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DPG 09-097

March 5, 2009

U.S. Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, DC 20555

Docket No. 50-312
Rancho Seco Nuclear Generating Station
License No. DPR-54
RANCHO SECO FINAL STATUS SURVEY REPORT

Attention: John Hickman

Attached is the Final Status Survey (FSS) Report for the remainder of the Rancho Seco survey units. Specifically, this submittal addresses dismantlement and FSS information for the survey units associated with survey areas F5010000, F8000000, F8080000, F8100000, F8110000, F8120000, F8130000, F8140000, F8260000, F8340000, F8370000, F8510000, and F8990000. Table 1 of the FSS Report provides a description of the survey units addressed in this submittal. The report provides a summary of the survey results and concludes that survey units covered in this report meet the radiological criteria for unrestricted use.

Members of your staff with questions requiring additional information or clarification may contact me at (916) 732-4817.

Sincerely,

Einar Ronningen
Superintendent, Rancho Seco Assets

Cc w/ attachment: NRC Region IV

NMSSO/
TSME

**RANCHO SECO
FSS FINAL REPORT**

Final Status Survey Report 5

March 5, 2009

FSS FINAL REPORT

Final Status Survey Report 5

1.0 Overview

As discussed in Section 1.4 of the Rancho Seco License Termination Plan (LTP), SMUD intends to release the Rancho Seco site for unrestricted use in two phases, with the license being terminated after completion of the second phase. The first phase includes the release of the majority of the site, including impacted and non-impacted areas, except for the Interim Onsite Storage Building (IOSB) and the area immediately surrounding it. All radioactive material is now stored within the boundaries of the IOSB facility. All areas included in the first phase have been verified as ready for release and no additional surveys of these areas will be required.

SMUD will continue to store Class B & C radioactive waste in the IOSB until an acceptable disposal facility becomes available. After disposing of the Class B & C radioactive waste, SMUD will complete the final status survey for the remainder of the site (i.e., the IOSB and area immediately surrounding it) and will submit a license amendment request to terminate the 10 CFR Part 50 license and release the remainder of the site for unrestricted use. The spent nuclear fuel and the Greater than Class C (GTCC) waste are stored at the Rancho Seco Independent Spent Fuel Storage Installation (ISFSI), which is licensed under 10 CFR Part 72, independent of the 10 CFR Part 50 licensed site.

Section 1.4 of the LTP discusses the information to be provided to support release of land from the Rancho Seco 10 CFR Part 50 license. The information provided in this report includes a discussion of dismantlement activities performed, final status survey results, and an evaluation of the potential for re-contamination and controls applied to prevent this for each survey unit completed.

The information contained in this submittal will be sufficient for the NRC to conclude that, for the land and structures associated with the release, dismantlement has been performed in accordance with the approved license termination plan, and the terminal radiation survey and associated documentation demonstrates that the facility and site are suitable for release in accordance with the criteria for decommissioning in 10 CFR Part 20, Subpart E by meeting a site release criterion of 25 millirem TEDE per year over background.

Once these lands and structures are released, no additional surveys or decontamination of these areas will be required unless the NRC determines that the criteria of 10 CFR Part 20, Subpart E were not met.

2.0 Site Information and Physical Description

2.1 Physical Description of Land or Structures to be Released

The land and structures to be released will be described in the application for license amendment and is unchanged by this submittal.

2.1.1 Survey Unit Information Included in This Submittal

As discussed in section 1.0 above, this submittal provides detailed discussion on demolition activities completed and final status survey results for 97 survey units located on the site to be released. Details are provided for each survey unit on survey methods, results, data analysis, and conclusions. In all cases, Rancho Seco is providing a complete package of information relating to each survey unit so that the NRC staff can verify that the License Termination Plan has been fully implemented for each survey unit and that the final status survey results support unrestricted release of the land from License DPR-54 in accordance with the proposed license amendment.

This submittal addresses dismantlement and FSS information for survey units associated with the 5010051, 800007, 800009, 800010, 810000, 811000, 812000, 813000, 814000, 826000, 834000, 837000, 851000, and 899000 areas. Table 1 provides a description of the survey units addressed in this submittal.

Table 1

Survey Unit	Class	General Description of Survey Unit
F501051	3	5010051 – Access Road Area consists of the access road in the Northeast quadrant of the site. The access road provided the route over which radioactive shipments were made. The roadway was also adjacent to areas used for staging outgoing and incoming radioactive material shipments located on the south side of the industrial area of the site. The area is 9,210 m ² .
F8000072,3	3	8000072 – Industrial Area (IA) West of Barrel Farm - This area is located on the west side of the Industrial Area to the north of the retention basins and south of the IOSB. Due to the potential of ~ 700 square meters west of the historic location of the barrel being omitted from survey coverage in survey units 8000071 and 8000121 the survey unit was added. Survey Unit 800073 is located on the west side of the Industrial Area to the north of the spray ponds. Specifically, ~ 250 square meters adjacent to the NW corner of the current IA security fence was potentially omitted from survey coverage in F8000071 and F8000141. The survey unit areas are 696 and 255 m ² respectively.

Table 1

Survey Unit	Class	General Description of Survey Unit
F8000091	3	8000091 - South East I A Lands - This area covers a majority of the Industrial Area soils exclusive of the building footprints and rail line in this area and consist primarily of soils and some asphalt. The area was 55,736 m ² .
F8000101,2	3	8000101,2 - IA Central Yard- The IA Yard consisted of both paved and unpaved area located adjacent to the machine shop and Warehouse "A". The area is 3387 m ² .
F8000104-6	1 & 2	8000104 – Pump alley Access Corridor consists of the asphalt pavement between the Auxiliary Building and the T&R building. 8000105 – IA roadway running north and south from the T&R to the intersection with the site exit road east of the solidification pad and RB. 8000106- Central IA Roadways and paved areas beginning with the roadway in front of and north of the maintenance shop, west to Warehouse "B" and east to the end of the north Laydown area. The survey unit areas are 248, 1,696 and 3,680 m ² .
F8000111	2	8000111- IA Central, East-West Corridor and Fab Shop Slab, consist of paved footprint of the Fab Shop and the corridor along Warehouse "B". The survey unit area is 1,086 m ² .
F8000142	3	8000142- Northern IA Paved Surfaces consists of the paved portions of the land area that extends from the northern industrial area security fence south to the pavement surrounding the cooling towers in the south and from the eastern IA security fence at the sally port to approximately 100 feet west of the west spray pond. The survey unit area is 29,138 m ² .
F8080031-3	2	8080031-3 – Cooling Tower Buffers, South West and East. The cooling towers and basins were part of the condenser cooling water system. The paved buffer regions consist of survey unit areas of 7,500, 547 and 6,481m ² .
810000	1,2 & 3	810000 consist of the surface and subsurface soil units and paved areas of the Tank Farm and Steam Sump. It also includes the concrete pads remaining for the CST, DRCST, DWST and Tritium Evaporator. The total area for the survey units in this submittal is 6,024 m ² .
8110000	Interior Class 1, Class 3 for Containment Exterior and Tendon Gallery	8110000 Reactor Containment consist of the interior walls and floor of the Reactor Building. The interior concrete walls are covered with 0.25 inch carbon steel liner. The floor consists primarily of concrete (liner plate removed). The Building exterior and Tendon Gallery consists of concrete. The total area for all the survey units in this submittal is 14,152 m ² .
F812000	Class 1 floor, lower walls, Class 2 upper walls, ceiling, Class 3, Exterior	812000 Fuel Building- The Fuel Building contained the spent fuel storage pool and the floor area and upper walls surrounding the pool. The surveys presented in this submittal are for the following locations: pool floor; N, S, E, W pool walls; CR pit; E1.40' floor; lower and upper walls; Styrofoam™ gap; and exterior surfaces. The total area for all the survey units in this submittal is 4,253 m ² .

Table 1

Survey Unit	Class	General Description of Survey Unit
F813000	Class 1 floor, lower walls, Class 2 upper walls, ceiling, Class 3 Exterior Walls	813000 Auxiliary Building- The Auxiliary Building contained the systems used to transport, process and contain radioactive solids, gases and liquids. The surveys presented in this submittal are for the following rooms located on the -47', -20, +20', +40 and grade elevation: 01 02,51e,109,132,208,211,309-317,350, Exterior Steam Support Structure, East and North exterior walls. The total area for all the survey units in this submittal is 4,824 m ² .
F8140003	3	8140003 – T&R, AB, NSEB +40' Bridge consists of the access corridor between the Training and Records Building, Auxiliary Building, and Nuclear Service Electrical Building at the + 40' elevation. The survey unit area is 431 m ² .
F826000	3	826000 Turbine Building submittals in this report consist of the below grade surface, grade level, mezzanine, 40' elevation, Interior and exterior walls. The surfaces consist of steel, concrete and asphalt. The survey units are noted in Table 2 of this submittal. The area is 8,676 m ² .
F834000	1, 2 & 3	8340011 – The IA Railway was used to transport radioactive material from the site to the out of state waste disposal facilities. This Class 1 survey unit is 100 m ² and was established based on discovery of a small area (<1 m ²) of contaminated asphalt adjacent the Turbine Building. 8340012 – IA Railway consists of the 4,735 m ² Class 2 survey unit region extending from the Turbine Building to the IA fence line. 8340021 consist of the rail area external to the IA. This Class 3 survey unit is 5,990 m ² .
F8370001,2	1	8370001,2 RHUT, Aux Boiler Pad- 8370001, the RHUT, Aux Boiler Pad encompassed the area where the A and B RHUTs were located and includes the area that contained the foundation pad for the auxiliary boiler. The area consists of the soils, concrete pad, and the surrounding gravel area above the RHUT pipes. The area is 1819 m ² . 8370002 is the subsurface soil in the same region.
F8510005	3	8510005 consisted of both paved and soil covered land. The area was located on the west side of the IA. The region is south of the switchyard and extends along the north side of the roadway from the switchyard entrance on the east and around the retention basins to the west. The total area is 7,913 m ² .

Table 1

Survey Unit	Class	General Description of Survey Unit
F8990000	1,2	<p>The following Survey Units are included in this submittal piping systems:</p> <p>8990074 – Turbine Pedestal Drains originate on the Turbine Building +40 El. and the Class 1 survey unit consists of 8 m² of piping.</p> <p>8990098 – Clean Drain System “C” Hold-Up tank Cross-Tie consist of the land region where the piping was removed. The Class 2 survey unit total area is 4,100 m².</p> <p>8990111 – Decay Heat Drain Lines Reactor Building originated in the Reactor Building and terminated in the Aux. Building The Class 1 survey unit consist of 49 m².</p> <p>8990401 – Reactor Building Drains provided an alternate pathway for delivering feed water to the steam generators. The Class 1 survey unit contains 12 m² of piping.</p> <p>8990441 - Fuel Pool Piping System transported radioactive fuel pool water through the coolers and clean-up demineralizers. The associated piping in this Class 1 survey unit consists of 38 m².</p> <p>8991093 – RHUT 8” Lines provided an alternate pathway for delivering feed water to the steam generators. This Class 2 survey unit contains 110 m² of trenched land area resulting from the removal of the system piping.</p>

The locations of the survey areas listed in Table 1 above are shown in Fig. 1.

