

CATEGORY 1

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SUBJECT: Submits response to request for addl info on reactor
 pressure vessel integrity assessment for unit 1.

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April 12, 1996

AEP:NRC:1173G

Docket Nos.: 50-315

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555

Gentlemen:

Donald C. Cook Nuclear Plant Unit 1
REQUEST FOR ADDITIONAL INFORMATION ON
REACTOR PRESSURE VESSEL INTEGRITY ASSESSMENT FOR
DONALD C. COOK NUCLEAR PLANT UNIT 1 (TAC. NO. M92664)

- References: (1) Letter from Indiana Michigan Power to the NRC,
AEP:NRC:1173F, dated November 20, 1995.
(2) Letter from the NRC dated February 28, 1996,
request for additional information (RAI) on
Donald C. Cook Nuclear Plant Unit 1.

The Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 92-01, Revision 1, Supplement 1, "Reactor Vessel Structural Integrity" on May 19, 1995. Reference (1) transmitted our response to the above GL which contained our assessment of the effect of surveillance data on the adjusted reference temperature of the limiting belt line materials of the reactor vessels. One of the belt line materials for the Cook Nuclear Plant unit 1 reactor vessel is weld wire IP3571. However, the Cook Nuclear Plant unit 1 reactor vessel surveillance capsule program does not contain IP3571 weld wire material. The material property data for weld wire IP3571 was gathered from the five existing databases as noted in reference (1) and the copper and nickel contents were determined based on "best estimate" judgement of the data from known sister plants. The methodology used in calculating the "best estimate" copper and nickel content in the unit 1 weld wire has been previously approved by the NRC and is in conformance with the existing regulatory requirements.

The NRC in their letter of February 28, 1996, (Reference 2) requested Indiana Michigan (I&M) Power to respond with a plan for providing (1) certain requested information and (2) a revised

pressurized thermal shock assessment. For item (1), the following request for additional information applies:

"Since the amount of copper reported for welds fabricated using heat number IP3571 weld wire varies from 0.066% to 0.53%, the licensee should determine the best estimate copper using a weighted average. The weighted average for heat number IP3571 weld material should be determined by (a) determining the average amount of copper for each weld in the database, (b) determining the number of coils used in the fabrication of the weld, and (c) dividing the sum of the products of the average amount of copper for a weld and the number of coils used to fabricate the weld by the number of coils to produce the welds. Identify for each weld sample in the database the location within the sample where the measurements were taken. The best estimate nickel should be a simple average of the average nickel from each weld in the database."

Response to Item (1):

As noted earlier, the Cook Nuclear Plant unit 1 surveillance capsule program does not contain IP3571 weld wire material. The chemistry values for copper and nickel content have been historically calculated as the average of "best estimate" of the material of the known sister plants. I&M Power is unaware of any fabrication record(s) that state the actual number of coils used to fabricate the welds for the reactor vessel for Cook Nuclear Plant unit 1. The method proposed in the NRC letter requires determination of the number of coils used in the fabrication of the weld. To use the coil weight methodology we need to know copper and nickel variation, pedigree of sources of materials, number and weight of coils, and procedures followed during the fabrication of the welds. Without some type of traceability of the documentation, the results of such a weighted methodology become questionable.

The Combustion Engineering Owners Group (CEOG) has initiated a document research program to identify additional data relevant to reactor vessel integrity. Likely areas where additional relevant data may exist include fabrication records for steam generators and pressurizers. The CEOG task (No. 902) will compile and evaluate all available data relevant to reactor vessel integrity to determine the "best estimate" weld chemistry for each C-E fabricated weld heat. The CEOG task 902 has established a systematic approach to document the pedigree required to research the material information noted above. Draft guidelines have been developed for evaluation of reactor vessel weld chemical content using the documented information. The validity of each data point in a data set for a weld heat will be established and explanations

will be provided for not considering an invalid data point. Task 902 is scheduled to be completed by the end of 1996.

CEOG Reactor Vessel Working Group (RVWG) presented the details of the task 902 program to the NRC on March 27, 1996. AEP is actively participating in the CEOG meetings and it is our intention to utilize the procedures and guidelines developed by CEOG-RVWG to determine the "best-estimate" copper and nickel contents in IP3571 weld material. We anticipate that such guidelines and procedures will become available to us in early 1997, and will assist utilities in selecting the most appropriate method for calculating best estimate weld chemistry.

We will continue to work with other sister plant utilities as identified in reference 1, and owners groups to address the material issues as they relate to the integrity of the reactor vessel in unit 1. Upon completion of the above stated programs and after the sister plants' reports are finalized, we will provide the NRC with a final response to Item (1).

Response to Item (2):

Based on the results of the evaluations performed in response to Item (1), a revised PTS assessment will, if necessary, be performed and submitted.

It is expected that the final response to Items (1) and (2) will be submitted to the NRC within three months of the finalization of the sister plant's evaluations.

Sincerely,

E. E. Fitzpatrick

E. E. Fitzpatrick
Vice President

SWORN TO AND SUBSCRIBED BEFORE ME

THIS 12th DAY OF APRIL 1996

Michael H. Decker
Notary Public

My Commission Expires: 3-10-2001

eh

100-100000



cc: A. A. Blind
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