not limited to, the following: responsibility and authority; personnel qualifications; inspection activities; sampling requirements; and documentation.

F. Health and Safety Plan

The Permittee shall develop the Health and Safety Plan to address the activities to be performed at the Facility to implement the corrective measure(s).

G. Design Phases

The design of the corrective measure(s) should include the phases outlined below.

1. Preliminary Design

The Permittee shall submit the preliminary design when the design effort is approximately 30 percent complete. At this stage, Permittee shall have field verified the existing conditions of the Facility. The preliminary design shall reflect a level of effort such that the technical requirements of the project have been addressed and outlined so that they may be reviewed to determine if the final design will provide operable and usable corrective measure(s). Supporting data and documentation shall be provided with the design documents defining the functional aspects of the program. The preliminary construction drawings by the Permittee shall reflect organization and clarify. The scope of the technical specifications shall be outlined in a manner reflecting the final specifications. The Permittee shall include with the preliminary submission, design calculations reflecting the same percentage of completion as the designs they support.

2. Intermediate Design

Complex project design may necessitate review of the design documents between the preliminary and the prefinal/final design. At the discretion Agency, a design review may be required at 60 percent completion of the project. The intermediate design submittal should include the same elements as the prefinal design.

3. Correlating Plans and Specifications

General correlation between drawings and technical specifications, is a basic requirement of any set of working construction plans and specifications. Before submitting the project specifications, Permittee shall:

- a. Coordinate and cross-check the specifications and drawings; and
- b. Complete the proofing of the edited specifications and required cross-checking of all drawings and specifications.

These activities shall be completed prior to the 95 percent prefinal submittal to Agency.

4. Equipment Start-up and Operator Training

The Permittee shall prepare, and include in the technical specifications governing treatment systems, contractor requirements for providing: appropriate service visits by experienced personnel to supervise the installation, adjustment, start-up, and operation of the treatment systems, and training covering appropriate operations procedures once the start-up has been successfully accomplished.

5. Additional Studies

Corrective Measure Implementation may require additional studies to supplement the available technical data. At the direction of Agency for any such studies required, the Permittee shall furnish all services, including field work as required, materials, supplies, plant, labor, equipment, investigations, studies, and superintendence. Sufficient sampling, testing, and analysis shall be performed to optimize the required treatment and/or disposal operations and systems. There shall be an initial meeting of all principal personnel involved in the development of the program. The purpose will be to discuss objective, resources, communication

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channels, role of personnel involved, and orientation of the facility, etc. The interim report shall present the results of the testing with the recommended treatment or disposal systems (including options). A review conference shall be scheduled after the interim report has been reviewed by all interested parties. The final report of the testing shall include all data taken during the testing and a summary of the results of the studies.

6. Prefinal and Final Design

If required by Agency, the Permittee shall submit the prefinal/final design documents in two parts. The first submission shall be at 95 percent completion of design (i.e., prefinal). After approval of the prefinal submission, the Permittee shall execute the required revisions and submit the final documents 100 percent complete with reproducible drawings and specifications.

The prefinal design submittal shall consist of the Design Plans and Specifications, Operation and Maintenance Plan, Capital and Operating and Maintenance Cost Estimate, Project Schedule, Quality Assurance Plan, and Specifications for the Health and Safety Plan.

The final design submittal consists of the Final Design Plans and Specifications (100 percent complete), the Permittee's Final Construction Cost Estimate, the final Operation and Maintenance Plan, Final Quality Assurance Plan, Final Project Schedule, and Final Health and Safety Plan specifications. The quality of the design documents should be such that the Permittee would be able to include them in a bid package and invite contractors to submit bids for the construction project.

TASK 3: CORRECTIVE MEASURE CONSTRUCTION

Following Agency approval of the final design, the Permittee shall develop and implement a construction quality assurance (CQA) program to ensure, with a reasonable degree of certainty, that the completed corrective measure(s) meets or exceeds all design criteria, plans, and specifications. The CQA plan is a facility specific document which must be submitted to Agency for approval prior to the start of construction. At a minimum, the CQA plan should include the elements summarized below. Upon Agency approval of the CQA plan, the Permittee shall construct and implement the corrective measure in accordance with the approved design, schedule, and the CQA plan. The Permittee shall

also implement the elements of the approved Operation and Maintenance plan.

A. Responsibility and Authority

The responsibility and authority of all organizations (e.g., technical consultants, construction firms, etc.) and key personnel involved in the construction of the corrective measure(s) shall be described fully in the CQA plan. Permittee must identify a CQA officer and the necessary supporting inspection staff.

