

**EXPLANATION OF SIGNIFICANT DIFFERENCES #2
FOR THE "HANFORD SITE 300 AREA RECORD OF DECISION FOR 300-FF-2 AND
300-FF-5, AND RECORD OF DECISION AMENDMENT FOR 300-FF-1"**

EPA #: WA2890090077

APRIL 2016

INTRODUCTION TO THE SITE AND STATEMENT OF PURPOSE

This decision document presents an Explanation of Significant Differences (ESD) for the Final "Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1," issued in November of 2013 [hereafter "300 Area Final Action ROD"] (EPA 2013).

The 300 Area of the Hanford Site contained numerous fuel fabrication and research facilities, as well as ancillary facilities and waste sites. Remediation of the 300 Area is currently being conducted under the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980* (CERCLA) in accordance with 300 Area Final Action ROD, <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0087180>. Previously, waste sites associated with the 300-FF-2 Operable Unit were remediated under the *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington* (EPA 2001). <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=D8686316>. The 2013 300 Area Final Action ROD replaced the 300-FF-2 Interim Action ROD.

The 300 Area Final Action ROD has been supplemented with an ESD which was issued in September 2015 for waste sites 600-386 and 300-393 (EPA 2015). <http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0079935H>

The U.S. Environmental Protection Agency (EPA, the lead regulatory agency), and DOE (the lead agency), are issuing this ESD to provide notice of changes to the 300 Area Final Action ROD, as listed below. The Washington State Department of Ecology (Ecology, the support regulatory agency), concurs with the issuance of this ESD. EPA, DOE and Ecology are hereafter collectively referred to as the "Tri-Parties."

This document revises the 300 Area Final Action ROD for 300-FF-2 by adding a waste site to the 300 Area Final Action ROD, Table 1, as well as providing a modified Technology/Approach for another waste site:

Technology/Approach	Waste Site
Remove/Treat/Dispose (RTD) to residential cleanup levels	600-403
Remove/Treat/Dispose (RTD) to residential cleanup levels without backfill	300-288:2 (300-288 subsite #2)

Attachment 1 of this ESD provides an updated Table 1 for the 300 Area Final Action ROD for 300-FF-2 Sites.

The description and official title of waste site 600-403 is "Thorium Contamination near 618-13." The 600-403 waste site is being added to the 300 Area Final Action ROD pursuant to the CERCLA §117 and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. §§300.435(c)(2)(i) and 300.825(a)(2).

Waste site 300-288:2, "*Undocumented Disposal Site within Gravel Pit 6*", is a subsection of the 300-288 waste site already listed in Table 1 of the 300 Area Final Action ROD. Section 12.2.1 of the 300 Area Final Action ROD, "RTD at Waste Sites for 300-FF-2", requires all sites undergoing RTD to be backfilled and revegetated. The 300-288:2 waste site is located within Hanford Borrow Pit 6. The selected remedy for the 300-288 waste site is being changed as follows. At the conclusion of remediating 300-288:2 to residential cleanup levels, this portion of the waste site will not be backfilled, as it will continue to be used for borrow material. Attachment 2 provides an aerial view of this 300-288:2 waste site and Pit 6. As borrow materials are exhausted, the slopes of Pit 6 will be re-contoured in a manner to support establishment of native plant communities and promote the aesthetic integrity of the landscape. Closure of Pit 6 will include re-contouring and revegetation in accordance with an EPA approved revised Remedial Design Report/Remedial Action Work Plan.

The parties concur that the changes described above will not fundamentally alter the remedy scope and/or costs discussed in the 300 Area Final Action ROD.

The bases for the modification described above are as follows:

The 600-403 waste site is a newly discovered site, identified in the Waste Information Data System (WIDS) that requires remediation due to the presence of radiological and hazardous substances present in concentrations that pose a threat to human health and the environment. A copy of the WIDS description is provided as attachment 3. The waste site shares common physical and contaminant characteristic with other 300-FF-2 waste sites for which the RTD remedy was selected such that the selection of the RTD remedy for 600-403 waste site is appropriate based on the evaluation of alternatives conducted for similar 300-FF-2 waste sites using CERCLA remedy selection criteria. As the 600-403 waste site is located outside the 300 Area Industrial Complex, RTD of contaminated soil to meet residential cleanup levels is required per Section 12.2.1 of the 300 Area Final Action ROD.

