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MPC&D 08-064

July 31, 2008

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 – FOURTH SUBMITTAL

Attention: John Hickman

Attached is the Final Status Survey (FSS) Report for several of the Rancho Seco survey units. Specifically, this submittal addresses dismantlement and FSS information for the survey units associated with the 800001, 800010, 812000, 813000, 826000, 848000, 854000, and 899000 areas. 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 Bob Jones at (916) 732-4843.

Sincerely,

Steve Redeker
Manager, Plant Closure & Decommissioning

Cc w/ attachment: NRC Region IV

NMSS01
FSME

RANCHO SECO
FSS FINAL REPORT

Final Status Survey Report 4

July 31, 2008

FSS FINAL REPORT

Final Status Survey Report 4

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 63 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 800001, 800010, 812000, 813000, 826000, 848000, 854000, 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
F800001	3	800001 Helo Pad Area- The Helo Pad Area was a large paved and unpaved area located on the south side of the industrial area of the site. The area is 17284 m^2.
F8000103	3	8000103 Aux Bldg-NSEB (Pigeon) Alley- The Alley was a paved area located between the Auxiliary Building south wall and the NSEB. The area was 443 m^2.
F812000	Typically class 1 floor, lower walls and class 2 upper walls, ceiling	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: Fuel Building exterior walls and Cask Catcher Pad.
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', +20', and grade elevation: 01 stairs,02 stairs,10,15,36,51,52,56,102-103,106,107,109-110,117,127,133,134,138,209,210,212-226,318,319,320-324,346-elevator, 351, and the roof.

Survey Unit	Class	General Description of Survey Unit
F826030	3	826030 Turbine Deck-The Turbine Deck was the concrete support structure for the turbine-generator. It was located on the 40' elevation of the Turbine Building. The area is 2615 m^2.
F8480019	3	848019 Retention Basin Misc Small Buildings- The Retention Basin Small Buildings housed the electronic controllers and the chlorination controls for the Retention Basins. The area was 242 m^2.
F8540001,2	3	8540001, 2 Misc Small Buildings- The Small Buildings contain the lubricating fluids and lawn maintenance equipment. The total area is 390 m^2.
F8990421, 422, 423	1	8990421,422,423 Radwaste Pipe- The Radwaste Pipe was the embedded drain pipes which collected radwaste from the various floor drains and sumps and routed it to the waste processing systems. The total area is 130m^2.

Note: 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
As discussed previously, Rancho Seco anticipates at least one additional submittals of detailed information on dismantlement activities and final status survey results as these activities are completed. Several survey units listed in Submittal 3 for Submittal 4 have not been included. These are:

F8000091	SE Industrial Area
F8000101, 2	Industrial Area Yard Area
F8130371	Aux Bldg Room 51e
F8370001	RHUT, Aux Boiler Pad

Because some dismantlement activities could potentially affect these completed survey units additional surveillance and surveys are conducted until dismantlement activities can no longer pose any impact to the survey unit(s). Once potentially compromising conditions are mitigated for these survey units and final conditions documented the final status survey summary reports will be submitted. 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 release records as soon as possible to the NRC to facilitate the agency's timely review.

Fifth Submittal Scheduled for 10/16/08 (~90 Survey Units)

F8000091	SE Industrial Area
F800001,2	Industrial Area Yard (2 Survey Units)
F8000142	North IA Pavement
F800011	Central Corridor
F808003	Cooling Tower Buffer Area
F810001	Tank Farm Surface Soil
F810002	Tank Farm Subsurface Soil
F811000	Reactor Building (~24 Survey Units)
F812000	Fuel Building (~14 Survey Units)
F813000	Auxiliary Building (~11 Survey Units)
F826000	Turbine Building (~22 Survey Units)
F826025	North Laydown Area
F826026	South Laydown Area
F834000	Rail Land (2 Survey Units)
F8370001,2	RHUT, Auxiliary Boiler Pad (2 Survey Units)
F501005	Access Road
F8990098	CDS Cross-Ties
F899011	Decay Heat System Pipe
F899040	Reactor Drain System Pipe
F899044	Fuel Pool 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 period of time represented by this submittal, concrete remediation has been completed in the Auxiliary Building, Turbine Building, and Spent Fuel Building. Interior concrete removal is completed in the Reactor Building. The Reactor liner plate is being cleaned and removal of metal interferences is ongoing. The liner plate beneath reactor vessel will be removed and activated concrete will be remediated.