B. Construction Quality Assurance Personnel Qualifications

The qualifications of the CQA officer and supporting inspection personnel shall be presented in the CQA plan to demonstrate that they possess the training and experience necessary to fulfill their identified responsibilities.

C. Inspection Activities

The observations and test that will be used to monitor the construction and/or installation of the components of the corrective measure(s) shall be summarized in the CQA plan. The plan shall include the scope and frequency of each type of inspection. Inspections shall verify compliance with all environmental requirements and include, but not be limited to, air quality and emissions monitoring records, waste disposal records (e.g., RCRA transportation manifests), etc. The inspection should also ensure compliance with all health and safety procedures. In addition to oversight inspections, the Permittee shall conduct the following activities.

1. Preconstruction Inspection and Meeting

Permittee shall conduct a preconstruction inspection and meeting to:

- a. Review methods for documenting and reporting inspection data;
- b. Review methods for distributing and storing documents and reports;
- c. Review work area security and safety protocol;

- d. Discuss any appropriate modifications of the construction quality assurance plan to ensure that facility-specific considerations are addressed; and
- e. Conduct a facility walk-around to verify that the design criteria, plans, and specifications are understood and to review material and equipment storage locations.

The preconstruction inspection and meeting shall be documented by a designated person and minutes should be transmitted to all parties.

2. Prefinal Inspection

Upon preliminary project completion, the Permittee shall notify Agency for the purposes of conducting a prefinal inspection. The prefinal inspection will consist of a walk-through inspection of the entire project facility. The inspection is to determine whether the project is complete and consistent with the contract documents and the Agency approved corrective measure(s). Any outstanding construction items discovered during the inspection will be identified and noted. Treatment equipment will be operationally tested by the Permittee. The Permittee will certify that the equipment has performed to meet the purpose and intent of the specifications. Retesting will be completed where deficiencies are revealed. The prefinal inspection report should outline the outstanding construction items, actions required to resolve items, completion date for these items, and date for final inspection.

3. Final Inspection

Upon completion of any outstanding construction items, the Permittee shall notify Agency for the purpose of conducting a final inspection. The final inspection will consist of a walk-through inspection of the project facility. The prefinal inspection report will be used as a checklist with the final inspection focusing on the outstanding construction items identified in the prefinal inspection. Confirmation shall be made that outstanding items have been resolved.

D. Sampling Requirements

The sampling activities, sample size, sample locations, frequency of testing, acceptance and rejection criteria, and

plans for correcting problems as addressed in the project specifications should be presented in the CQA plan.

E. Documentation

Reporting requirements for CQA activities shall be described in detail in the CQA plan. This should include such items as daily summary reports, inspection data sheets, problem identification and corrective measures reports, design acceptance reports, and final documentation. Provisions for the final storage of all records also should be presented in the CQA plan.

TASK 4: REPORTS

The Permittee shall prepare plans, specifications, and reports as set forth in Tasks 1 through 3 to document the design, construction, operation, maintenance, and monitoring of the corrective measure. The documentation shall include, but not be limited to, the following:

A. Progress

The Permittee shall provide Agency and Ecology with monthly progress report during the design and construction phases, and for operation and maintenance activities, containing:

1. A description and estimate of the percentage of the CMI completed;
2. Summaries of all findings;
3. Summaries of all changes in the CMI during the reporting period;
4. Summaries of all contacts with representatives of the local community, public interest groups or state government during the reporting period;
5. Summaries of all problems or potential problems encountered during the reporting period;
6. Actions being taken to rectify problems;
7. Changes in personnel during the reporting period;
8. Projected work for the next reporting period; and

9. Copies of daily reports, inspection reports, laboratory/monitoring data, etc.

The Permittee shall provide Agency with quarterly progress reports during implementation of the selected corrective measure(s), demonstrating the effectiveness of the corrective action program in accordance with the final Facility-specific performance standards, and describing all operation and maintenance activities performed during the reporting period. This progress report shall include items 3 through 9 specified above in Task 4.A.

B. Draft

1. The Permittee shall submit a draft Corrective Measure Implementation Plan as outlined in Task 1.
2. The Permittee shall submit draft Construction Plans and Specifications, Design Reports, Cost Estimates, Schedules, Operation and Maintenance plans, and Study Reports as outlined in Task 2.
3. The Permittee shall submit a draft Construction Quality Assurance Program Plan and Documentation as outlined in Task 2.

C. Final

The Permittee shall finalize the Corrective Measure Implementation Plan, Construction Plans and Specifications, Design Reports, Cost Estimates, Project Schedule, Operation and Maintenance Plan, Study Reports, Construction Quality Assurance Program Plan/Documentation, and the Corrective Measure Implementation Report incorporating comments received on draft submissions.