2.1.2 Survey Unit Information Being Provided in Subsequent Submittals
 This submittal is the last submittal of survey unit information and no additional submittals are anticipated.

2.2 Dismantlement Activities

The Rancho Seco License Termination Plan describes the dismantlement activities to be performed for each area and applicable structure of the Rancho Seco site consistent with the use of the Building Occupant scenario. In general, the LTP indicates that temporary structures will be demolished and that permanent structures will be left standing following final survey. In addition, the ISFSI and IOSB structures will remain. During the period of time represented by this submittal, all remediation and dismantlement activities were completed.

3.0 Technical Evaluation

3.1 Potential for Cross-Contamination from Subsequent Activities

Since decommissioning activities were conducted onsite in parallel with final status survey and release decisions, measures were taken to protect survey areas from contamination during and subsequent to the final status survey. Rancho

Seco LTP sections 3.3.5 and 5.2.4 describe contamination and access control measures and periodic routine monitoring practices to prevent and/or detect re-contamination of survey areas during or following FSS. These requirements are implemented, as appropriate, through established procedures as described in the LTP.

The potential for re-contamination and the contamination controls/monitoring for the specific survey areas included in this release phase are discussed and evaluated below:

- 3.1.1 5010051 Access Road
This area consists of the access road in the Northeast quadrant of the site. It was successfully surveyed as a Class 3 area. No remediation was required.
- 3.1.2 8000072 Industrial Area West of Barrel Farm
This area is located on the west side of the Industrial Area (IA) to the north of the retention basin and south of the IOSB. Because of potential disparities between survey unit maps this survey unit was established to insure the region was adequately addressed. It was successfully surveyed as a Class 3 area. No remediation was required.
- 3.1.3 8000073 Industrial Area West (north end)
This area is located on the west side of the Industrial Area to the north of the spray ponds. Because of potential disparities between survey unit maps this survey unit was established to insure the region was adequately addressed. It was successfully surveyed as a Class 3 area. No remediation was required.
- 3.1.4 8000091 South East Industrial Area Lands
This survey unit includes a majority of Industrial Area soil exclusive of building footprints and rail line. The Class 3 region consists of soil and asphalt. Because of activities associated with the removal of concrete from the Reactor Building verification surveys were performed in this area. The final survey for this Class 3 survey unit was successful. No remediation was required. No additional activity was observed during routine verification surveys.
- 3.1.5 8000101,2 Industrial Area Central Yard
This Class 3 region consists of paved and unpaved areas located adjacent to the machine shop and Warehouse "A". Due to activities associated with Reactor Building concrete removal periodic surveillance was maintained to detect any potential re-contamination. In addition, verification surveys were performed in

these survey units following completion of Reactor Building activities. No additional activity was observed during the verification surveys.

- 3.1.6 8000104 Pump Alley Access Corridor
The Pump Alley Access Corridor was successfully surveyed as a Class 1 area. No remediation was required. No radioactive material is allowed in the area.
- 3.1.7 8000105 Industrial Area Roadway
This roadway runs north and south from the T&R Building to the intersection of the site exit road east of the solidification pad and BWB. Reactor Building concrete removal resulted in transport of radioactive material over this region. Periodic surveillance surveys were performed in this region prior to the final survey and no potential contamination was observed. The final survey for this Class 2 area was successful. No remediation was required.
- 3.1.8 8000106 Central Industrial Area Roadways
This region begins with the roadway in front of the Maintenance Building, west to Warehouse "B" and east to the end of the North Laydown area. Reactor Building concrete removal resulted in transport of radioactive material over this region. Periodic surveillance surveys were performed in this region prior to the final survey and no potential contamination was observed. The final survey for this Class 2 unit was successful.
- 3.1.9 8000111 Central East-West Corridor and Fab Shop Slab
This Class 2 region consists of the paved footprint of the Fab Shop and the corridor along Warehouse "B". The final survey for this survey unit was successful and no remediation was required.
- 3.1.10 8000142 North Industrial Area Paved Surfaces
This Class 3 survey unit consists of the paved portions of the land area that extends from the northern Industrial Area security fence south to the pavement surrounding the cooling towers in the south and from the eastern IA security fence at the sally port to approximately 100 feet west of the west spray pond. Final survey of this survey unit was successful and no remediation was required. Periodic surveillance was conducted over portions of the south roadway in this area during Reactor Building remediation and concrete removal and no additional activity was observed.
- 3.1.11 8080031-33 Cooling Tower Buffers South, West and East
These Class 2 survey units consist of the pavements that surround the cooling towers. During Reactor concrete removal transport

containers were located in some of these regions. Periodic surveillance was conducted over portions of the survey unit. The final surveys for these survey units were successfully performed following completion of the Reactor Building work and no remediation was required.

3.1.12 8100000 Tank Farm and Steam Sump Areas

This region consists of the surface and subsurface soil and paved areas of the Tank Farm and Steam Sump. It includes the concrete pads remaining for the CST, DRCST DWST and Tritium Evaporator. Due to remediation and concrete removal activities periodic surveys were conducted in these areas prior to conducting the final surveys. Some of these surveys resulted in the discovery of discrete particles that were principally concrete chips that were suspected to have originated from remediation activities inside the Spent Fuel and the Reactor Buildings. The final surveys for these areas were conducted following completion of the nearby remediation activities and resulted in several local area investigations but resulted in successful final surveys.

3.1.13 8110000 Reactor Containment, Exterior Walls and Tendon Gallery

The Reactor Containment interior surfaces were Class 1 survey units. Following remediation of the surfaces, removal of liner plate from the floor, and removal of the normal sump liner and steel support plate for the emergency sump decay heat piping, final surveys and local area investigation were successfully performed. The activated concrete region of the containment was also remediated to a depth of about 30 cm and the final survey for this region was successful. The Class 3 survey units consisted of the Reactor Building exterior and the Tendon Gallery. These regions required no remediation and the final surveys were successful.

3.1.14 812000 Fuel Building

The survey units associated with this submittal consist of the pool floor, north, south, east and west pool walls, CR pit, floor lower and upper walls of the 40' elevation, Styrofoam™ gap and exterior surfaces. The Fuel Building required extensive remediation in the spent fuel pool area. The pool was isolated and extensive contamination controls were applied. Periodic surveillance of regions adjacent to the above areas was conducted during remediation activities. Verification surveys were conducted following final survey activities on the +40 elevation Fuel Building floors. The final surveys for the pool survey units and fuel building proper were successful. Final surveys for the Styrofoam™ gap and exterior building surfaces were successful.

3.1.15 813000 Auxiliary Building

The rooms in zones 1-6 of the Auxiliary Building surveys are some of the most contaminated site areas. The survey units in these zones are all classified at least Class 2 for upper walls/ceilings with floors being at least Class 2 but usually Class 1. Most of the lower walls and floors required some concrete remediation. When remediation was ongoing in adjacent areas, through-wall penetrations were covered, drain pipe openings were plugged, strict access controls were maintained and the areas were subject to periodic surveillance to check for potential re-contamination. Portions of zones 7-12 are Class 2 or 3 with little potential for re-contamination and the controls were somewhat less rigorous. Following the successful completion of final surveys, verification surveys were conducted of the penetrations into the Reactor Building, the hallway to the Turbine Building, elevators, grade level areas, +20' elevation hallways, +40' elevation Personnel Equipment Hatch and grade level Steam Support Sump area. All verification surveys were successfully completed and no additional contamination was observed.

3.1.16 8140003 Training and Records, Auxiliary and NESB +40' Bridge

This survey unit is the access corridor between the T and R Building, auxiliary Building and Nuclear Service Electrical Building at the +40' elevation. The final survey was successful.

3.1.17 8260000 Turbine Building

The survey units submitted consist of the below grade surfaces of the condenser and lube oil pits, grade level, mezzanine, 40' elevation, interior and exterior walls. The Turbine Building was successfully remediated and surveyed. Verification surveys were performed for the northeast grade level, south grade level, South exit area and north end of the +40' elevation Turbine Deck. All verification surveys were successful. No radioactive material is allowed in the area. The area was placed under periodic surveillance to detect any potential re-contamination and no additional contamination was observed.

3.1.18 834000 Industrial Area Railway and Railway External to the IA

The survey units for the railway include Class 1, Class 2, and Class 3 survey units. A Class 1 region was designated where characterization surveys identified a small area of contaminated asphalt immediately west of the Turbine Building. The survey unit for the Class 2 region extends from near the edge of the Turbine Building to the Industrial Area fence line. Due to Reactor Building concrete remediation activities this region was subjected to periodic surveillance to detect any potential contamination prior to

conducting the final surveys. The Class 3 survey unit consisted of the region external to the IA. The final surveys in these areas were all successfully performed following completion of the Reactor Building remediation activities.

3.1.19 8370001,2 RHUT, Aux Boiler Pad

The RHUT, Aux Boiler Pad region final survey was successfully completed. Subsequent surveys by ORISE representatives identified a discrete particle (concrete chip) just inside the boundary of this survey unit. This finding resulted in the examination of all potential areas associated with removal of Reactor Building concrete to be examined by scan survey and the institution of more rigorous controls. Because it was highly likely the chip originated from transport of “supersacks” of contaminated concrete along the roadway adjacent to this survey unit, additional measures involving periodic surveys of roadways and storage areas were instituted. The 8370002 survey unit is associated with subsurface soils and the final survey was successful. Following completion of the removal and transport of contaminated concrete from the Reactor Building a verification survey was successfully completed and no additional activity was observed.

3.1.20 8510005 Switchyard South and Retention Basin Buffer

Investigations of survey unit boundaries were conducted to confirm all survey units had sufficient overlap and that no regions were missed. Because of potential disparities between survey unit maps this survey unit was established to insure regions of the Switchyard, Helo pad and Retention Basin were adequately addressed. The Class 3 survey unit final survey was successful and no remediation was required.

3.1.21 899000 Buried or Embedded Piping Systems

The pipe remaining on site is surveyed and grit blasted, if necessary, to remove surface contamination. Once final surveys are complete, the pipes are plugged to prevent recontamination or, if necessary, grouted in place. There is little likelihood that piping will become re-contaminated following final survey. In addition, the rooms containing access to the pipes are placed under periodic surveillance to detect any potential re-contamination once FSS is complete. Some of these survey units are trenches resulting from the removal of buried piping systems. All final surveys for these survey units were successful.

4.0 Final Status Survey Report

Rancho Seco LTP section 5.7.3 identifies the contents of the written reports of final status survey results that are to be submitted to the NRC. The contents include the

items described in NUREG-1757, Vol. 2, Section 4.5. The survey unit design details and results are provided below in summary fashion. Specific survey unit design details and results are provided in a copy of each survey unit summary report in Attachment I of this submittal.

