

Control #: D4-300-096

FACILITY STATUS CHANGE FORM

Date Submitted: February 20, 2014 Originator: Chris Strand Phone: 554-2720	Area: 300 Area Facility ID: 340 Action Memorandum: Action Memorandum #3	Control #: D4-300-096
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This form documents agreement among the parties listed below on the status of the facility D&D operations and the disposition of underlying soil in accordance with the applicable regulatory decision documents.

Section 1: Facility Status

- All D4 operations required by action memo complete.
- D4 operations required by action memo partially complete, remaining operations deferred.

Description of Completed Activities and Current Conditions:

Deactivation: Utility isolations were completed the facility prior to demolition.

Decontamination and Decommissioning: Hazardous materials were removed prior to demolition and included radioactive materials, HEPA filters, lead, oils, grease, mercury, and asbestos. Asbestos was removed by certified asbestos workers.

Demolition of the 340 above-grade structure was completed in November 2011. Demolition of the below-grade structures was completed with removal of the 340 vault in February of 2014. The debris was removed and disposed of at ERDF.

Description of Deferral (as applicable):

Removal of remaining soil contamination and backfill are deferred to ongoing waste site remediation at the 340 Complex.

Section 2: Underlying Soil Status

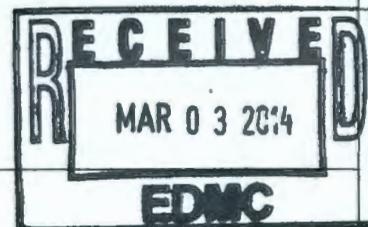
- No waste site(s) present. No additional actions anticipated.
- Documented waste site(s) present. Cleanup and closeout to be addressed under Record of Decision.
- Potential waste site discovered during D4 operations. Waste site identification number <to be> assigned. Cleanup and closeout to be addressed under Record of Decision.

Description of Current/As-Left Conditions:

The excavation remains open and radiologically posted as remediation of 340 Complex waste sites continue. No GPERs surveys were conducted as close-out surveys and verification sampling will be performed in accordance with the 300-FF-2 Final Action ROD.

Identification of Documented Waste Site(s) or Nature of Potential Waste Site Discovery (as applicable):

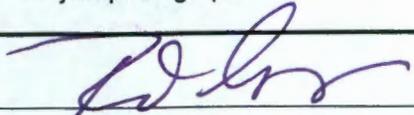
- 300-15; process sewer segments remain in the area.
- 300-214; retention process sewer segments remain in the area.
- 300-RLWS; radioactive liquid waste sewer segments remain in the area.
- 300-RRLWS; retired radioactive liquid waste sewer segments remain in the area.
- 340 Complex; residual radioactive contamination remains within the excavation.
- UPR-300-1; residual radioactive contamination remains within the excavation.
- UPR-300-2; residual radioactive contamination remains within the excavation.
- UPR-300-11; residual radioactive contamination remains within the excavation.



Section 3: List of Attachments

1. Facility Information (building history and characterization).

FACILITY STATUS CHANGE FORM

2. Project photographs.	
	<u>2/20/14</u>
DOE-RL <u>Larry Gadbois</u>	Date <u>2-20-2014</u>
Lead Regulator <input checked="" type="checkbox"/> EPA <input type="checkbox"/> Ecology	Date

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Attachment 1: Facility Information

Building History

340 Waste Neutralization Facility

The 340 Waste Neutralization Facility, constructed in 1953, was a transite and sheet metal building, and a below-grade vault with two tanks each having 15,000-gal capacity. The original building had transite wall and roof approximately 40 by 43 ft. It contained a sampling room, an operating gallery, and control panels for controlling flows to and from two stainless steel tanks located in the below-grade vault to the east. In 1961, a 40- by 31-ft steel-frame truck load-out addition was added onto the west side of the building, allowing up to three trucks simultaneously within the facility.

The concrete vault that enclosed the two tanks was 38 by 25 by 25 ft with removable shielding cover blocks and access holes. The two tanks within the vault were of a nominal 15,000 gallon capacity each and were serviced by a network of piping that connected the 340 facility with upstream generating laboratories and the 307 retention basins. Above-grade penthouses allowed controlled entry to the tank vault and the associated valve pit. The vault and vault tanks had a common exhaust system that discharged through two-stage HEPA filters and two exhaust fans. Charcoal filters were later added to control the potential Iodine-131 releases.

