

CONTROL NO: 5517
FILE: _____

FROM: Florida Power & Light Co. Miami, Fla. Robert E. Uhrig		DATE OF DOC 5-15-75	DATE REC'D 5-19-75	LTR XX	TWX	RPT	OTHER
TO: Benard C. Rusche		ORIG 1 Signed	CC	OTHER	SENT AEC PDR <u>XXXXX</u> SENT LOCAL PDR <u>XXX</u>		
CLASS	UNCLASS <u>XXXXX</u>	PROP INFO	INPUT	NO CYS REC'D 1	DOCKET NO: 50-251		
DESCRIPTION: Ltr. Re their ltr. of 3-11-75, furnishing info to show Region 4 Fuel of Cycle 2 will not be affected more severely in case of a LOCA, than Reg. 3 on which ECCS analysis was based..... W/Attach....				ENCLOSURES:			
PLANT NAME: Turkey Point # 4				<p style="font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">ACKNOWLEDGED</p> <p style="font-size: 2em; transform: rotate(-15deg); opacity: 0.5;">DO NOT REMOVE</p>			
FOR ACTION/INFORMATION							

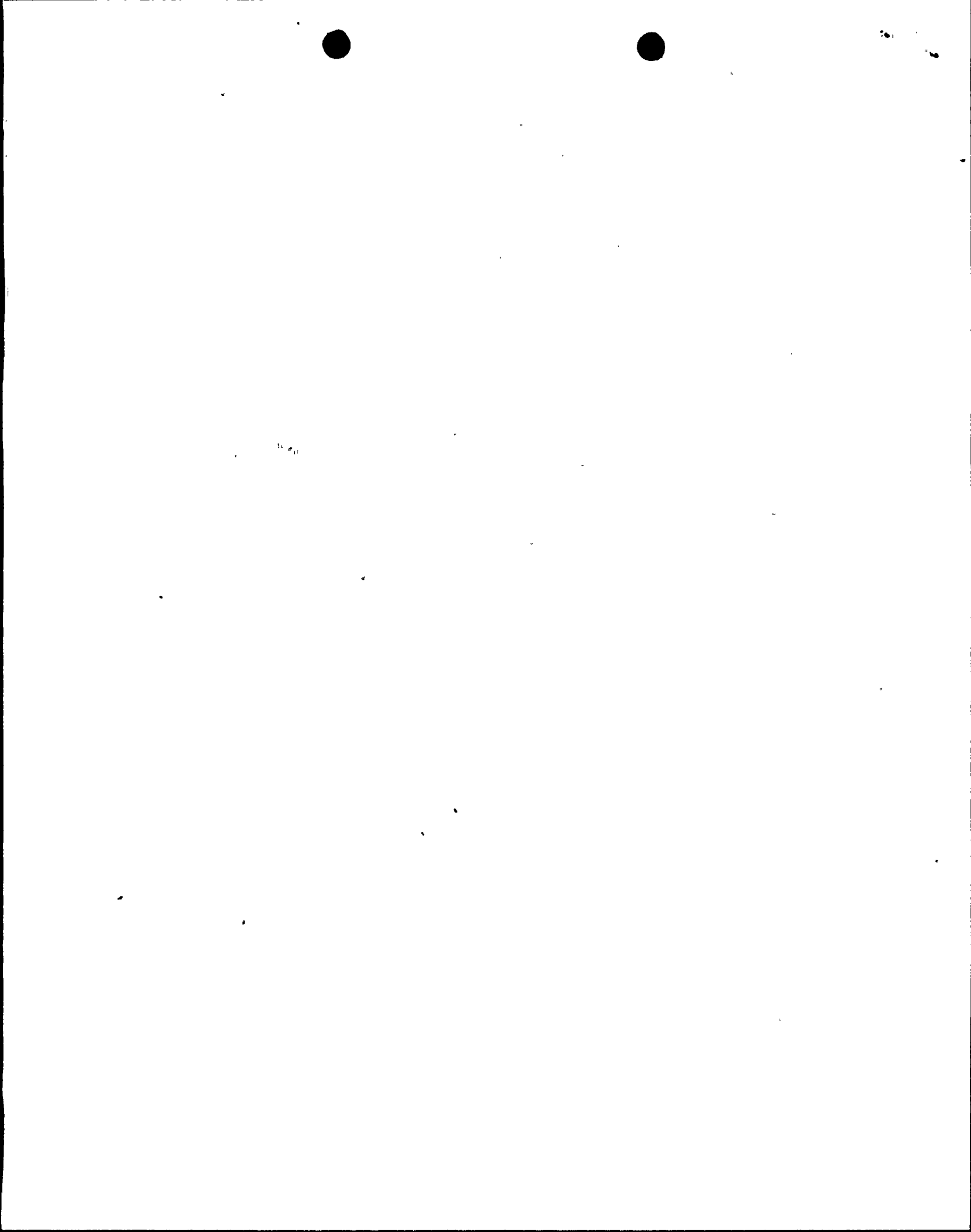
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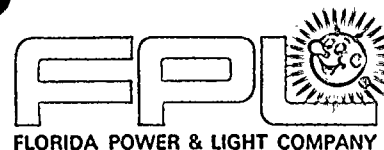
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FLORIDA POWER & LIGHT COMPANY