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 800001 Helo Pad
This area consists of a large portion of the south industrial area, both paved and unpaved. It combined the Folsom Intake, the Helo Pad, and the south Scrap Yard which were all Class 3 areas. It was successfully surveyed as a Class 3 area. No remediation was required. There is little likelihood that the area will become contaminated in the future.

3.1.2 8000103 Aux Building-NSEB (Pigeon) Alley
The Alley was successfully surveyed as a Class 3 area. No remediation was required. No radioactive material is allowed in the area and there is little likelihood that it will become contaminated in the future.

3.1.5 8120011, 13, 15, 16 Fuel Building
The Fuel Building required extensive remediation in the spent fuel pool area. The pool was isolated and extensive contamination controls were applied. The structure exterior was successfully surveyed. The interior area surveys are currently ongoing. The areas where surveys have been completed have been placed under periodic surveillance to detect any potential re-contamination.

3.1.7 813000 Auxiliary Building (zones 1-12)
The rooms in zones 1-6 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. 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 are 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.

3.1.8 826000 Turbine Building
The Turbine Building was successfully remediated and surveyed. No radioactive material is allowed in the area and there is little likelihood that it will become contaminated in the future. The area

has been placed under periodic surveillance to detect any potential re-contamination.

3.1.10 848019 Misc Small Buildings (Retention Basin)
The Small Buildings were successfully surveyed as a Class 3 area. No remediation was required. No radioactive material is allowed in the area and there is little likelihood that it will become contaminated in the future. The area has been placed under periodic surveillance to detect any potential re-contamination.

3.1.11 8540001, 2 Misc Small Buildings (POL and Lawn Maintenance)
The Miscellaneous Small Buildings were successfully surveyed as Class 3 structures. No remediation was required. There is little likelihood that the area will become contaminated in the future. The area has been placed under periodic surveillance to detect any potential re-contamination.

3.1.12 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.

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 1.0 of this submittal.

4.1 Overview of Results

The following survey units are included in this report:

F800001 Helo Pad Area
F8120111 Cask Catcher Pad
F812013, 15, 16 Fuel Building
F8000103 Aux Building-NSEB (Pigeon) Alley
F8260303, 4, 5 Turbine Building
F848019 Misc Small Buildings (Retention Basin)
F8540001, 2 Misc Small Buildings (POL, Lawn Maintenance)

F813000 Auxiliary Building (Rooms 01 stairs, 02 stairs, 10, 15, 36, 51, 52, 56, 102-103, 106, 107, 109-110, 117, 127, 133,134, 138, 210, 212-226, 318, 319, 320, 321, 322-24, 346 elevator, 351, and the roof.)
F8990421, 422, 423 Radwaste Piping

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. At the time of this submittal Revision 1 of the LTP has been submitted to the NRC. The changes were mostly editorial in nature and with the exception of a clarification of pipe grouting criteria, 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 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. This report covers only structures for which the DCGL is 43,000 dpm/100 cm^2 (16,000 dpm/100 cm^2 for special areas) as well as pipe which has a DCGL of 100,000 dpm/100 cm^2 and soil or paved areas which have a DCGL of 52.6 pCi/g $Cs\text{-}137_{sur}$ and 12.6 pCi/g 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
F8000011 Helo Pad Area								
1	3	17,284	0.10	26.3	N/A	pCi/g	14	6.5

