

**LICENSING OF SPENT NUCLEAR FUEL  
DRY STORAGE IN RUSSIA**

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**Abstract**

The Federal nuclear and radiation safety authority of Russia (Gosatomnadzor) being the state regulation body, organizes and carries out the state regulation and supervision for safety at handling, transport and storage of spent nuclear fuel. In Russia, the use of dry storage in casks will be the primary spent nuclear fuel storage option for the next twenty years. The cask for spent nuclear fuel must be applied for licensing by Gosatomnadzor for both storage and transportation. There are a number of regulations for transportation and storage of spent nuclear fuel in Russia. Up to now, there are no special regulations for dry storage of spent nuclear fuel. Such regulations will be prepared up to the end of 1998. Principally, it will be required that only type B(U)F, packages can be used for interim storage of spent nuclear fuel. Recently, there are two dual-purpose cask designs under consideration in Russia. One of them is the CONSTOR steel concrete cask, developed in Russia (NPO CKTI) under the leadership of GNB, Germany. The other cask design is the TUK-104 cask of KBSM, Russia. Both cask types were designed for spent nuclear RBMK fuel. The CONSTOR steel concrete cask was designed to be in full compliance with both Russian and IAEA regulations for transport of packages for radioactive material. The evaluation of the design criteria by Russian experts for the CONSTOR steel concrete cask project was performed at a first stage of licensing (1995 – 1997). The CONSTOR cask design has been assessed (strength analysis, thermal physics, nuclear physics and others) by different Russian experts. To show finally the compliance of the CONSTOR steel concrete cask with Russian and IAEA regulations, six drop tests have been performed with a 1:2 scale model manufactured in Russia. A test report was prepared. The test results have shown that the CONSTOR cask integrity is guaranteed under both transport and storage accident conditions. The final stage of the certification procedure for the CONSTOR steel concrete cask in Russia has been started in 1997. On behalf of GOSATOMNADZOR, the Russian assessment institutions VNIPIET and FEI have prepared the safety evaluation report. In 1998, Gosatomnadzor issued the certificate for type B(U)F approval of the CONSTOR cask design. Thus, GOSATOMNADZOR approved the compliance of CONSTOR steel concrete cask design with Russian regulations. The evaluation of the design criteria by Russian experts for the TUK-104 steel concrete cask project will start in June of 1998.

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