

**RERTR 2016 - 37<sup>th</sup> INTERNATIONAL MEETING ON  
REDUCED ENRICHMENT FOR RESEARCH AND TEST REACTORS**

**OCTOBER 23-27, 2016  
RADISSON BLU ASTRID HOTEL  
ANTWERP, BELGIUM**

**Procedure and Equipment for  
Irradiated HEU GHARR-1 MNSR Core Removal**

S.V. Komarov, A.L. Denisov, A.A. Samsonov, S.A. Kashkirov  
Sosny R&D Company, Novocheremushkinskaya str. 23 bldg. 1, 117218, Moscow – Russia

**ABSTRACT**

The paper describes the procedure developed and the equipment designed and manufactured for the safe removal of the irradiated HEU core from the GHARR-1 MNSR reactor located at the NNRI/GAEC facility in Accra, Republic of Ghana. The operation is performed using a special interim transfer cask and a set of auxiliary equipment. The removal consists of two consecutive steps: discharge of the core from the reactor vessel into the transfer cask and subsequent loading of the core into the transport cask from the transfer cask. Special attention has been paid to ensure structural integrity in case of a seismic event, radiological and nuclear safety. The equipment is versatile and allows its reuse in the removal operations of all participating MNSR countries as well as its use in unloading operations to be performed in the People's Republic of China.