Survey Unit ID	Class	Survey Unit Size (m^2)	Standard Deviation	LBGR	Design $DCGL_{EMC}$	Units	Number of Measurements	% Scan
F8000103 Aux Building -NSEB (Pigeon) Alley								
3	3	443	0.118	26.3	N/A	pCi/g	14	28
F8120111 Cask Catcher Pad								
1	1	103	437	41,689	137,600	dpm/100 cm^2	15	100
F8120131 Fuel Building West Ext Wall								
1	2	322	747	40,759	N/A	dpm/100 cm^2	19	68
F8120151 Fuel Building East Ext Wall								
1	2	332	747	40,759	N/A	dpm/100 cm^2	14	39
F8120161 Fuel Building East Ext Wall								
1	1	123	747	40,759	154,800	dpm/100 cm^2	23	100
F8130071 Aux Building Room 02 Stairs								
1	1	208	9,976	21500	154,800	dpm/100 cm^2	33	100
F8130081 Aux Building Room 01 Stairs								
1	1	217	9,976	21,500	154,800	dpm/100 cm^2	33	100
F8130091 Aux Building Rooms 56, 127, 138								
1	3	178.1	6,935	21,500	N/A	dpm/100 cm^2	14	11
F8130101 Aux Building Room 10								
1	1	57.4	9,976	21,500	223,802	dpm/100 cm^2	20	100
F8130102 Aux Building Room 10								
2	2	239.4	9,976	21,500	N/A	dpm/100 cm^2	15	70
F8130151 Aux Building Room 15								
1	1	238	12,035	21,500	152,357	dpm/100 cm^2	34	100
F8130161 Aux Building Room 15								
1	1	310.1	12,035	21,500	153,867	dpm/100 cm^2	45	100
F8130171 Aux Building Room 15								
1	1	309.9	12,035	21,500	153,866	dpm/100 cm^2	45	100
F8130421 Aux Building Room 36								
1	1	144.1	15.9	26.3	153	dpm/100 cm^2	21	100
F8130431 Aux Building Room 36								
1	1	301.1	10,204	21,500	154,566	dpm/100 cm^2	44	100
F8130441 Aux Building Room 36								
1	1	164.6	10,204	21,500	154,285	dpm/100 cm^2	24	100
F8130451 Aux Building Room 36								
1	1	247.3	10,204	21,500	154,145	dpm/100 cm^2	36	100
F8130461 Aux Building Room 36								
1	1	159.6	10,204	21,500	153,313	dpm/100 cm^2	23	100

Survey Unit ID	Class	Survey Unit Size (m^2)	Standard Deviation	LBGR	Design $DCGL_{EMC}$	Units	Number of Measurements	% Scan
F8130471 Aux Building Room 36								
1	1	280.9	10,204	21,500	154,370	dpm/100 cm^2	41	100
F8130691 Aux Building Room 51								
1	1	125	12,035	21,500	154,800	dpm/100 cm^2	18	100
F8130701 Aux Building Room 51								
1	1	202	12,035	21,500	150,500	dpm/100 cm^2	29	100
F8130711 Aux Building Room 51								
1	1	140	12,035	21,500	150,500	dpm/100 cm^2	20	100
F8130721 Aux Building Room 51								
1	1	220	12,035	21,500	154,800	dpm/100 cm^2	32	100
F8130732 Aux Building Room 51								
1	1	93	12,035	21,500	176,300	dpm/100 cm^2	17	100
F8130741 Aux Building Room 52								
1	1	288	12,035	21,500	154,800	dpm/100 cm^2	42	100
F8130751 Aux Building Room 52								
1	1	177	12,035	21,500	154,800	dpm/100 cm^2	26	100
F8130761 Aux Building Room 52								
1	1	150	12,035	21,500	154,800	dpm/100 cm^2	22	100
F8130771 Aux Building Room 52								
1	1	214	12,035	21,500	154,800	dpm/100 cm^2	31	100
F8130861 Aux Building Rooms 102, 103								
1	2	246	6,935	21,500	N/A	dpm/100 cm^2	14	65
F8130862 Aux Building Room 106								
1	1	296.5	6,935	21,500	150,500	dpm/100 cm^2	42	100
F8130931 Aux Building Room 107								
1	2	146	12,035	21,500	N/A	dpm/100 cm^2	17	29
F8130941 Aux Building Rooms 109, 110								
1	2	898.3	6,935	21,500	N/A	dpm/100 cm^2	14	23
F8131041 Aux Building Room 117W								
1	2	716	6,935	21,500	N/A	dpm/100 cm^2	14	26
F8131051 Aux Building Room 117E								
1	2	566.5	6,935	21,500	N/A	dpm/100 cm^2	14	48
F8131221 Aux Building Room 133								
1	1	271.1	6,935	21,500	154,800	dpm/100 cm^2	39	100
F8131222 Aux Building Room 133								
2	2	270.9	6,935	21,500	N/A	dpm/100 cm^2	14	33

