



**Commonwealth Edison**  
One First National Plaza, Chicago, Illinois  
Address Reply to: Post Office Box 767  
Chicago, Illinois 60690

May 17, 1984

Mr. James G. Keppler, Regional Administrator  
United States Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 61037

SUBJECT: Byron Generating Station Units 1 and 2  
Electrical Conductor Butt Splices  
Docket Nos. 50-454 and 50-455

REFERENCE (a): Notification (Verbal) of Potential  
50.55(e) to J. Hinds on May 17, 1984

Dear Mr. Keppler:

As a result of concerns raised at our LaSalle Station in early January, 1984, our Quality Assurance Department at Byron Station initiated a sampling review of electrical conductor butt splices in early March, 1984. This review consisted of:

- (1) review of approximately 11,000 termination inspection reports to determine the practice of documenting installed/inspected butt splices, and a review of 646 specific inspection reports identified from the 11,000 for the detail of objective evidence associated with butt splice inspections.
- (2) a physical surveillance of 221 installed butt splices to determine the existence/nature of any deviations from manufacturers' requirements.

As a result of the physical surveillances, a Nonconformance Report 899 was initiated to identify and evaluate various deviations from manufacturer's requirements.

Mr. R. Love of your staff reviewed this data during a recent inspection of April 23 to May 4, 1984, and was concerned that we had yet to commit ourselves to a 100% review, by inspection, of butt splices installed prior to April 5, 1984. After consideration of conditions we, by reference (a), made notification to your staff; and hereby outline the activities to be undertaken to verify the acceptability of electrical conductor butt splices.

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- (1) We will inspect electrical conductor butt splices in safety-related cables in safety-related: panels, motor control centers, switchgear, and both sides of containment electrical penetrations. With the following exceptions and refinements:
  - (a) For any two redundant cables found, both of which have butt splices installed on an individual conductor(s) and covered with either heat shrink material or nuclear splicing cement with insulating tape and jacketing tape, the covering material shall be removed from the butt splice(s) on one of the cables and the butt splice shall be inspected. As an alternative to removing the covering material at the time of locating, the existing butt splice may be cut out and tagged for later dissection and inspection, and a new butt splice installed, inspected, and covered.
  - (b) The redundant cable butt splices identified in item (a) above which are not inspected or removed/replaced, and any butt splices identified in conductors of non-redundant cables which are covered with heat shrink material or nuclear splicing cement and tape will have their location documented for possible inspection based on the results of item (2) below.
  - (c) For containment electrical penetrations, the cable conductor termination to penetration conductor will not be inspected, but the cable conductor will be inspected from this point to the point where exterior cable pulling jacket has been removed. If butt splices are present in this run of conductors which are not allowed by design documents, a nonconformance report will be initiated to identify condition for resolution. Those that are allowed by design documents will be inspected per (a) or (b) above, as appropriate.
- (2) If the inspection results of the inspected butt splices from (1) above, show a greater than 10% rejection rate on a population sufficiently large enough to establish a trend, then all butt splices which have heat shrink coating or nuclear cement and tape will be replaced (i.e. the population of (b) above).

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- (3) A special instruction will be developed for these activities and submitted to your staff for review prior to implementation. Inspection personnel will be trained and qualified to this instruction. Craft personnel who are not presently qualified as quality control inspectors, will not subsequently be qualified to perform these special inspections.

We are preparing for implementation of these activities to begin May 21, 1984, and could possibly begin implementation May 19, 1984; however, we will not begin until your staff advises us as to the acceptability of the proposed activities. If you have any questions, please contact us.

Very truly yours,



D. Farrar  
Director of Nuclear Licensing