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The PWR Spent fuel dry storage project experience feedback in china

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In order to alleviate the pressure brought by the rapid growth of spent fuel in NPPs, insufficient reprocessing capacity and high construction cost, China has carried out the strategy of technology import and equipment localization to construct the PWR spent fuel dry storage project for the first time. The paper firstly introduces the project implementation strategy, product selection and bidding, engineering construction. Then it presents the main experience feedback which includes: 1) Taking full advantages of Architecture Engineering model widely used and verified in NPPs construction in China, promoting the coordinated progress of spent fuel dry storage project design, construction and domestic dry storage components manufacturing industry chain; 2) Based on its own needs, carrying out comprehensive investigations and studies before importing the technology, fully identifying the import risks and formulating plans in time; 3) Clarifying the responsibilities of all parties in the contract, and accurately defining the boundary of intellectual property rights; 4) Actively cooperating with the regulatory authorities to fill the gaps in domestic regulations and standards. In addition, according to the reprocessing strategy and the demands of NPPs customers, China has independently researched and developed spent fuel dry storage components, which has formed independent intellectual property rights. And the total price of spent fuel canister is reduced by about 53% compared with imported equipment, which has significant economic benefits. Finally, in view of the shortcomings of the existing dry storage technology, the paper also prospects the future technological development, and proposes a variety of new product design schemes for the first time, which aims at jointly promoting the technological progress of the spent fuel dry storage and sustainable development of nuclear energy.

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