

**YANKEE ATOMIC ELECTRIC COMPANY**

20 Turnpike Road Westborough, Massachusetts 01581

August 23, 1976

United States Nuclear Regulatory Commission  
Washington, D. C. 20555

Attention: Office of Nuclear Reactor Regulation

Subject: Upper Hemispherical Head Temperature Effect on  
Yankee Rowe Core XII LOCA AnalysisReference: (1) License No. DPR-3 (Docket No. 50-29)  
(2) Proposed Change No. 125, Supplement No. 8  
(February 20, 1976)

Dear Sir:

The Yankee Rowe Core XII LOCA Analysis presented in Reference (2) was performed using  $T_{\text{cold}}$  (515°F) for the temperature of the upper hemispherical head. The basis for using  $T_{\text{cold}}$  is the relatively high bypass flow in that region (1%).

The assumption of using  $T_{\text{hot}}$  (560°F) for the upper hemispherical head temperature is felt to be overly conservative. However, as per our recent communication, we are performing additional LOCA analyses to determine the effect of using  $T_{\text{hot}}$  in the upper head region on peak clad temperature (PCT) and allowable linear heat generation rate (LHGR).

Our preliminary analysis indicates higher clad temperatures at End-of-Bypass (EOBY). In order to ascertain the full effect of the  $T_{\text{hot}}$  assumption, analysis to the point of PCT will be required. Therefore, we agree to submit results of this analysis to you no later than Friday, August 27, 1976.

Any further questions regarding this analysis should be directed to Mr. W. J. Szymczak at our Engineering Office, 20 Turnpike Road, Westboro, Massachusetts, 01581, (617) 366-9011, Extension 2844.

Respectfully submitted,

YANKEE ATOMIC ELECTRIC COMPANY

W. P. Johnson  
Vice President

WJS/kg

8011050 623

5

8700

50-29

NRC DISTRIBUTION FOR PART 50 DOCKET MATERIAL

FILE NUMBER

TO: NRC

FROM: Yankee Atomic Elec Co  
Westborough, Mass  
W P Johnson

DATE OF DOCUMENT  
8-23-76

DATE RECEIVED  
8-30-76

LETTER  
 ORIGINAL  
 COPY

NOTORIZED  
 UNCLASSIFIED

PROP INPUT FORM

NUMBER OF COPIES RECEIVED  
one signed

DESCRIPTION  
  
Ltr re 2-20-76 submittal.....furnishing info concerning core XII LOCA analysis.....  
  
PLANT NAME: Yankee Rowe

ENCLOSURE

SAFETY

FOR ACTION/INFORMATION

ENVIRO

8-30-76

ehf

ASSIGNED AD:  
BRANCH CHIEF: *Purple (5)*  
PROJECT MANAGER: *Burger*  
LIC. ASST.: *Sheppard*

ASSIGNED AD:  
BRANCH CHIEF:  
PROJECT MANAGER:  
LIC. ASST.:

INTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> REG FILE	SYSTEMS SAFETY	PLANT SYSTEMS	SITE SAFETY &
<input checked="" type="checkbox"/> NRC PDR	HEINEMAN	TEDESCO	ENVIRO ANALYSIS
<input checked="" type="checkbox"/> I & E (-)	SCHROEDER	BENAROYA	DENTON & MULLER
<input checked="" type="checkbox"/> OOLD		LAINAS	
<input checked="" type="checkbox"/> GOSSICK & STAFF	ENGINEERING	IPPOLITO	ENVIRO TECH.
<input checked="" type="checkbox"/> MIPC	MACCARRY	KIRKWOOD	ERNST
<input checked="" type="checkbox"/> CASE	KNIGHT		BALLARD
<input checked="" type="checkbox"/> MANAUER	SIHWEIL	OPERATING REACTORS	SPANGLER
<input checked="" type="checkbox"/> HARLESS	PAWLICKI	STELLO	
			SITE TECH.
<input checked="" type="checkbox"/> PROJECT MANAGEMENT	REACTOR SAFETY	OPERATING TECH.	GAMMILL
<input checked="" type="checkbox"/> BOYD	ROSS	EISENHUT	STAPP
<input checked="" type="checkbox"/> P. COLLINS	NOVAK	SHAO	HULMAN
<input checked="" type="checkbox"/> HOUSTON	ROSZTOCZY	BAEF	
<input checked="" type="checkbox"/> PETERSON	CHECK	BUTLER	SITE ANALYSIS
<input checked="" type="checkbox"/> WELTZ		GIMES	VOLLMER
<input checked="" type="checkbox"/> BELTENES	AT & I		BUNCH
<input checked="" type="checkbox"/> SKOVHOLT	SALTZMAN		J. COLLINS
	RUTBERG		KREGER

EXTERNAL DISTRIBUTION

<input checked="" type="checkbox"/> LPDR: <i>Westborough, Mass</i>	NAT LAB:	BROOKHAVEN NAT LAB	CONTROL NUMBER  8700
<input checked="" type="checkbox"/> TIC:	REG. VIE	ULRIKSON (ORNL)	
<input checked="" type="checkbox"/> NSIC:	LA PDR		
<input checked="" type="checkbox"/> NSLR:	CONSULTANTS		
<input checked="" type="checkbox"/> ACRS - CYS HOLDING/SENT			

POOR ORIGINAL