



## **GNS IQ® Integrated Quiver System**

The GNS IQ® Integrated Quiver System is a versatile tool for the disposal of damaged fuel rods from both PWR- and BWR-NPPs. The Quivers can safely accommodate several fuel rods and – featuring the same dimensions as complete fuel elements – fit into the standard basket positions of the transport and storage casks for PWR-FA and for BWR-FA respectively.

The Quivers are designed like a “second cladding” to accommodate large varieties of fuel rods with defects, e.g. in terms of deformations and defect morphologies, and also leakers. Their robust design provides sufficient margins for safety requirements.

The Quiver consists of:

- a forged stainless steel base body
- an inner basket for the damaged fuel rods, customizable and available in different variants
- a forged lid, bolted and welded to the base body, to provide a leak-tight sealing
- a load attachment point at the top end of the Quiver

The GNS IQ® Integrated Quiver System provides various loading positions with different dimensions (up to 66 fuel rods per Quiver), depending on the individual requirements of the customer and can take up uranium or MOX fuel from PWR-NPP and / or BWR-NPP with high enrichments and high burn-ups.

Using these GNS fuel rod quivers, the PWR plants in Biblis and Unterweser as well as the BWR plant in Krümmel have already been completely defueled. A total of 21 quivers has been dispatched at these sites by the GNS teams and is now stored in CASTOR® casks in the on-site interim storage facilities.