SUPPLEMENTAL

UNITED STATES
ATOMIC ENERGY COMMISSION
WASHINGTON, D.C. 20545

OCT 7 1966

IN REPLY REFER TO:

Docket No. 50-155

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Change No. 10

Consumers Power Company
1945 Parnell Road
Jackson, Michigan 49201

Attention: Mr. H. R. Wall
Vice President

Gentlemen:

The Consumers Power Company, by letter dated July 29, 1966, and supplemented by TWX on August 16, September 9, and September 26, 1966, has requested changes in the Technical Specifications of License No. DPR-6, dated May 1, 1964, for the Big Rock Point reactor. The proposed changes involve the use of vibratory compacted powdered UO_2 fuel as Reload "C" fuel in place of the pelleted UO_2 fuel used in the original core. The remainder of Reload "B" fuel previously authorized in Technical Specifications Change No. 8 would also be inserted into the core during the next partial core refueling. Cobalt targets would be included in the Reload "C" fuel bundles in the same manner as previously described for the Reload "B" fuel. This request has been designated Proposed Change No. 10 and has been reviewed in accordance with the provisions of Section 50.59 of the Commission's regulations. We have found that the proposed change does not present significant hazards considerations not described or implicit in the hazards summary report and there is reasonable assurance that the health and safety of the public will not be endangered. A copy of the related safety evaluation is enclosed.

Accordingly, pursuant to Section 50.59, 10 CFR 50, the Technical Specifications of Operating License No. DPR-6 are hereby changed as set forth in Attachment A to this letter.

Sincerely yours,

ORIGINAL SIGNED BY
Peter A. Morris

Peter A. Morris, Director
Division of Reactor Licensing

bcc: H. J. McAlduff, ORO
E. Tremmel, IP
R. L. Leith, OC
W. B. Cottrell, ORNL

Enclosures:
1. Attachment A, Change No. 10
2. AEC Safety Evaluation

R&PRSB:DRL	DRL	OGC	DRL	DRL	DRL
DRMuller/eb			RSBaer	EGCase	PAMorris
10/6/66	10/6/66	10/ /66	10/6/66	10/ /66	10/7/66

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ATTACHMENT A

CONSUMERS POWER COMPANY

CHANGES TO TECHNICAL SPECIFICATIONS

CHANGE NO. 10

(1) Delete the present section 5.1.5 and replace it with the following:

"5.1.5 General Core Composition

The data in this section present general design features of the original fuel, research and development fuel and reload fuel that shall make up the physical composition of the core.

(a) Enrichment of Fuel, approximate weight percent U-235 from 2.6 to 5.2 inclusive.

(b) General Core Data:

Number of Fuel Bundles in Core, A Maximum of	86
Total Nominal Weight UO_2 in 84 Bundles, Lb.	29,300
Moderator-to-Fuel Volume Ratio	2.65
Equivalent Core Diameter (Approximate), Inches	77

(c) Fuel Bundles:

The general dimensions and configuration of the three types of fuel bundles shall be as shown in Figures 5.2, 5.3, 5.4 and 8.1 of these specifications. Principal design features shall be essentially as follows:

General	Fuel Bundles		
	Original	Reload	Research & Development
Geometry, Fuel Rod Array	12 X 12	11 X 11	11 X 11
Rod Pitch, Inches	0.533	0.577	0.580
Standard Fuel Rods per Bundle	132	109	109
Special Fuel Rods per Bundle	12*	12**	12
Spacers per Bundle	3	5	7

*(4 Special Fuel Rods at Bundle Corners Are Segmented)

**(Reload Fuel bundles may contain (in the corner regions of the bundle) four Zircaloy-2 tubes having encapsulated cobalt targets sealed within)

	Fuel Bundles		
	Original	Reload	Research & Development
Fuel Rod Cladding			
Material	304 SS	ZR-2	304 SS, ZR-2 Inconel 600 and/or Incoloy 800
Standard Rod Tube Wall, Inches	0.019	0.034	0.010 to 0.030, Inclusive
Special Rod Tube Wall, Inches	0.031	0.031	0.010 to 0.030, Inclusive
Fuel Rods			
Standard Rod Diameter, Inches	0.388	0.449	0.425
Special Rod Diameter, Inches	0.350	0.344	0.320
UO_2 Density, Percent Theoretical	94±	94±1 Pellet fuel Approx. 85 Powdered fuel	90 to 95, Inclusive
Active Fuel Length, Inches			
Standard	70	70	68 to 70, Inclusive
Corner	59	-	-
Fill Gas	Helium	Helium	Helium

(d) Channels

Number of 304 SS and/or Zr-2	88
Wall Thickness, Inches:	
304 SS	0.075
Zr-2	0.100
Inside Width, Inches:	
304 SS	6.57
Zr-2	6.54
Length, Inches:	
304 SS	79-5/8
Zr-2	79-3/4

