

POOR ORIGINAL

SEP 28 1972

224

Mr. H. Dopchie, Directeur
Association Vincotte
1640 Rhode-Saint-Genese
Belgium

Dear Mr. Dopchie:

Because of realignments of responsibility in our Regulatory office, Dr. Beck has asked me to respond to your letter of October 14, 1971 which discussed your concerns about the potential consequences of a loss-of-coolant accident (LOCA) postulated to originate in the vapor portion of the pressurizer for a PWR reactor. Your letter also provided detailed information for your Doel unit for the assessment of the consequences of the postulated accident.

In the normal course of our safety reviews, we have discussed the concern for this accident with Westinghouse for their Kewaunee and Zion reactor plants. Their analyses indicate that for all break sizes the reactor is tripped. In those cases where the coincident pressurizer level and pressure signals may not be actuated, an overtemperature ΔT or low pressurizer pressure signal will initiate the reactor trip. In all cases, Westinghouse reports that an acceptable DNER of 1.30 or greater will result.

For all break sizes up to and including the pressurizer surge line, Westinghouse states that the core will not be uncovered and that clad damage is not expected. Consequently, there will be no fission products released from the fuel to the reactor coolant, and the purging aspect of the accident is no different from any other LOCA. According to Westinghouse the offsite consequences of the accident will be relatively negligible.

There is significant difference in the fuel cladding temperature transient following a LOCA, depending upon the power level at which the core is operating at the time of LOCA initiation. The higher the reactor power level, the higher the subsequent temperature excursion will be, all else being equal. With regard to your questions concerning the difference between a LOCA occurring at hot shutdown and one occurring at full power, the subsequent temperature transient of the fuel and cladding for a hot shutdown LOCA would be much lower than a LOCA occurring at full power.

RD-8-3
ECCS

OFFICE ▶					
SURNAME ▶					
DATE ▶					

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POOR ORIGINAL

SEP 28 1972

Mr. H. Dopchie

- 2 -

We had hoped to be able to assess the response of your facility to the postulated accident. This, however, will not be possible because of other more urgent demands upon the staff. We hope that the information we have provided on other Westinghouse reactors will assist you in evaluating your own particular plant.

Sincerely,

Original Signed By
A. Giambusso



A. Giambusso, Deputy Director for
Reactor Projects
Directorate of Licensing

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SEE PREVIOUS YELLOW FOR CONCURRENCES

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SURNAME ▶	HJFaulkner: emp	ASchwencer	RCDeYoung	AGiambusso		
DATE ▶	21 9/17/72			9/ 1/72		

POOR ORIGINAL

Mr. H. Dopchia

- 2 -

We had hoped to be able to assess the response of your facility to the postulated accident. This, however, will not be possible because of other more urgent demands upon the staff. We hope that the information we have provided on other Westinghouse reactors will assist you in evaluating your own particular plant.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

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OFFICE ▶	DRL:PWR-4	DRL:PWR-4	DRL:AD/PWRs	DRL:DIR		
SURNAME ▶	HJFaulkner:emp	ASchwencer	RCDeYoung	PAMorris		
DATE ▶	2/25/72	2/25/72	2/28/72	2/ 1/72		

POOR ORIGINAL

Mr. W. Dopchie, Directeur,
Association Vincotte
1640 Rhode-Saint-Genese
Belgium

Dear Mr. Dopchie:

Because of realignments of responsibility in our Regulatory office, Dr. Back has asked me to respond to your letter of October 14, 1971 which discussed your concerns about the potential consequences of a loss-of-coolant accident (LOCA) postulated to originate in the vaporization of the pressurizer for a PWR reactor and supplied detailed information for your Boel unit.

Since summer, our LOCA specialists have been continuously involved with emergency core cooling systems (ECCS) concerns. First, we adopted the interim acceptance criteria for ECCS for light-water power reactors. This was followed by detailed review of the ECCS evaluation models including their assumptions and procedures for the various reactor vendors. ECCS performance was then reviewed with respect to the interim criteria for a number of specific reactor plants in the course of processing their license applications. The Regulatory staff also has provided testimony at a number of public hearings for each license application. Finally, we find ourselves today deeply involved in a public rulemaking hearing which is being held to consider the generic aspects of our interim acceptance criteria. Because of these continuing demands, we have been unable to evaluate the LOCA for your particular reactor plant.

In the normal course of our safety reviews, we have discussed the concern for this accident with Westinghouse for their Newrance and Zion reactor plants. For all break sizes the reactor is tripped. In those cases where the coincident pressurizer level and pressure signals may not be actuated, an overtemperature ΔT or low pressurizer pressure signal will initiate the reactor trip. In all cases, Westinghouse reports that an acceptable DNBR of 1.30 or greater will result.

OFFICE ▶					
SURNAME ▶					
DATE ▶					

POOR ORIGINAL

Mr. W. Dopchie

- 2 -

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There is a significant difference in the fuel cladding temperature transient following a LOCA, depending upon the power level at which the core is operating at the time of LOCA initiation. The higher the reactor power level, the higher the subsequent temperature excursion will be, all else being equal. With regard to your questions concerning the difference between a LOCA occurring at hot shutdown and one occurring at full power, the subsequent temperature transient of the fuel and cladding for a hot shutdown LOCA would be much lower than a LOCA occurring at full power.

Because of the continued expected demand upon our ECCS staff, it will not be possible for us to evaluate this accident in detail for your Cool unit. We hope this information for these Westinghouse reactors will assist you in evaluating your own particular plant.

Sincerely,

Peter A. Morris, Director
Division of Reactor Licensing

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SURNAME ▶	Faulkner:emp	ASchwencer	RCDeYoung	PAMorris	
DATE ▶	2/18/72	2/18/72	2/18/72	2/ /72	

POOR ORIGINAL

Dr. Beck -

For information, before we
dispatch.

Jeanne Cook
9/26/72

OK —
Thanks

CKB

H. Dopche
Association V...
Belgium

POOR ORIGINAL

CONTROL NUMBER **3822**

FILE LOCATION

TO: **Clifford K. Beck**

DATE OF DOCUMENT **10/16/71**
ACTION PROCESSING DATES
Acknowledged _____
Interim Report _____
Final **11/10/71**

ACTION COMPLETION DEADLINE
PREPARE FOR SIGNATURE OF:

Chairman

Director of Regulation

DESCRIPTION **Ltr** Original Copy Other **1/24/72**

REMARKS **DR-3537**

Ask ltr of 9/13/71 and submit further information as requested concerning containment design. Also requests response to question related to a loss-of-coolant accident originating anywhere in the primary circuit

REFERRED TO	DATE	IS NOTIFICATION TO THE JCAE RECOMMENDED?
Morris f/action	10/21/71	/

Cy: Beck

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DIRECTOR OF REGULATION
COMMUNICATIONS CONTROL

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USA EC