



Consumers  
Power  
Company

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March 10, 1983

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Operating Reactors Branch No 5  
Nuclear Reactor Regulation  
US Nuclear Regulatory Commission  
Washington, DC 20555

DOCKET 50-155 - LICENSE DPR-6 -  
BIG ROCK POINT PLANT - ELECTRICAL  
EQUIPMENT QUALIFICATION - CLARIFICATION  
OF PRESSURE SWITCHES TEST RESULTS

By letter dated October 31, 1980, Consumers Power Company submitted a report entitled "Environmental Qualification of Safety-Related Electrical Equipment - Big Rock Point" in response to the NRC's August 29, 1980 and September 19, 1980 correspondence which requested environmental qualification information of electrical equipment for the Big Rock Point Plant. Some of the information we provided was related to Equipment Qualification Reports (EQR) which summarize equipment qualification test results of static-o-ring pressure switches. (These pressure switches are used to provide a core spray valve open signal when reactor pressure is  $\leq$  200 psig.)

In a recent conference call the NRC staff informed us that portions of the test results documents which we submitted subsequent to our October 31, 1980 letter to substantiate the information provided on pages 113 and 114 (EQR sheets) and pages 115 and 116 (description of the static-o-ring pressure switches) are illegible. Attached please find Consumers Power Company legible copies of the test results of the static-o-ring pressure switches. We hope that this action clarifies the test results in question. We sincerely apologize for any inconveniences that this situation may have caused to either the staff or its contractors.

Thomas C Bordine  
Staff Licensing Engineer

CC Administrator, Region III, USNRC  
NRC Resident Inspector-Big Rock Point

A048

Attachment

nc0383-0160a142  
8303170098 830310  
PDR ADOCK 05000155  
P PDR

ELECTRICAL EQUIPMENT QUALIFICATION INFORMATION  
ON  
STATIC-O-RING PRESSURE SWITCHES  
TO SUBSTANTIATE  
CONSUMERS POWER COMPANY  
OCTOBER 31, 1980  
SUBMITTAL

Consumers Power Company  
Big Rock Point Plant  
March 10, 1983

3 pages

## 7.0 Retest at Environmental Temperature

### 7.1 Summary

One (1) static "O" ring pressure switch was returned to static O ring from testing at Ogden Laboratories. It was noted that the piston shaft in the switch was not the standard high temperature piston shaft. A high temperature piston shaft was installed and additional testing conducted in the S.O.R. Laboratory.

The initial test, performed at laboratory ambient conditions, consisted of subjecting the specimen to four pressure cycles at its mid-range pressure settings.

At the mid-range settings the switch actuated between 141.0 and 141.5 PSIG, and deactivated between 138.5 and 136.0 PSIG.

The specimen was then subjected to the high temperature test. After two hours at 260 F the switch actuated between 134.0 and 136.0 PSIG, and deactivated between 127.0 and 129.4 PSIG.

The switch was then placed in laboratory ambient conditions and allowed to cool for five hours. The switch then actuated between 143.0 and 143.6 PSIG and deactivated between 134.6 and 135.5 PSIG.

After setting at ambient conditions for 22 hours, the switch actuated between 143.5 and 144.5 PSIG and deactivated between 132.1 and 136.5 PSIG.

This report contains a brief description of how the test was performed, the test data, and a list of the test equipment used.

### 7.2 Procedure

The pressure media used for all testing was dry gaseous nitrogen. Switch actuation was determined by the use of test lights which were illuminated by the switch actuation.

The pressure switch was placed in the environmental test chamber and subjected to four pressure cycles at ambient conditions. A cycle consisted of gradually increasing the pressure from 20 PSIG to the pressure required to activate the switch, and the decreasing gradually to 20 PSIG. The pressure at which the switch actuated and deactivated was noted during each cycle.

After the ambient tests, the temperature in the test chamber was increased to 260 F and allowed to soak for two hours. The switch was then subjected to four pressure cycles, and then the temperature in the chamber was allowed to cool to ambient.

The switch was subjected to four more pressure cycles after cooling for five hours and again after 22 hours.

### 7.3 Test Equipment

Static O Ring pressure switch, model number 26R2-YY45-CM 4x5 Serial Number 72-8-1280, revised with aluminum piston shaft.

Ircon Digital Thermocouple Indicator, -100 to +600<sup>o</sup> F, SN 1412.

Environmental Test chamber, Associated Testing Lab,  
SN 2482 Model SLHU-1-2C-1

Heise Guage CMM63134, 500 PSI full scale, 1/2 PSI graduations, 0.1%

Portable test stand indicator lights.

Victor Pressure Regulator SN 23969.

Chemetron gaseous nitrogen.

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