

**NEER FY 2001
PROJECT ABSTRACT**

Grant Number: 01ID14105

Project Title: Determination of the Structure of Vitrified Hydroceramic/CBC Waste Form Glasses Manufactured from DOE Reprocessing Waste Investigation Into the Optimization of Multi-Source Strength Brachytherapy Treatment Procedures

Lead PI: Barry Scheetz, Penn State University

Abstract: VEER sponsored research has demonstrated that a class of waste forms, characterized as "hydroceramics," can be economically vitrified into acceptable glass waste forms at lower temperatures than conventional glass melters. This research proposal will examine the extent of the glass forming composition within the Na₂O-CaO-Al₂O₃-SiO₂ system and characterize both the detailed structure of the glasses formed as well as the mechanism by which they form. Suitable glass formulations will be evaluated for their environmental stability.