

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 AUTH. NAME AUTHOR AFFILIATION  
 CUTTER, A. B. Carolina Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
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SUBJECT: Forwards util justification for rev of previous categorization of RCS seal return flow variable. Util committed to final compliance w/Reg Guide 1.97 commitments by 90 days after end of current refueling outage.

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P. O. Box 1551 • Raleigh, N. C. 27602  
(919) 836-6231

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A. B. CUTTER  
Vice President  
Nuclear Engineering & Licensing

United States Nuclear Regulatory Commission  
ATTENTION: Document Control Desk  
Washington, DC 20555

H. B. ROBINSON STEAM ELECTRIC PLANT, UNIT NO. 2  
DOCKET NO. 50-261/LICENSE NO. DPR-23  
REGULATORY GUIDE 1.97  
CHANGE REACTOR COOLANT PUMP SEAL RETURN FLOW TO TYPE D3 VARIABLE

Gentlemen:

As discussed in our April 15, 1987 conference call with Mr. Glode Requa and Mr. J. Lazevnick, this letter formally transmits CP&L's justification for revision of our previous categorization of the Reactor Coolant Pump (RCP) Seal Return Flow Variable. The RCP seal return flow was included in the original Regulatory Guide 1.97 submittal for H. B. Robinson Plant as a Type D Category 2 variable for monitoring Chemical and Volume Control System (CVCS) status. At that time, the existing flow meter was thought to be capable of meeting the Category 2 requirements. Although this variable was not required, it was provided in addition to the three variables required by Regulatory Guide 1.97, Revision 3 for monitoring CVCS status: charging flow, letdown flow, and VCT level. RCP seal return flow was included because it provided additional information on CVCS functions. The Category 2 designation was consistent with a desire by CP&L to have all post-accident monitors which were located inside containment environmentally qualified.

However, additional investigation has shown that it is not feasible to environmentally qualify these monitors. These are rotameter-type instruments which are no longer made and there are no qualified replacements. Installation of a qualified transmitter and orifice flow indication channels would require major piping changes which are impractical due to space limitations.

Flow through the RCP seal injection lines can also be inferred by the other Regulatory Guide 1.97 variables: VCT level, VCT pressure, charging flow, and containment isolation valve position. Based on the fact that RCP seal return flow was included in excess of the Regulatory Guide 1.97 requirements and that other backup indications exist, CP&L requests that this variable be redesignated as a Type D Category 3 variable.

The pages from the original submittal have been revised to reflect the proposed change and are transmitted as an enclosure with this letter. In addition, two pages which were revised by a previous submittal have been reissued to correct an administrative error.

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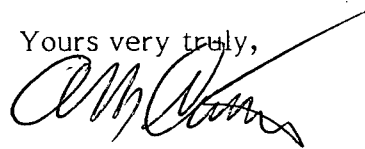
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The previously transmitted changes, identified as Revision 2 (R2), were marked up on a Revision 0 version of the submittal. These pages are now being resubmitted to include the Revision 1 (R1) changes that were previously made to that page.

CP&L has committed to final compliance with its Regulatory Guide 1.97 commitments by 90 days after the end of the current refueling outage. Timely resolution of this matter is necessary since a major effort would be required to upgrade the existing equipment if the proposed change is not approved.

If you have any questions concerning this subject, please contact Mr. S. R. Zimmerman at (919) 836-6242.

Yours very truly,



A. B. Cutter

MDM/mss (5187MDM)

Enclosure

cc: Dr. J. Nelson Grace (NRC-RII)  
Mr. H. Krug (NRC Resident Inspector - RNP)  
Mr. K. Eccleston (NRC)

Variable: Reactor Coolant Pump (RCP) Seal Return Flow

Category: D3

R3

Compliance: The variable meets the requirements of a RG 1.97 Type D Category 3 variable.

R3

CP&L Position: No modifications are required.

Safety Function	Variable	Sensor	Cat	RG 1.97 or HBR	Range	EQ	SQ	Power	Redun- dant	Sensor Loca- tion	Display	Recorder	Comments
CVCS	RCP Seal	FT-154A	3	RG 1.97	NR	NR	NR	Reliable	NR	--	On Demand	NR	
	Return Flow	FT-155A		HBR	Ch. A = 0- 6 GPM	NR	NR	FT-154A, FT-154B	NR	CV	RTGB	Yes	
		FT-156A											
		FT-154B			Ch. B = 0- 1.5 GPM			=DB					
		FT-155B						FT-155A, FT-156A, FT-155B, FT-156B					
		FT-156B						=BB					
CVCS	Boric Acid Tank Flow to Charging Pump Suction	FT-110	2	RG 1.97	0-110% design flow	Yes	NR	Reliable	NR	--	On Demand	NR	120 gpm=design flow (1.1X120 = 132 gpm)
				HBR	0-150 GPM	Yes	NR	BB	NR	AB	RTGB	NR	
CVCS	VCT Level	LT-112	2	RG 1.97	Top to Bottom	Yes	NR	Reliable	NR	--	On Demand	NR	
		LT-115		HBR	0-60 " H <sub>2</sub> O	Yes	NR	LT-112=DB LT-115=BB	NR	AB	RTGB	NR	
CVCS	VCT Pressure	PT-117	3	RG 1.97	NR	NR	NR	NR	NR	--	On Demand	NR	
				HBR	0-100 psi	NR	NR	BB	NR	AB	RTGB	NR	
CVCS	Charging Pump Status	Chg Pump A Motor	3	RG 1.97	NR	NR	NR	NR	NR	--	On Demand	NR	
				HBR	On-Off	NR	NR	Pump A=	NR	AB	RTGB	NR	
		Chg Pump B Motor						Stn					
		Chg Pump C Motor						Pump B,C =BB					

