



Commonwealth Edison

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August 22, 1980

Mr. James G. Keppler, Director
Directorate of Inspection and
Enforcement - Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Byron Station Units 1 and 2
Braidwood Station Units 1 and 2
Construction Re-work
NRC Docket nos. 50-454, 50-455, 50-456,
and 50-457

Reference (a): August 15, 1980 letter from G. Fiorelli
to C. Reed transmitting IE Inspection
Report Nos. 50-454/80-13, 50-455/80-12,
50-456/80-07, and 50-457/80-07.

Dear Mr. Keppler:

As indicated in Reference (a), a meeting was held between NRC Region III and Commonwealth Edison Company personnel to discuss NRC concerns regarding significant construction re-work at Byron and in part, at the Braidwood and LaSalle power plants. At this meeting Commonwealth Edison committed to perform an in-depth examination and evaluation of its design/engineering organization and function, and to provide a comprehensive evaluation of the conditions and circumstances which have led to certain areas of significant construction re-work at Byron Station. The scope of this examination and evaluation including current status follows.

Subsequent to the aforementioned meeting, Commonwealth Edison began a two phase program to determine the extent of and causes for rework on safety-related systems. The initial phase consisted of examining the Safety Injection (SI) System. Of the 158 spools installed, 80 (51%) have been reworked. A detailed review of the rework indicates that the reasons for rework can be categorized into six general areas with the amount of rework nearly equally divided among these areas. The general areas are:

- 1) Field interference;
- 2) Design changes;

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- 3) Field error;
- 4) Hanger lugs;
- 5) Convenience cuts; and
- 6) Other, such as instrument connections, fabrication of piping in the field, etc.

Of these general areas only two can be attributed to design - design changes and field interference. Although field interference could be related to field installation, for purposes of this evaluation all rework due to field interference was assumed to relate to design problems. Thus, in summary about one-third or 17% of the rework associated with the SI system could be attributed to the design function.


In order to insure that a sufficient data base exists before drawing any conclusions regarding causes for rework, Commonwealth Edison intends to perform a similar examination of the rework on two additional systems - the Component Cooling (CC) System and Reactor Coolant System (RCS). These two systems were chosen because the CC system, which has a large number of spools installed (364), has a significant rework rate, 66%; whereas the RCS system, which has a smaller number of spools installed (91), has a low rework rate, 14%. In addition, all three of these systems have a variety of piping including carbon and stainless steel.

Currently, Commonwealth Edison expects this examination and categorization to be completed within two or three months. Once the categorizations have been made, the second phase of this program will be inaugurated. This phase will involve two parallel efforts by Engineering and Quality Assurance. Engineering will examine the rework items associated with design to ascertain their causes. The original drawings through all revisions will be reviewed. The QA department will verify, in parallel, that all the rework followed the appropriately required documentation through both the design control and design change phases.

Commonwealth Edison will review the results of both phases of this review and will initiate appropriate changes, if deemed necessary.

Please address any questions that you may have concerning this matter to this office.

Very truly yours,


Cordell Reed
Vice President
Nuclear Operations