

Annexure – II

TECHNOLOGY OF MANUFACTURING SPECIAL GLASS BEADS IN THE BOROSILICATE GLASS MATRIX FOR NUCLEAR WASTE IMMOBILIZATION

Description of Technology:

The present offer comprises of a technology package comprising Process / Product Technology of Base Composition and Product Technology of two special compositions. The Technology of base composition is mandatory and the party interested has the option to take any single product technology or the whole technology package.

- 1. PROCESS TECHNOLOGY OF MANUFACTURING SPECIAL GLASS BEADS IN THE BOROSILICATE GLASS MATRIX FOR NUCLEAR WASTE IMMOBILIZATION**
- 2. TECHNOLOGY OF MANUFACTURING LOW SODIUM GLASS BEADS**
- 3. TECHNOLOGY OF MANUFACTURING LOW MELTING HIGH SODIUM GLASS BEADS**

ABSTRACT

A process for preparation of borosilicate glass frits and nodules with optimized composition for vitrification of nuclear waste. The beads are of appropriate sizes and fulfil stringent physical, chemical and mechanical properties to ensure chemical, thermal, mechanical and radiation stability. All these make the material suitable for immobilization of radioactive elements and compounds in a glass matrix. The production is done in tonnage scale with rigid control over the process parameters and testing of properties / compositions at different stages for each batch to ensure quality. The required facilities involves batch mixer, rotary smelter (minimum 1 MT capacity), pouring /quenching arrangements, Crusher cum pulverizers, sieving arrangements, nodulizing facility, Hot air oven, Secondary heat treatment furnace (maximum working temperature 800°C) etc .

NB: Interested parties have to sign non-disclosure agreement before signing of license agreement as per CSIR rules as the technology is for strategic sector.