RANCHO SECO
FSS FINAL REPORT

Final Status Survey Report 1

November 19, 2007

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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. Once an area has been verified as ready for release, no additional surveys or decontamination of the area will be required unless the controls (e.g., administrative or engineered) established to prevent re-contamination have been compromised.

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 area immediately surrounding the IOSB) 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, together with the information to be provided in subsequent FSS reports, 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 51 survey units located on the site to be released. Details are provided for each survey unit on survey methods, results, data analysis, and conclusions. Additional information on all other applicable survey units for the site will be provided in subsequent submittals. 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 501001, 804000, 805000, 811000, 813000, 814000, 815000, 817000, 821000, 822000, 831000, 833000, 840000, 852000, 851000, and 856000 areas. Table 1 provides a description of the survey units addressed in this submittal.

Table 1

Survey Unit	Class	General Description of Survey Unit
F8510004	3	851000 Switch Yard Building- The interior of the switch yard building is a two story structure located within the IA adjacent to the switch yard. The survey unit had a surface area of 1374 m^2.
F8510003	3	851000 Switch Yard Building- The exterior of the switch yard building is a two story structure located within the IA adjacent to the switch yard. The survey unit had a surface area of 543 m^2.
F8050011	3	805001 Administration Building Interior- The Administration Building is located outside the IA on the east side of the site. It houses the District's backup computer center. The interior area is 910 m^2.
F8050012	3	805001 Administration Building Exterior- The Administration Building is located outside the IA on the east side of the site. It houses the District's backup computer center. The exterior area is 1705 m^2.
F8040011	3	804001 PAP Building Exterior- The PAP functions as the site access point for personnel entering the facility. It is located on the east side of the IA. The exterior area is 1177 m^2.

Survey Unit	Class	General Description of Survey Unit
F8040012	3	804001 PAP Building Interior- The PAP functions as the site access point for personnel entering the facility. It is located on the east side of the IA. The interior area is 836 m^2.
F8111571	1	811000 Reactor Building Dome- The dome consists of the upper surface of the reactor building interior liner located above the polar crane. The dome area is 1941 m^2.
F8140002	3	814000 T&R Building Exterior- The T&R building functions as office space for site personnel. It is located within the IA adjacent to the Auxiliary Building. The exterior area is 4303 m^2.
F8140010	3	814000 T&R Building Interior- The T&R building functions as office space for site personnel. It is located within the IA adjacent to the Auxiliary Building. The interior area is 22,160 m^2.
F8210001	3	821000 Water Treatment Building Interior- The Water Treatment Building housed the equipment used to treat the circulating water. It is located within the IA near the center of the site. The interior area is 416 m^2.
F8210002	3	821000 Water Treatment Building Exterior- The Water Treatment Building housed the equipment used to treat the circulating water. It is located within the IA near the center of the site. The exterior area is 392 m^2.
F8220011	3	822000 Chlorine Building Interior- The Chlorine Building housed the water chlorination equipment. It is located within the IA. The interior area is 597 m^2.
F8220021	3	822000 Chlorine Building Exterior- The Chlorine Building housed the water chlorination equipment. It is located within the IA. The exterior area is 457 m^2.
F8310001	3	831000 Microwave Building Interior- The Microwave Building houses the microwave communication equipment for the site. It is centrally located within the IA. The interior area is 274 m^2.
F8310002	3	831000 Microwave Building Exterior- The Microwave Building houses the microwave communication equipment for the site. It is centrally located within the IA. The Exterior area is 146 m^2.
F5010011	3	501001 Receiving Warehouse Exterior- The Receiving Warehouse was the staging and receipt location for incoming and outgoing shipments including radwaste. The exterior area is 1177 m^2.