The 340 facility was a radioactive liquid waste storage and transfer system that received radioactive and hazardous waste from the 308, 309, 324, 325, 326, 327, and 329 Buildings. Following neutralization, these wastes were transported by truck, and later by rail, to the 200 Area tank farms for long-term storage.

The 340 facility was supported by process operations at 340A, 340B, and 307 retention basins. 340A, 340B, and 307 were demolished and loaded out as part of the overall 340 Complex removal action (reference Facility Status Change Forms D4-300-054, D4-300-051, and D4-300-058, respectively).

Above-grade demolition of the 340 Waste Handling Facility was completed in November 2011. Below-grade demolition, including vault (with tanks) removal was completed in February of 2014. Specifically, the vault was transported out of the excavation on February 13, 2014.

340 Building Characterization:

Table 1. Summary of Characterization Surveys at 340

Type	Date	Documented In	Results Summary
Asbestos	3/28/11	CCN# 157701	ACM present, primarily in the form of friable TSI and category II non-friable caulking.
IH Surveys and Beryllium Characterization	2/21/11	BFA-340-2011-02-21	The 340 was categorized as a Be controlled facility.
Radiological Surveys	From turnover to the RCC contract in 2010 through deactivation, demolition, and remediation.	Numerous and extensive surveys were conducted.	Results ranged across the spectrum of radiological conditions; CA, HCA, RA, RMA, HRA, and ARA.

Identification of Document Waste Sites:

300-15, 300-214, 300-RRLWS, and 300-RLWS piping was removed within the excavation layback.

UPR-300-1, UPR-300-2, and UPR-300-11: the majority of contaminated soils associated with all three waste sites were removed during the vault excavation and layback.

Under Injection Control Wells 300-115 and 300-248 (both not accepted) were entirely removed during remediation activities.

Environmental Investigation Wells:

During initial 340 Complex characterization activities, a subsurface investigation was conducted that included installation of, seven (7) direct push environmental investigation wells at selected locations around the 340 vault (reference Attachment X). These closed-end casing were installed to approximately 35 below grade at an angle designed to penetrate vadose zone soils beneath the vault foundation. Radiological instruments were then inserted to measure dose and verify subsurface conditions.

The seven wells were assigned the following identification numbers:
C8412, C8413, C8414, C8415, C8416, C8417, C8418

All seven investigation wells were entirely removed during the excavation of the 340 vault and associated remediation.

Following discovery of highly contaminated soils beneath the 340 vault (reference Anomalies section below), an additional six (6) direct push environmental investigation wells were installed underneath the vault. Four were installed horizontally and two were installed at a 7.5 degree and 15 degree angle respectively. Radiological instruments were then inserted to measure dose and verify the spatial extent of the contaminated soil.

These six additional wells were assigned the following identification numbers:
C8831, C8832, C8833, C8834, C8835, C8836

All six investigation wells were entirely removed during the excavation of soils beneath the 340 vault that were associated with installation of shoring caissons and lift beams.

Anomalies Discovered During Demolition:

During placement of shoring caissons underneath the 340 vault, highly contaminated soil was encountered approximately under the center of the structure. Additional controls were necessary to prevent the spread of contamination and protect workers. These controls included use of disodium phosphate amended dust suppression water to mitigate potential migration of Sr-90 to ground water. The majority of the contaminated soil was removed during placement of shoring caissons and lift beams. Residual contamination remaining in the soil beneath the vault location will be removed as part of ongoing 340 Complex waste site remediation. Therefore, no GPERS surveys were conducted at this time.

