

# Bechtel Power Corporation

Engineers — Constructors

15740 Shady Grove Road  
Gaithersburg, Maryland 20877  
301—258-3000



March 19, 1984

Mr. Richard DeYoung, Director  
Office of Inspection & Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. DeYoung:

File: 0490.4  
SNUPPS Project, Bechtel Job No. 10466  
Design Deficiency in Field-Run Cables  
to Valcor Solenoid Valves

On March 19, 1984, Mr. C. E. Rossi of your office was informed by Bechtel (John Kroehler) of a SNUPPS Project design deficiency reportable under 10 CFR 21. It involves the specification of cable intended for use at conductor temperatures not exceeding 90°C for normal operation for the connection of Valcor solenoid valves, whereas calculated terminal block temperatures would dictate the use of cable rated for 150°C service.

Approximately fifty valves each at the Callaway and Wolf Creek sites, currently installed in the Nuclear Sampling, Steam Generator Blowdown, Post Accident Sampling, Essential Service Water and Containment Monitor Isolation Systems, are affected by the deficiency.

A nonconformance report was written by the constructor, Daniel International, at the Callaway jobsite on March 1, 1984, and referred to Bechtel Project Engineering in Gaithersburg, Maryland, for evaluation on March 13, 1984, following an inspection of field-run cable to a Valcor solenoid valve installed in the Nuclear Sampling System. Inspection of the cable revealed that conductor insulation was excessively degraded.

As part of their investigation, Bechtel Engineering reviewed the internal temperatures of the solenoid housings against the temperature rating (90°C) of the field-run cable. Valves continuously energized or energized for an extended period of time (greater than one hour) will develop temperatures in the valve terminal block area of 250-280°F. At these temperatures, the 90°C (195°F) rated cable will degrade. Failure of the cable insulation may compromise the safety-related function of the valve.

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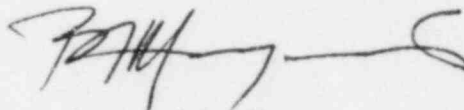
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Currently, Bechtel is pursuing procurement of qualified, high-temperature cable from Valcor. The high-temperature cable will be used to make the connection from the valve housing to a junction box several feet remote from the valve. The incoming field cable will be spliced to the high temperature-cable in the junction box.

Mr. C. E. Rossi was informed that SNUPPS had already notified NRC Regions III and IV in accordance with the requirements for 10 CFR 50.55(e). He indicated that a separate 10 CFR 21 report would be necessary if the requirements for 10 CFR 21 reporting were not addressed in the 10 CFR 50.55(e) report.

Mr. Rossi was informed that although this deficiency was detected in the SNUPPS design, it resulted from a breakdown in the exchange of design information between engineering disciplines, and was not necessarily unique to the SNUPPS units. The Bechtel policy is to issue Management Corrective Action Reports (MCARs) to all other Bechtel nuclear projects whenever significant deficiencies are detected so that reviews for applicability can be performed. That practice will be observed for this deficiency.

Sincerely yours,



Bernard L. Meyers  
Project Manager

JKJ/jmd

cc: Mr. C. E. Rossi, Office of Inspection & Enforcement, USNRC, Washington, D.C.  
Dr. T. E. Murley, Director, Region I, USNRC  
Mr. J. A. Keppler, Director, Region III, USNRC  
Mr. J. Collins, Director, Region IV, USNRC  
Mr. N. A. Petrick, SNUPPS  
Mr. S. J. Seiken, SNUPPS  
Mr. E. W. Creel, Kansas Gas & Electric Company  
Mr. F. D. Field, Union Electric Company