May 15, 1975
L-75-232

Mr. Benard C. Rusche
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Rusche:

Re: Turkey Point Unit No. 4
Docket No. 50-251
Analysis of Emergency Core Cooling System

This is in response to a request by your Staff that we supply information to show that Region 4 Fuel of Cycle 2 will not be affected more severely in case of a LOCA than Region 3, on which the ECCS analysis submitted on March 11, 1975 was based.

The attached sketch shows the location of the regions in the core (denoted by numbers in the upper left hand corner of each square). Also shown are preliminary assembly powers (relative values are shown near the center of each square) based on two dimensional PDQ calculations for HFP conditions near BOL. The Region 4 assemblies (cross hatched squares) are all at the periphery of the core and their peak power is only about 72% of the peak power in Region 3. The final power distribution for cycle 2 will be sent to you as soon as available.

It should also be noted that Region 4 would experience less fuel densification as it consists of fuel with a density of 95% theoretical compared to 92.2% for Region 3 fuel. Calculations show that Region 4 fuel is about 150°F lower than the previous analysis in initial pellet average temperature due to pellet density and sintering temperature considerations alone. This would result in a reduction in the computed peak clad temperature.

The cold fill pressure for the Region 4 fuel is about 240 psi higher than the previous analysis. This would cause earlier burst. The experience has been that pellet temperature plays the major

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role in determining peak clad temperature and higher pressure would have essentially no effect. Thus, the Region 4 fuel has more margin considering the combined effects of pressure and temperature with respect to the previously submitted Appendix K analysis.

Based on these considerations it was conservative to base the Turkey Point ECCS analysis on Region 3 rather than on Region 4 characteristics.

