



SACRAMENTO MUNICIPAL UTILITY DISTRICT □ 6201 S Street, Box 15830, Sacramento, California 95813; (916) 452-3211

July 28, 1982

R H ENGELKEN, REGIONAL ADMINISTRATOR  
REGION V OFFICE OF INSPECTION AND ENFORCEMENT  
U S NUCLEAR REGULATORY COMMISSION  
1450 MARIA LANE SUITE 210  
WALNUT CREEK CA 94596

DOCKET NO. 50-312  
LICENSE NO. DPR-54  
RESPONSE TO IE BULLETIN NO. 82-02

Pursuant to the requirement of IE Bulletin No. 82-02 concerning degradation of threaded fasteners in the Reactor Coolant pressure boundary of PWR plants, the Sacramento Municipal Utility District hereby submits the following report in response to Action Item 3 of the subject Bulletin.

Molykote "G" thread fastener lubricant is and has been used on the following components and valves:

- "A" Once Through Steam Generator (OTSG) Upper Manway, Lower Manway and Inspection Openings.
- "B" Once Through Steam Generator (OTSG) Upper Manway, Lower Manway and Inspection Openings
- Pressurizer Manway and Heater Connections
- Valves and RCP "B"

RCS-002	DHS-016	PSV-21507
RCS-001	DHS-015	PSV-21506
CFS-002	HV-20002	HV-21505
CFS-001	HV-20001	P-210B (RCP "B")

Molykote "G" is manufactured by the Dow Corning Corporation and they consider the chemical composition to be proprietary information.

Fel-Pro N-1000 is the thread fastener lubricant used on the Control

82-02-01-01-1000

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Q PDR

Rod Drive flanges. Fel-Pro N-1000 meets the following purity standards:

	MAXIMUM ALLOWABLE PER N-1000 SPECIFICATION	TEST RESULTS
Total Chlorine	50 ppm	< 20 ppm
Total Sulfur	100 ppm	< 50 ppm
Total Lead	100 ppm	4.0 ppm
Total Tin	200 ppm	14.5 ppm
Total Zinc	500 ppm	237 ppm
Total Cadmium	5 ppm	0.59 ppm
Total Mercury	5 ppm	0.14 ppm

Injection of sealant material has been performed on the "A", "B" and "D" reactor Coolant Pumps (P 210A, B and D). The sealant material used is Furmanite. Chemical analysis of a Furmanite sample disclosed the following components:

Parameter	CONCENTRATION $\mu\text{G/G}$	
	Carbonate Fusion	Parr Bomb
Antimony	$\leq 5$	$\leq 2$
Arsenic	3	1
Cadmium	$\leq 5$	$\leq 2$
Lead	$\leq 16$	$\leq 10$
Mercury	0.04	0.04
Tin	$\leq 3$	$\leq 4$
Zinc	11	3.2
Chloride	$\leq 100$	$\leq 100$
Fluoride	220	240
Sulfur	$\leq 70$	40

July 28, 1982

Attached as Enclosure 1 is a table of bolted closures with data on type of leak experienced (if any), cause of leak, corrective action, type of inspection used to find the leak and the date that the leak was found.

If you have any further questions regarding this report or the data contained herein, please contact Mr. R. Colombo of my Rancho Seco staff.

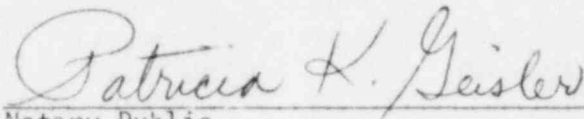
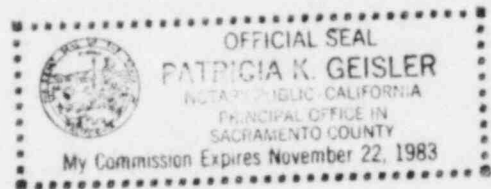


John J. Mattimoe  
Assistant General Manager  
and Chief Engineer

Attachment

Subscribed and sworn to before me this

28<sup>th</sup> day of July, 1982.

