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Subject: Annual Report for EVESR, 2009
Reference: License DR-10, Docket 50-183
Enclosure: Annual Report No. 42

Enclosed is the Annual Report No. 42 for the deactivated ESADA-Vallecitos Experimental Superheat Reactor (EVESR) located at Vallecitos Nuclear Center near Sunol, California.

If there are any questions or additional information required, please contact me at the number above.

Sincerely Yours,

Digitally signed by David W. Turner
Date: 2010.03.30 13:21:15 -07'00'

David W. Turner
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cc: John Buckley, NRC (by e-mail)
Robert Evans, Region IV (by e-mail)

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Vallecitos Nuclear Center
Sunol, California

ESADA-VALLECITOS EXPERIMENTAL SUPERHEAT REACTOR (DEACTIVATED)

ANNUAL REPORT NO. 42 FOR THE YEAR 2009

LICENSE DR-10
DOCKET 50-183

MARCH 2010

ESADA-Vallecitos Experimental Superheat Reactor (Deactivated)

ANNUAL REPORT NO. 42

General Electric Company has maintained the ESADA Vallecitos Experimental Superheat Reactor (EVESR) in a deactivated status under the authority of Amendment No. 3 to License DR-10, Docket 50-183, issued June 11, 1976. In this annual report, a summary of the status of the facility for the period of January 1, 2009 to December 31, 2009 is presented, as required by paragraph 3.E.2. of the license.

1.0 SUMMARY

Component removal activities began in 2008 above the 549 foot level. Tech Spec changes issues in Amendment 7 December 1, 2008 authorize the removal of systems beside the reactor vessel and bio-shield below the 549 level. Component removal continued in 2009 will continue in 2010. Entry into the containment building was made for routine radiation surveys and a general examination of conditions throughout the building. In accordance with written procedures, the Facility Manager controls access to the containment building.

Radiation levels remain essentially unchanged. Contamination levels are up slightly, reflecting the ongoing equipment removal activities.

2.0 STATUS OF FACILITY

The facility continues to be in deactivated status. The plugs to the reactor vessel and head storage shield, the wooden cover over the fuel storage pool remain in place.

3.0 RADIATION AND CONTAMINATION

Complete radiation and contamination surveys of the facility indicate that levels remain low. Results of the surveys are presented in Table 1. The radiation/contamination levels listed are representative but not necessarily maximum values.

4.0 ACTIVITIES

Routine inspections were conducted during this report period. Component removal and downsizing was continued.

4.234 mCi of material in 2354 ft^3 were removed and disposed in at the facility in Clive,

Table 1
Radiation and Contamination Level Data
ESADA-Vallecitos Experimental Superheat Reactor (Deactivated)

			Contamination Levels			
	Radiation Levels (mR/h Gamma)		Surface Smears Beta-Gamma (dpm/ft²)		Airborne Beta-Gamma[1] (μCi/cc x 10^{-10})	
Date of Measurement:	**12/08**	**12/09**	**12/08**	**12/09**	**12/08**	**12/09**
Reactor Enclosure						
Top of spent fuel pool (main floor)	<1	<1	500	15,000		
549-ft level (main floor)	<1	<1	500	10,000	0.03	23.9
534-ft level	<1.5	<1	5,000	20,000		
519-ft level	<1	<1	20,000	10,000	0.03	11.9
503-ft level (maximum pipe reading)	<1	<1	2,500	10,000		
487-ft level (basement)	<1	<1	750	2,500	0.01	9.15

Note:
Radiation levels, surface smears, and air samples may vary from survey to survey as they are taken in general areas rather than at specific locations.

[1] 24-hour decayed values