Survey Unit ID	Class	Survey Unit Size (m^2)	Standard Deviation	LBGR	Design $DCGL_{EMC}$	Units	Number of Measurements	% Scan
F8131231 Aux Building Room 134								
1	1	260	6,935	21,500	154,800	dpm/100 cm^2	38	100
F8131381 Aux Building Room 209								
1	1	184	5,461	21,500	154,800	dpm/100 cm^2	27	100
F8131382 Aux Building Room 209								
1	1	312	5,461	21,500	154,800	dpm/100 cm^2	45	100
F8131402 Aux Building Room 210								
2	2	205	5,461	21,500	N/A	dpm/100 cm^2	14	25
F8131403 Aux Building Room 210								
3	1	83	6,935	21,500	167,700	dpm/100 cm^2	14	100
F8131411 Aux Building Rooms 212-226, fan pedestals								
1	3	4,546	243	21,500	N/A	dpm/100 cm^2	14	5
F8131561 Aux Building Roof								
1	3	1,434	136	21,500	N/A	dpm/100 cm^2	14	11
F8131781 Aux Building Room 319								
1	1	85	3627	21,500	167,703	dpm/100 cm^2	14	100
F8131782 Aux Building Room 319								
2	2	132	3,627	21,500	N/A	dpm/100 cm^2	14	48
F8131791 Aux Building Rooms 320 Lower								
1	2	59	3,627	21,500	N/A	dpm/100 cm^2	15	25
F8131792 Aux Building Room 320 Upper, Room 321								
2	3	273	227	21,500	N/A	dpm/100 cm^2	14	22
F8131811 Aux Building Rooms 322-324, 351								
1	3	853	3,627	21,500	N/A	dpm/100 cm^2	14	16
F8131812 Aux Building Rooms 322-324, 351								
2	3	283	3,627	21,500	N/A	dpm/100 cm^2	14	10
F8132051 Aux Building Rooms 346, elevator								
1	3	195.6	261	21,500	N/A	dpm/100 cm^2	14	6
F8132131 Aux Building Exterior								
1	2	310.7	342	21,500	N/A	dpm/100 cm^2	14	34
F8132141 Aux Building Exterior								
1	3	698.6	342	21,500	N/A	dpm/100 cm^2	14	38
F8132142 Aux Building Exterior South Wall								
1	3	426.6	342	21,500	N/A	dpm/100 cm^2	14	27
F8260303 Turbine Building Deck North								
3	2	815	1,723	37,831	N/A	dpm/100 cm^2	24	60

Survey Unit ID	Class	Survey Unit Size (m^2)	Standard Deviation	LBGR	Design $DCGL_{EMC}$	Units	Number of Measurements	% Scan
F8260304 Turbine Building Deck Center								
4	2	953	1,723	37,831	N/A	dpm/100 cm^2	16	73
F8260305 Turbine Building Deck South								
5	2	847	1,723	37,831	N/A	dpm/100 cm^2	21	28
F8480019 Misc Small Buildings (Retention Basin)								
9	3	242	431	21,500	N/A	dpm/100 cm^2	14	31
F8540001 Misc Small Buildings (POL)								
1	3	260	495	21,500	N/A	dpm/100 cm^2	14	14
F8540002 Misc Small Buildings (Lawn Maintenance)								
1	3	130	495	21,500	N/A	dpm/100 cm^2	14	11
F8990421 Radwaste Pipe								
1	1	89	100,000	50,000	100,000	dpm/100 cm^2	1898	100
F8990422 Radwaste Pipe								
2	1	30.4	100,000	50,000	100,000	dpm/100 cm^2	696	100
F8990423 Radwaste Pipe								
3	1	10.7	100,000	50,000	100,000	dpm/100 cm^2	393	100