R3

Safety Function	Variable	Sensor	Cat	RG 1.97 or HBR	Range	EQ	SQ	Power	Redun- dant	Sensor Loca- tion	Display	Recorder	Comments	
Core Cooling	Reactor Vessel Water Level	LT-511AA	3	RG 1.97	Bottom of hot leg to top of vessel	NR	NR	NR	NR	--	On Demand	NR	System is being installed.	
		LT-511AB												
		LT-511BA			Bottom to top of vessel									
		LT-511BB		HBR		NR	NR	BB	Yes	AB	RTGB	Yes		
		LT-511BC LT-511AC												
Core Cooling	RCS Subcooling Margin	CCM-520	3	RG 1.97	200°F sub-cooling to 35°F superheat	NR	NR	NR	NR	--	On Demand	NR	PT-456=Ch.1 PT-457=Ch.2	
		CCM-521		HBR	200°F sub-cooling to 2250° F superheat	NR	NR	Ch.1=BB Ch.2=DB	Yes	CV	RTGB	NR		
RCS Integrity	RCS Pressure (WR)	PT-402	1	RG 1.97 HBR	0-3000 psig 0-3000 psi	Yes Yes	Yes Yes	Standby DB	Yes No	-- CV	Continuous RTGB	Yes Yes	Recorder has DB power supply.	R2
RCS Integrity	SG Blowdown Radiation Level	R-19	3	RG 1.97	NR	NR	NR	NR	NR	--	On Demand	NR	Mild environment.	R1
				HBR	$4 \times 10^{-5}$ - $3.5 \times 10^{-2}$ $\mu$ Ci/cc	NR	NR	BB	No	AB	RTGB	Yes (4)		
RCS Integrity	Containment Area Radiation (Hi Range)	R-32A	3	RG 1.97	NR	NR	NR	NR	NR	--	On Demand	NR		R1
		R-32B		HBR	1-10 <sup>7</sup> R/hr	NR	NR	R-32A=DB R-32B=BB	Yes	CV	RTGB	Yes		
RCS Integrity	Containment Pressure	PT-956	3	RG 1.97	0-design pressure	NR	NR	NR	NR	--	On Demand	NR	Design pressure = 42 psig	
		PT-957		HBR	0-120 psig	NR	NR	PT956=DB PT957=BB	Yes	AB	RTGB	Yes		

Table B  
Page 2 of 12

Safety Function	Variable	Sensor	Cat	RG 1.97 or HBR	Range	EQ	SQ	Power	Redun- dant	Sensor Loca- tion	Display	Recorder	Comments
Fuel Cladding Integrity	Core Exit Temperature	T1 thru T51	1	RG 1.97 HBR	200-2300°F 100-700°F	Yes No	Yes No	Standby DB	Yes Yes(3)	-- CV	Continuous On Demand	Yes No	Diverse indication provided by the 51 channels - all T/Cs have same power supply.
Fuel Cladding Integrity	RCS Activity & Coolant Analysis		3	RG 1.97  HBR	Activity: 1/2-100 X Tech Spec Analysis: 10 µCi/ml- 10 Ci/ml or TID-14844 source term in coolant volume Activity: 1/2- 100 X Tech Spec Analysis: 1 µCi/ml- 10 Ci/ml	NR  NR	NR  NR	NR  NR	NR  NR	-- AB	On Demand None	NR NR	Provided by PASS or other samples.
Fuel Cladding Integrity	Letdown Radiation Level	R-9	3	RG 1.97 HBR	NR 0-100K mr/hr	NR NR	NR NR	NR DB	NR NR	-- AB	On Demand RTGB	NR NR	
RCS Integrity	RCS Pressure (WR)	PT-402	1	RG 1.97 HBR	0-3000 psig 0-3000 psi	Yes Yes	Yes Yes	Standby DB	Yes No	-- CV	Continuous RTGB	Yes Yes	
RCS Integrity	Containment Area Radiation (HI Range)	R-32A R-32B	3	RG 1.97 HBR	1-10 <sup>4</sup> R/hr 1-10 <sup>7</sup> R/hr	NR NR	NR NR	NR R-32A=DB R-32B=BB	NR Yes	-- CV	On Demand RTGB	NR Yes	

Table C  
Page 1 of 7

R2

R1