

ILLINOIS POWER COMPANY



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L14-82(05-04)-L

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CLINTON POWER STATION, P.O. BOX ~~388~~ CLINTON, ILLINOIS 61727

May 4, 1982

Mr. James C. Keppler
Director, Region III
Office of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Dear Mr. Keppler:

Deficiency 82-03
10CFR50.55(e)

Ground Faults Occurring in Instrument
Cable Due to Termination Splice Practices

On March 16, 1982, Illinois Power notified Mr. H. Wescott, NRC Region III (ref: IP memorandum Y-7725 dated March 16, 1982) of a potential reportable deficiency per 10CFR50.55(e) concerning intermittent shorts to ground occurring in instrument cable due to method of termination and tape practices. On April 16, 1982, Illinois Power submitted an interim report (ref: IP Letter, U-0462, dated April 16, 1982) to NRC Region III informing you that we anticipate that we will need approximately ninety (90) days to complete an investigation of this matter. This letter supplements our last interim report of April 16, 1982 and provides additional background information concerning our investigation.

Background

During generic testing for the LCD031 instrument loop, Illinois Power test personnel encountered fuses which continued to blow for the circuit under test. Investigation revealed that cables LCD78B and LCD78N in panel 1PA08J were shorted to their shield. These circuits were part of the condensate system which is non-safety related. Upon unwrapping the tape on the shorted cable, it was found that the splice joining the tape on the shield drain wire to the extension wire had pushed through the conductor insulation and was shorting the conductors to ground (See attached sketch). Further investigation revealed three other control circuits had the same problem. One case resulted in damage to a bistable device in panel 1PA08J. This occurrence was documented on CPS Condition



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Report 1-82-03-002, dated March 1, 1982 by Illinois Power Startup personnel.

On March 2, 1982 Baldwin Associates issued Stop Work Action 011 stopping work on terminations of all two, three, four, eight, sixteen and twenty-four conductor, 16 AWG, 300 volt IE instrumentation cable. This Stop Work was issued as a result of shorting problems associated with the methodology of terminating cables per S&L Specification K-2900. Baldwin Associates initiated NCR 6507 which restated the conditions documented on CPS Condition Report 1-82-03-002.

Preliminary investigations have revealed that six (6) terminated IE instrument cables may be affected by the suspect termination/taping practices. These cables are 1DC01G, 1DC03G, 1FC01D, 1FC02D, 1HP01D and 1HP02F. Evaluation and further investigation is continuing in order to determine the significance and reportability of this matter.

We hope this supplemental letter provides you sufficient background information to perform a general assessment of this potential reportable deficiency. We expect to complete our evaluation and investigation within ninety (90) days and will advise you of the results.

Very truly yours,



W.C. Gerstner
Executive Vice President

cc: NRC Resident Inspector
Director-Quality Assurance
Illinois Department of Nuclear Safety
Director, Office of I&E, Washington, D.C.

TERMINATION OF TAPE-SHIELD DRAIN WIRE

1. SCOPE

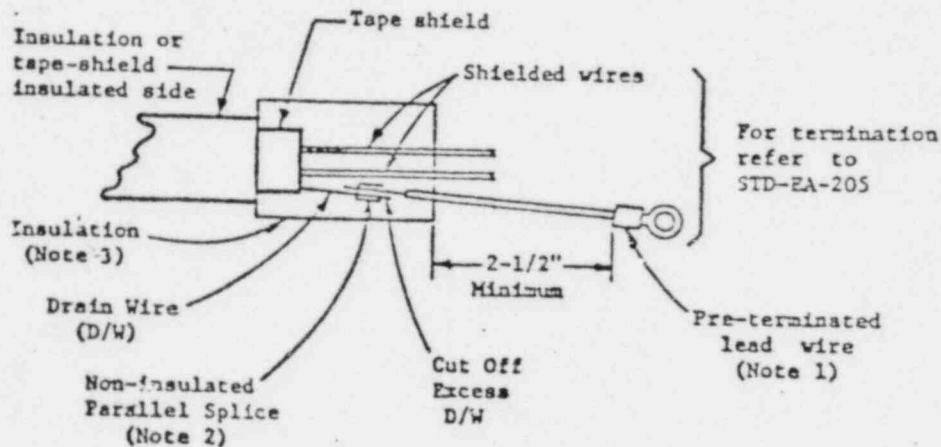
- 1.1 This standard contains instructions for the termination of the drain wire associated with the tape-shield of control or instrumentation cables.

2. PURPOSE

- 2.1 The purpose of this standard is to provide a method of terminating each drain wire (D/W) in a neat and acceptable manner which will prevent inadvertent grounding or shorting.

3. METHODS

- 3.1 Each D/W termination shown on a construction drawing shall be terminated by using a parallel splice and pre-terminated insulated lead wire as indicated in the following details.



DETAIL 1

Individual Wire Group (2/C, etc.) D/W

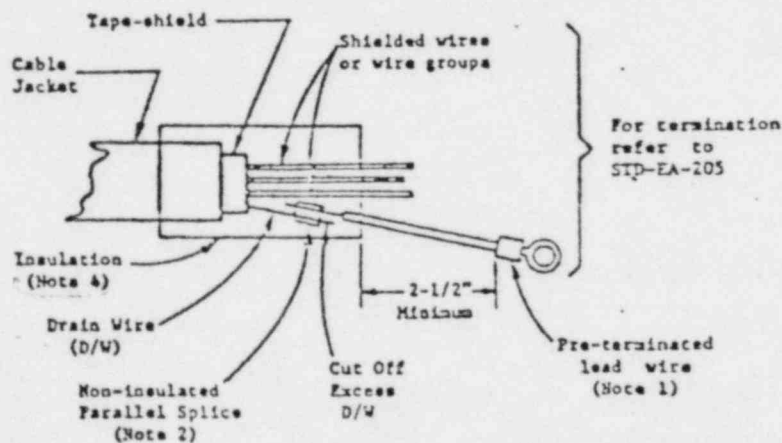
NOTE 1 - The 10" pre-terminated lead wire shall be #18 AWG tinned copper with Class B stranding. The insulation shall be 600V cross-linked polyethylene (Type SLS) or "Tefzel" and colored solid yellow. The lead wire shall be trimmed before installation so that the shielded conductors are shielded until nearing their termination points.

NOTE 2 - The non-insulated parallel splice shall be as furnished by AMP (Cat. No. 34137 and crimped with the AMP Ratchet Tool Cat. No. 49900), Thomas & Betts (Cat. No. B1B and crimped with the T&B Ratchet Tool Cat. No. WT-3155), or equal splice crimped with the ratchet crimping tool recommended by the splice manufacturer.

NOTE 3 - The insulation shall be either heat shrinkable tubing or flexible plastic insulation tubing and shall capture the tape shield and the lead wire insulation.

NOTE 4 - The insulation shall be either heat shrinkable tubing or tape and shall capture the cable jacket, tape-shield and lead wire insulation.

NOTE 5 - Drain wire termination kits composed of pre-terminated lead wires, parallel splices and insulation tubing may be available from AMP.



DETAIL 2
Overall Shield D/W