



Consumers  
Power  
Company

General Offices: 212 West Michigan Avenue, Jackson, Michigan 49201 • Area Code 517 788-0550

July 24, 1973



Mr. John F. O'Leary, Director  
Directorate of Licensing  
US Atomic Energy Commission  
Washington, DC 20545

Re: Docket No 50-155  
License No DPR-6

Dear Mr. O'Leary:

By letter dated January 5, 1973, Mr. Dennis L. Zieman requested additional information with respect to information submitted by Consumers Power Company concerning the Big Rock Point "Loss-of-Coolant Accident Analysis (LOCA)." This letter is written to provide requested information that is presently available.

At the present time, complete information is not available with respect to gamma smearing, further test data with respect to rod wetting and metal/water reaction taking into account the reaction on the interior of the cladding. It is our understanding that a topical report will be submitted by General Electric Company (GE) concerning gamma smearing within the next several months. This report will show that the 4% reduction in decay heat assumed in our previous analysis will be shown to be conservative. Further testing has been performed by GE with respect to unpowered rod wetting, and data reduction is still in progress. It is currently anticipated that the data reduction will be completed such that additional verification of the rod wetting model will be provided by the end of 1973. Inside and outside metal/water reaction has not been calculated because no models are presently available. We anticipate that this information can be provided, if appropriate, several months after a decision is reached in the ECCS rule-making hearings.

Sensitivity studies have been performed for Reload G fuel assemblies with respect to the gamma smearing allowance and number of unpowered rods in a fuel assembly. These studies are summarized below for the design basis accident (DBA):



5738

8101100735

Mr. John F. O'Lea  
Docket No 50-155  
License No DPR-6  
July 24, 1973

2

Peak Clad Temperature for DBA	
Original Reload G (1 Unpowered Zr Rod)	Reload G-1 (4 Unpowered Zr Rods)

A. Base Case

4% Gamma Smearing Credit  
Unpowered Zircaloy  
Rod(s) Wet(s)

2284°F

2036°F

B. Gamma Smearing Effect

Same as A, Except NO  
Gamma Smearing Credit

2411°F

2092°F

C. Rod Wetting Effect

Same as A, Except No  
Unpowered Zircaloy Rod  
Wetting Credit

2657°F

2658°F

D. Unpowered Rod(s) Effect

Same as C, Except Unpowered  
Zircaloy Rods Replaced With  
Fuel Rods With Local Power  
Factors of 1.0 (Same Bundle,  
Average Power)

2727°F

2785°F

Attached is a copy of Special Report No 15 titled "Preliminary Description of Reactor Depressurization System, Big Rock Point." Although final design work is still in progress on the system described, the concepts are considered firm and we are moving ahead with procurement activities in order to meet the deadlines established by the Interim Policy Statement. Your expeditious review and comments on the system design will be appreciated. We intend to submit a final design report and proposed technical specification changes not later than January 1974.

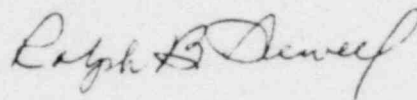
You will note in Special Report No 15 that three one-half capacity depressurization valves are being provided such that any single failure will not reduce the blowdown rate below the design value. In addition, the capacity of the valves is such that the inadvertent failure open of any one valve will not result in the core being uncovered (refer to Figure II of Attachment A of our February 9, 1970 letter to Dr. Peter A. Morris).

P. O'Lea  
Docket No 50-155  
License No DPR-6  
July 24, 1973

3

Again, we will appreciate receiving any comments concerning the Reactor Depressurizing System as soon as possible.

Yours very truly,



RBS/map

Ralph B. Sewell  
Nuclear Licensing Administrator

FILE: \_\_\_\_\_

<b>FROM:</b> Consumers Power Company Jackson, Michigan 49201 Ralph B. Sewell			<b>DATE OF DOC</b> 7-24-73	<b>DATE REC'D</b> 7-26-73	<b>LTR</b> X	<b>MEMO</b>	<b>RPT</b>	<b>OTHER</b>
<b>TO:</b> Mr. O'Leary			<b>ORIG</b> I signed	<b>CC</b>	<b>OTHER</b>	<b>SENT AEC PDR</b> X		
						<b>SENT LOCAL PDR</b>		
<b>CLASS</b>	<b>UNCLASS</b>	<b>PROP INFO</b>	<b>INPUT</b>	<b>NO CYS REC'D</b> 40		<b>DOCKET NO:</b> 50-155		
	XX							

**DESCRIPTION:**  
Ltr re our 1-5-73 ltr.....furnishing requested info concerning "Loss-of-Collant Accident Analysis(LOCA) ".....& trans the following:

**PLANT NAME:** Big Rock Point

**ENCLOSURES:**  
REPORT: Special Report No. 15 - Preliminary Description of Reactor Depressurization System for the Big Rock Point Plant.

