



PUBLIC SERVICE COMPANY OF COLORADO

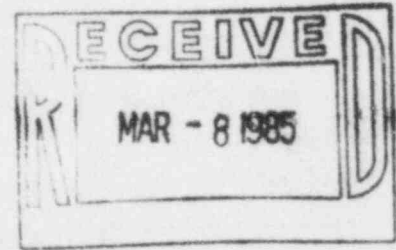
P. O. BOX 840 · DENVER, COLORADO 80201

OSCAR R. LEE
VICE PRESIDENT

March 1, 1985
Fort St. Vrain
Unit No. 1
P-85061

Regional Administrator
Region IV
U.S. Nuclear Regulatory Commission
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 76011

Attn: Mr. E. H. Johnson



SUBJECT: Additional Documentation
Requested by NRC

REFERENCE: PSC Letter Dated 01/30/85,
Lee to Johnson, P-85032

Dear Mr. Johnson:

This letter is to inform you of a recent decision by PSC to use the existing material on one component part associated with the Control Rod Cable material replacement program. As stated in the referenced letter, this part was scheduled to be replaced during the current outage with a part made from Inconel as a preventative measure against stress corrosion. However, due to material delivery problems, some of the existing material will be used, as justified below. This subject was discussed with members of your staff and personnel from Los Alamos National Laboratory in a telephone conversation on 2/13/85.

The part involved is the "clevis bolt" used to connect the Control Rod onto the lower end of the new Inconel CRD cable. This bolt is discussed in GA Report No. 907822 and PSC Safety Analysis Report No. EE-12-0009, Issue A attached to the referenced letter. The existing material is a high strength steel AMS 5735 or AMS 5737 (A286). The installed bolt has no significant torque and therefore no resulting tensile stress. Calculations of the actual loading stress due to bending moment and shear load result in a very insignificant stress

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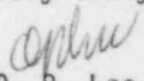
level. To identify if residual stresses are high enough to present a chloride stress corrosion concern, a magnesium chloride test was run on one of the A286 clevis bolts, followed by examination for evidence of stress corrosion. A review of the test results concluded that the A286 material was acceptable for use. It is important to consider that new clevis bolts made of the A286 material are being installed instead of reusing the existing bolts. When Inconel bolts are received, PSC will install them on the remaining assemblies. A286 clevis bolts installed at this time will be replaced during subsequent control rod replacements. The consequences of failure of these bolts have been evaluated and determined to have no adverse effect on the health and safety of the public. Attachment A to this letter shows a revision to GA Report No. 907822 which corrects an error in the referenced drawing/part number.

A safety analysis review has been performed on the proposed revision of an engineering change notice (CN-1933B) which temporarily retains the existing A-286 corrosion resisting steel material for the clevis bolt. This review showed that this is not an unreviewed safety question because the material of the bolt is not subject to high enough tensile stresses to promote stress corrosion cracking in the bolt, even if the bolt is exposed to a moist chloride environment in the PWR. Further, should the bolt fail for any reason, its connecting control rod will fall into the fully inserted position, its safe shutdown position.

During the telephone conversation on 2/13/85, PSC informed your staff of another possible delivery problem on the cap screws which hold the manual rewind gear to the CRD hub. The delivery problem has been resolved for that part and the new material identified in the referenced letter will be installed on all CRD assemblies.

PSC will proceed with our current outage work as outlined above. If you have any questions, please contact Mr. M. H. Holmes at (303) 571-8409.

Very truly yours,


O. R. Lee, Vice President
Electric Production

ORL/FWT:pa

cc: Jim Miller
Los Alamos National Laboratory

TABLE 2-1 (continued)

ORIGINAL PART NO.	REPLACE- MENT PART NO.	COMPO- NENT	ORIGINAL MATERIAL			REPLACEMENT MATERIAL			MATERIAL CHANGE	GEOMETRICAL CHANGE
			SPEC.	MINIMUM (PSI)		SPEC	MINIMUM (PSI)			
				YIELD	ULTIMATE		YIELD	ULTIMATE		
D1201-251 Item 1	D1201-251 Item 2	Cable	AISI (347 S.S)	-----	115,000 - 140,000	ASME SB-446 ASTM B-446 (Alloy Inconel 625)	140,000	170,000	Yes	No
D1201-252 Item 1	D1201-252 same	Anchor	AISI (304 S.S)	30,000	70,000	AISI (416 S.S)	85,000	110,000	Yes	No
D1201-253 Item 1	D1201-253 same	Bushing	AISI 4130 (Steel)	130,000	140,000	AISI 4130 (Steel)	130,000	140,000	No	No
D1201-254 Item 1	D1201-254 Item 1	Guide	ASTM A519 GR MT 1015 (Steel)	35,000	55,000	ASTM A519 GR MT 1015 (Steel)	35,000	55,000	No	No
D1201-255 Item 1	D1201-255 Item 2	Nut, Bushing	AISI-C- 1018/C- 1020	30,000	70,000	AISI-C- 1018/C- 1020	30,000	70,000	No	Yes
1201-263 Item 2	D1201-263 same	Rod End	AISI (304 S.S)	30,000	70,000	ASTM B-446 (Inconel 625)	60,000	120,000	Yes	No
D1201-263 Item 3	D1201-263	Ball	AMS 5630 (440 C)	-----	Rockwell C 60	AMS 5630 (440 C)	-----	Rockwell C 60	No	No
D1201-263 Item 4	D1201-263	Race	AMS 5643 (17-4 PH)	115,000	140,000	AMS 5643 17-4 PH	115,000	140,000	No	No
D1201-100 Item 18	027938 027387	Bolt	AMS 5735 or AMS 5737 (A286)	-----	160,000	AMS 5670 (Inconel X-750)	105,000	165,000	Yes	Yes
D1201-100 Item 18	027938 Item 2	Retaining Ring	AMS 5643 (17-4 PH)	115,000	140,000	AMS 5643 (17-4 PH)	115,000	140,000	No	No

ATTACHMENT A