The 300-288-2 part of the 300-288 waste site will continue to be subject to RTD to residential levels requirements, but will not be required to be backfilled as it is part of Pit 6 which will continue to be used for borrow material. Closure of Pit 6 will include re-contouring and revegetation in accordance with an EPA approved revised Remedial Design Report/Remedial Action Work Plan. A photograph of this waste site is provided in Attachment 4.

Publication of this ESD is necessary to add the 600-403 to the 300 Area Final Action ROD (EPA 2013) as a "RTD to residential cleanup levels" site as well as to allow the deletion of backfill requirement for the 300-288:2 waste site in Hanford Borrow Pit 6 in the 300 Area Final Action ROD (EPA 2013). The 300 Area Final Action ROD *Remedial Design Report/Remedial Action Work Plan for 300-FF-2 Soils* will be revised within 90 days of publication of this ESD to include the additional waste site and to provide for re-contouring and revegetation of 300-288:2 waste site, and submitted to EPA for approval.

STATUTORY CITATION FOR AN EXPLANATION OF SIGNIFICANT DIFFERENCE

DOE and EPA are issuing this ESD in accordance with Section 117(c) of CERCLA and Section 300.435(c)(2)(i) of the "National Oil and Hazardous Substance Pollution Contingency Plan" (NCP) (40 C.F.R. Part 300). This ESD provides public notice of the change to the remedy selected in the 300 Area Final Action ROD that will: (1) require 600-403 to be cleaned up to residential standards; and (2) relieve DOE from its obligation to backfill and revegetate 300-288:2. DOE will publish notice of the availability and a brief description of this ESD, which includes the reasons for the differences, in the Tri-City Herald.

In accordance with 40 CFR §300.435(c)(2)(i)(A) and 40 CFR §300.825(a)(2) of the NCP, this ESD and supporting information, will become part of the Administrative Record for the 300 Area Final Action ROD, which is available for review at the following location:

U.S. Department of Energy, Richland Operations Office
Administrative Record

2440 Stevens Center Place, Room 1101

P.O. Box 950, Mail Stop H6-08

Richland, Washington 99352

(509) 376-2530

URL: <http://pdw.hanford.gov/arpir/>

300-FF-2 ROD index: <http://pdw.hanford.gov/arpir/pdf.cfm?accession=0079637H>

Hours of operation: Monday through Thursday 7:00 am – 4:40 pm

This ESD and supporting information is also available for review at the Public Information Repositories listed below:

Public Access Room

2440 Stevens Center, Room 1101

P.O. Box 950, Mail Stop H6-08

Richland, WA 99352

Phone: (509) 376-2530

E-Mail: [Heather M Childers@rl.gov](mailto:Heather.M.Childers@rl.gov)

Hours: Monday – Thursday, 6:00 am - 4:30 pm

Gonzaga University

Foley Center Library
East 502 Boone Avenue
Spokane, WA 99258
(509) 313-6110

E-Mail: spencer@gonzaga.edu

Monday-Thursday, 7:30 am-2am, Friday, 7:30am-9pm,
Saturday – Sunday, 10am -2 pm

<http://researchguides.gonzaga.edu/hours>

Portland State University Library

Government Information
Branford Price Millar Library-LIBW
PO Box 1151
Portland, Oregon 97207
(509) 725-4542

E-Mail: westonc@pdx.edu

Hours: Monday - Thursday 9am – 9 pm, Friday 9am - 6 pm, Saturday 10am - 7pm,
Sunday, 12 - 7pm

<http://library.pdx.edu/research/government-information-maps/>

US Department of Energy Public Reading Room

Washington State University
Consolidated Information Center, Room 101-L
2770 University Drive
Richland, WA 99352
(509) 375-7443

