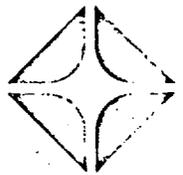


Atlantic Richfield Company  
2100 East 15th Street, Northward  
Harvey, Illinois 60426  
Telephone 312 333 3000

Products Division  
Research & Engineering  
Research & Development



May 4, 1977

*Amend 18*

Radioisotopes Licensing Branch  
Division of Fuel Cycle and Material Safety  
Office of Nuclear Material Safety & Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Gentlemen:

We request an Amendment to Condition 10 of our NRC License No. 12-00140-04, Amendment 14, to allow us to conduct radioactive tracer tests at the Mobil Oil Refinery at Joliet, Illinois, under contract. The tests themselves are covered by Conditions 15 (Amendment 14), and 18 (Amendment 15).

The tests consist of introducing 1.5 millicuries each of N-Octane-1-C<sup>14</sup>, N-Hexadecane-1-C<sup>14</sup>, and N-Dotriacontane-16,17-C<sup>14</sup> into the feed to a fuel oil hydrodesulfurization reactor and sampling the reactor effluent to determine catalyst contacting. The N-Octane will be separated from the fuel oil and will appear in product gasoline, where it will be blended in a 130,000 barrel tank, resulting in a maximum concentration of  $7.5 \times 10^{-8}$   $\mu\text{c/ml}$ . Condition 15 allows a concentration of  $3.3 \times 10^{-7}$   $\mu\text{c/ml}$  in gasoline.

The N-Hexadecane and N-Dotriacontane will remain in the fuel oil, where it will be blended in a 250,000 barrel tank, resulting in a concentration of  $7.5 \times 10^{-8}$   $\mu\text{c/ml}$ . Condition 18 allows a concentration of  $8 \times 10^{-3}$   $\mu\text{c/ml}$  in fuel oil.

The concentrated tracer will be completely under the control of experienced Atlantic Richfield personnel who report to me in Harvey, Illinois. All samples of the effluent taken during the tests will be brought to the Atlantic Richfield Company Harvey Laboratory for analysis. Samples of the final blending tanks will also be taken and analyzed for radioactivity at our laboratory.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

*A. I. Snow*  
A. I. Snow, Chairman  
Radioactive Committee

*A/82*

87295

MAY 25 1977