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 1. 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
F800001 Helo Pad Area						
<0.316	14	0.497	0.874	0.394	pCi/g	0
F8000103 Aux Bldg- NSEB (Pigeon) Alley						
<0.21-0.36	14	0.849	0.937	0.038	pCi/g	0
F8120111 Cask Catcher Pad						
3,367-40,795	15	2,616	7,838	1,453	dpm/100 cm^2	0
F8120131 Fuel Building West Ext Wall						
<2,139	19	1,235	1,727	282	dpm/100 cm^2	0
F8120151 Fuel Building East Ext Wall						
<1,555-3,437	14	1,356	1,738	167	dpm/100 cm^2	0
F8120161 Fuel Building East Ext Wall						
1,705-14,523	23	2,328	8,045	1646	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
F8130071 Aux Building Room 02 Stairs						
1,482-458,279	33	2,186	5,405	1,067	dpm/100 cm^2	13
F8130081 Aux Building Room 01 Stairs						
1,825-1,750,044	33	1,754	6,583	1,014	dpm/100 cm^2	5
F8130091 Aux Building Rooms 56, 127, 138						
2,912-7,175	14	1,354	2,505	348	dpm/100 cm^2	0
F8130101 Aux Building Room 10						
2,793-79,976	20	1,974	3,792	712	dpm/100 cm^2	0
F8130102 Aux Building Room 10						
2,067-31,442	17	1,624	2,080	205	dpm/100 cm^2	0
F8130151 Aux Building Room 15						
2,389-1,470,949	43	1,734	9,104	1,343	dpm/100 cm^2	4
F8130161 Aux Building Room 15						
1,482-54,498	47	1,819	5,239	705	dpm/100 cm^2	7
F8130171 Aux Building Room 15						
2,460-43,561	45	1,514	2,469	247	dpm/100 cm^2	0
F8130421 Aux Building Room 36						
10,992-46812*	21	0.164	0.557	0.156	dpm/100 cm^2	17
F8130431 Aux Building Room 36						
1,895-35,630	47	1,565	3,284	352	dpm/100 cm^2	0
F8130441 Aux Building Room 36						
1,966-666,520	39	1,916	4,124	598	dpm/100 cm^2	15
F8130451 Aux Building Room 36						
1,476-83,600	39	2,676	7,724	1,234	dpm/100 cm^2	3
F8130461 Aux Building Room 36						
3,829-5,550,920	36	2,433	7,081	1,172	dpm/100 cm^2	1
F8130471 Aux Building Room 36						
2,409-71,800	43	1,867	6,795	1,045	dpm/100 cm^2	2
F8130691 Aux Building Room 51						
3,276-140,042	18	3,164	11,609	2,521	dpm/100 cm^2	0
F8130701 Aux Building Room 51						
2,167-137,563	29	3,340	47,614	8,600	dpm/100 cm^2	0
F8130711 Aux Building Room 51						
2,893-523,819	22	2,380	4,648	847	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
F8130721 Aux Building Room 51						
2,490-171,029	32	1,971	4,466	551	dpm/100 cm^2	1
F8130732 Aux Building Room 51						
3,196-48,932	25	2,633	15,100	2,879	dpm/100 cm^2	0
F8130741 Aux Building Room 52						
1,790-14,657	43	1,559	2,246	230	dpm/100 cm^2	0
F8130751 Aux Building Room 52						
2,409-116,993	31	2,198	7,610	1,240	dpm/100 cm^2	0
F8130761 Aux Building Room 52						
4,225-999,149	22	2,018	3,470	455	dpm/100 cm^2	3
F8130771 Aux Building Room 52						
2,274-47,679	31	1,621	3,927	486	dpm/100 cm^2	0
F8130861 Aux Building Rooms 102, 103						
1,459-25,067	14	3,106	3,737	464	dpm/100 cm^2	0
F8130862 Aux Building Room 106						
1,834-487,881	43	1,426	4,440	561	dpm/100 cm^2	1
F8130931 Aux Building Room 107						
8,122-41,544	17	3,929	7,352	1,134	dpm/100 cm^2	0