Monday – Thursday, 12 pm – 4 pm

E-Mail: doe.reading.room@pnnl.gov

University of Washington

Suzzallo & Allen Libraries
4000 15th Ave NE
Box 352900
Seattle, WA 98185
(206) 543-0242

Monday – Thursday, 7:30 am – 10 pm

Friday, 7:30 am – 6 pm

Saturday, 1 – 5 pm

Sunday, 1 – 10 pm

E-Mail: govpub@uw.edu

Website: <http://www.lib.washington.edu/about/hours/suzzallo>

SITE HISTORY, CONTAMINATION, AND SELECTED REMEDY

In 2013, the 300 Area Final Record of Decision set the technology and approach for the remediation and treatment of 130 waste sites. This list was slightly amended in September 2015 to add the 600-386 and 300-393 waste sites. Since the issuance of the ROD, a determination has been made to retain use of Pit 6 after completion of the remediation of the 300-288:2 waste site. Additionally, a new waste site, 600-403, was discovered. The 600-403 site is a radiologically contaminated site near the 618-13 burial ground and the 600-290:2 waste site. Contaminant of concern for this waste site is uranium. The site will be remediated to meet residential cleanup levels under the RTD remedy established in the 300 Area Final Action ROD per the EPA approved *Remedial Design Report/Remedial Action Work Plan for 300-FF-2 Soils (RDR/RAWP)*.

The 300-288:2 waste site is an undocumented debris site with slight uranium and asbestos contamination that will be remediated to residential cleanup levels, per the 300-FF-2 Final Action ROD. This ESD would allow the area underneath the 300-288:2 waste site to be used as borrow material once the waste site is verified to meet residential cleanup levels. As the site would be used as a borrow pit, backfill, as discussed in the 300 Area Final ROD, will not be required.

DESCRIPTION OF SIGNIFICANT DIFFERENCES

This ESD adds the 600-403 waste site to Table 1 of the 300 Area Final Action ROD in the category of "RTD to residential cleanup levels". This ESD also deletes the requirement to backfill the 300-288:2 site, once it meets residential cleanup levels, to allow its use as a borrow pit.

The costs associated with the changes are within the estimates of the selected alternative 3a of the 300 Area Final Action ROD. Waste volume associated with the 600-403 waste site is anticipated to be less than 25 cubic yards. Waste volumes for the 300-288:2 site are already included in the 300 Area Final Action ROD cost estimates for the selected remedy.

SUPPORT AGENCY COMMENTS

Ecology, as the support agency concurs with this ESD to the Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1 (EPA 2013).

STATUTORY DETERMINATIONS

Adding the 600-403 waste site to Table 1 of the 300 Area Final Action ROD for RTD remediation to residential cleanup levels and deleting the backfill requirement for the

300-288:2 subsection of the 300-288 waste site satisfies CERCLA Section 121. The remedy, as revised to include the 600-403 waste site and to modify remedy for 300-288:2 part of the 300-288 waste site, is protective of human health and the environment, complies with federal and state requirements identified in the 300 Area Final Action ROD that are applicable or relevant and appropriate to remedial action as described in Appendix A of the 300 Area Final Action ROD, is cost-effective, and uses permanent solutions and alternative treatment technologies to the maximum extent practicable. In addition, the remedy employs treatment as necessary to meet waste acceptance criteria of the disposal facility and as necessary to reduce air releases and worker exposure during excavation and waste management.

PUBLIC PARTICIPATION

The public participation requirements set forth in 40 CFR §300.435(c)(2)(i) of the National Contingency Plan are met through the issuance of this ESD and through notification to the public via newspaper publication in the Tri-City Herald.

