

DUKE POWER COMPANY

P.O. BOX 33189

CHARLOTTE, N.C. 28242

HAL B. TUCKER
VICE PRESIDENT
NUCLEAR PRODUCTION

March 20, 1984

TELEPHONE
(704) 373-4531

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

✓ Attention: Ms. E. G. Adensam, Chief
Licensing Branch No. 4

Re: McGuire Nuclear Station
Docket Nos. 50-369, 50-370

Dear Mr. Denton:

The purpose of this letter is to provide additional documentation of the acceptability of the "clear and bright" test proposed in the technical specification change submitted by my letter of November 18, 1983. Arrangements were made for a demonstration of the effect of water on the "clear and bright" appearance of #2 diesel fuel oil at the U. S. Navy Fuel Laboratories, Norfolk, Virginia. The purpose of this demonstration was to show that the "clear and bright" condition of fuel oil is altered at water concentration levels significantly below the maximum allowable per ASTM D975-81. The demonstration included numerous samples including "clear and bright", in which no water was present, to "dark and cloudy" which contained water at .02% by volume and sediment at .01% by volume. These demonstrations were witnessed by both a Duke Power and a NRC representative.

As a result, both Duke and NRC representatives agreed that "clear and bright" was a more sensitive test than "water and sediment" test per ASTM D1796. As further verification, Duke Power agreed to perform a series of comparative tests on several samples of fuel oil. The results of these tests are shown in Attachment 1.

Please advise if there are additional questions regarding this matter.

Very truly yours,

H.B. Tucker / HBT

Hal B. Tucker

GAC:glb

Attachment

cc: Mr. W. T. Orders
Senior Resident Inspector
McGuire Nuclear Station

Mr. James P. O'Reilly, Regional Administrator
U. S. Nuclear Regulatory Commission
Region II
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

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Boo!

"ATTACHMENT 1"

A COMPARATIVE STUDY
CLEAR AND BRIGHT TEST (ASTM D4057)
VS
WATER AND SEDIMENT (ASTM D1796)

Sample	Appearance Clear and Bright Test Result	Vol. % Water and Sediment ASTM D1796
Sample from Norfolk, (amount of water added unknown)	Dark brown color, haziness present. Clear and bright test fails	No water detected .02% sediment detected
Fresh sample from tanker	Light brown color. Passes Clear and Bright test	No water detected
Fresh sample with .018% added water	Slight haziness appeared. Passes Clear and Bright test.	No water detected
Fresh sample with .036% added water	Sample appears hazy Fails Clear and Bright Test	No water detected
Fresh sample with .072% added water	Sample appears hazy. Fails Clear and Bright test.	No water detected
Fresh sample with 0.1% added water	Sample appears hazy. Fails Clear and Bright test.	No water detected
Fresh sample with 0.2% added water	Sample appears hazy. Fails Clear and Bright test. Accumulation of water at the bottom of the test flask was noticed.	.03% water
Fresh sample with 0.3% added water	Sample appears hazy. Fails Clear and Bright test. Accumulation of water at the bottom of the test flask was noticed.	0.2% water