4.1 Overview of Results

The survey units included in this report are listed in Table 2 with the exception of five revised reports which are listed in Section 4.6 of this report.

The summary report for each survey unit contains a description of the survey unit; design information, including classification, size, number of measurements, map, scan coverage, and DCGL; survey results; survey unit investigations (anomalous data); data assessment results, including statistical evaluations, if applicable; changes in initial survey unit assumptions on extent of residual activity, an evaluation of LTP changes subsequent to the FSS of the survey unit and survey unit conclusions.

Overall, the attached survey unit summary reports demonstrate that the survey units meet the criteria for release for unrestricted use in accordance with the NRC approved Rancho Seco License Termination Plan.

4.2 Discussion of Changes to FSS Program

The purpose of this section is to discuss changes to the FSS program. There were no changes made to the FSS Program that impacted the final surveys.

4.3 Final Status Survey Methodology

This section summarizes the implementation of the LTP Final Status Survey methodology for the survey units that are included in this first report supporting the release of remaining non-ISFSI and non-IOSB land. Table 2 provided below lists the key FSS design features for each survey unit. These design features include the survey unit classification and size, the standard deviation and Lower Boundary of the Gray Region (LBGR) used for determining the number of direct measurements taken, the percent scan coverage, the design DCGL_{EMC} and the number of measurements required. This report covers only structures for which the DCGL is 43,000 dpm/100 cm² (16,000 dpm/100 cm² for special areas). The buried and embedded pipe DCGL is 100,000 dpm/100 cm² and soil or paved areas have a DCGL of 52.6 pCi/g Cs-137_{surrogate} and 12.6 pCi/g Co-60. The DCGL for activated concrete is a Eu-152_{surrogate} value of 7.7 pCi/g. The standard deviations listed were obtained from site characterization data or survey unit specific measurements. The Type 1 and 2 Errors are the default values of 0.05 and the LBGR is initially based on 50% of the DCGL.

Table 2 Survey Unit Design Parameters

Survey Unit ID	Class	Survey Unit Size m ²	Standard Deviation	LBGR	Design DCGL _{EMC}	Units	Number of Measurements	% Scan
F5010051 Site Access Roadway								
1	3	9,210.0	0.032	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	10.0
F8000072 Industrial Area West (West of Barrel Farm)								
2	3	696.0	0.034	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	5.0
F8000073 Industrial Area West (North End)								
3	3	255	0.034	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	11.0
F8000091 South East Industrial Area								
1	3	55,736.0	0.042	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	4.0
F8000101 Industrial Area Central Yard, North and East of Maintenance Building								
1	3	1,587.0	0.01	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	32.0
F8000102 Industrial Area Central Yard, North and West of Maintenance Building								
2	3	1,800.0	0.01	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	23.0
F8000104 Pump Alley Access Corridor								
4	1	248.0	0.57	25.6	97.8	$\frac{\rho\text{Ci}}{\text{g}}$	14	100.0
F8000105 Industrial Area, North-South Roadway East of BWB								
5	2	1,696.0	0.57	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	41.0
F8000106 Central Industrial Area Roadway								
6	2	3,680.0	3.9	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	21.0
F8000111 Industrial Area Corridor, North of "A" Warehouse and Fab Shop								
1	2	1,086.0	0.07	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	57.0
F8000142 North Industrial Area								
2	3	29,138	0.073	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	10.0
F8080031 Cooling Tower Buffer South								
1	2	7,500.0	0.92	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	20.0
F8080032 Cooling Tower Buffer West								
2	2	5,547.0	0.92	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	20.0
F8080033 Cooling Tower Buffer East								
3	2	6,481.0	0.92	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	20.0
F8100011 Tank Farm Southwest and Steam Sump (surface)								
1	1	672.0	10.7	25.6	74.2	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0
F8100012 Tank Farm Southwest and Steam Sump (subsurface)								
2	1	672.0	10.7	25.6	74.2	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0
F8100021 Tank Farm NW Quadrant (surface)								
1	1	1,618	10.7	25.6	63.0	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0

Survey Unit ID	Class	Survey Unit Size m ²	Standard Deviation	LBGR	Design DCGL _{EMC}	Units	Number of Measurements	% Scan
F8100022 Tank Farm NW Quadrant (subsurface)								
2	1	1,618.0	10.7	25.6	64.2	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0
F8100031 Tank Farm NE Quadrant (surface)								
1	1	1,942.0	10.7	25.6	61.5	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0
F8100032 Tank Farm NE Quadrant (subsurface)								
2	1	1,942.0	10.7	25.6	61.5	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0
F8100041 Tank Farm CST and #2 & #3 Pads								
1	1	195.1	7,614	21,500	152,901	dpm/100 cm ²	28	100.0
F8100042 Tank Farm DRCST Pad								
2	2	177.4	73.1	21,500	N/A	dpm/100 cm ²	14	47.0
F8100043 Tank Farm BWST Pad								
3	1	187.0	12,845	21,500	152,900	dpm/100 cm ²	27	100.0
F8100044 Tank Farm Tritium Evaporator Pad								
4	2	148.0	167.0	21,500	N/A	dpm/100 cm ²	14	36.0
F8100051 Tank Farm Trench 1								
1	3	750.0	0.095	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	100.0
F8100052 Tank Farm Trench 1 (surface)								
2	1	660.0	0.10	25.6	76.8	$\frac{\rho\text{Ci}}{\text{g}}$	17	100.0
F8100053 Tank Farm Trench 1 (subsurface)								
3	2	660.0	0.10	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	100.0
F8110111 Rx Building FSS Ring (+75' to +115')								
1	1	1,966.0	33,040	21,500	640,700	dpm/100 cm ²	65	100.0
F8110112 Rx Building FSS Ring (+25' to +75')								
2	1	1966.0	33,040	21,500	640,700	dpm/100 cm ²	65	100.0
F8110113 Rx Building FSS Ring (-27' to +25')								
3	1	1,762.0	33,040	21,500	640,700	dpm/100 cm ²	65	100.0
F8110114 Rx Building Floor -27'								
4	1	1,125.4	31,920	21,500	640,700	dpm/100 cm ²	135	100.0
F8111591 Rx Building Tendon Gallery								
1	3	1,817.0	119	21,500	N/A	dpm/100 cm ²	14	20.0
F8113000 Rx Building Exterior Dome								
0	3	575.0	119	21,500	N/A	dpm/100 cm ²	14	3.0
F8113001 Rx Building Exterior								
1	3	5,516.0	119	21,500	N/A	dpm/100 cm ²	14	21.0
F8120001 Spent Fuel Pool West Wall								
1	1	185.9	12,246	21,500	154,800	dpm/100 cm ²	27	100.0

Survey Unit ID	Class	Survey Unit Size m ²	Standard Deviation	LBGR	Design DCGL _{EMC}	Units	Number of Measurements	% Scan
F8120002 Spent Fuel Pool South Wall								
2	1	137.7	12,246	21,500	154,800	Dpm/100 cm ²	20	100.0
F8120003 Spent Fuel Pool East Wall								
3	1	206.6	12,246	21,500	154,800	dpm/100 cm ²	17	100.0
F8120004 Spent Fuel Pool North Wall								
4	1	267.0	12,246	21,500	154,800	dpm/100 cm ²	39	100.0
F8120005 Spent Fuel Pool Floor								
5	1	175.2	12,246	21,500	154,800	dpm/100 cm ²	26	100.0
F8120121 Spent Fuel Building Exterior								
1	1	122.5	747	21,500	154,800	dpm/100 cm ²	18	100.0
F8120141 Spent Fuel Building Exterior								
1	3	854.0	747	21,500	N/A	dpm/100 cm ²	14	28.0
F8120171 Spent Fuel Building Styrofoam Gap								
1	2	314.0	747	21,500	N/A	dpm/100 cm ²	14	47.0
F8120181 Spent Fuel Building Styrofoam Gap								
1	1	50.0	4,631	21,500	236,500	dpm/100 cm ²	14	100.0
F8121001 Spent Fuel Building Floor 40' El.								
1	1	272.0	4,631	21,500	154,800	dpm/100 cm ²	39	100.0
F8121002 Spent Fuel Building 40' El. Lower Walls, North								
2	1	245.0	4,631	21,500	141,900	dpm/100 cm ²	35	100.0
F8121003 Spent Fuel Building 40' El. Lower Walls, South								
3	1	115.8	4,631	21,500	146,200	dpm/100 cm ²	17	100.0
F8121004 Spent Fuel Building 40' El. Upper Walls, South								
4	2	839.9	4,631	21,500	N/A	dpm/100 cm ²	14	69.0
F8121005 Spent Fuel Building Control Rod Pit								
5	3	33.4	149	21,500	N/A	dpm/100 cm ²	14	9.0
F8121006 Spent Fuel Building 40' El. Upper Walls, North								
6	2	446.1	4,631	21,500	N/A	dpm/100 cm ²	14	55.0
F8130022 Aux. Building -47' El. Room 1, Ceiling								
2	1	95.0	9,976	21,500	162,540	dpm/100 cm ²	15	100.0
F8130041 Aux. Building -47' El. Room 2, Upper Walls								
1	1	239.5	9,976	21,500	152,200	dpm/100 cm ²	35	100.0
F8130731 Aux. Building Room 51e								
1	1	142.0	12,035	21,500	154,800	dpm/100 cm ²	21	100.0
F8130942 Aux. Building Room 109								
2	1	12.0	6,935	21,500	735,730	dpm/100 cm ²	14	100.0

Survey Unit ID	Class	Survey Unit Size m ²	Standard Deviation	LBGR	Design DCGL _{EMC}	Units	Number of Measurements	% Scan
F8131211 Aux. Building Room 132								
1	2	995.0	6,935	21,500	N/A	dpm/100 cm ²	14	16.0
F8131212 Aux Building Room 132								
2	1	12.0	6,935	21,500	735,730	dpm/100 cm ²	14	100.0
F8131371 Aux. Building Rooms 208, 211, Lower Walls								
1	1	240.0	5,461	21,500	154,800	dpm/100 cm ²	35	100.0
F8131372 Aux. Building Rooms 208, 211, Upper Walls								
2	2	811.0	5,461	21,500	N/A	dpm/100 cm ²	14	25.0
F8131691 Aux. Building Rooms 309-317, and 350, Lower Walls								
1	2	716	3,627	21,500	N/A	dpm/100 cm ²	14	41.0
F8131692 Aux Building Rooms 309-317 and 350, Upper Walls								
2	2	589.0	3,627	21,500	N/A	dpm/100 cm ²	14	26.0
F8132132 Aux. Building Exterior 20' El. Steam Support Structure								
2	2	276.5	342	21,500	N/A	dpm/100 cm ²	14	38.0
F8132133 Aux. Building Exterior 0' El. Steam Support Structure								
3	1	4.0	342	21,500	215,900	dpm/100 cm ²	14	100.0
F8132134 Aux. Building Exterior 20' El. Steam Support Structure								
4	1	2.25	342	21,500	3,551,800	dpm/100 cm ²	14	100.0
F8132143 Aux. Building Exterior Walls, East								
3	3	410.0	342	21,500	N/A	dpm/100 cm ²	14	97.0
F8132144 Aux. Building Exterior Walls, North								
4	3	376.8	342	21,500	N/A	dpm/100 cm ²	14	30.0
F8140003 Training and Records Building Breezeway								
1	3	431.4	3,627	21,500	N/A	dpm/100 cm ²	14	16.0
F8260004 Turbine Building, Condenser Pump Pit, Central								
4	1	286.0	5,990	21,500	154,800	dpm/100 cm ²	41	100.0
F8260006 Turbine Building, Condenser Pump Pit, South								
6	1	310.0	3,130	21,500	163,400	dpm/100 cm ²	45	100.0
F8260008 Turbine Building, High Pressure Turbine Pit								
8	2	346.0	5,990	21,500	N/A	dpm/100 cm ²	14	76.0
F8260010 Turbine Building, Condenser Pump Pit, North								
0	1	319.0	3,130	21,500	154,800	dpm/100 cm ²	46	100.0
F8260011 Turbine Building, Lube Oil Pit								
1	1	160.4	3,130	21,500	154,800	dpm/100 cm ²	23	100.0
F8260031 Turbine Sumps Piping								
1	1	2.0	23,464	50,000	N/A	dpm/100 cm ²	30	100.0