F8130941 Aux Building Rooms 109, 110						
790-18,644	14	3,876	18,364	4,181	dpm/100 cm^2	0
F8131041 Aux Building Room 117W						
853-17,846	15	2,535	2,866	357	dpm/100 cm^2	0
F8131051 Aux Building Room 117E						
1,195-22,272	14	3,505	4,233	407	dpm/100 cm^2	0
F8131221 Aux Building Room 133						
1,419-124,712	41	3,519	22,608	3,292	dpm/100 cm^2	0
F8131222 Aux Building Room 133						
1,318-24,396	16	2,431	2,745	230	dpm/100 cm^2	0
F8131231 Aux Building Room 134						
1,727-13,001	38	2,810	5,556	566	dpm/100 cm^2	0
F8131381 Aux Building Room 209						
1,620-66,383	34	1,648	4,757	719	dpm/100 cm^2	0
F8131382 Aux Building Room 209						
1,563-45,196	63	1,666	4,710	489	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
F8131402 Aux Building Room 210						
2,575-13,777	14	1,038	1,323	207	dpm/100 cm^2	0
F8131403 Aux Building Room 210						
3,110-194,688	14	4,069	10,395	2,069	dpm/100 cm^2	1
F8131411 Aux Building Rooms 212-226, fan pedestals						
1,548-13,975	14	1,240	1,572	246	dpm/100 cm^2	0
F8131561 Aux Building Roof						
2,290-2,470	14	1,509	1,580	54	dpm/100 cm^2	0
F8131781 Aux Building Room 319						
1532-731,990	21	2,246	13,902	2,720	dpm/100 cm^2	8
F8131782 Aux Building Room 319						
1,621-5,949	17	1,586	1,836	162	dpm/100 cm^2	0
F8131791 Aux Building Rooms 320 Lower						
2,010-2,956	15	1,283	1,618	208	dpm/100 cm^2	0
F8131792 Aux Building Room 320 Upper, Room 321						
2,528-5,627	14	1,612	1,743	114	dpm/100 cm^2	0
F8131811 Aux Building Rooms 322-324, 351						
1,929-6,155	14	1,404	1,790	209	dpm/100 cm^2	0
F8131812 Aux Building Rooms 322-324, 351						
4,057-6,661	14	1,774	2,090	200	dpm/100 cm^2	0
F8132051 Aux Building Rooms 346, elevator						
In situ 338	14	1,421	1,634	224	dpm/100 cm^2	0
F8132131 Aux Building Exterior						
1,229-5,847	14	1,597	1,966	289	dpm/100 cm^2	2
F8132141 Aux Building Exterior						
5,040-8,194	14	2,730	4,020	646	dpm/100 cm^2	0
F8132142 Aux Building Exterior South Wall						
848-1,090	14	1,292	1,561	231	dpm/100 cm^2	0
F8260303 Turbine Deck North						
<1,040	24	2,026	2,484	210	dpm/100 cm^2	0
F8260304 Turbine Deck Center						
<1,420	16	2,040	2,646	343	dpm/100 cm^2	0
F8260305 Turbine Deck South						
<998	21	1,823	2,090	191	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
F8480019 Misc Small Buildings (Retention Basin)						
1,566-5,076	14	914	1,997	484	dpm/100 cm^2	0
F8540001 Misc Small Buildings (POL)						
1,601-8,994	14	785	1,899	329	dpm/100 cm^2	0
F8540002 Misc Small Buildings (Lawn Maintenance)						
3,448-5,949	14	1,705	2,132	209	dpm/100 cm^2	0
F8990421 Radwaste Pipe						
1,919-137,654	1898	4,609	137,654	6,930	dpm/100 cm^2	1
F8990422 Radwaste Pipe						
1,917-92,283	696	5,692	92,283	5,482	dpm/100 cm^2	0
F8990423 Radwaste Pipe						
1,752-10,368	393	3,929	10,368	1,089	dpm/100 cm^2	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 Revision 1 of Summary Reports for Auxiliary Building Rooms 1, 2, and 3

