

October 18, 1989

Docket No. 50-213

Mr. Edward J. Mrocza
Senior Vice President
Nuclear Engineering and Operations
Connecticut Yankee Atomic Power Company
Northeast Nuclear Energy Company
P. O. Box 270
Hartford, Connecticut 06141-0270

DISTRIBUTION
Docket File
NRC & Local PDRs
Plant File
SVarga
BBoger
SNorris
AWang
EJordan
BGrimes

GPA/PA
ARM/LFMB
ACRS(10)
OGC

Dear Mr. Mrocza:

SUBJECT: HADDAM NECK PLANT - INTEGRATED SAFETY ASSESSMENT PROGRAM (ISAP)
TOPIC 1.23 - POST-ACCIDENT HYDROGEN MONITORS (TAC #59273)

As part of the generic requirements of the TMI Action Plan identified in NUREG-0737 Item II.F.1.6 "Containment Hydrogen Monitor" all licensees are required to provide a continuous indication of hydrogen concentration in the containment atmosphere in the control room with a measurement capability over the range of 0 to 10% hydrogen concentration.

Connecticut Yankee Atomic Power Company (CYAPCO) states that the hydrogen build-up in containment is a slow process, taking approximately 8 months assuming either stainless steel or zircaloy clad fuel, from the start of design basis LOCA to reach the flammable limit. Because of the slow post-LOCA accumulation rate of hydrogen in containment, CYAPCO has proposed to provide periodic hydrogen samples using the post-accident sampling system (PASS) in lieu of the required continuous hydrogen monitoring. The containment hydrogen monitoring procedure is in Section 3.2-48 of the Abnormal Operating Procedures.

The staff performed an independent analysis and determined that the time to reach flammability concentrations (4%) is approximately 6 months. Enclosed is our safety evaluation providing this analysis. As part of ISAP, the staff agreed that the prioritization of the need for continuous hydrogen monitoring is low if the slow hydrogen accumulation rate is confirmed. While the staff did not confirm the 8.5 months, the staff believes that the accumulation time of 6 months to reach the flammability limit as calculated by the staff is sufficiently slow that hydrogen concentration in containment can be adequately monitored using the PASS. Therefore, the staff concludes continuous hydrogen monitoring is not necessary and the use of the PASS will provide sufficient monitoring of hydrogen concentration below the flammability limit. This issue will not need to be reviewed for the zircaloy conversion as the staff's analysis is based on zircaloy fuel.

QFOI
11

Mr. E. J. Mroczka

- 2 -

Based on the above the staff considers the issue of the need for a containment hydrogen monitor closed with respect to TMI Action Item II.F.1.6 and ISAP Topic No. 1.23. If you have any questions or comments please call me at (301) 492-1313.

Sincerely,

/s/

Alan B. Wang, Project Manger
Project Directorate I-4
Division of Reactor Projects - 1/11
Office of Nuclear Reactor Regulation

Enclosure:
As stated

cc w/enclosure:
See next page

[HN 6/13]

LA: PDI-4
SNorris
10/13/89

PM: PDI-4 *MLB*
AWang: im
for 10/16/89

PD: PDI-4
JStetiz
10/16/89

NRR/SIGB
Marcus S. Newberry
10/16/89

NRR/SPLB
JSGuo *827*
10/18/89

Mr. Edward J. Mroczka
Connecticut Yankee Atomic Power Company Haddam Neck Plant

cc:

Gerald Garfield, Esquire
Day, Berry and Howard
Counselors at Law
City Place
Hartford, Connecticut 06103-3499

R. M. Kacich, Manager
Generation Facilities Licensing
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

W. D. Romberg, Vice President
Nuclear Operations
Northeast Utilities Service Company
Post Office Box 270
Hartford, Connecticut 06141-0270

D. O. Nordquist
Director of Quality Services
Northeast Nuclear Energy Company
Post Office Box 270
Hartford, Connecticut 06141-0270

Kevin McCarthy, Director
Radiation Control Unit
Department of Environmental Protection
State Office Building
Hartford, Connecticut 06106

Regional Administrator
Region 1
U. S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Bradford S. Chase, Under Secretary
Energy Division
Office of Policy and Management
80 Washington Street
Hartford, Connecticut 06106

Board of Selectmen
Town Hall
Haddam, Connecticut 06103

D. B. Miller, Station Superintendent
Haddam Neck Plant
Connecticut Yankee Atomic Power Company
RFD 1, Post Office Box 127E
East Hampton, Connecticut 06424

J. T. Shedlosky, Resident Inspector
Haddam Neck Plant
c/o U. S. Nuclear Regulatory Commission
Post Office Box 116
East Haddam Post Office
East Haddam, Connecticut 06423

G. H. Bouchard, Unit Superintendent
Haddam Neck Plant
RFD #1
Post Office Box 127E
East Hampton, Connecticut 06424