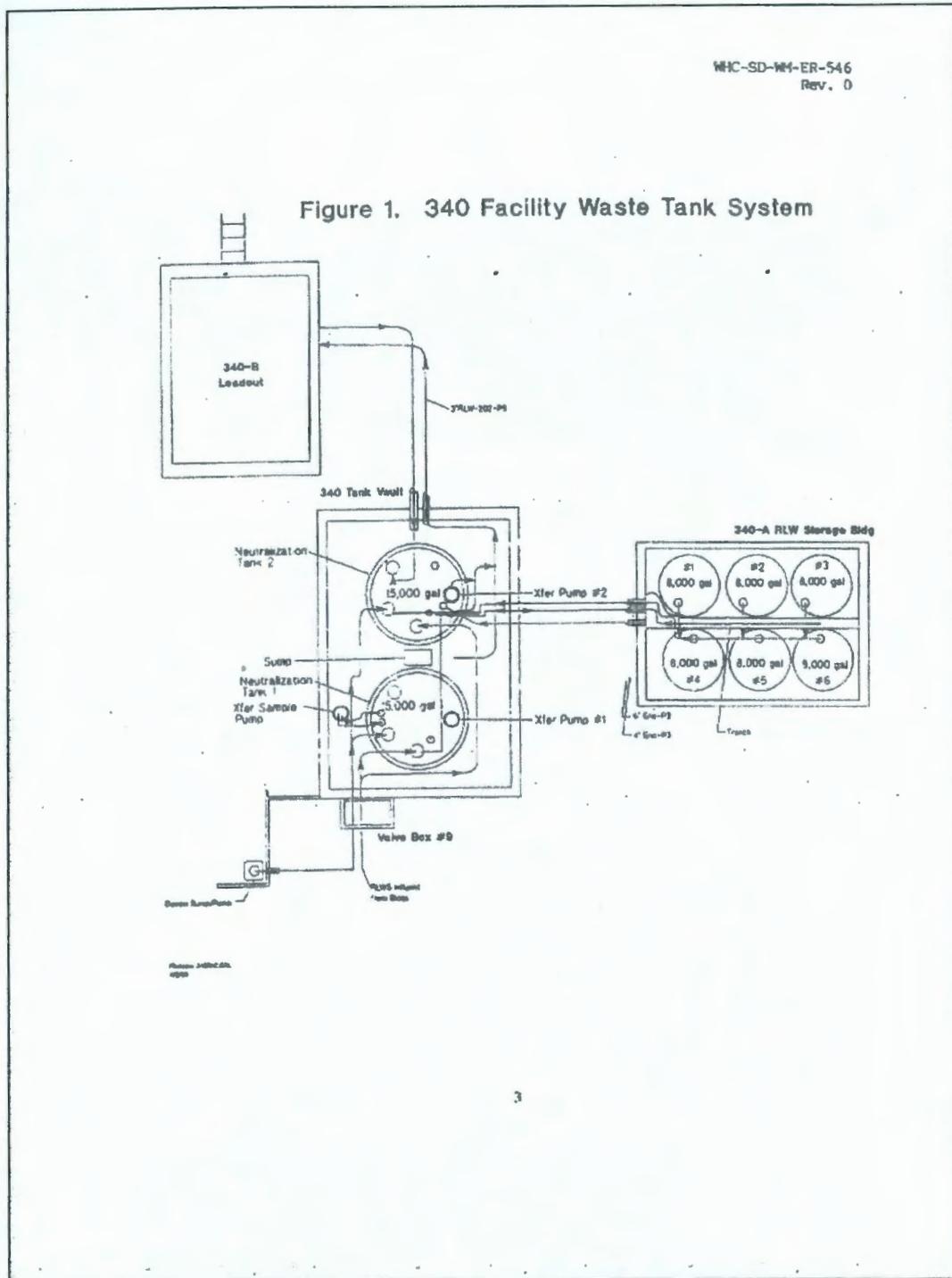
In addition, during excavation on the south side of the vault an abandoned ground water monitoring well casing was encountered at a approximately 12ft below grade. Historical research indicates this well was identified as 399-3-8 and was used until the late 1970s when the top portion was removed as an interference to 340 upgrades. The well casing was sheared at approximately 12 feet below grade and was filled with backfill materials when the 340 upgrades were completed. This precluded logging the well to ascertain whether or not the internal surfaces were contaminated. The remainder of the well casing (~ 26 feet) will be removed entirely during final remediation of the 340 Complex, UPR-300-1, UPR-300-2, and UPR-300-11 waste sites.

Attachment 2: Project Photographs

Photograph 1: Aerial photograph of the 340 Complex, looking south on October 22, 2009.



Figure 1: 340 Complex tank system layout showing relation of the 340 vault to other complex facilities.



Photograph 2: Aerial photograph of the 340 Complex following above-grade demolition, looking southeast in October 2012.



Photograph 3: 340 Vault during remediation excavation looking north on July 17, 2012



Photograph 4: Geo-Probe placement beneath vault, looking south on May 16, 2013.



Photograph 5: 340 Vault on lift assembly, looking northeast on January 16, 2014.



Photograph 6: 340 Vault during loading on the transport trailer, looking south on January 31, 2014



Photograph 7: 340 Vault excavation following vault transport to ERDF, looking northeast on February 18, 2014

