



**Commonwealth Edison**

Quad Cities Nuclear Power Station  
22710 206 Avenue North  
Cordova, Illinois 61242  
Telephone 309/654-2241

TIC

NJK-80-46

February 14, 1980

J. Keppler, Regional Director  
Office of Inspection and Enforcement  
Region III  
U.S. Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Elyn, Illinois 60137

Reference: Quad Cities Nuclear Power Station  
Docket No. 50-254, Unit 1

Dear Mr. Keppler:

The purpose of this letter is to provide you with information concerning a missing section of weld on exposed fuel channel 91738, which was found during de-channeling operations in the spent fuel storage pool.

On October 23, 1979, fuel channel serial number 91738 was being removed from spent fuel assembly CX352, when it was discovered that a small section of the weld was missing from the top three inches of the channel. Visual inspection was then performed with the aid of an underwater television camera. The camera scan of the channel was recorded on video tape. This inspection revealed that an approximate 2-inch section of one channel weld was missing about 3 inches from the top of the channel. The remaining top inch of the weld was perforated. Copies of the video tape were sent to General Electric Co. and to a Commonwealth Edison Co. welding engineer in the Quality Assurance Department. The resident NRC inspector was notified of the apparent channel weld failure. Upon discovery of the failure, visual observations were subsequently performed on 110 additional fuel channels with no further indications of weld failure.

After reviewing the video tape, the Commonwealth Edison Co. Quality Assurance Department responded in a letter dated January 4, 1980. The following key points were made:

1. The crown in the weld approximately four inches from the top of the channel indicates that the welder stopped at that point.
2. The direction of the chevrons indicates that the weld was made starting at the top of the channel and proceeding down toward the bottom of the channel.
3. The straight edges from about two to three inches from the top of the channel indicate lack of fusion occurred in that area.

SENT TO PAR 2-28-80  
per J6K

FEB 22 1980

S

8003210 177

4. The rougher edges over the first two inches of the weld indicate that at least adequate fusion occurred over the first two inches of the weld.

The letter concluded that the welder stopped welding at a point three inches into a 150 inch weld. Four possible reasons for stopping the weld were given:

1. The weld wire ran out.
2. The wrong weld wire was initially used.
3. The weld parameters were initially wrong.
4. The physical set up was initially wrong.

Of these possibilities, the third was considered as most probable, although no conclusive statement could be made.

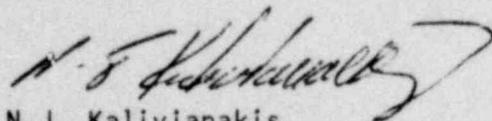
The General Electric Company has extensively reviewed the video tapes and channel manufacturing records, and has reported that this occurrence is unique. It is the first and only weld failure observed from the approximately 40,000 fuel channels in the field. They conclude that the cause of the weld failure was a specific manufacturing defect unique to that channel, perhaps aggravated by rough handling.

Channel 91738 was manufactured in early 1969 by the General Electric Company. Since the exposed channel was to be rechanneled on a new bundle, the immediate action was to reject the channel. The channel will no longer be utilized in an operating core.

No safety concerns have been identified because the failure is unique, and because the weld perforation is well above the top of the active fuel column.

Very truly yours,

COMMONWEALTH EDISON COMPANY  
QUAD CITIES NUCLEAR POWER STATION



N.J. Kalivianakis  
Station Superintendent

NJK:MLR:dak

cc: R.F. Janecek  
N. Chrissotimos