Survey Unit ID	Class	Survey Unit Size m ²	Standard Deviation	LBGR	Design DCGL _{EMC}	Units	Number of Measurements	% Scan
F8260032 Turbine Building, Main Feed Pump Area								
2	2	186.2	5,990	21,500	N/A	dpm/100 cm ²	14	54.0
F8260131 Turbine Building, Grade Level, North								
1	2	618.3	1,316	21,500	N/A	dpm/100 cm ²	14	83.0
F8260141 Turbine Building, Grade Level, South								
1	2	980.5	1,316	21,500	N/A	dpm/100 cm ²	14	51.0
F8260151 Turbine Building, Grade Level, South								
1	1	16.0	5,990	21,500	640,700	dpm/100 cm ²	14	100.0
F8260161 Turbine Building Floor, North								
1	1	11.6	5,990	21,500	761,100	dpm/100 cm ²	14	100.0
F8260171 Turbine Building, Grade Level, North								
1	1	16.6	3,130	21,500	563,300	dpm/100 cm ²	14	100.0
F8260201 Turbine Building, Mezzanine, Interior Walls								
1	3	1,776.0	1,316	21,500	N/A	dpm/100 cm ²	14	19.0
F8260202 Turbine Building, Structural Steel								
2	3	9,134.2	1,316	21,500	N/A	dpm/100 cm ²	14	9.0
F8260251 Turbine Building, North Laydown Area								
1	3	679.0	46	21,500	N/A	dpm/100 cm ²	14	24.0
F8260261 Turbine Building, South Laydown Area and Sump								
1	3	573.7	250	21,500	N/A	dpm/100 cm ²	14	24.0
F8260302 Turbine Building, Exterior								
2	3	1596.0	1,723	21,500	N/A	dpm/100 cm ²	14	57.0
F8261003 Turbine Building, Pedestal 1								
3	1	309.8	5,990	21,500	163,400	dpm/100 cm ²	45	100.0
F8261004 Turbine Building, Pedestal 2								
4	1	262.2	5,990	21,500	163,300	dpm/100 cm ²	38	100.0
F8261005 Turbine Building, Pedestal 3								
5	2	236.5	1,316	21,500	N/A	dpm/100 cm ²	14	30.0
F8340011 Industrial Area Railway								
1	1	100.0	10.2	25.6	154.3	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0
F8340012 Industrial Area Railway								
2	2	4,735	0.018	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	47.0
F8340021 Railway External to the Industrial Area								
1	3	5,990	0.018	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	12.0
F8370001 RHUT and Aux. Boiler Pad (surface)								
1	1	1,819.0	9.83	25.6	61.95	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0

Survey Unit ID	Class	Survey Unit Size m ²	Standard Deviation	LBGR	Design DCGL _{EMC}	Units	Number of Measurements	% Scan
F8370002 Tank Farm/ RHUT (subsurface)								
2	1	1,819	9.83	25.6	61.95	$\frac{\rho\text{Ci}}{\text{g}}$	15	100.0
F8510005 Switch Yard South (plus Retention Basin Buffer)								
5	3	7,913	0.047	25.6	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	14.0
F8990074 High Pressure Turbine Pedestal Drain								
4	1	8.0	23,464	50,000	N/A	dpm/100 cm ²	44	100.0
F8990098 CDS Cross-Tie								
8	2	91.5	0.01	26.3	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	100.0
F8990111 Decay Heat Removal System Piping								
1	1	49.0	15,498	50,000	N/A	dpm/100 cm ²	227	100.0
F8990401 Reactor Building Drains								
1	1	12.3	N/A ¹	50,000	100,000	dpm/100 cm ²	218	100.0
F8990441 Spent Fuel Pool Piping								
1	1	38.0	N/A ¹	50,000	100,000	dpm/100 cm ²	1,243	100.0
F8991093 RHUT 8" Drain Lines								
3	2	110.0	9.31	23.1	N/A	$\frac{\rho\text{Ci}}{\text{g}}$	14	100.0
¹ Does not apply to FSS Design of embedded piping, direct measurements acquired at 15 cm intervals.								

4.4 Final Status Survey Results

The methods used to determine the number of direct measurements to be taken is described in the LTP and the specific survey unit summary reports provided in Attachment I. Key survey results are given in Table 3 below

Table 3 Survey Unit FSS Results

Scan Measurement Range	No. Direct Measurements Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F5010051 Site Access Roadway						
0.108-0.306 Co-60 0.149-0.81 Cs-137	18	0.808	0.851	0.004	$\frac{\rho\text{Ci}}{\text{g}}$	0
F8000072 Industrial Area West (West of Barrel Farm)						
7,240-11,085 γ cpm	14	0.069	0.086	0.009	$\frac{\rho\text{Ci}}{\text{g}}$	1
F8000073 Industrial Area West (North End)						
6,363-7,239 γ cpm	14	0.062	0.085	0.01	$\frac{\rho\text{Ci}}{\text{g}}$	0
F8000091 South East Industrial Area						
0.25-0.43 Cs-137	30	0.465	0.896	0.366	$\frac{\rho\text{Ci}}{\text{g}}$	0
F8000101 Industrial Area Central Yard, North and East of Maintenance Building						
0.28-0.38 Cs-137	15	0.798	0.942	0.219	$\frac{\rho\text{Ci}}{\text{g}}$	0
F8000102 Industrial Area Central Yard, North and West of Maintenance Building						
≤ 0.05 Co-60 ≤ 0.951 Cs-137	14	0.545	0.915	0.382	$\frac{\rho\text{Ci}}{\text{g}}$	0

Scan Measurement Range	No. Direct Measurements Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8000104 Pump Alley Access Corridor						
10,146-11,639 γ cpm	14	1.04	1.09	0.043	ρ Ci/g	3
F8000105 Industrial Area, North-South Roadway East of BWB						
<0.227 Co-60 <0.413 Cs-137	16	0.989	1.39	0.112	ρ Ci/g	0
F8000106 Central Industrial Area Roadway						
\leq 0.774 Cs-137	14	0.29	0.313	0.014	ρ Ci/g	0
F8000111 Industrial Area Corridor, North of "A" Warehouse and Fab Shop						
<0.315 Co-60 <0.448 Cs-137	16	0.901	1.04	0.091	ρ Ci/g	0
F8000142 North Industrial Area						
6,685-15,674 γ cpm	14	0.738	0.796	0.028	ρ Ci/g	8
F8080031 Cooling Tower Buffer South						
<0.288 Co-60 <0.409 Cs-137	20	0.966	1.06	0.065	ρ Ci/g	0
F8080032 Cooling Tower Buffer West						
<0.277 Co-60 <0.425 Cs-137	14	1.01	1.08	0.042	ρ Ci/g	0
F8080033 Cooling Tower Buffer East						
\leq 0.265 Co-60 <0.361 Cs-137	16	0.952	1.00	0.036	ρ Ci/g	0
F8100011 Tank Farm Southwest and Steam Sump (surface)						
4,990-242,929 γ cpm	20	0.022	0.095	0.026	Unity	36
F8100012 Tank Farm Southwest and Steam Sump (subsurface)						
N/A Subsurface	40	0.142	1.08	0.231	ρ Ci/g	0
F8100021 Tank Farm NW Quadrant (surface)						
4,992-20,292 γ cpm	17	0.351	0.86	0.231	ρ Ci/g	11
F8100022 Tank Farm NW Quadrant (subsurface)						
N/A Subsurface	34	0.027	0.717	0.122	Unity	0
F8100031 Tank Farm NE Quadrant (surface)						
6,425-11,043 γ cpm	22	0.447	1.74	0.434	ρ Ci/g	14
F8100032 Tank Farm NE Quadrant (subsurface)						
N/A Subsurface	43	0.049	0.070	0.009	ρ Ci/g	0
F8100041 Tank Farm CST and #2 & #3 Pads						
895-71,920	38	2,609	3,118	232	dpm/100 cm ²	2
F8100042 Tank Farm DRCST Pad						
3,810-17,650	16	3,710	4,560	473	dpm/100 cm ²	0
F8100043 Tank Farm BWST Pad						
1,754-20,819	27	2,089	2,791	172	dpm/100 cm ²	0
F8100044 Tank Farm Tritium Evaporator Pad						
5,751-14,591	14	2,666	2,983	209	dpm/100 cm ²	0
F8100051 Tank Farm Trench 1						
3,987-10,367	67	0.006	.0369	0.009	Unity	0
F8100052 Tank Farm Trench 1 (surface)						
0.17-0.28 Co-60 <0.29-0.67 Cs-137	38	0.387	0.671	0.094	ρ Ci/g	0