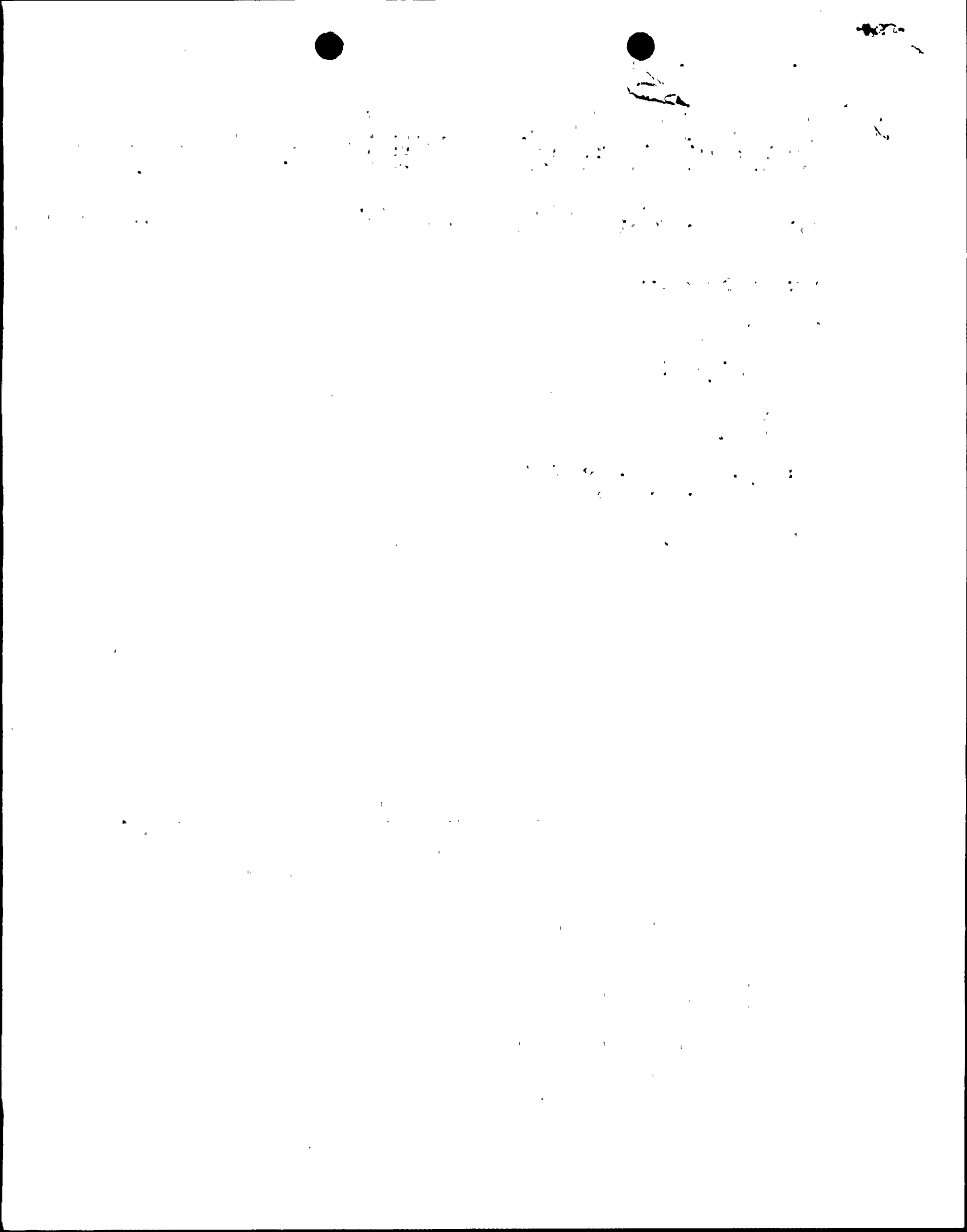
Very truly yours,

*J. A. DeMastry
for*

Robert E. Uhrig
Vice President

REU:nch
Attachment

cc: Mr. Norman C. Moseley
Jack R. Newman, Esquire



POWER RESOURCES : QUARTER CORE ANALYSIS

5/12/75

CORE : TP 4 - CYCLE II

DATA : Relative Power

PRELIMINARY

	H	G (J)	F (K)	E (L)	D (M)	C (N)	B (P)	A (R)
8	¹ 0.943	²	³	²	³	3BP	²	⁴
9 (7)	² 1.145	³ 1.299	²	²	²	³	⁴	¹
10 (6)	³ 1.385	² 1.150	³ 1.387	²	³	²	⁴	
11 (5)	² 1.091	² 1.118	² 1.142	³ 1.279	³	⁴	⁴	
12 (4)	³ 1.307	² 1.103	³ 1.313	³ 1.158	¹ 0.684	⁴		
13 (3)	^{3BP} 1.244	³ 1.204	² 1.012	⁴ 0.961	⁴ 0.513	X		
14 (2)	² 0.879	⁴ 0.998	⁴ 0.761	⁴ 0.484		Y		
15 (1)	⁴ 0.553	⁴ 0.452				Z		

FUEL REGION

	X	Y	Z
CODE	P3Q		
RUN #	P01004		
RUN DATE	5/1/75		
BURNUP	150-500		
POWER	1150		
KEISON	50		
BORON	1080		
RODS	700		
2	9331		