  
Notary Public

BOLTED CLOSURES OF THE  
REACTOR COOLANT PRESSURE BOUNDARY

COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
"A" OTSG, E205A						
-Upper Manway	Gasket	Bad gasket	Replace gasket and magnetic particle studs	Visual	10-13-81	
"B" OTSG, E205B						
-Upper Manway	Gasket	Bad gasket	Replace gasket and magnetic particle studs	Visual	10-12-81	
-Lower Manway	Gasket	Bad gasket	Replace gasket and magnetic particle studs	Visual	10-12-81	
CRDMs						
-CRDM-46	Nozzle Flange Gasket Leak	Bad gasket	Replaced gasket and visual leak check	Visual	2-04-81	
-CRDM-14	Nozzle Flange Gasket Leak	Bad gasket	Replaced gasket and visual leak check	Visual	2-04-81	
RCS-001, Check Valve	Valve Has 12 ml/min. Leak	Bad seal ring	Installed new seal ring	Visual	10-09-76	
RCS-002, Check Valve	Boric Acid Crystal on Valve Insulation	Bad seal ring	Installed new seal ring and new studs	Visual	1-19-80	

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COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
DHS-016, Stop Check Valve						
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	3-29-75	
-Boric Acid on Stem and Packing	Packing Leak	Packing	Clean valve and tighten packing	Visual	3-22-76	
-Boric Acid on Stem and Packing	Packing Leak	Packing	Clean valve and tighten packing	Visual	10-03-78	
-Boric Acid on Bonnet	Packing Leak	Packing	Clean valve and tighten packing	Visual	11-17-78	
-Boric Acid on Bonnet	Packing Leak	Packing	Clean valve and tighten packing	Visual	4-23-80	
-Boric Acid on Bonnet	Packing Leak	Packing	Clean valve and tighten packing	Visual	8-22-80	
-Boric Acid on Bonnet	Packing Leak	Packing	Clean valve and tighten packing	Visual	1-31-81	
-Boric Acid on Under-side of Valve Body	Gasket Leak	Improper stud torque on bonnet	Retorque bonnet to valve body and clean valve	Visual	5-06-82	
DHS-015, Stop Check Valve						
-Boric Acid Around Packing	Packing Leak	Packing	Clean valve and tighten packing	Visual	10-03-76	

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REACTOR COOLANT PRESSURE BOUNDARY

COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
-Boric Acid on Bonnet	Packing Leak	Packing	Clean valve and tighten packing	Visual	8-22-80	
-Boric Acid on Bonnet and Body	Gasket Leak	Improper stud torque on bonnet	Retorque bonnet to valve body and clean valve	Visual	11-10-81	
HV-20001, Motor Operated Valve						
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	3-29-75	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	7-03-75	
-Boric Acid around Valve Stem	Packing Leak	Packing	Clean valve and tighten packing	Visual	4-04-76	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve	Visual	10-03-76	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	2-10-77	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve, added two rings of packing and tighten	Visual	3-23-78	
-Boric Acid Crystals on Bonnet	Packing Leak	Packing	Clean valve	Visual	4-15-78	
-Boric Acid on Valve	Packing Leak	Packing	Clean valve and tighten	Visual	1-20-80	

BOLTED CLOSURES OF THE  
REACTOR COOLANT PRESSURE BOUNDARY

COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
-Boric Acid on Valve	Packing Leak	Packing	Clean valve and tighten	Visual	1-31-81	
-Boric Acid on Valve	Packing Leak	Packing	Clean valve and tighten	Visual	2-02-81	
HV-20002, Motor Operated Valve						
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	3-29-75	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	4-04-76	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve	Visual	10-03-76	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	3-22-78	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve	Visual	11-15-78	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	8-22-80	

BOLTED CLOSURES OF THE  
REACTOR COOLANT PRESSURE BOUNDARY

COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
HV-21505, Motor Operated Valve						
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	2-13-75	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	6-17-75	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	8-28-76	
-Boron Buildup on Valve	Packing Leak	Packing	Clean valve and tighten packing	Visual	10-08-76	
"A" Rx Coolant Pump P 210A						
-Seal Seating and Instrument Access Plugs Leaking	Plug Leak	Plug seal material	Clean plugs and reinstall	Visual	11-04-74	
-Pump Shaft Seal Leak	Seal Leak	Normal seal wear	None--Within Tech. Spec. limits	Visual	3-04-75	
-Boric Acid on Top of Pump Volute	Source Not Found	Unknown	Tighten gray lock coupling and clean	Visual	11-07-76	
-Furmanite Pump	--	--	--	--	6-22-78	Stopped leak
-Bubbling around Stuffing Box to Motor Joint	Gasket Leak	Gasket	Apply Furmanite (9-28-78)	Visual	8-25-78	