Survey Unit	Class	General Description of Survey Unit
F5010012	3	501001 Receiving Warehouse Interior- The Receiving Warehouse was the staging and receipt location for incoming and outgoing shipments including radwaste. The interior area is 1531 m^2.
F8150021	3	815000 NSEB Exterior- The NSEB housed the electrical switch gear onsite. It is located south of the T&R Bld within the IA. The exterior area is 1609 m^2.
F8150011	3	815000 NSEB Interior- The NSEB housed the electrical switch gear onsite. It is located south of the T&R Bld within the IA. The interior area is 1197 m^2.
F8170021	3	817000 Diesel Generator Building Exterior- The DG Building housed the diesel generators that supplied emergency power for the site. It was later used to store the fuel cask handling equipment. The exterior area is 3484 m^2.
F8170011	3	817000 Diesel Generator Building Interior- The DG Building housed the diesel generators that supplied emergency power for the site. It was later used to store the fuel cask handling equipment. The interior area is 3267 m^2.
F8330002	2	833000 Warehouse B Exterior- The Warehouse B was used to store materials on site. It is located within the IA north of the switchyard. The exterior area is 2574 m^2.
F8330001	3	833000 Warehouse B Interior- The Warehouse B was used to store materials on site. It is located within the IA north of the switchyard. The interior area is 3182 m^2.
F8400002	3	840000 Warehouse A Exterior- The Warehouse A was used to store materials on site. It is located within the IA east of the switch yard. The exterior area is 1972 m^2.
F8400001	3	840000 Warehouse A Interior- The Warehouse A was used to store materials on site. It is located within the IA east of the switch yard. The interior area is 4548 m^2.
F8520002	3	852000 Machine Shop Exterior- The Machine Shop was used to perform maintenance and repairs on site equipment. It is located within the IA and is attached to Warehouse A. The exterior area is 952 m^2.
F8520001	3	852000 Machine Shop Interior- The Machine Shop was used to perform maintenance and repairs on site equipment. It is located within the IA and is attached to Warehouse A. The interior area is 1482 m^2.
F8560001	3	856000 SAS Exterior- The SAS was the secondary security alarm station located within the IA. The exterior area is 179 m^2.

Survey Unit	Class	General Description of Survey Unit
F8560002	3	856000 SAS Interior- The SAS was the secondary security alarm station located within the IA. The interior area is 1482 m^2.
F813000	Typically class 1 floor, lower walls and class 2 upper walls, ceiling	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 –20' elev: 59,18,43,21,53,22,47,48,44,45,46,49,50 and the demineralizer cubicles.

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

2.1.2 Survey Unit Information Being Provided in Subsequent Submittals

As discussed previously, Rancho Seco anticipates at least four additional submittals of detailed information on dismantlement activities and final status survey results as these activities are completed. Below is a list of the remaining survey areas to be surveyed and submitted

The schedule and content of each submittal were developed based on a review of the remediation and FSS schedule, as well as in consideration of NRC review requirements. The remediation schedule is dynamic and subject to continued refinement in logic, durations, and completion dates. It is Rancho Seco's intent to maintain the basic submittal schedule provided below. However, as a result of remediation schedule changes, it is possible additional submittals may be made with the goal of providing summary reports as soon as possible to the NRC to facilitate the agency's timely review.

<u>Second Submittal Scheduled for 1/7/08 (~58 Survey Units)</u>
F809001 Sewer Plant
F813000 Auxiliary Building
(Rms.42,41,23,24,25,131,130,202,204,54,55,37,40,19,1)
F824000 PCW
F843001 Barrel Farm
F848013-16 Discharge Boxes/Manholes
F850012-14 Solidification Pad
F100001-4 Effluent Corridor
F899002 Aux Feed Water System Pipe
F899006 Component Cooling Water System Pipe
F899028 Main Condensate System Pipe
F899043 Service Air System Pipe
F899050 Waste Gas System Pipe
F899107 Oily Water Separator

F899109 RHUT System Pipe
F851000 Switch Yard
F200001 South Outfall
F501004 External Parking
F800014 North IA Area
F800007 West IA Area
F826001 Condensate Pit
F808001 West Cooling Tower
F837000 RHUT/Aux Boiler Pad
F899009 Clean Drains To Effluent System Pipe

