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THE REQUIREMENTS FOR CONSTRUCTION OF NEW SPENT FUEL DRY STORAGE –DESIGN EXTENSION CONDITIONS APPROACH

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Due to the stringent requirements after the Fukushima accident and due to stricter requirements arising from the new design extension conditions (DEC) requirements which have been adopted into new Slovenian nuclear legislation, the Krško NPP decided to implement the safety upgrade project (SUP). SUP also envisages the safety upgrade of spent fuel storage. The NPP decided to construct a new spent fuel dry storage (SFDS) system as this is much safer and reliable as a passive system compared to the existing spent fuel pool. The new SFDS is designed to DEC conditions in accordance with the West European Nuclear Regulators Association (WENRA) requirements from 2014. Some of design basis conditions are defined even stricter by the operator. The design and construction of the new SFDS, which will meet all specified design basis conditions, are a challenge for both; the manufacturer and the operator, who will manage the SFDS. The important upgrade of the Krško NPP' s safety of spent fuel storage will be achieved with SFDS successful operation. The licensing process for SFDS started in year 2017. The design conditions for SFDS were defined by Slovenian Nuclear Safety Administration (SNSA). After the redesign of the original project, the positive opinion for the construction license was issued by SNSA in January 2019. The operation of SFDS should begin in 2021.The paper describes an outline of new DEC requirements for spent fuel dry storages, along with the example to articulate some of the Slovenian DEC requirements and how these are applied to the Krško NPP spent fuel storage.

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Slovenia

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