Scan Measurement Range	No. Direct Measurements Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8100053 Tank Farm Trench 1 (subsurface)						
0.0264-0.0745	28	0.046	0.075	0.011	ρCi/g	0
F8110111 Rx Building FSS Ring (+75' to +115')						
3,564-41,945	180	2,992	17,259	3,012	dpm/100 cm ²	0
F8110112 Rx Building FSS Ring (+25' to +75')						
959-208,743	180	2,852	14,472	2,329	dpm/100 cm ²	42
F8110113 Rx Building FSS Ring (-27' to +25')						
1,131-1,085,884	180	2,004	12,308	1,758	dpm/100 cm ²	44
F8110114 Rx Building Floor -27'						
3,209-64,644	157	0.162	0.711	0.078	Unity	0
F8110114 Rx Building Floor -27' (Activated Concrete)						
0.124-4.81 Eu-152	50	2.01	4.81	1.37	ρCi/g	0
F8111591 Rx Building Tendon Gallery						
1,863-16,682	14	1,491	1,758	134	dpm/100 cm ²	0
F8113000 Rx Building Exterior Dome						
4,269-6,646	30	2,185	2,516	191	dpm/100 cm ²	0
F8113001 Rx Building Exterior						
3,807-7,593	14	1,375	1,504	88	dpm/100 cm ²	0
F8120001 Spent Fuel Pool West Wall						
<877 Co-60 848-52,274 Cs-137	28	3,800	18,716	4,233	dpm/100 cm ²	5
F8120002 Spent Fuel Pool South Wall						
2,399-40,311	20	2,537	7,978	1,430	dpm/100 cm ²	0
F8120003 Spent Fuel Pool East Wall						
<869-1,000 Co-60 558-70,177 Cs-137	30	2,798	13,466	2,293	dpm/100 cm ²	0
F8120004 Spent Fuel Pool North Wall						
4,954-226,127	43	2,974	33,624	4,909	dpm/100 cm ²	2
F8120005 Spent Fuel Pool Floor						
2,347-7,827	26	3,028	19,748	3,470	dpm/100 cm ²	0
F8120121 Spent Fuel Building Exterior						
2,581-23,504	18	2,201	4,012	808	dpm/100 cm ²	0
F8120141 Spent Fuel Building Exterior						
990-4,441 Cs-137	14	1,717	2,303	336	dpm/100 cm ²	0
F8120171 Spent Fuel Building Styrofoam Gap						
4,115-110,855	16	1,684	3,102	412	dpm/100 cm ²	6
F8120181 Spent Fuel Building Styrofoam Gap						
4,761-84,311	21	3,113	6,085	1,671	dpm/100 cm ²	0
F8121001 Spent Fuel Building Floor 40' El.						
1,633-72,374	41	2,422	6,603	874	dpm/100 cm ²	1
F8121002 Spent Fuel Building 40' El. Lower Walls, North						
2,399-40,311	50	3,343	6,680	708	dpm/100 cm ²	1
F8121003 Spent Fuel Building 40' El. Lower Walls, South						
5,510-10,804	26	3,717	4,387	368	dpm/100 cm ²	0
F8121004 Spent Fuel Building 40' El. Upper Walls, South						
<991-1,260 Cs-137	18	1,355	2,697	572	dpm/100 cm ²	0

Scan Measurement Range	No. Direct Measurements Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8121005 Spent Fuel Building Control Rod Pit						
4,145-6,250	14	1,389	2,013	257	dpm/100 cm ²	0
F8121006 Spent Fuel Building 40' El. Upper Walls, North						
<528-120 Cs-137	14	1,440	2,148	554	dpm/100 cm ²	0
F8130022 Aux. Building -47' El. Room 1, Ceiling						
1,300-2,450	19	1,672	3,994	630	dpm/100 cm ²	3
F8130041 Aux. Building -47' El. Room 2, Upper Walls						
593-1,356,927	48	1,452	2,267	221	dpm/100 cm ²	1
F8130731 Aux. Building Room 51e						
645-293,443	23	2,050	4,508	751	dpm/100 cm ²	5
F8130942 Aux. Building Room 109						
3,727-68,488	14	5,116	29,458	7,301	dpm/100 cm ²	0
F8131211 Aux. Building Room 132						
1,106-32,968	14	1,641	2,137	249	dpm/100 cm ²	0
F8131212 Aux Building Room 132						
3,347-7,761	14	2,177	2,817	326	dpm/100 cm ²	0
F8131371 Aux. Building Rooms 208, 211, Lower Walls						
1,915-23,563	37	1,891	3,102	269	dpm/100 cm ²	0
F8131372 Aux. Building Rooms 208, 211, Upper Walls						
2,201-6,672	14	1,603	1,852	184	dpm/100 cm ²	0
F8131691 Aux. Building Rooms 309-317, and 350, Lower Walls						
1,936-18,556	23	1,621	2,039	307	dpm/100 cm ²	0
F8131692 Aux Building Rooms 309-317 and 350, Upper Walls						
3,389-12,566	14	2,228	3,211	409	dpm/100 cm ²	0
F8132132 Aux. Building Exterior 20' El. Steam Support Structure						
2,188-26,064	14	2,289	8,678	1,860	dpm/100 cm ²	0
F8132133 Aux. Building Exterior 0' El. Steam Support Structure						
6,756-13,197	14	2,183	3,932	571	dpm/100 cm ²	0
F8132134 Aux. Building Exterior 20' El. Steam Support Structure						
19,124-30,796	15	6,267	22,191	6,135	dpm/100 cm ²	0
F8132143 Aux. Building Exterior Walls, East						
472-739 Co-60 662-978 Cs-137	14	1,243	1,634	183	dpm/100 cm ²	0
F8132144 Aux. Building Exterior Walls, North						
502-776 Co-60 707-978 Cs-137	14	1,582	1,841	116	dpm/100 cm ²	0
F8140003 Training and Records Building Breezeway						
1,731-3,153	14	1,109	1,598	277	dpm/100 cm ²	0
F8260004 Turbine Building, Condenser Pump Pit, Central						
1,079-22,066	46	1,674	5,032	593	dpm/100 cm ²	0
F8260006 Turbine Building, Condenser Pump Pit, South						
1,460-52,642	50	2,184	9,882	1,268	dpm/100 cm ²	0
F8260008 Turbine Building, High Pressure Turbine Pit						
3,631-46,275	17	2,174	2,827	388	dpm/100 cm ²	1

Scan Measurement Range	No. Direct Measurements Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8260010 Turbine Building, Condenser Pump Pit, North						
1,614-34,413	49	1,520	3,631	461	dpm/100 cm ²	0
F8260011 Turbine Building, Lube Oil Pit						
1,331-13,858	24	1,673	2,713	360	dpm/100 cm ²	0
F8260031 Turbine Sumps Piping						
1,660-2,208	30	2,007	2,208	147	dpm/100 cm ²	0
F8260032 Turbine Building, Main Feed Pump Area						
4,218-8,818	15	2,047	2,770	365	dpm/100 cm ²	2
F8260131 Turbine Building, Grade Level, North						
<912 Co-60 <1,360 to 15,330 Cs-137	15	1,557	1,945	208	dpm/100 cm ²	2
F8260141 Turbine Building, Grade Level, South						
<991 Co-60 <1,250 to 10,408 Cs-137	14	1,698	1,945	236	dpm/100 cm ²	1
F8260151 Turbine Building, Grade Level, South						
3,492-13,953	16	1,552	2,806	380	dpm/100 cm ²	0
F8260161 Turbine Building Floor, North						
3,236-20,988	15	2,584	7,672	1,995	dpm/100 cm ²	0
F8260171 Turbine Building, Grade Level, North						
5,524-13,036	14	2,672	5,203	1,047	dpm/100 cm ²	0
F8260201 Turbine Building, Mezzanine, Interior Walls						
4,759-12,806	14	896	2,325	580	dpm/100 cm ²	0
F8260202 Turbine Building, Structural Steel						
953-16,396	14	651	1,446	312	dpm/100 cm ²	0
F8260251 Turbine Building, North Laydown Area						
<780 Co-60 <1,180 Cs-137	14	2,151	3,247	347	dpm/100 cm ²	0
F8260261 Turbine Building, South Laydown Area and Sump						
4,732-9,812	14	1,055	1,140	33	dpm/100 cm ²	0
F8260302 Turbine Building, Exterior						
<974 Co-60 <953-971 Cs-137	14	1,155	1,972	502	dpm/100 cm ²	0
F8261003 Turbine Building, Pedestal 1						
1,445-44,257	50	1,917	6,733	931	dpm/100 cm ²	0
F8261004 Turbine Building, Pedestal 2						
3,045-187,872	43	2,841	6,375	1,329	dpm/100 cm ²	9
F8261005 Turbine Building, Pedestal 3						
2,347-7,827	15	1,520	1,675	85	dpm/100 cm ²	0
F8340011 Industrial Area Railway						
5,777-9,312γ cpm	16	0.968	1.02	0.033	ρCi/g	2
F8340012 Industrial Area Railway						
<0.265 Co-60 0.14 to 0.286 Cs-137	23	0.856	0.947	0.051	ρCi/g	0
F8340021 Railway External to the Industrial Area						
0.222-0.30 Cs-137	16	0.847	0.919	0.077	ρCi/g	0

Scan Measurement Range	No. Direct Measurements Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8370001 RHUT and Aux. Boiler Pad (surface)						
≤0.306 Co-60 0.14-0.24 Cs-137	18	0.144	0.269	0.053	ρCi/g	0
F8370002 Tank Farm/ RHUT (subsurface)						
N/A Subsurface	30	0.055	0.080	0.012	ρCi/g	0
F8510005 Switch Yard South (plus Retention Basin Buffer)						
<0.236 Co-60 <0.399 Cs-137	14	0.075	0.144	0.024	ρCi/g	0
F8990074 High Pressure Turbine Pedestal Drain						
3,531-6,926	44	5,459	6,926	1,246	dpm/100 cm ²	0
F8990098 CDS Cross-Tie						
7,393-10,864 γ cpm	14	0.0465	0.059	0.008	ρCi/g	0
F8990111 Decay Heat Removal System Piping						
10,024-44,824	227	22,517	44,824	6,978	dpm/100 cm ²	0
F8990401 Reactor Building Drains						
1,757-19,144	203	4,427	19,144	3,215	dpm/100 cm ²	0
F8990441 Spent Fuel Pool Piping						
1,260-26,111	1,243	4,040	26,111	2,885	dpm/100 cm ²	0
F8991093 RHUT 8" Drain Lines						
≤0.255 Co-60 ≤0.295 Cs-137	16	0.041	0.049	.003	ρCi/g	0

4.5 Survey Unit Conclusions

Rancho Seco concludes that this information is sufficient for the NRC to make a determination equivalent to 10CFR50.82 (a)(11) regarding the survey units contained in this submittal. The surveys for these survey units and associated documentation demonstrate that these areas of the facility and site are suitable for release in accordance with the criteria for decommissioning in 10CFR20, subpart E by meeting a site release criteria of 25 millirem TEDE per year over background for all dose pathways in accordance with the approved License Termination Plan.

As stated in section 4 of the Rancho Seco LTP, as long as the residual activity within a survey unit is less than the DCGL (i.e., the survey unit average activity is less than the DCGL and the EMC criterion has been met), the ALARA criterion has been achieved.

4.6 Summary Report Revisions

Revisions were made to five summary reports from previous submittals. Two revisions were made for submittal 4 (F800011, Helo Pad Area and F8130161, Auxiliary Building Rm 15). Three revisions were made for Submittal 2 (F8130481, Auxiliary Building Rm 37; F8130521, Auxiliary Building Rm 39 and F8130561, Auxiliary Building Rm 41)

F8000011 Helo Pad Area provided an incorrect reference in Table 1 of the Summary Report for the Design Sigma. The correct reference (Table 5-4B) has been included in revision 1 of the report.