Third Submittal Scheduled for 4/7/08 (~58 Survey Units)
F813000 Auxiliary Building (24 Survey Units)
F808002 E Cooling Tower
F826000 Turbine Building (3 Survey Units)
F800009 SE Industrial Area
F823000 Intake Area
F826025 North Laydown Area
F808003 Cooling Tower Buffer
F800008 South Support Area
F800010 IA Yard Area
F800012 IA Waste Buffer Area
F810001 Tank Farm
F848001,2 Retention Basin Subsoil
F848000 Retention Buffer
F857000 Subsurface Vaults
F899005 Clean Drain System Pipe
F899007 Turbine Drain System Pipe
F899009 Storm Drain System Pipe
F899029 Circ Water System Pipe
F899032 Nitrogen System Pipe
F899035 Service Water System Pipe
F899042 Radwaste System Pipe
F899044 Fuel Pool System Pipe
F899047 Service Water System Pipe
F899051 Carbon Dioxide System Pipe
F899052 Acid Waste System Pipe

Fourth & Fifth Submittal Scheduled for 7/7/08 & 10/16/08 (~58 Survey Units each)
F800001 Folsom Canal
F800002 Helo Pad
F800003 South Scrap Yard
F800004 Central Transit Area
F800011 Central Corridor
F811000 Reactor Building (24 Survey Units)

F812000 Fuel Building (14 Survey Units)
F813000 Auxiliary Building (3 Survey Units)
F826000 Turbine Building (10 Survey Units)
F834002 Rail Land
F501005 Access Road
F899011 Decay Heat System Pipe
F899040 Reactor Drain System Pipe

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 12 to 14 month period of time represented by this submittal, concrete remediation has taken place in the Auxiliary Building, Turbine Building, and Spent Fuel Building. Interior concrete removal continued in the Reactor Building. Soil, pipe and concrete removal occurred in the Retention Basins and the RHUT area.

3.0 Technical Evaluation

3.1 Potential for Cross-Contamination from Subsequent Activities

Since decommissioning activities are being conducted onsite in parallel with final status survey and release decisions, measures must be 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 851000 Switchyard Building
The Switchyard Building was determined to be Class 3 and did not require remediation. The switchyard building contains the electrical relay equipment that supports the operation of the 250kV electrical switchyard. The building is locked and access is controlled by the operations personnel making it very unlikely that radioactive material could be introduced into the structure. Following completion of FSS, Rancho Seco left the FSS postings

in place and instituted periodic surveillance of the structure even though it is located outside the Restricted Area because it is still being used to support the gas-fired plant located to the south of the site.

3.1.2 805001 Administration Building
During plant operation the building was used for office space. It is currently being converted to an alternate distribution control center for the District and will continue to be used in the foreseeable future. No remediation was required. Because access to the control center is by key card authorization, there is little likelihood that the structure will become contaminated in the future.

3.1.3 804001 Personnel Access Portal (PAP) Building
The PAP functions as the site access point for personnel entering the site. An exit portal monitor is currently in place at the egress location. No remediation was required and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.4 811000 Reactor Building Dome
The interior surface of the dome liner had been contaminated during plant operation but had been subsequently decontaminated. Regular radiation protection controls are currently being maintained during concrete removal. While there is a slight potential for recontamination of the dome surfaces due to ongoing interior concrete removal, the dome will be spot checked prior to abandoning the reactor building.

4.1.5 814000 T&R Building
The T&R Building contains office space for site staff. No remediation was required and there is little likelihood that the structure will become contaminated in the future. The building will continue to provide office space in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.6 821000 Water Treatment Building
The Water Treatment Building housed water treatment equipment. No remediation was required and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.7 822000 Chlorine Building

The Chlorine Building housed water chlorination equipment and supplies. No remediation was necessary and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.8 831000 Microwave Building

The Microwave Building housed electronic equipment. No remediation was necessary and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.9 501001 Receiving Warehouse

The warehouse was used to stage radioactive material shipments. No contamination was detected during characterization or FSS surveys. No remediation was necessary and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.10 815000 NSEB

The NSEB housed safety class electrical switch gear. No remediation was required and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.11 817000 Diesel Generator Building

The diesel generator building housed the emergency diesels during plant operation. The structure has contained packaged radioactive material. No remediation was necessary and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.12 833000 Warehouse B

Warehouse B contained spare materials and supplies. No remediation was required and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.13 840000 Warehouse A

Warehouse A contained spare materials and supplies. No remediation was required and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.14 852000 Machine Shop

The machine shop was used to perform repairs and maintenance on site equipment. No contamination was detected during characterization or FSS surveys. No remediation was necessary and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination.

