



ARKANSAS POWER & LIGHT COMPANY

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October 10, 1983

2CAN108302

Mr. Darrell G. Eisenhut, Director  
Division of Licensing  
Office of Nuclear Reactor Regulation  
U. S. Nuclear Regulatory Commission  
Washington, DC 20555

SUBJECT: Arkansas Nuclear One - Unit 2  
Docket No. 50-368  
License No. NPF-6  
IAEA Safeguards Program

Gentlemen:

Our letter (2CAN088314) dated August 22, 1983, provided you with information to be transmitted to the IAEA for use in performing the inspection at ANO-2.

Upon re-review of the information transmitted, an error was detected in Attachment 24.1. The weight of  $UO_2$  provided in the original information was actually the weight of the U-metal and the total assembly weight was actually the weight of the  $UO_2$ . These errors were a result of incorrect transposition of values from the 741 Forms.

In addition, information unavailable at the time of the original submittal has been used to correct nuclear material quantities and tolerances provided on Attachment 27.1.

Attached are corrected copies of Attachments 24.1 and 27.1 of the IAEA Design Information Questionnaire (DIQ). As stated in our letter of August 22, 1983, ANO-2 Cycle 2 was used as a basis for completing the DIQ.

Very truly yours,

John R. Marshall  
Manager, Licensing

JRM:JC:s1

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## ATTACHMENT 27.1

## FRESH FUEL RODS CHARACTERISTICS

|                           | OPERATIONAL   |   |   |   | TEST  |
|---------------------------|---|---|---|---|---|
|                           | TYPE 1  | TYPE 2  | TYPE 3  | TYPE 4  |   |
| Physical Form             | sintered pellets  | sintered pellets  | sintered pellets  | sintered pellets  | sintered pellets + annular pellets                                    |
| Chemical Form             | UO <sub>2</sub>   | UO <sub>2</sub>   | UO <sub>2</sub>   | UO <sub>2</sub>   | UO <sub>2</sub>   |
| Nuclear Material          | U <sup>235</sup> + U <sup>238</sup>                                   | U <sup>235</sup> + U <sup>238</sup>                                   | U <sup>235</sup> + U <sup>238</sup>                                   | U <sup>235</sup> + U <sup>238</sup>                                   | U <sup>235</sup> + U <sup>238</sup>                                   |
| Quantity                  | 1.8 kg  | 1.8 kg  | 1.8 kg  | 1.8 kg  | 1.8 kg  |
| Design Tolerance          | 0.05%   | 0.05%   | 0.05%   | 0.05%   | 0.05%   |
| Fissionable Material      | U <sup>235</sup>  | U <sup>235</sup>  | U <sup>235</sup>  | U <sup>235</sup>  | U <sup>235</sup>  |
| Quantity                  | 34.9 gm   | 40.8 gm   | 53.3 gm   | 60 gm   | 60.42 gm  |
| Design Tolerance          | .22%  | .22%  | .22%  | .22%  | .22%  |
| Enrichment                | 1.93 wt %   | 2.27 wt %   | 2.94 wt %   | 2.73 - 3.48 wt %  | 1.93 - 3.48 wt %  |
| Geometric Form            | •rods<br>•cylindrical<br>ceramic pellets                              | •rods<br>•cylindrical<br>ceramic pellets                              | •rods<br>•cylindrical<br>ceramic pellets                              | •rods<br>•cylindrical<br>ceramic pellets                              | •rods<br>•cylindrical<br>ceramic pellets/annular pellets              |
| Dimensions                | 408.991 cm. lgth<br>381.00 cm. active<br>fuel lgth<br>0.970 cm. diam. | 408.991 cm. lgth<br>381.00 cm. active<br>fuel lgth<br>0.970 cm. diam. | 408.991 cm. lgth<br>381.00 cm. active<br>fuel lgth<br>0.970 cm. diam. | 408.991 cm. lgth<br>381.00 cm. active<br>fuel lgth<br>0.970 cm. diam. | 408.991 cm. lgth<br>381.00 cm. active<br>fuel lgth<br>0.970 cm. diam. |
| No. of Pellets<br>per Rod | 384   | 384   | 384   | 384   | 384   |
| Composition of<br>Alloy   | N/A   | N/A   | N/A   | N/A   | N/A   |
| Cladding Material         |   |   |   |   |   |
| Thickness                 | 0.064 cm  | 0.064 cm  | 0.064 cm  | 0.064 cm  | 0.064 cm  |
| Composition               | Zircaloy-4  | Zircaloy-4  | Zircaloy-4  | Zircaloy-4  | Zircaloy-4  |
| Bonding                   | None  | None  | None  | None  | None  |

# ATTACHMENT 24.1

## NOMINAL WEIGHT OF FUEL IN ASSEMBLIES

COMPOUND  
CONTAINING  
THE FISSILE  
MATERIAL

FISSILE  
MATERIAL

TOTAL  
ASSEMBLY  
WEIGHT

| OPERATIONAL ASSEMBLIES (i.e. PRIMARY FUEL) |                               |               |               |               |               | TEST ASSEMBLIES  |                   |         |
|--|-------------------------------|---------------|---------------|---------------|---------------|------------------|-------------------|---------|
| Material Type                              | Design Tolerances (All Types) | Type 1 Weight | Type 2 Weight | Type 3 Weight | Type 4 Weight | Material Type    | Design Tolerances | Weight  |
| UO <sub>2</sub>                            | 0.05%                         | 484 kg        | 459 kg        | 468 kg        | 484 kg        | UO <sub>2</sub>  | 0.05%             | 479 kg  |
| U <sup>235</sup>                           | 0.22%                         | 8.22 kg       | 9.13 kg       | 12.13kg       | 13.86kg       | U <sup>235</sup> | 0.22%             | 14.26kg |
|  | 0.05%                         | 658 kg        | 658 kg        | 658 kg        | 658 kg        |                  | 0.05%             | 658 kg  |

NOTE: EPRI test assemblies have same weights as Type 1, 2, 3, and 4  
See Attachment 26.1