REFERENCES (Links to documents in the Hanford Administrative Record for the 300-FF- 2 Operable Unit are provided below)

1. 40 CFR 300, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*, as amended.
2. *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, 42 U.S.C. 9601, et seq.
3. EPA 2001 - *Interim Action Record of Decision for the 300-FF-2 Operable Unit, Hanford Site, Benton County, Washington*
<http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=D8686316>
4. EPA 2013 - *Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1.*
<http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0087180>
5. DOE-RL 2015 - *Remedial Design Report/Remedial Action Work Plan for 300-FF-2 Soils (RDR/RAWP)*, DOE/RL-2014-13-ADD1, Revision 0;
<http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0081152H>
6. EPA 2015 -*Explanation of Significant Differences for the Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, And Record Of Decision Amendment For 300-FF-1, September 2015.*
<http://pdw.hanford.gov/arpir/index.cfm/viewDoc?accession=0079935H>

7. DOE-RL 2013a- Finding of No Significant Impact, Expansion of Borrow Areas on the Hanford Site, Richland, Washington, DOE/EA-1934,
<http://www.hanford.gov/files.cfm/FONSI%20Expansion%20of%20Borrow%20Areas%20on%20the%20Hanford%20Site-DOE-EA-1934.pdf>

8. DOE/RL-2013b, Mitigation Action Plan for DOE/EA-1934, WCH-561,
<http://www.hanford.gov/files.cfm/Expansion%20of%20Borrow%20Areas%20on%20the%20Hanford%20Site-Mitigation%20Action%20Plan%20for%20DOE-EA-1934.pdf>

Attachment 1-Updated Waste Site List for 300-FF- 2 from page v of the 300 Area Final Action ROD

Table 1. Waste Sites included in this ROD	
Technology/Approach	Waste Site
No additional action (waste sites that do not pose an unacceptable risk and do not require additional action)	300 VTS, 300-1, 300-10, 300-109, 300-110, 300-18, 300-253, 300-256, 300-259, 300-260, 300-262, 300-275, 300-29, 300-33, 300-41, 300-45, 300-53, 300-8, 303-M SA, 303-M UOF, 311 MT1, 311 MT2, 313 MT, 331 LSLDF, 333 ESHWSA, 600-22, 600-243, 600-259, 600-46, 600-47, 618-13, 618-5, 618-7, 618-8, 618-9, UPR-300-17, UPR-300-41, UPR-300-46, 600-386
RTD to industrial cleanup levels	300 RLWS, 300 RRLWS, 300-11, 300-121, 300-123, 300-15, 300-16, 300-175, 300-2, 300-214, 300-218, 300-219, 300-22, 300-224, 300-24, 300-249, 300-251, 300-255, 300-257, 300-258, 300-263, 300-265, 300-268, 300-269, 300-270, 300-273, 300-274, 300-276, 300-277, 300-279, 300-28, 300-280, 300-281, 300-283, 300-284, 300-286, 300-289, 300-291, 300-293, 300-294, 300-296, 300-32, 300-34, 300-4, 300-40, 300-43, 300-46, 300-48, 300-5, 300-6, 300-7, 300-80, 300-9, 313 ESSP, 316-3 ^a , 331 LSLT1, 331 LSLT2, 333 WSTF, 340 COMPLEX, 3712 USSA, 618-11, UPR-300-1, UPR-300-10, UPR-300-11, UPR-300-12, UPR-300-2, UPR-300-38, UPR-300-39, UPR-300-4, UPR-300-40, UPR-300-42, UPR-300-45, UPR-300-48 UPR-300-5
RTD to residential cleanup levels	300-287, 300-288 ^d , 300-290, 316-4, 400 PPSS, 400-37, 400-38, 600-290, 600-367, 600-63, 618-10, UPR-600-22, 600-393, 600-403
Enhanced Attenuation – waste sites	316-1 ^{b,c} , 316-2 ^c , 316-3 ^a , 316-5 ^c , 618-1, 618-2, 618-3

- a. Waste site 316-3 is identified for RTD and is also identified for enhanced attenuation for deep uranium contamination, if present.
- b. Waste site 316-1 did not exceed CULs for protection of groundwater, but is being considered as a potential uranium source of groundwater contamination because of the large waste disposal inventory and the proximity of the waste site to higher groundwater concentrations.
- c. Waste sites included in the 300-FF-1 OU.
- d. 300-288:2 (subsite 2 of 300-288) does not require backfill

Attachment 2 Aerial View of the 300-288:2 waste site



Attachment 3 WIDS Description for 600-403

Waste Information Data System General Summary Report

2/19/2016

Code: 600-403 Classification: Accepted Page 1

Names: 600-403; Thorium Contamination Found Near 618-13

Type:	Unplanned Release	OU/WMA:	TBD
Pipe Type:	Not Specified	Hanford Area:	600
Status:	Inactive	Implementation Area:	Not Specified
Start Date:		SQUID:	Not Specified
End Date:			

Description:

The site is a posted radiation zone that measures approximately 15 feet by 15 feet.