**ACKNOWLEDGED**  
( 40 cys rec'd )  
*See packet* **Do Not Remove**

FOR ACTION/INFORMATION

7-26-73

AB

- |                        |                           |                            |                       |
|------------------------|---------------------------|----------------------------|-----------------------|
| BUTLER(L)<br>W/ Copies | SCHWENCER(L)<br>W/ Copies | ✓ ZIEMANN(L)<br>W/ 7Copies | REGAN(E)<br>W/ Copies |
| CLARK(L)<br>W/ Copies  | STOLZ(L)<br>W/ Copies     | DICKER(E)<br>W/ Copies     | W/ Copies             |
| GOLLER(L)<br>W/ Copies | VASSALLO(L)<br>W/ Copies  | KNIGHTON(E)<br>W/ Copies   | W/ Copies             |
| KNIEL(L)<br>W/ Copies  | SCHEMEL(L)<br>W/ Copies   | YOUNGBLOOD(E)<br>W/ Copies | W/ Copies             |

INTERNAL DISTRIBUTION

- |                               |                    |                |                 |                |
|-------------------------------|--------------------|----------------|-----------------|----------------|
| ✓ <u>REG FILE</u>             | <u>TECH REVIEW</u> | DENTON         | <u>LIC ASST</u> | <u>A/T IND</u> |
| ✓ AEC PDR                     | HENDRIE            | GRIMES         | BROWN (E)       | BRAITMAN       |
| ✓ OGC, ROOM P-506A            | SCHROEDER          | GAMMILL        | ✓ DIGGS (L)     | SALTZMAN       |
| ✓ MUNTZING/STAFF CASE         | ✓ MACCARY          | KASTNER        | GEARIN (L)      |                |
| GIAMBUSSO                     | KNIGHT             | BALLARD        | GOULBOURNE (L)  | <u>PLANS</u>   |
| BOYD                          | PAWLICKI           | SPANGLER       | LEE (L)         | MCDONALD       |
| MOORE (L)(BWR)                | SHAO               |                | MAIGRET (L)     | DUBE           |
| DEYOUNG(L)(FWR)               | ✓ STELLO           | <u>ENVIRO</u>  | SERVICE (L)     |                |
| ✓ SKOVHOLT (L)                | HOUSTON            | MULLER         | SHEPPARD (E)    | <u>INFO</u>    |
| P. COLLINS                    | NOVAK              | DICKER         | SMITH (L)       | C. MILES       |
|                               | ROSS               | KNIGHTON       | TEETS (L)       |                |
| <u>REG OPR</u>                | IPPOLITO           | YOUNGBLOOD     | WADE (E)        |                |
| ✓ <u>FILE &amp; REGION(3)</u> | ✓ TEDESCO          | REGAN          | WILLIAMS (E)    |                |
| MORRIS                        | LONG               | PROJECT LDR    | WILSON (L)      |                |
| ✓ STEELE                      | LAINAS             |                |                 |                |
|                               | BENAROYA           | <u>HARLESS</u> |                 |                |
|                               | VOLLMER            |                |                 |                |

**POOR ORIGINAL**

EXTERNAL DISTRIBUTION

- |   |                             |  |                          |
|---|-----------------------------|--|--------------------------|
| 1 - LOCAL PDR                             |                             |  |                          |
| ✓ 1 - DTIE(ABERNATHY)                     | (1)(2)(9)-NATIONAL LAB'S    |  | 1-PDR-SAN/LA/NY          |
| ✓ 1 - NSIC(BUCHANAN)                      | 1-R.Schoonmaker,OC,GT,D-323 |  | 1-GERALD LELLOUCHE       |
| 1 - ASLB(TORE/SAYRE/WOODARD/"H" ST.       | 1-R. CATLIN, E-256-GT       |  | BROOKHAVEN NAT. LAB      |
| ✓ 16 - CYS ACRS HOLDING SENT TO LIC ASST. | 1-CONSULTANT'S              |  | 1-AGMED(WALTER KOESTER   |
|   | NEWMARK/BLUME/AGBABIAN      |  | RM-C-427-GT              |
|   | 1-GERALD ULRIKSON...ORNL    |  | ✓ 1-RD..MULLER..F-309 GT |