4.1.15 856000 Secondary Alarm Station (SAS)

The SAS was an alternate security alarm station. No remediation was required and there is little likelihood that the structure will become contaminated in the future. The structure has been placed under periodic surveillance to detect any potential re-contamination once.

4.1.16 813000 Auxiliary Building (zones 1-6)

The rooms covered by this portion of the Auxiliary Building surveys are some of the most contaminated site areas. The survey units 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. Because remediation is ongoing in adjacent areas, through-wall penetrations are covered, drain pipe openings are plugged, strict access controls are maintained and the areas are subject to periodic surveillance to check for potential re-contamination.

5 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.

5.1 Overview of Results

The following survey areas are included in this report:

F851000 Switchyard Building

F805001 Administration Building
F804001 PAP Building
F814000 T&R Building
F821000 Water Treatment Building
F822000 Chlorine Building
F831000 Microwave Building
F501001 Receiving Warehouse
F815000 NSEB Building
F817000 Diesel Generator Building
F833000 Warehouse B
F840000 Warehouse A
F852000 Machine Shop
F856000 Secondary Alarm Station
F813000 Auxiliary Building (Rooms 59,18,43,21,53,22,47,48,44,45,46,49,50 and demineralizer cubicles)
F811000 Reactor Building Dome

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.

5.2 Discussion of Changes to FSS Program

The purpose of this section is to discuss changes to the FSS program. At the time of this submittal there have been no changes made to the FSS Program so there are no effects on the surveys.

5.3 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. A table is provided below that 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. Only survey units consisting of structural surfaces are included in this report. Outside the reactor building dome, the structural surface DCGL is 43,000 dpm/100 cm^2 (16,000 dpm/100 cm^2 for special

areas). The report also includes the reactor dome which has a separate DCGL of 182,000 dpm/100 cm^2 for Cs-137 and 40,200 dpm/100 cm^2 for Co-60. 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
F8510004 Switchyard Building Interior								
4	3	1374	342	41974	N/A	dpm/100 cm^2	14	10
F8510003 Switchyard Building Exterior								
3	3	543	196	42412	N/A	dpm/100 cm^2	14	8.3
F8050011 Administration Building Interior								
1	3	910	451	41647	N/A	dpm/100 cm^2	14	6
F8050012 Administration Building Exterior								
2	3	1705	712	40864	N/A	dpm/100 cm^2	14	3.5
F8040012 PAP Building Interior								
2	3	836	500	21500	N/A	dpm/100 cm^2	14	6
F8040011 PAP Building Exterior								
1	3	1177	196	21500	N/A	dpm/100 cm^2	14	5
F8140010 T&R Building Interior								
0	3	22,160	435	21500	N/A	dpm/100 cm^2	14	5.6
F8140002 T&R Building Exterior								
2	3	4303	435	21500	N/A	dpm/100 cm^2	14	2.3
F8210001 Water Treatment Building Interior								
1	3	416	266	21500	N/A	dpm/100 cm^2	14	10
F8210002 Water Treatment Building Exterior								
2	3	392	511	21500	N/A	dpm/100 cm^2	14	8
F8220011 Chlorine Building Interior								
1	3	597	438	21500	N/A	dpm/100 cm^2	14	8
F8220021 Chlorine Building Exterior								
1	3	457	1032	21500	N/A	dpm/100 cm^2	14	11
F8310001 Microwave Building Interior								
1	3	274	1639	38083	N/A	dpm/100 cm^2	14	8.8
F8310002 Microwave Building Exterior								
2	2	146	5210	27370	N/A	dpm/100 cm^2	21	45
F5010012 Receiving Warehouse Interior								
2	3	1531	397	21500	N/A	dpm/100 cm^2	14	5

