

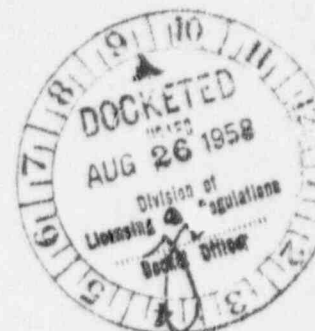
THE HARSHAW CHEMICAL COMPANY

1945 EAST 97TH STREET
CLEVELAND 6, OHIO
RANDOLPH 1-8300

August 21, 1958

United States Atomic Energy Commission
Washington 25, D.C.

Attention: Mr. J.C. Delaney
Chief, Materials Section
Licensing Branch
Division of Licensing and Regulation



Gentlemen:

In reply to your letter of August 1, 1958 we are sending you the additional information that you requested.

1. Method employed to incorporate source material into manufactured product.

Uranium compounds will be used in one of two ways: either as a direct mill addition to a glaze; or for the preparation of a calcined pigment, which in turn is used as a mill addition for a glaze. When a calcined pigment is made the dry ingredients including Uranium, are weighed, mixed in a porcelain dish, screened, placed in clay saggars, and calcined in a gas fired laboratory furnace. The calcined pigment may then be used directly as a mill addition in a glaze, or it may have a preliminary wet ball milling. When a Uranium containing calcined pigment or a Uranium compound is added to a glaze, the Uranium containing material is weighed along with all other ingredients directly into a ball mill. Water is added, and milling accomplished in a mill rack. After milling, the glaze is sprayed in test tile and fired in a laboratory furnace.

2. Procedure employed to safeguard employees against dust and contamination through the escape of radioactive materials in the processing of such materials.

Film badges developed and evaluated by Nuclear-Chicago on a regular schedule are available for determining total exposure. The weighing and mixing are done in a segregated room provided with duct dust exhaust at weighing and mixing level. (This is done in the same area we use for weighing lead oxides and similarly toxic materials for the manufacture of glass enamels) All spraying is done in a spray booth, which we have found satisfactory for spraying high lead and silica glazes. Storage of Uranium compounds or calcines can be segregated and marked if radiation levels so indicate.

3. General description of the types of instruments available to perform necessary health and safety surveys.

A Cutie Pie, Victoreen Model 740 B and a Beckman Model MX-5 counters are at hand to measure radiation intensities.

4. Volume and concentration of radioactive waste materials anticipated and methods of disposal.

The operations create but little dust and virtually no vapors containing Uranium