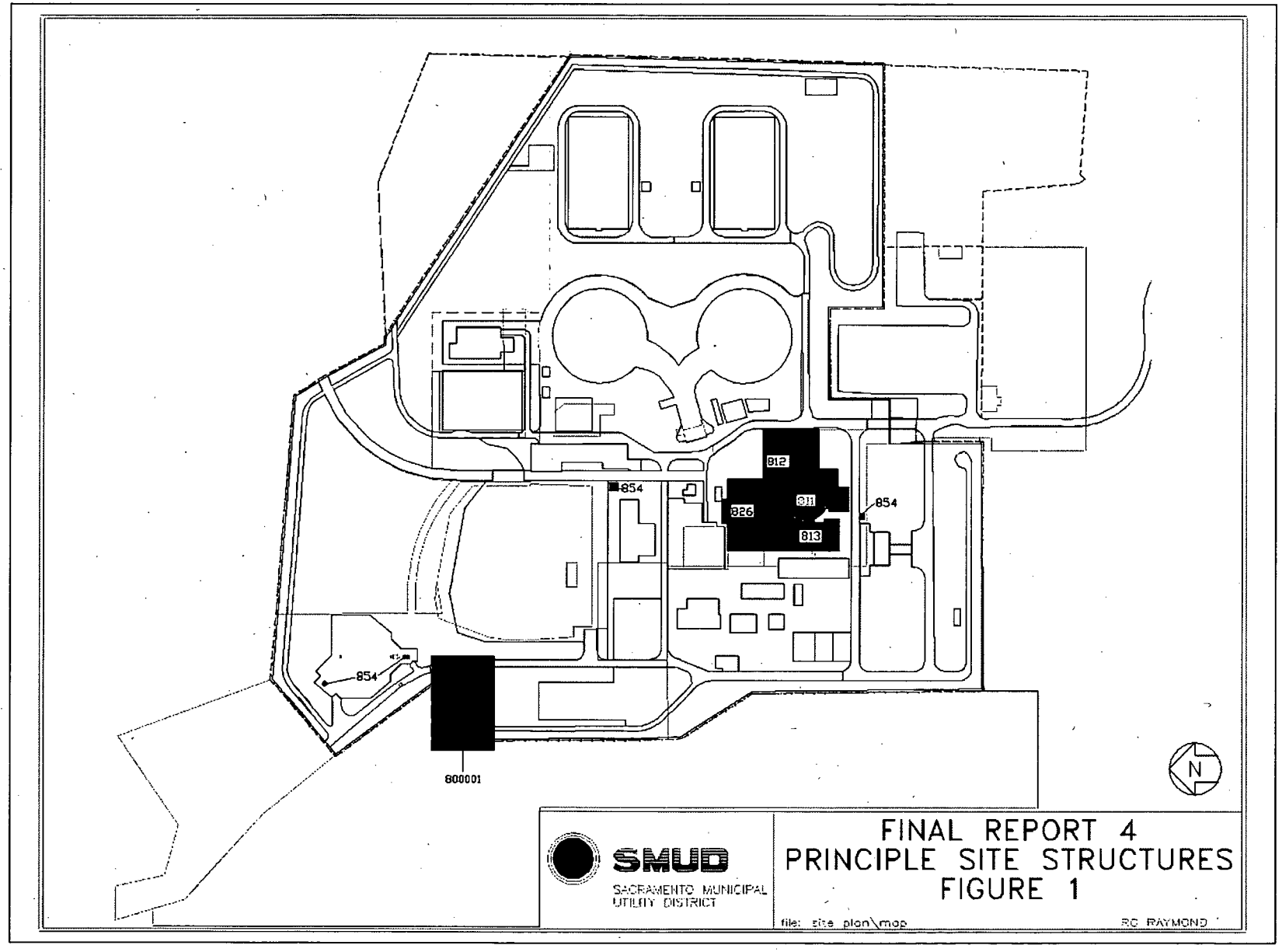
As part of the corrective action for DQ#07-020, gamma surveys were made in rooms 1 (F8130011), 2 (F8130031), and 3 (F8130051), once remediation was complete in the adjacent areas. The gamma surveys indicated the presence some small elevated areas. In the interest of completeness, those areas were evaluated and added to Table 3-1 of the Summary Reports for the above survey units. Those revised reports are included in Attachment 1 of this Report.

4.7 Survey Unit Data Assessment of Auxiliary Bldg. Rm 18: F8130201
During a confirmatory survey conducted by ORIS, a small particle containing Cs-137 (~0.22 μCi) was discovered in the floor trench of Room 18. The particle was removed and analyzed. Follow-up surveys were conducted of the trench, the floor and the wall penetrations which failed to reveal any other evidence of recontamination of the area following final survey. Based on the original survey results and the lack of any additional sources of contamination, Room 18 is considered to meet the release criteria and the reported survey reflects the "As left" condition of the room. The corrective actions and follow-up surveys were reported in DQ#7-020.

5.0 References

Rancho Seco License Termination Plan, rev. 1, submitted 6/08.

DQ#07-020 "Elevated Activity in Areas Having Already Completed FSS".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UTILITY DISTRICT
FINAL REPORT 4
PRINCIPLE SITE STRUCTURES
FIGURE 1
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RC RAYMOND

Attachment 1

Survey Unit Summary Reports