



UNION CARBIDE CORPORATION
MEDICAL PRODUCTS DIVISION

P. O. BOX 324, TUXEDO, NEW YORK 10987
TELEPHONE NUMBER: (914) 351-2131

June 2, 1983

Mr. Cecil O. Thomas, Chief
Standards and Special Project Branch
Division of Licensing
Nuclear Regulatory Commission
Washington, DC 20555

50-54

Dear Mr. Thomas:

This letter is being sent to inform the Nuclear Regulatory Commission that the Union Carbide Nuclear Reactor is changing its fuel element cladding material. Our operating license technical specifications require our fuel cladding to be of high purity aluminum. We consider this new cladding material to meet this requirement.

We have in the past and are presently using MTR type fuel elements clad with series 1100 aluminum alloy or its equivalent. We recently contracted Babcock and Wilcox of Lynchburg, Virginia to fabricate our next order of fuel. This new order of fuel will utilize series 6061 aluminum cladding. We consider both series 1100 and 6061 to be high purity aluminum alloys which therefore meets the technical specification requirement.

Alloy 6061 is approximately 97.25 percent aluminum with fractional percentages of copper, silicon, magnesium, and manganese. Alloy 1100 is 99 percent aluminum. Series 6061's composition makes it a harder alloy than series 1100 which makes 6061 less prone to cladding surface damage.

Babcock and Wilcox is presently fabricating fuel elements utilizing 6061 cladding for its current Oak Ridge National Lab contract. Excellent past performance has also been demonstrated with 6061 cladding in numerous national lab research reactors including the ORR, HFIR, BSR, OWR, and HFBR reactors.

We have discussed this change in cladding alloy with Mr. H. Bernard of your office. This letter documents the UCNR position as discussed with Mr. Bernard.

Sincerely,

W. G. Ruzicka

William G. Ruzicka
Reactor Supervisor

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