

OAK RIDGE NATIONAL LABORATORY

OPERATED BY MARTIN MARIETTA ENERGY SYSTEMS, INC.

OFFICE BOX X  
JE. TENNESSEE 37831

July 22, 1985

Mr. Ralph O. Meyer  
Accident Source Term Program Office  
Office of Nuclear Regulatory Research  
U.S. Nuclear Regulatory Commission  
7715 Eastern Avenue  
Willste Building  
Silver Spring, Maryland 20910

Dear Mr. Meyer:

The enclosed table compares experimentally determined contents of irradiated fuel from three commercial sources and the corresponding results derived from ORIGEN code calculations. Both the isotope analyses and the code calculations were performed at ORNL.

I hope that you find this comparison to be of use in your study.

Sincerely,



A. P. Malinauskas, Director  
NRC Programs

APM:ep

Enclosure

Experimental and calculated fission-product contents of light water reactor fuels  
(calculated values in parentheses)

	$\text{dis s}^{-1} \text{ g(U + Pu)}^{-1}$								
	$^3\text{H}$	$^{14}\text{C}$	$^{85}\text{Kr}$	$^{106}\text{Ru}$	$^{125}\text{Sb}$	$^{129}\text{I}^a$	$^{134}\text{Cs}$	$^{137}\text{Cs}$	$^{144}\text{Ce}$
H. B. Robinson-2	1.02 E+07 (1.76 E+07) <sup>b</sup>	2.15 E+04 (1.97 E+04) <sup>b</sup>	3.44 E+08 (2.66 E+08)	2.37 E+09 (3.08 E+09)	9.87 E+07 (10.9 E+07)	157 (187)	1.76 E+09 (3.10 E+09)	3.30 E+09 (3.62 E+09)	2.55 E+09 (3.13 E+09)
Oconee-1	0.83 E+07 (0.99 E+07)	1.54 E+04 <sup>b</sup> (1.54 E+04)	2.18 E+08 (1.57 E+08)	1.66 E+09 (1.68 E+09)	9.73 E+07 (16.5 E+07)	188 (108)	1.15 E+09 (0.86 E+09)	2.55 E+09 (2.03 E+09)	2.36 E+09 (1.83 E+09)
Dresden-3)	0.25 E+07 c	1.48 E+04 c	1.46 E+08 c	0.56 E+09 c	5.83 E+07 c	217 c	0.51 E+09 c	1.98 E+09 c	0.59 E+09 c

<sup>a</sup>  $\mu\text{g/g (U + Pu)}$ .

<sup>b</sup> ORIGEN calculated.

<sup>c</sup> Not calculated.