



ARKANSAS POWER & LIGHT COMPANY  
POST OFFICE BOX 551 LITTLE ROCK, ARKANSAS 72203 (501) 371-4000

March 20, 1979

1-039-14

REGULATORY DOCKET FILE COPY

Director of Nuclear Reactor Regulation  
Attn: Mr. Robert W. Reid, Chief  
Division of Operating Reactors  
Branch #4  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Subject: Arkansas Nuclear One-Unit 1  
Docket No. 50-313  
License No. DPR-51  
Fire Protection  
(File: 1510, 2040)

Gentlemen:

The following information completes our response to your March 5, 1979 letter.

1. SER Items 3.3 and 3.7
  - a. The Protectowire used in the Cable Spreading Room and corridor will actuate when it reaches 190°F. The Protectowire will be crisscrossed on top of the cable tray and clamped to alternate sides of the tray every 18 inches. The Factory Mutual Laboratory report on Protectowire dated August 30, 1965 is attached.
  - b. This item was addressed in our March 19, 1979, letter.
  - c. We will intermix zones of Protectowire as you have proposed. We are not confident that this modification will increase the reliability of the actuation system, as each zone is supervised.
  - d. This item was addressed in our March 19, 1979, letter.
  - e. We do comply with NFPA 72-E, 1974.
  - f. Both deluge systems can be manually tripped from panel C463 which is located in the control room. They can also be manually tripped at the deluge valves which are located approximately 10 feet north of the east door of the Cable Spreading Room along the wall separating the Auxiliary Building from the Turbine Building.

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- g. All actuation and alarm circuitry is electrically supervised. The circuitry will indicate trouble resulting from open circuits or shorts to ground. The system actuates on line to line shorts not involving ground. The power circuitry consists of two power wires and one neutral wire. Failure of either power wire will actuate an alarm in the Control Room and transfer power to the other power wire. Only one power wire is required to power the system.
  - h. One pump operating can provide the necessary water at the desired pressure. This information was provided previously in our October 26, 1977, letter: Item 36.
  - i. The Fire Detection System is powered from an instrument AC panel which is powered from an engineered safeguard 480V Motor Control Center. Emergency power is provided by the diesel generators.
  - j. All circuit supervision, including that for the existing smoke detectors in the Cable Spreading Room, will actuate audio and visual trouble signals in the Control Room.
  - k. As agreed upon in our March 9, 1979 conversation, it is now possible to silence the trouble alarm indicating that the system is in test mode. A light is provided on the main control panel signifying this condition.
  - l. The deluge valve may be operated by either of two redundant solenoid valves. One valve is electrically operated by the system logic or manually from the Control Room. The other solenoid valve must be operated manually at the deluge valve.
2. SER Item 3.4 and 3.8
- a. Kaowool will be installed as per the B&W, Bechtel tests for the Hatch Nuclear Plant which have been submitted on that docket previously. This was discussed with the Staff before we chose to use Kaowool and they agreed that Kaowool used in accordance with the above test was acceptable.
  - b. As discussed in our March 9, 1979 conversation, EC 1190 and EC 1237 cannot be protected by Kaowool due to their inaccessible location. We will spray the trays with cable coating as previously indicated.
  - c. We will spray EB 215 with cable coating where it touches EB 1096 and wrap EB 1096 with Kaowool its entire length in zone 149-E.

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Mr. Robert W. Reid

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3. SER Item 3.11

- a. Bechtel has informed us that the pressures and flows at the hose reels are acceptable. Details of their analyses are not readily available; however, we will provide you with the details by March 27, 1979.

Very truly yours,

*David C. Trimble*  
David C. Trimble  
Manager, Licensing

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LABORATORY REPORT

PROTECTOWIRE  
HEAT SENSITIVE CABLE  
(LINE TYPE THERMOSTAT)

from

THE PROTECTOWIRE COMPANY  
HANOVER, MASSACHUSETTS

SERIAL NO. 16384

AUGUST 30, 1965



FACTORY MUTUAL ENGINEERING DIVISION

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1151 BOSTON-PROVIDENCE TURNPIKE, NORWOOD, MASS. 02062



# LABORATORY REPORT

FACTORY MUTUAL ENGINEERING DIVISION

1151 BOSTON-PROVIDENCE TURNPIKE, NORWOOD, MASS. 02062

16384

August 30, 1965

PROTECTOWIRE  
HEAT SENSITIVE CABLE  
(LINE TYPE THERMOSTAT)

from

THE PROTECTOWIRE COMPANY  
HANOVER, MASSACHUSETTS

## I INTRODUCTION

The Protectowire Company requested, and received, approval of their special Protectowire heat sensitive cable, Types P, WP and WPP. A re-examination was made also of their already approved standard Regular (155°F), Intermediate (190°F), and High Test (280°F), cables. The latter cables were previously covered by Report Nos. 10895, 10895-S1 and 10895-S2.

## II DESCRIPTION

### A General

The temperature ratings and outer braid construction of the standard cable remains unchanged. The special cables have the same ratings but they differ from the standard in external braid. The attached Bulletin 1920 describes the basic construction, temperature ratings and special construction.

### B Equipment

1. The No. 33 Scotch electrical tape is a black vinyl tape, a product of Minnesota Mining and Manufacturing Company. A cream colored tape, No. 20, is available on special order. Both tapes have the same electrical and physical properties.

2. The cable is wrapped at time of manufacture by Protectowire with a long spiral single layer and with minimum of overlap. The asphalt compound used in the Type WP cables is a special process at the time of cable manufacture.

## III EXAMINATION AND TESTS

### A Samples

The manufacturer sent several samples of each type cable for tests. Time-temperature tests were made of the standard and special cables of the same ratings and under the same fire conditions.

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6. The Protectowire Company was visited and the staff, manufacturing facilities, calibration and test methods for the cables are satisfactory.

### III CONCLUSIONS

The Protectowire standard and special heat sensitive cables covered by this report are approved. Application and maintenance should be in accordance with appropriate standards of the Engineering Division.

LDF:mld

TESTS AND REPORT BY: L. D. Freeman

ORIGINAL DATA : Notebock No. 225

ATTACHED : Mfr's. Bulletin 1920

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 7903230156 DOC. DATE: 79/03/20 NOTARIZED: NO DOCKET #  
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 TRIMBLE, D.C. ARKANSAS POWER & LIGHT CO.  
 RECIP. NAME RECIPIENT AFFILIATION  
 REID, R.N. OPERATING REACTORS BRANCH 4

SUBJECT: IN RESPONSE TO 790305 REQUEST FOR ADDL INFO RE FIRE PROTECTION, FORWARDS 650830 LAB REPT "PROTECTOWIRE HEAT SENSITIVE CABLE (LINE TYPE THERMOSTAT)."

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