1. At the "completion" of the construction of the project, Permittee shall submit a Corrective Measure Implementation Report to Agency and Ecology. The Report shall document that the project is consistent with the design specifications, and that the corrective measure is performing adequately. The Report shall include, but not be limited to, the following elements:
 - a. Synopsis of the corrective measure(s) and certification of the design and construction;
 - b. Explanation of any modifications to the plans and why these were necessary for the project;

- c. Listing of the criteria, established before the corrective measure was initiated, for judging the functioning of the corrective measure and also explaining any modification to these criteria;
- d. Results of Facility monitoring, indicating that the corrective measure will meet or exceed the performance criteria; and
- e. Explanation of the operation and maintenance (including monitoring) to be undertaken at the facility.

This report should include all of the inspection summary reports, inspection data sheets, problem identification and corrective measure reports, photographic reporting data sheets, design engineers' acceptance reports, deviations from design and material specification (with justifying documentation), and as-built drawings.

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ATTACHMENT E

INTERIM MEASURES REQUIREMENTS

The following conditions shall apply to the performance of interim measures at the Facility:

1. The Permittee shall continuously consider and evaluate information regarding releases at the Facility, and the nature and extent of contamination from hazardous wastes and/or hazardous constituents at or from the Facility, as learned in connection with performance of the RFI or other investigations. In the event the Permittee identifies an imminent and substantial threat to human health or the environment based on such information, Permittee shall immediately notify Agency and Ecology orally, and shall notify Agency and Ecology in writing within seven (7) days summarizing the immediacy and magnitude of such identified threats.

2. If Agency determines that any release or threat of release of hazardous wastes, hazardous constituents, or hazardous substance(s) at or from the Facility presents an imminent and substantial endangerment to human health or the environment, then the Permittee shall formulate a set of interim or stabilization measures. This determination will be based on Permittee's evaluation, and/or an independent evaluation by Agency, of information indicating an imminent and substantial endangerment to human health or to the environment. Interim or stabilization measures shall be those which, when implemented, will mitigate the release or threat of release, or which can effectively mitigate the impact on receptors affected by such releases. To the maximum extent practicable, interim and stabilization measures should be consistent with and capable of being integrated into long term corrective measures at the Facility. The Permittee shall prepare and submit within twenty-one (21) days, or by such earlier or later date as may be required by Agency, an interim measures ("IM") workplan to address the release or threat of release that presents an imminent and substantial endangerment to human health or the environment. This workplan shall include:
 - (a) Interim Measure Objectives;
 - (b) A Health and Safety Plan;
 - (c) A Public Involvement (or Community Relations) Plan;
 - (d) A Data Collection Quality Assurance Plan;
 - (e) A Data Management Plan;
 - (f) Design and Specifications;

- (g) An Operation and Maintenance Plan;
 - (h) A Project Schedule;
 - (i) An Interim Measure Construction Quality Assurance Plan; and
 - (j) Reporting Requirements.
3. Upon acceptance or modification by Agency of an IM Work Plan, Permittee shall commence work and implement the tasks required by the IM Plan according to the Project Schedule included therein. The Permittee shall implement these tasks in accordance with the requirements and specifications stated in the IM Work Plan as accepted or modified by Agency.
 4. Within thirty (30) days after the effective date of this HSWA permit, or by such earlier or later date as may be required by Agency, the Permittee shall submit to Agency for its review and approval, and to Ecology, a plan to ensure that all trucks loaded with hazardous wastes that are parked on the Permittee's property will be parked within secondary containment. The Permittee may comply with this requirement through operational controls or construction projects, or both. This plan shall provide the design and construction specifications and operation and maintenance requirements and schedules for any design, construction and maintenance that will be implemented to fulfill this requirement.
 5. If the Permittee elects to perform an interim or stabilization measure, and Agency has not determined that a release or threat of release of hazardous wastes, hazardous constituents, or hazardous substance(s) at or from the Facility may present an imminent and substantial endangerment to human health or the environment, then the Permittee shall submit a written request to Agency for review and approval of the proposed action, unless emergency action is required. Any interim or stabilization measures must be in the public interest and, to the maximum extent practicable, be consistent with future corrective actions. The Permittee shall secure prior written Agency approval to perform any interim or stabilization measure or other work at the Facility, unless emergency action is required. This requirement shall not apply to normal maintenance and operations activities, to the extent that these activities do not affect interim, stabilization or corrective measures, or investigations carried out pursuant to this HSWA permit.