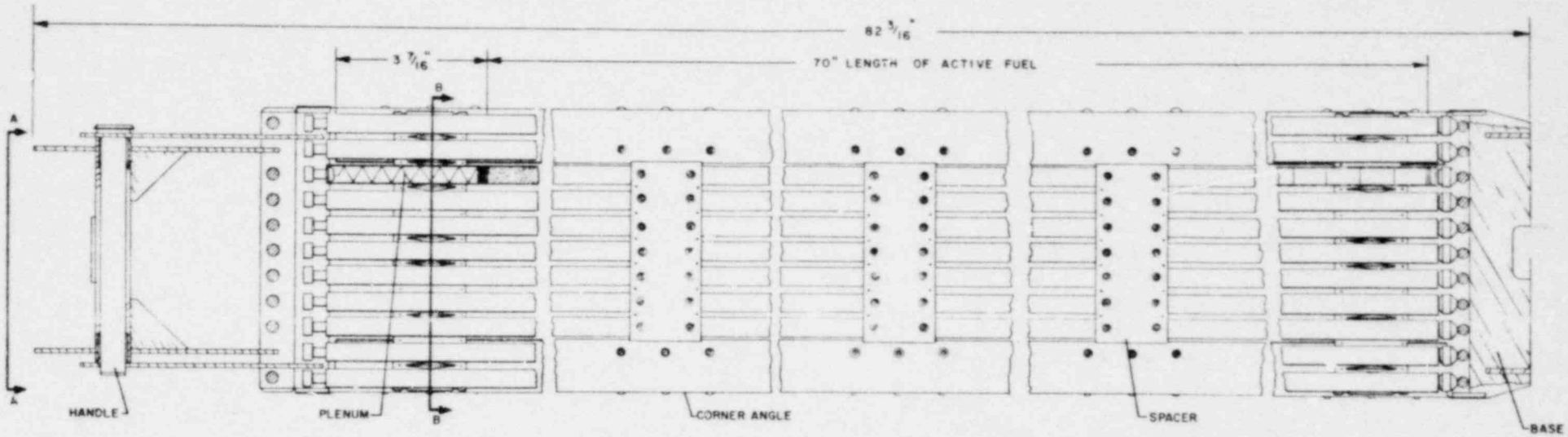
(e) Total Weight Supported by Core Support Plate:

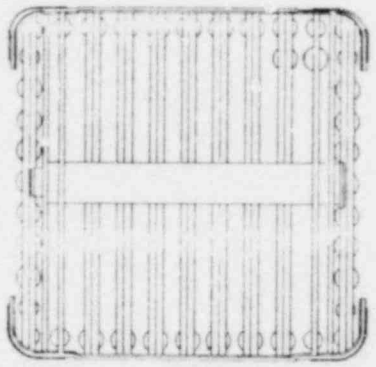
86 Fuel Bundles @ 440 Lb/Bundle, Lb	37,840
88 Support-Tube-and-Channel Assemblies @ 100 Lb/Assembly, Lb	8,800
86 Orifices @ 10 Lb/Orifice, Lb	860
2 Channel Plugs @ 10 Lb/Plug, Lb	20
1 Flow Distributor Assembly, Lb	2,500
Total Weight, Lb	50,020

(2) Add a new Section - 5.1.8:

"5.1.8 Thin Clad Powder Fuel Bundle

Two of the Reload "C" fuel bundles may contain standard rods with Zr-2 cladding of 0.025" thickness; otherwise, they will be the same as the remaining Reload "C" fuel bundles."





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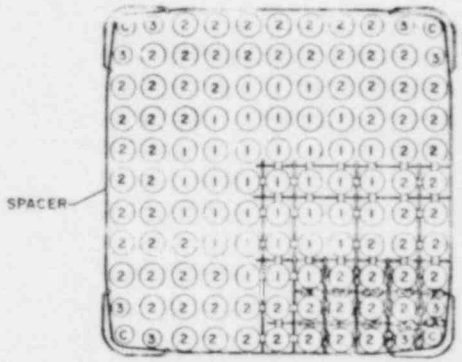

SECTION BB

ROD TYPE 1= 5.2 W/O ENRICHMENT
ROD TYPE 2= 2.9 W/O ENRICHMENT
ROD TYPE 3= 2.9 W/O ENRICHMENT
ROD TYPE C= COBALT TUBES

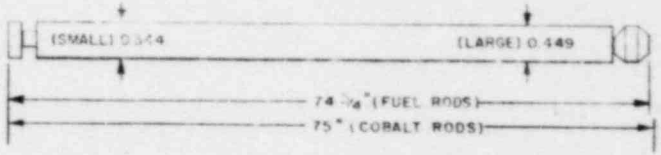

FIGURE 5.4 BIG ROCK POINT RELOAD (BRP 3 OR TYPE C)