F8130161 Auxiliary Building Rm 15 FSS Summary Report, Table 3-1 was difficult to interpret. The Table has been revised with sufficient information and footnotes to provide easier interpretation and the Summary Report has been revised to address changes from Table 3-1.

F8130481, F8130521, F8130561 Auxiliary Building Rms 37, 39 and 41

As part of the corrective action for DQ#07-020, gamma surveys were made in rooms 37, 39, and 41 once remediation was complete in the adjacent pump alley. The gamma survey indicated the presence some small elevated areas (less than 0.5 m^2). In the interest of completeness, those areas were evaluated and added to Table 3-1 of the Summary Reports for the survey units. Those revised reports are included in Attachment 1 of this Report.

During the teleconference conducted with NRC representatives regarding Submittal 4 items noted in the first paragraph a third finding was noted. This item was associated with survey unit F8990421 where a single measurement was observed to be above the $100,000 \text{ dpm}/100 \text{ cm}^2$ DCGL for buried and embedded piping. An examination had been made of this anomalous measurement and the results of the finding placed with the survey package but not with the submitted final summary report. The findings showed that the observed measurement was relative to the existing activity at the top of the drain and the piping but not likely associated with the piping internals. The measurement was taken at the "0" location of the piping which is at the pipe entrance. The area factor for piping ($\sim 730 \text{ cm}^2$) or the floor region would result in an insignificant level for the recorded $137,654 \text{ dpm}/100 \text{ cm}^2$ pipe detector result. Attachment 2 of this report provides the findings associated with F8990421.

4.7 Attachment 3 of this report presents a Table of the as-left dose for each survey unit and is based on the appropriate DCGL and survey unit listing.

5.0 References

Rancho Seco License Termination Plan, rev. 1, submitted 6/08.
DQ#07-020, "Elevated Activity in Areas Having Already Completed FSS".

Attachment 1
Survey Unit Summary Reports

Attachment 2
Examination of Elevated Measurement in SU F8990421
Radwaste System Piping Location M1267GI, July 22, 2008

General

Final Status Surveys of the Radwaste System Piping indicated that at one location (M1267GI) the direct measurement result was 137,654 dpm/100 cm². This survey location is at the "0" location (entrance) of a floor cleanout. The 6 inch diameter piping segment is 31.5 feet in length and noted as 3-2-14. This segment of piping surveys consisted of 64 direct measurements.

Findings

1. The final survey of segment 3-2-14 was conducted using a 44-159 detector. The detector instrument parameters used for the survey were set for a 44-157 detector.
2. With the exception of the dead time constant the instrument configuration used for both detectors (principally, high voltage and threshold) are the same therefore the signal processing and cpm results are essentially the same.
3. For these reasons the FSS data was preserved and the cpm results processed using the efficiency for 44-159 detectors.
4. Because a Peak-to-Total evaluation had not been conducted for 44-159 detectors in six inch piping the FSS survey results for piping segment 3-2-14 are biased high. Based on other measurements conducted in piping of the same size using both the 44-157 and the 44-159 detector indicate that their Peak-to-Total response is very similar and the 32 measurements reported for segment 3-2-14 are expectedly biased high by a factor of 6 or more.
5. Because the area factor for the single location where the elevated measurement was located (~730 cm²) is large the single elevated measurement is insignificant.
6. The location of the elevated measurement is at the "0" location of the floor cleanout and if present, could potentially contribute to the room DCGL. For this concern several measurements were conducted using a 44-10 detector as presented in Figure 1.0 below. [Note that two grid locations (C0)321(BS) and (C0)322(BS) are noted in Figure 1.0.] Four 30.5 cm square grids were examined. One grid is located over the grouted floor cleanout and the other grids are adjacent to the grouted cleanout. Only the cleanout end exhibits any gamma activity significantly above the background.
7. Grid C0321GS of SU F8130361 (Ion Exchanger Valve Area, Room 27) resulted in the highest beta scan location for the room (57,103 dpm/100 cm²) and is below the DCGLEMC by a factor of 2.5.

Attachment 3
As Left Dose Report By Survey Unit

SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F1000001	Effluent Corridor	0.047	1	0.47	1.18
F1000002	Effluent Corridor	0.691	51.2	0.013	0.33
F1000003	Effluent Corridor	0.032	1	0.032	0.80
F1000004	Effluent Corridor	0.153	1	0.153	3.83
F2000001	South Outfall	0.272	51.2	0.005	0.13
F5010011	Receiving Warehouse Ext	1006	43,000	0.023	0.58
F5010012	Receiving Warehouse Int	1082	43,000	0.025	0.63
F5010031	Upper/Outer Yard	0.764	51.2	0.015	0.36
F5010032	Hazardous Waste Bld Pad	2503	43,000	0.058	1.46
F5010041	Extended Parking Area	0.093	51.2	0.002	0.04
F5010042	Extended Parking Area	0.677	51.2	0.013	0.32
F5010051	Site Access Roadway	0.808	51.2	0.016	0.39
F8000011	Helo Pad	0.497	51.2	0.009	0.24
F8000041	Central Transit Yard	0.665	51.2	0.013	0.32
F8000071	West Industrial Area	0.064	51.2	0.001	0.03
F8000072	Industrial Area West (West of Barrel Farm)	0.069	51.2	0.001	0.03
F8000073	Industrial Area West (North End)	0.062	51.2	0.001	0.03
F8000091	South East Industrial Area	0.465	51.2	0.009	0.23
F8000101	Industrial Area Central Yard, North and East of Maintenance Building	0.798	51.2	0.016	0.39
F8000102	Industrial Area Central Yard, North and West of Maintenance Building	0.545	51.2	0.011	0.27
F8000103	Aux Bld/NSEB Alley	0.849	51.2	0.016	0.40
F8000104	Pump Alley Access Corridor	1.04	51.2	0.020	0.51
F8000105	Industrial Area, North-South Roadway East of BWB	0.989	51.2	0.019	0.48
F8000106	Central Industrial Area Roadway	0.29	51.2	0.006	0.14
F8000111	Industrial Area Corridor, North of "A" Warehouse and Fab Shop	0.901	51.2	0.018	0.44
F8000121	Industrial Area Yard Buffer	0.365	51.2	0.007	0.17
F8000141	North Industrial Area	0.078	51.2	0.001	0.04
F8000142	North Industrial Area	0.738	51.2	0.014	0.36
F8040011	PAP Bld Ext	3556	43,000	0.083	2.07
F8040012	PAP Bld Int	2261	43,000	0.053	1.31
F8050011	Admin Bld Int	1926	43,000	0.045	1.12
F8050012	Admin Bld Ext	2054	43,000	0.048	1.19
F8080011	E, W Cooling Tower Basins	2182	43,000	0.051	1.27
F8080031	Cooling Tower Buffer South	0.966	51.2	0.019	0.47

**Attachment 3
As Left Dose Report By Survey Unit**

SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F8080032	Cooling Tower Buffer West	1.01	51.2	0.020	0.49
F8080033	Cooling Tower Buffer East	0.952	51.2	0.019	0.46
F8090011	Sewer Plant Pavement	0.89	51.2	0.017	0.42
F8100011	Tank Farm Southwest and Steam Sump (surface)	0.022	1	0.022	0.55
F8100012	Tank Farm Southwest and Steam Sump (subsurface)	0.142	51.2	0.003	0.07
F8100021	Tank Farm NW Quadrant (surface)	0.351	51.2	0.007	0.17
F8100022	Tank Farm NW Quadrant (subsurface)	0.027	1	0.027	0.68
F8100031	Tank Farm NE Quadrant (surface)	0.447	51.2	0.009	0.22
F8100032	Tank Farm NE Quadrant (subsurface)	0.049	51.2	0.001	0.02
F8100041	Tank Farm CST and #2 & #3 Pads	2609	43,000	0.061	1.52
F8100042	Tank Farm DRCST Pad	3710	43,000	0.086	2.16
F8100043	Tank Farm BWST Pad	2089	43,000	0.049	1.21
F8100044	Tank Farm Tritium Evaporator Pad	2666	43,000	0.062	1.55
F8100051	Tank Farm Trench 1	0.006	1	0.006	0.15
F8100052	Tank Farm Trench 1 (surface)	0.387	51.2	0.008	0.19
F8100053	Tank Farm Trench 1 (subsurface)	0.046	51.2	0.001	0.02
F8110111	Rx Building FSS Ring (+75' to +115')	2992	43,000	0.070	1.74
F8110112	Rx Building FSS Ring (+25' to +75')	2852	43,000	0.066	1.66
F8110113	Rx Building FSS Ring (-27' to +25')	2004	43,000	0.047	1.17
F8110114	Rx Building Floor -27'	0.162	1	0.162	4.05
F8110114 ^b	Rx Building Floor -27' (Activated Concrete)	2.01	7.7	0.261	6.53
F8111571	Reactor Bld Dome	0.44	1	0.440	11.00
F8111591	Rx Building Tendon Gallery	1491	43,000	0.035	0.87
F8113000	Rx Building Exterior Dome	2185	43,000	0.051	1.27
F8113001	Rx Building Exterior	1375	43,000	0.032	0.80
F8120001	Spent Fuel Pool West Wall	3800	43,000	0.088	2.21
F8120002	Spent Fuel Pool South Wall	2537	43,000	0.059	1.48
F8120003	Spent Fuel Pool East Wall	2798	43,000	0.065	1.63
F8120004	Spent Fuel Pool North Wall	2974	43,000	0.069	1.73
F8120005	Spent Fuel Pool Floor	3028	43,000	0.070	1.76
F8120111	Cask Catcher Pad	2616	43,000	0.061	1.52
F8120121	Spent Fuel Building Exterior	2201	43,000	0.051	1.28
F8120131	Fuel Bld Ext	1235	43,000	0.029	0.72
F8120141	Spent Fuel Building Exterior	1717	43,000	0.040	1.00
F8120151	Fuel Bld Ext	1356	43,000	0.032	0.79