Survey Unit ID	Class	Survey Unit Size (m^2)	Standard Deviation	LBGR	Design $DCGL_{EMC}$	Units	Number of Measurements	% Scan
F5010011 Receiving Warehouse Exterior								
1	3	1177	65	21500	N/A	dpm/100 cm^2	14	10
F8150011 Nuclear Services Electrical Building Interior								
1	3	1197	353	21500	N/A	dpm/100 cm^2	14	10
F8150021 Nuclear Services Electrical Building Exterior								
1	3	1609	261	21500	N/A	dpm/100 cm^2	14	5.7
F8170011 Diesel Generator Building Interior								
1	3	3267	647	21500	N/A	dpm/100 cm^2	14	11
F8170021 Diesel Generator Building Exterior								
1	3	3484	141	21500	N/A	dpm/100 cm^2	14	5
F8330001 Warehouse B Interior								
1	3	3182	807	21500	N/A	dpm/100 cm^2	14	5
F8330002 Warehouse B Exterior								
2	2	2574	10064	21500	N/A	dpm/100 cm^2	19	10
F8400001 Warehouse A Interior								
1	3	4548	495	21500	N/A	dpm/100 cm^2	14	5
F8400002 Warehouse A Exterior								
2	3	1972	511	21500	N/A	dpm/100 cm^2	14	11.6
F8520001 Machine Shop Interior								
1	3	1482	288	21500	N/A	dpm/100 cm^2	14	10
F8520002 Machine Shop Exterior								
2	3	952	217	21500	N/A	dpm/100 cm^2	14	14
F8560002 Secondary Alarm Station Building Interior								
2	3	164	1205	21500	N/A	dpm/100 cm^2	14	10
F8560001 Secondary Alarm Station Building Exterior								
1	3	179	4317	21500	N/A	dpm/100 cm^2	14	34
F8130232 Aux Building Rm 59 Upper								
2	2	63	12035	21500	N/A	dpm/100 cm^2	21	35
F8130231 Aux Building Rm 59 Lower								
1	1	43	12035	21500	270900	dpm/100 cm^2	24	100
F8130211 Aux Building Rm 18 Upper								
1	2	204	12035	21500	N/A	dpm/100 cm^2	20	35
F8130201 Aux Building Rm 18 Lower								
1	1	169	12035	21500	137600	dpm/100 cm^2	31	100
F8130611 Aux Building Rm 43 Upper								
1	2	167	4241	30277	N/A	dpm/100 cm^2	14	45.5

Survey Unit ID	Class	Survey Unit Size (m^2)	Standard Deviation	LBGR	Design $DCGL_{EMC}$	Units	Number of Measurements	% Scan
F8130601 Aux Building Rm 43 Lower								
1	1	162	400	41800	137600	dpm/100 cm^2	25	100
F8130271 Aux Building Rm 21 Upper								
1	2	184	12035	21500	N/A	dpm/100 cm^2	18	35
F8130261 Aux Building Rm 21 Lower								
1	1	133	12035	21500	137600	dpm/100 cm^2	19	100
F8130782 Aux Building Rm 53 Upper								
2	2	141	12035	21500	N/A	dpm/100 cm^2	17	35
F8130781 Aux Building Rm 53 Lower								
1	1	84	12035	21500	172000	dpm/100 cm^2	17	100
F8130291 Aux Building Rm 22 Upper								
1	2	222	12035	21500	N/A	dpm/100 cm^2	20	36
F8130281 Aux Building Rm 22 Lower								
1	1	213	12035	21500	137600	dpm/100 cm^2	41	100
F8130651 Aux Building Rm 47								
1	1	97.5	365	41905	141900	dpm/100 cm^2	14	100
F8130661 Aux Building Rm 48								
1	1	60	778	40666	193500	dpm/100 cm^2	14	100
F8130621 Aux Building Rm 44								
1	1	278	1738	37786	141900	dpm/100 cm^2	42	100
F8130631 Aux Building Rm 45								
1	1	263	12035	21500	141900	dpm/100 cm^2	43	100
F8130641 Aux Building Rm 46								
1	1	265	12035	21500	141900	dpm/100 cm^2	43	100
F8130671 Aux Building Rm 49								
1	1	25	103	15691	142400	dpm/100 cm^2	16	100
F8130682 Aux Building Rm 50 Upper								
2	2	107	12035	21500	N/A	dpm/100 cm^2	18	44
F8130681 Aux Building Rm 50 Lower								
1	1	66	12035	21500	206400	dpm/100 cm^2	17	100
F8130401 Aux Building Demin Cubicles 28,29,30,31								
1	1	306	12035	21500	163400	dpm/100 cm^2	46	100
F8130411 Aux Building Demin Cubicles 32,33,34,35								
1	1	302	12035	21500	154800	dpm/100 cm^2	54	100