BOLTED CLOSURES OF THE  
REACTOR COOLANT PRESSURE BOUNDARY

COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
-Leak at Furmanite Location and Inside Stuffing Box	Gasket Leak	Gasket	Inspection only	Visual	9-28-78	
-Leak at Furmanite Location and Inside Stuffing Box	Gasket Leak	Gasket	Inspection only	Visual	1-09-79	
-Leak at Furmanite Location and Inside Stuffing Box	Gasket Leak	Gasket	Inspection only	Visual	1-24-79	
-Leak at Furmanite Location	Gasket Leak	Gasket	Inspection only	Visual	3-08-79	
-Boric Acid Crystals at Furmanite Area (very small)	Gasket Leak	Gasket	Inspection only	Visual	11-14-79	
-Boric Acid Crystals at Furmanite Area (very small)	Gasket Leak	Gasket	Inspection only	Visual	1-08-80	
"B" Rx Coolant Pump P 210B						
-Seal Seating and Instrument Access Plugs Leaking	Plug Leak	Plug seal material	Clean plugs and reinstall	Visual	11-04-74	
-Pump Shaft Seal Leak	Seal Leak	Normal seal wear	None--Within Tech. Spec. limits	Visual	3-04-75	
-Pump Seal Housing Plug Seal	Plug Leak	Plug	Machine new plug and install	Visual	1-02-76	
-Furmanite Pump	--	--	--	--	6-22-78	Partially stopped leak

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REACTOR COOLANT PRESSURE BOUNDARY

COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
-Stuffing Box Damp	Gasket Leak	Gasket	Inspection only	Visual	8-18-78	
-Bubbling Around Stuffing Box and Motor Joint	Gasket Leak	Gasket	Apply Furmanite (9-28-78)	Visual	8-25-78	
-Stuffing Box and Exterior have Boron Buildup	Gasket Leak	Gasket	Inspection only	Visual	9-07-78	
-Stuffing Box and Exterior have Boron Buildup	Gasket Leak	Gasket	Inspection only	Visual	9-28-78	
-Stuffing Box and Exterior have Boron Buildup	Gasket Leak	Gasket	Inspection only	Visual	1-09-79	
-Stuffing Box and Exterior have Boron Buildup	Gasket Leak	Gasket	Inspection only	Visual	1-24-79	
-Stuffing Box and Exterior have Boron Buildup	Gasket Leak	Gasket	Inspection only	Visual	3-08-79	
-Stuffing Box and Exterior have Boron Buildup	Gasket Leak	Gasket	Inspection only	Visual	11-14-79	
"C" Rx Coolant Pump P 210C						
-Seal Seating and Instrument Access Plugs Leaking	Plug Leak	Plug seal material	Clean plugs and reinstall	Visual	11-04-74	
-Pump Shaft Seal Leak	Seal Leak	Normal seal wear	None--Within Tech. Spec. limits	Visual	3-04-75	

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COMPONENT/DESCRIPTION	TYPE OF LEAK	CAUSE OF LEAK	CORRECTIVE ACTION	TYPE INSPECTION TO FIND LEAK	DATE	REMARKS
-Shaft Seal Leak	Seal Leak	Seal	Replace tandem seal assembly	Visual	1-26-76	
-Inspect Gasket Area	Few Boron Crystals	Possible gasket area	Inspection only	Visual	3-08-79	
-Inspect Gasket Area	No Leak	--	Inspection only	Visual	11-14-79	
"D" Rx Coolant Pump P 210D						
-Seal Seating and Instrumentation Access Plugs Leaking	Plug Leak	Plug seal material	Clean plugs and reinstall	Visual	11-04-74	
-Pump Shaft Seal Leak	Seal Leak	Normal seal wear	None--Within Tech. Spec. limits	Visual	3-04-74	
-Furmanite Pump	--	--	--	--	6-22-78	Partially stopped leak
-Bubbling around Stuffing Box and Motor Joint	Gasket Leak	Gasket	Apply Furmanite (9-28-78)	Visual	8-25-78	
-Furmanite Flange	--	--	--	--	9-28-78	Stopped leak
-Leak--1 Dropper Per Minute at Furmanite Area	Gasket Leak	Gasket	Inspection only	Visual	9-28-78	
-Stuffing Box Damp	Gasket Leak	Gasket	Inspection only	Visual	1-09-79	