Attachment 3
As Left Dose Report By Survey Unit

SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F8120161	Fuel Bld Ext	2328	43,000	0.054	1.35
F8120171	Spent Fuel Building Styrofoam Gap	1684	43,000	0.039	0.98
F8120181	Spent Fuel Building Styrofoam Gap	3113	43,000	0.072	1.81
F8121001	Spent Fuel Building Floor 40' El.	2422	43,000	0.056	1.41
F8121002	Spent Fuel Building 40' El. Lower Walls, North	3343	43,000	0.078	1.94
F8121003	Spent Fuel Building 40' El. Lower Walls, South	3717	43,000	0.086	2.16
F8121004	Spent Fuel Building 40' El. Upper Walls, South	1355	43,000	0.032	0.79
F8121005	Spent Fuel Building Control Rod Pit	1389	43,000	0.032	0.81
F8121006	Spent Fuel Building 40' El. Upper Walls, North	1440	43,000	0.033	0.84
F8130011	Aux Bld Rm 1 Lower	2543	43,000	0.059	1.48
F8130021	Aux Bld Rm 1 Upper	1870	43,000	0.043	1.09
F8130022	Aux. Building -47' El. Room 1, Ceiling	1672	43,000	0.039	0.97
F8130031	Aux Bld Rm 2 Lower	2079	43,000	0.048	1.21
F8130041	Aux. Building -47' El. Room 2, Upper Walls	1452	43,000	0.034	0.84
F8130042	Aux Bld Rm 2 Upper	1478	43,000	0.034	0.86
F8130051	Aux Bld Rm 3 Lower	3560	43,000	0.083	2.07
F8130061	Aux Bld Rm 3 Upper	2076	43,000	0.048	1.21
F8130071	Aux Bld 02 stairs	2186	43,000	0.051	1.27
F8130081	Aux Bld 01 stairs	1754	43,000	0.041	1.02
F8130091	Aux Bld Rms 56,127,138	1354	43,000	0.031	0.79
F8130101	Aux Bld Rm 10 Lower	1974	43,000	0.046	1.15
F8130102	Aux Bld Rm 10 Upper	1624	43,000	0.038	0.94
F8130111	Aux Bld Rm 11 Lower	3568	43,000	0.083	2.07
F8130112	Aux Bld Rm 11 Upper	3167	43,000	0.074	1.84
F8130121	Aux Bld Rm 12 Lower	6193	43,000	0.144	3.60
F8130122	Aux Bld Rm 12 Upper	1863	43,000	0.043	1.08
F8130131	Aux Bld Rm 13	2236	43,000	0.052	1.30
F8130141	Aux Bld Rm 14	2719	43,000	0.063	1.58
F8130151	Aux Bld Rm 15, columns N-R	1734	43,000	0.040	1.01
F8130161	Aux Bld Rm 15, columns R-T	1819	43,000	0.042	1.06
F8130171	Aux Bld Rm 15, column T and east	1514	43,000	0.035	0.88
F8130181	Aux Bld Rm 16	3867	43,000	0.090	2.25
F8130191	Aux Bld Rm 17	2294	43,000	0.053	1.33
F8130201	Aux Bld Rm 18 Lower	2127	43,000	0.049	1.24
F8130211	Aux Bld Rm 18 Upper	1501	43,000	0.035	0.87

Attachment 3
As Left Dose Report By Survey Unit

SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F8130221	Aux Bld Rm 19 Lower	2415	43,000	0.056	1.40
F8130222	Aux Bld Rm 19 Upper	4518	43,000	0.105	2.63
F8130231	Aux Bld Rm 59 Lower	1947	43,000	0.045	1.13
F8130232	Aux Bld Rm 59 Upper	1695	43,000	0.039	0.99
F8130241	Aux Bld Rm 20 Lower	6332	43,000	0.147	3.68
F8130251	Aux Bld Rm 20 Upper	3580	43,000	0.083	2.08
F8130261	Aux Bld Rm 21 Lower	1784	43,000	0.041	1.04
F8130271	Aux Bld Rm 21 Upper	1343	43,000	0.031	0.78
F8130281	Aux Bld Rm 22 Lower	1749	43,000	0.041	1.02
F8130291	Aux Bld Rm 22 Upper	1625	43,000	0.038	0.94
F8130301	Aux Bld Rm 23 Lower	4246	43,000	0.099	2.47
F8130311	Aux Bld Rm 23 Upper	2382	43,000	0.055	1.38
F8130321	Aux Bld Rm 24	2464	43,000	0.057	1.43
F8130331	Aux Bld Rm 25 Lower	2585	43,000	0.060	1.50
F8130341	Aux Bld Rm 25 Upper	1873	43,000	0.044	1.09
F8130351	Aux Bld Rm 26	2422	16100	0.150	3.76
F8130361	Aux Bld Rm 27	2045	43,000	0.048	1.19
F8130401	Aux Bld Rms 28-31	1524	43,000	0.035	0.89
F8130411	Aux Bld Rms 32-35	1389	43,000	0.032	0.81
F8130421	Aux Bld Rm 36, floor and soil walls	7.61	51.2	0.145	3.62
F8130431	Aux Bld Rm 36, North of column 9.7, walls (above one meter) and ceiling	1565	43,000	0.036	0.91
F8130441	Aux Bld Rm 36, North and East Walls below -25'9"	1916	43,000	0.045	1.11
F8130451	Aux Bld Rm 36, Column 9.7 - 11.7, Walls above one meter - ceilings	2627	43,000	0.061	1.53
F8130461	Aux Bld Rm 36, South and West concrete walls below 25'9"	2433	43,000	0.057	1.41
F8130471	Aux Bld Rm 36, column 11.7 - south above -25'7"	2272	43,000	0.053	1.32
F8130481	Aux Bld Rm 37 Lower	2295	43,000	0.053	1.33
F8130491	Aux Bld Rm 37 Upper	1800	43,000	0.042	1.05
F8130501	Aux Bld Rm 38 Lower	2357	43,000	0.055	1.37
F8130511	Aux Bld Rm 38 Upper	2281	43,000	0.053	1.33
F8130521	Aux Bld Rm 39 Lower	3795	43,000	0.088	2.21
F8130531	Aux Bld Rm 39 Upper	2441	43,000	0.057	1.42
F8130541	Aux Bld Rm 40 Lower	4677	43,000	0.109	2.72
F8130551	Aux Bld Rm 40 Upper	2746	43,000	0.064	1.60
F8130561	Aux Bld Rm 41 Lower	2646	43,000	0.062	1.54
F8130571	Aux Bld Rm 41 Upper	1848	43,000	0.043	1.07

**Attachment 3
As Left Dose Report By Survey Unit**

SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F8130581	Aux Bld Rm 42 Lower	2717	43,000	0.063	1.58
F8130591	Aux Bld Rm 42 Upper	2229	43,000	0.052	1.30
F8130601	Aux Bld Rm 43 Lower	1638	43,000	0.038	0.95
F8130611	Aux Bld rm 43 Upper	1521	43,000	0.035	0.88
F8130621	Aux Bld Rm 44	1981	43,000	0.046	1.15
F8130631	Aux Bld Rm 45	3368	43,000	0.078	1.96
F8130641	Aux Bld Rm 46	2258	43,000	0.053	1.31
F8130651	Aux Bld Rm 47	2079	43,000	0.048	1.21
F8130661	Aux Bld Rm 48	1428	43,000	0.033	0.83
F8130671	Aux Bld Rm 49	1778	16000	0.111	2.78
F8130681	Aux Bld Rm 50 Lower	3655	43,000	0.085	2.13
F8130682	Aux Bld Rm 50 Upper	1553	43,000	0.036	0.90
F8130691	Aux Bld Rm 51, Columns 10.3 to 9.7, Lower	3164	43,000	0.074	1.84
F8130701	Aux Bld Rm 51, Columns 10.3 to 9.7, Upper	3340	43,000	0.078	1.94
F8130711	Aux Bld Rm 51, Columns 9.2 to 9.7, Lower	2380	43,000	0.055	1.38
F8130721	Aux Bld Rm 51, Columns 9.2 to 9.7, Upper	1971	43,000	0.046	1.15
F8130731	Aux. Bd Rm 51, North of Column 9.1	2050	43,000	0.048	1.19
F8130732	Aux Bld Rm 51 and 52 Excavation	2633	43,000	0.061	1.53
F8130741	Aux Bld Rm 52, West of Column N Upper	1559	43,000	0.036	0.91
F8130751	Aux Bld Rm 52, West of Column N Lower	2198	43,000	0.051	1.28
F8130761	Aux Bld Rm 52, East of Column N Lower	2018	43,000	0.047	1.17
F8130771	Aux Bld Rm 52, East of Column N Upper	1621	43,000	0.038	0.94
F8130781	Aux Bld Rm 53 Lower	2411	43,000	0.056	1.40
F8130782	Aux Bld Rm 53 Upper	1425	43,000	0.033	0.83
F8130811	Aux Bld Rms 54,55	1643	43,000	0.038	0.96
F8130861	Aux Bld Rms 102,103	3106	43,000	0.072	1.81
F8130862	Aux Bld Rm 106	1426	43,000	0.033	0.83
F8130881	Aux Bld Rm2 104-135	1629	43,000	0.038	0.95
F8130931	Aux Bld Rm 107	3929	43,000	0.091	2.28
F8130941	Aux Bld Rms 109, 110	3876	43,000	0.090	2.25
F8130942	Aux. Building Room 109	5116	43,000	0.119	2.97
F8130991	Aux Bld Rm 112	3008	43,000	0.070	1.75
F8131001	Aux Bld Rm 111	1338	43,000	0.031	0.78
F8131011	Aux Bld Rm 113	1766	43,000	0.041	1.03

Attachment 3
As Left Dose Report By Survey Unit

SUID#	SU Name	Mean Activity^a	DCGL^a	DCGL Fraction	mrem /year
F8131021	Aux Bld Rm 114	1777	43,000	0.041	1.03
F8131031	Aux Bld Rm 115	1267	43,000	0.029	0.74
F8131041	Aux Bld Rm 117 West	2535	43,000	0.059	1.47
F8131051	Aux Bld Rm 117 East	3505	43,000	0.082	2.04
F8131191	Aux Bld Rm 130	1452	43,000	0.034	0.84
F8131201	Aux Bld Rms 131,222,345	1644	43,000	0.038	0.96
F8131211	Aux. Bld Rm 132, Class 2	1641	43,000	0.038	0.95
F8131212	Aux Bld Rm 132, Class 1	2177	43,000	0.051	1.27
F8131221	Aux Bld Rm 133, Lower	3519	43,000	0.082	2.05
F8131222	Aux Bld Rm 133, Upper	2431	43,000	0.057	1.41
F8131231	Aux Bld Rm 134	2810	43,000	0.065	1.63
F8131311	Aux Bld Rm Aux Bld Mezz Roof	1556	43,000	0.036	0.90
F8131341	Aux Bld Rms 202,204	1676	43,000	0.039	0.97
F8131351	Aux Bld Rm 206	1620	43,000	0.038	0.94
F8131361	Aux Bld Rm 207	1454	43,000	0.034	0.85
F8131371	Aux. Building Rooms 208, 211, Lower Walls	1891	43,000	0.044	1.10
F8131372	Aux. Building Rooms 208, 211, Upper Walls	1603	43,000	0.037	0.93
F8131381	Aux Bld Rm 209 Upper	1648	43,000	0.038	0.96
F8131382	Aux Bld Rm 209 Lower	1666	43,000	0.039	0.97
F8131402	Aux Bld Rm 210 Upper	2205	43,000	0.039	0.97
F8131403	Aux Bld Rm 210 Lower	4069	43,000	0.095	2.37
F8131411	Aux Bld Rms 212-226,ped	1240	43,000	0.029	0.72
F8131561	Aux Bld Roof	1509	43,000	0.035	0.88
F8131601	Aux Bld Non-Cont Rms	1451	43,000	0.034	0.84
F8131691	Aux. Building Rooms 309-317, and 350, Lower Walls	1621	43,000	0.038	0.94
F8131692	Aux Building Rooms 309-317 and 350, Upper Walls	2228	43,000	0.052	1.30
F8131781	Aux Bld Rm 319 Lower	2246	43,000	0.052	1.31
F8131782	Aux Bld Rm 319 Upper	1586	43,000	0.037	0.92
F8131791	Aux Bld Rms 320 Lower	1283	43,000	0.030	0.75
F8131792	Aux Bld Rm 320 (all), 321 Upper	1612	43,000	0.037	0.94
F8131811	Aux Bld Rms 322-324,351	1404	43,000	0.033	0.82
F8131812	Aux Bld Rms 322-324,351	1774	43,000	0.041	1.03
F8132051	Aux Bld Rms 346,elev	1421	43,000	0.033	0.83
F8132131	Aux Bld Ext	1597	43,000	0.037	0.93
F8132132	Aux. Building Exterior 20' El. Steam Support Structure	2289	43,000	0.053	1.33