Survey Unit ID	Class	Survey Unit Size (m^2)	Standard Deviation	LBGR	Design $DCGL_{EMC}$	Units	Number of Measurements	% Scan
F8111571 Reactor Building Dome Interior								
1	1	1941	0.151 unitized	0.443 unitized	554000 Co-60 2712000 Cs-137	dpm/100 cm^2	110	100

5.4 Final Status Survey Results

The methods used to determine the number of direct measurements to be taken are 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 Meas. Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8510004 Switchyard Building Interior						
2287-5810	14	1727	2215	338	dpm/100 cm^2	0
F8510003 Switchyard Building Exterior						
1892-6140	14	927	1178	118	dpm/100 cm^2	0
F8050011 Administration Building Interior						
2771-4316	14	1926	2256	246	dpm/100 cm^2	0
F8050012 Administration Building Exterior						
5186-6525	14	2054	3828	1060	dpm/100 cm^2	0
F8040012 PAP Building Interior						
2637-4949	14	2261	3470	509	dpm/100 cm^2	0
F8040011 PAP Building Exterior						
4229-4998	14	3556	4912	638	dpm/100 cm^2	0
F8140010 T&R Building Interior						
1705-6925	14	1416	2122	323	dpm/100 cm^2	0
F8140002 T&R Building Exterior						
2450-13036	14	1530	2858	566	dpm/100 cm^2	0
F8210001 Water Treatment Building Interior						
3411-6265	14	1621	2007	431	dpm/100 cm^2	0
F8210002 Water Treatment Building Exterior						
3661-7901	14	1614	2832	574	dpm/100 cm^2	0
F8220011 Chlorine Building Interior						
4674-9903	14	2246	3621	492	dpm/100 cm^2	0
F8220021 Chlorine Building Exterior						
3332-12933	14	2804	5913	1293	dpm/100 cm^2	0
F8310001 Microwave Building Interior						
3587-7248	14	1634	2381	518	dpm/100 cm^2	0
F8310002 Microwave Building Exterior						
3068-8414	21	2338	3501	732	dpm/100 cm^2	0
F5010012 Receiving Warehouse Interior						
1665-5832	14	1082	1893	351	dpm/100 cm^2	0
F5010011 Receiving Warehouse Exterior						
1118-10258	14	1006	1603	259	dpm/100 cm^2	0
F8150011 Nuclear Services Electrical Building Interior						
2181-12024	14	1853	2625	311	dpm/100 cm^2	0

