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 50-327 Sequoyan Nuclear Plant, Unit 1, Tennessee Valley Auth 0500032
 AUTH.NAME AUTHOR AFFILIATION
 HUNTER,R.S. Indiana & Michigan Electric Co.
 RECIP.NAME RECIPIENT AFFILIATION
 DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Responds to NRC 800922 ltr re hydrogen control measures & setting up schedules for NRC review of interim & longer term measures.Describes research program re ice condenser containments,structural analysis & conceptual design study.

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INDIANA & MICHIGAN ELECTRIC COMPANY

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BOWLING GREEN STATION
NEW YORK, N. Y. 10004

October 7, 1980

AEP:NRC:00476

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
HYDROGEN CONTROL MEASURES

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Denton:

This is in reply to Mr. D. G. Eisenhower's letter of September 22, 1980 to our Mr. John E. Dolan, regarding hydrogen control measures at the D. C. Cook Nuclear Plant and setting out the schedules for NRC review of interim and longer term measures of the recently licensed Sequoyah Unit No. 1.

As your letter indicates, the hydrogen control measures already installed at the Cook Plant fully comply with current Commission regulations regarding hydrogen control (10 CFR 50.44). These measures were provided at the outset of plant operation.

We have, of course, followed closely the evaluations of the Three Mile Island Unit 2 (TMI-2) accident and the lessons learned therefrom. We have implemented the short term lessons learned, and we are implementing the longer-term lessons learned on a best effort basis to conform to the NRC schedules. These actions materially reduce the risk of a TMI-2 type accident at the Cook Plant, if indeed such a risk existed at all. Thus, while it appears that a metal-water reaction occurred at TMI-2 in excess of the amounts specified in 10 CFR 50.46 of the Commission's regulations, the likelihood of such an event at the Cook Plant is vanishingly small.

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Nevertheless, as a result of our reviews of the TMI-2 event, we joined the Tennessee Valley Authority and Duke Power Company in a research and development program to investigate additional hydrogen control measures that might be considered for ice condenser containments. In this program we have initiated studies inquiring into: (a) the feasibility of using HALON 1301 to prevent hydrogen combustion, (b) the use of an igniter system, such as that installed in the Sequoyah Plant, in a reactor accident environment, and (c) the state-of-the-art of hydrogen control systems. These studies are expected to extend into 1981, and they may be enlarged as appropriate.

Beyond these joint studies, we have initiated a structural analysis of the ultimate strength of the Cook Plant containments. These containment structures, unlike those at Sequoyah, are reinforced concrete structures. This analysis should be completed by December 31, 1980. This analysis will provide useful information with which to evaluate the need for additional hydrogen control measures at the Cook Units.

As a further interim measure, we have started a conceptual design study of a distributed ignition system in the Cook Plant containments. This will facilitate installation of such a system if it is determined that additional measures are required and that it would be the optimal alternative hydrogen control measure. This conceptual design study should be completed by March, 1981.

We shall be pleased to submit to the NRC quarterly reports on the above described research program, the containment structural analysis, and the conceptual design study. This program is consistent, we believe, with the recommendation of the ACRS that "studies to demonstrate the effectiveness, reliability, and absence of significant adverse effects of candidate measures should be pursued actively".

In light of the foregoing, we believe that there is no need now to incorporate conditions in the Cook Plant licenses similar to those included in the Sequoyah license.

Very truly yours,



R. S. Hunter
Vice President

cc: John E. Dolan
G. Charnoff
R. C. Callen
R. W. Jurgensen
D. V. Shaller - Bridgman
Region III Resident Site Inspector

STATE OF NEW YORK)

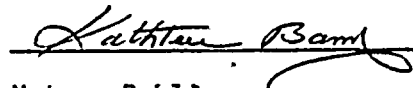
) SS.

COUNTY OF NEW YORK)

R. S. Hunter, being duly sworn, deposes and says that he is the Vice President of Indiana & Michigan Electric Company; that he has read the foregoing statements and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.



Subscribed and sworn to before me this 7th day of October, 1980.



Notary Public

KATHLEEN BARRY
NOTARY PUBLIC, State of New York
No. 41-4606792
Qualified in Queens County
Certificate filed in New York County
Commission expires March 30, 1981