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SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F8132133	Aux. Building Exterior 0' El. Steam Support Structure	2183	43,000	0.051	1.27
F8132134	Aux. Building Exterior 20' El. Steam Support Structure	6267	43,000	0.146	3.64
F8132141	Aux Bld Ext	2730	43,000	0.063	1.59
F8132142	Aux Bld Ext South Wall	1292	43,000	0.030	0.75
F8132143	Aux. Building Exterior Walls, East	1243	43,000	0.029	0.72
F8132144	Aux. Building Exterior Walls, North	1582	43,000	0.037	0.92
F8140002	T&R Bld Ext	1530	43,000	0.036	0.89
F8140003	Training and Records Building Breezeway	1109	43,000	0.026	0.64
F8140010	T&R Bld Int	1416	43,000	0.033	0.82
F8150011	NSEB Int	1853	43,000	0.043	1.08
F8150021	NSEB Ext	1882	43,000	0.044	1.09
F8170011	Diesel Gen Bld Int	1707	43,000	0.040	0.99
F8170021	Diesel Gen Bld Ext	1880	43,000	0.044	1.09
F8210001	Water Treat Bld Int	1621	43,000	0.038	0.94
F8210002	Water Treat Bld Ext	1614	43,000	0.038	0.94
F8220011	Chlorine Bld Int	2246	43,000	0.052	1.31
F8220021	Chlorine Bld Ext	2804	43,000	0.065	1.63
F8230001	Intake Structure	2284	43,000	0.053	1.33
F8240001	Primary Cooling Water Str	2078	43,000	0.048	1.21
F8260001	Condensate Pit	1824	43,000	0.042	1.06
F8260002	Turb Bld Polisher Sump	2026	43,000	0.047	1.18
F8260004	Turbine Building, Condenser Pump Pit, Central	1674	43,000	0.039	0.97
F8260006	Turbine Building, Condenser Pump Pit, South	2184	43,000	0.051	1.27
F8260008	Turbine Building, High Pressure Turbine Pit	2174	43,000	0.051	1.26
F8260010	Turbine Building, Condenser Pump Pit, North	1520	43,000	0.035	0.88
F8260011	Turbine Building, Lube Oil Pit	1673	43,000	0.039	0.97
F8260031	Turbine Sumps Piping	2007	43,000	0.047	1.17
F8260032	Turbine Building, Main Feed Pump Area	2047	43,000	0.048	1.19
F8260131	Turbine Building, Grade Level, North	1557	43,000	0.036	0.91
F8260141	Turbine Building, Grade Level, South	1698	43,000	0.039	0.99
F8260151	Turbine Building, Grade Level, South	1552	43,000	0.036	0.90
F8260161	Turbine Building Floor, North	2584	43,000	0.060	1.50
F8260171	Turbine Building, Grade Level, North	2672	43,000	0.062	1.55

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SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F8260201	Turbine Building, Mezzanine, Interior Walls	896	43,000	0.021	0.52
F8260202	Turbine Building, Structural Steel	651	43,000	0.015	0.38
F8260251	Turbine Building, North Laydown Area	2151	43,000	0.050	1.25
F8260261	Turbine Building, South Laydown Area and Sump	1055	43,000	0.025	0.61
F8260302	Turbine Building, Exterior	1155	43,000	0.027	0.67
F8260303	Turb Bld Deck	2026	43,000	0.047	1.18
F8260304	Turb Bld Deck	2040	43,000	0.047	1.19
F8260305	Turb Bld Deck	1823	43,000	0.042	1.06
F8261001	S Turbine Pedestal	1372	43,000	0.032	0.80
F8261002	LP Turbine Pedestal	1708	43,000	0.040	0.99
F8261003	Turbine Building, Pedestal 1	1917	43,000	0.045	1.11
F8261004	Turbine Building, Pedestal 2	2841	43,000	0.066	1.65
F8261005	Turbine Building, Pedestal 3	1520	43,000	0.035	0.88
F8310001	Microwave Bld Int	1634	43,000	0.038	0.95
F8310002	Microwave Bld Ext	2338	43,000	0.054	1.36
F8320001	Diesel Fuel Oil Tank Pad	0.05	51.2	0.001	0.02
F8330001	Warehouse B Int	1737	43,000	0.040	1.01
F8330002	Warehouse B Ext	1704	43,000	0.040	0.99
F8340011	Industrial Area Railway	0.968	51.2	0.019	0.47
F8340012	Industrial Area Railway	0.856	51.2	0.017	0.42
F8340021	Railway External to the Industrial Area	0.847	51.2	0.017	0.41
F8370001	RHUT and Aux. Boiler Pad (surface)	0.144	51.2	0.003	0.07
F8370002	Tank Farm/ RHUT (subsurface)	0.055	51.2	0.001	0.03
F8390001	Transformer Yard	0.285	51.2	0.005	0.14
F8400001	Warehouse A Int	1549	43,000	0.036	0.90
F8400002	Warehouse A Ext	2315	43,000	0.054	1.35
F8430011	Barrel Farm	0.063	51.2	0.001	0.03
F8430021	Barrel Farm Surface Soil	0.057	51.2	0.001	0.03
F8480011	N Retention Basin	0.043	1	0.043	1.08
F8480012	S Retention Basin	0.058	1	0.058	1.45
F8480013	Discharge Boxes/Manholes	1805	43,000	0.042	1.05
F8480014	Discharge Boxes/Manholes	1972	43,000	0.046	1.15
F8480015	Discharge Boxes/Manholes	1876	43,000	0.044	1.09
F8480016	Discharge Boxes/Manholes	2182	43,000	0.051	1.27
F8480017	Retention Basin Surf Soil	0.059	51.2	0.001	0.03
F8480018	Reten Basin Concrete Str	0.013	1	0.013	0.33

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SUID#	SU Name	Mean Activity^a	DCGL^a	DCGL Fraction	mrem /year
F8480019	Misc Small Blds Reten	914	43,000	0.021	0.53
F8480021	Retention Basin Buffer	0.062	51.2	0.001	0.03
F8500011	Solidification Pad, NE Lower	2200	43,000	0.051	1.28
F8500012	Solidification Pad, S Lower	2078	43,000	0.048	1.21
F8500013	Solidification Pad Beneath NE Section	2585	43,000	0.060	1.50
F8500014	Solidification Pad, NW Lower	1911	43,000	0.044	1.11
F8510001	Switch Yard Soil	0.061	51.2	0.001	0.03
F8510002	Switch Yard Pavement	0.82	51.2	0.016	0.39
F8510003	Switch Yd Bld Ext	927	43,000	0.022	0.54
F8510004	Switch Yd Bld Int	1727	43,000	0.040	1.00
F8510005	Switch Yard South (plus Retention Basin Buffer)	0.075	51.2	0.001	0.04
F8520001	Machine Shop Int	1645	43,000	0.038	0.96
F8520002	Machine Shop Ext	1973	43,000	0.046	1.15
F8540001	Misc Small Blds POL	785	43,000	0.018	0.46
F8540002	Misc Small Blds Lawn	1705	43,000	0.040	0.99
F8560001	SAS Bld Ext	2066	43,000	0.048	1.20
F8560002	SAS Bld Int	1620	43,000	0.038	0.94
F8570001	Sub-Surface Vaults	400	43,000	0.009	0.23
F8990021	Aux Feedwater Pipe	5217	100,000	0.052	1.30
F8990054	CDS-Clean Drain Pipe	8211	100,000	0.082	2.05
F8990060	Comp Cool Water Pipe	5094	100,000	0.051	1.27
F8990071	Turbine Bld Drains East Grade Level	2901	100,000	0.029	0.73
F8990072	Turbine Bld Drains +40 Elevation	1663	100,000	0.017	0.42
F8990073	Turbine Bld Drains Grade Level	2236	100,000	0.022	0.56
F8990074	High Pressure Turbine Pedestal Drain	5459	100,000	0.055	1.36
F8990091	CDS-Storm Drains	8386	100,000	0.084	2.10
F8990098	CDS Cross-Tie	0.0465	51.2	0.001	0.02
F8990111	Decay Heat Removal System Piping	22517	100,000	0.225	5.63
F8990281	Main Condensate Pipe	2907	100,000	0.029	0.73
F8990291	Circulating Water Pipe	171	100,000	0.002	0.04
F8990321	Nitrogen Pipe	3444	100,000	0.034	0.86
F8990351	Nuclear Service Water Pipe	8258	100,000	0.083	2.06
F8990401	Reactor Building Drains	4427	100,000	0.044	1.11
F8990421	Radwaste System Piping	4609	100,000	0.046	1.15
F8990422	East Radwaste System Piping	5692	100,000	0.057	1.42
F8990423	West Radwaste System Piping	3929	100,000	0.039	0.98

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SUID#	SU Name	Mean Activity ^a	DCGL ^a	DCGL Fraction	mrem /year
F8990431	Service Air Pipe	2295	100,000	0.023	0.57
F8990441	Spent Fuel Pool Piping	4040	100,000	0.040	1.01
F8990471	Service Water Pipe	1433	100,000	0.014	0.36
F8990501	Waste Gas Pipe	2406	100,000	0.024	0.60
F8990511	Carbon Dioxide Pipe	1929	100,000	0.019	0.48
F8990521	Acid Waste Pipe	3327	100,000	0.033	0.83
F8991071	CDS-Oily Water Separator	2259	100,000	0.023	0.56
F8991072	CDS-Oily Water Separator, Storm Drains	10070	100,000	0.101	2.52
F8991073	CDS-Oily Water Separator, Transformer Yard drain line trench	0.049	51.2	0.001	0.02
F8991091	RHUT Trench	0.008	1	0.008	0.20
F8991092	CDS-RHUT Pipe	26425	100,000	0.264	6.61
F8991093	RHUT 8" Drain Lines	0.041	51.2	0.001	0.02

a. Units are dpm/100 cm² (43,000 and 100,000) or pCi/g (51.2). No units when Unity used.

b. The entire floor of the Reactor Building (F8110114) was evaluated for surface activity. This entry represents the 24-foot diameter area excavated then monitored and evaluated for bulk activation in addition to the surface activity evaluation.