Scan Measurement Range	No. Direct Meas. Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8150021 Nuclear Services Electrical Building Exterior						
3763-6390	14	1882	2194	182	dpm/100 cm^2	0
F8170011 Diesel Generator Building Interior						
2568-17746	14	1707	2469	511	dpm/100 cm^2	0
F8170021 Diesel Generator Building Exterior						
3103-10410	14	1880	2594	382	dpm/100 cm^2	0
F8330001 Warehouse B Interior						
2758-6712	14	1737	2326	366	dpm/100 cm^2	0
F8330002 Warehouse B Exterior						
2744-8128	19	1704	2267	375	dpm/100 cm^2	0
F8400001 Warehouse A Interior						
2123-6573	14	1549	2760	501	dpm/100 cm^2	0
F8400002 Warehouse A Exterior						
2780-30070	14	2315	3673	755	dpm/100 cm^2	0
F8520001 Machine Shop Interior						
1992-7285	14	1584	2070	478	dpm/100 cm^2	0
F8520002 Machine Shop Exterior						
2841-7226	14	1973	2588	277	dpm/100 cm^2	0
F8560002 Secondary Alarm Station Interior						
3102-6478	14	1620	3232	681	dpm/100 cm^2	0
F8560001 Secondary Alarm Station Exterior						
1962-3058	14	2066	2531	472	dpm/100 cm^2	0
F8130232 Aux Building Rm 59 Upper						
3983-5487	21	1695	2127	183	dpm/100 cm^2	0
F8130231 Aux Building Rm 59 Lower						
3110-34237	24	1947	8626	1478	dpm/100 cm^2	0
F8130211 Aux Building Rm 18 Upper						
3132-28207	20	1501	1675	89	dpm/100 cm^2	0
F8130201 Aux Building Rm 18 Lower						
3360-32901	31	2127	5960	959	dpm/100 cm^2	0
F8130611 Aux Building Rm 43 Upper						
2188-17489	14	1521	3118	569	dpm/100 cm^2	0
F8130601 Aux Building Rm 43 Lower						
2340-60624	25	1638	2900	344	dpm/100 cm^2	0
F8130271 Aux Building Rm 21 Upper						
2634-5252	18	1343	1546	123	dpm/100 cm^2	0
F8130261 Aux Building Rm 21 Lower						
2893-29960	19	1784	3045	528	dpm/100 cm^2	0
F8130782 Aux Building Rm 53 Upper						
2934-15398	17	1425	1758	229	dpm/100 cm^2	0
F8130781 Aux Building Rm 53 Lower						
2974-17569	17	2411	4103	780	dpm/100 cm^2	0
F8130291 Aux Building Rm 22 Upper						
2920-8047	20	1625	2101	265	dpm/100 cm^2	0
F8130281 Aux Building Rm 22 Lower						
2339-81626	41	1749	3496	431	dpm/100 cm^2	0
F8130651 Aux Building Rm 47						
2523-34061	14	2079	3538	742	dpm/100 cm^2	0
F8130661 Aux Building Rm 48						
2071-34779	14	1428	1883	255	dpm/100 cm^2	0
F8130621 Aux Building Rm 44						
1502-35271	42	1981	4342	723	dpm/100 cm^2	0

Scan Measurement Range	No. Direct Meas. Taken	Mean Direct Result	Maximum Direct Result	Direct Standard Deviation	Units	No. Scan Elevated Areas
F8130631 Aux Building Rm 45						
4434-129800	43	3368	6790	1066	dpm/100 cm^2	6
F8130641 Aux Building Rm 46						
2057-61120	43	2258	7034	1165	dpm/100 cm^2	0
F8130671 Aux Building Rm 49						
4207-53875	16	1778	2311	247	dpm/100 cm^2	0
F8130682 Aux Building Rm 50 Upper						
2611-14085	18	1553	2028	140	dpm/100 cm^2	0
F8130681 Aux Building Rm 50 Lower						
3521-42350	17	3655	18316	4370	dpm/100 cm^2	0
F8130401 Aux Building Demineralizer Cubicles 28,29,30,31						
1280-181886	46	1524	2163	264	dpm/100 cm^2	2
F8130411 Aux Building Demineralizer Cubicles 32,33,34,35						
1638-129772	54	1389	2101	269	dpm/100 cm^2	5
F8111571 Reactor Building Dome Interior						
0.17-0.75	110	0.44 unitized	0.75 unitized	0.15 unitized	N/A	0