Location Description:

The site is located just west of Rt 4 South, adjacent to the road that loops around the 618-13 waste site at coordinates N116259/E592843 (N46 22.376/W 119 17.589).

Comment:

On March 2, 2015, a Radiological Control Technician (RCT) was training using a Mobile Gamma Spectrometer (MGS) near WIDS Site 618-13. This area had previously been used for training with the MGS. The MGS alarmed with a positive hit of Thorium-232. Because of the significant alarm the RCT immediately performed investigative surveys on the soil surfaces. The measurements were 108,000 dpm per 100 square centimeters, direct beta-gamma at the soil surface and 2,328 dpm per 100 square centimeters direct alpha at the soil surface. The dose rate was 0.02 mrem/hr. Approximately 1 inch of soil was removed with a shovel. The soil in the shovel was surveyed. Radiological measurements of 15,600 dpm per 100 square centimeters, direct beta-gamma and 840 dpm per 100 square centimeters, direct alpha were detected.

Regulatory Information:

Programmatic Responsibility

Responsible
Contractor/Subcontractor:
Reclassifying
Contractor/Subcontractor:
Responsible Project:

Site Evaluation

Solid Waste Management Unit:
TPA Waste Management Unit Type:

Permitting

RCRA Part B Permit:	TSD Number:
RCRA Part A Permit:	Closure Plan:
RCRA Permit Status:	
Septic Permit:	216/218 Permit:
Inert LandFill:	NPDES:
	State Waste
Air Operating Permit:	Discharge Permit:

Code: 600-403

Classification: Accepted

Page 2

**Air Operating Permit
Number(s):**

Tri-Party Agreement

Lead Regulatory Agency:

Unit Category:

TPA Appendix:

Remediation and Closure

Decision Document:

Decision Document Status:

Closure Document:

Closure Type:

Post Closure Requirments:

Images:

Pathname: <//aisweb.ri.gov/kwidsimg/600/4044/4044-01.JPG>

Date Taken: 3/2/2015

Description:

Photo shows the area of contamination with Radiological Controlled and Soil Contamination posting signs.

References:

1. Rick Moren, 3/3/2015, Soil Contamination Finding.

Attachment 4 Photograph of 600-403 Waste Site



April 2016

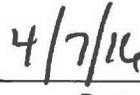
Signature sheet for the *Explanation of Significant Differences for the Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1* between the U.S. Department of Energy and the U.S. Environmental Protection Agency, with concurrence by the Washington State Department of Ecology.



Stacy L. Charboneau

Manager

U. S. Department of Energy
Richland Operations Office



Date

April 2016

Signature sheet for the *Explanation of Significant Differences for the Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1* between the U.S. Department of Energy and the U.S. Environmental Protection Agency, with concurrence by the Washington State Department of Ecology.

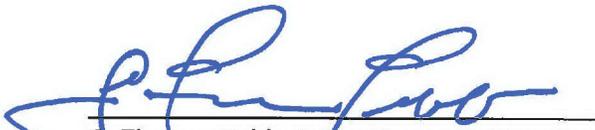


Dennis Faulk
Program Manager, Hanford/INL Project Office
U. S. Environmental Protection Agency, Region 10

4/12/16
Date

April 2016

Signature sheet for the *Explanation of Significant Differences for the Hanford Site 300 Area Record of Decision for 300-FF-2 and 300-FF-5, and Record of Decision Amendment for 300-FF-1* between the U.S. Department of Energy and the U.S. Environmental Protection Agency, with concurrence by the Washington State Department of Ecology.


G. Thomas Tebb, Acting Program Manager
Nuclear Waste Program
Washington State Department of Ecology

4-14-16
Date