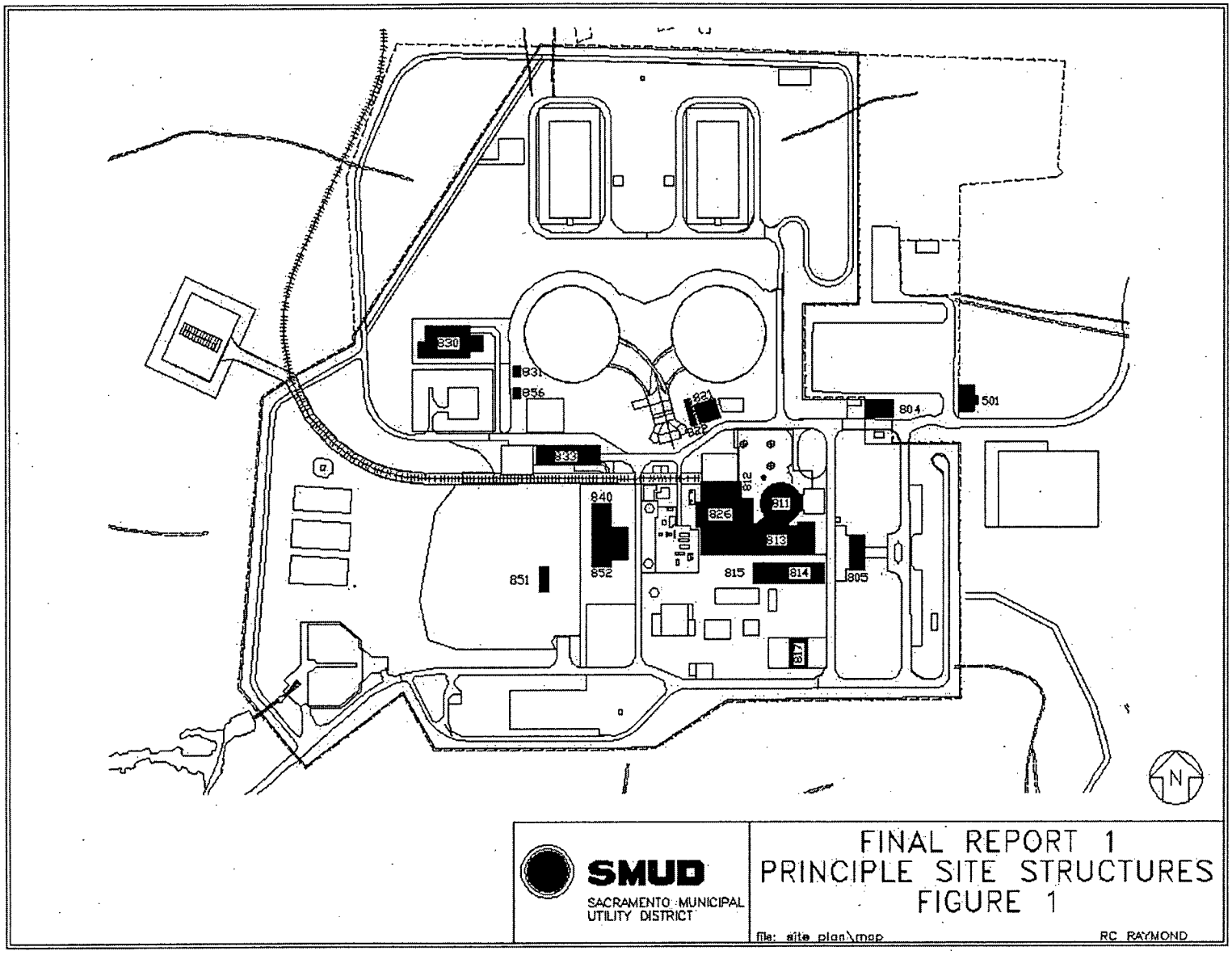
5.5 Survey Unit Conclusions

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.

6.0 References

Rancho Seco License Termination Plan, rev. 0, submitted 4/07.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SMUD
SACRAMENTO MUNICIPAL UTILITY DISTRICT
FINAL REPORT 1
PRINCIPLE SITE STRUCTURES
FIGURE 1
file: site plan\map
RC RAYMOND