

Proton beam window replacement in CSNS

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The Proton Beam Window (PBW) of the target station is one of the key equipment in China Spallation Neutron Source (CSNS). The PBW 1 has been running stably since 2018. The PBW 2 has been completed and is planned to replace PBW 1 during the CSNS summer maintenance in 2024.

This will be the first time to replace the PBW at CSNS. As an extremely important task, it poses great difficulty, tight timelines, and heavy responsibilities. The success of the PWB replacement is crucial for the next running, therefore, our team has conducted extensive preparation work before this replacement, including remote pipeline cutting, remote vacuum line connection, remote equipment lifting, as well as the hoisting, transport and storage of the PBW mockup. The simulation tests of new PBW installation was also done. The relevant equipment has been prepared to deal with possible unexpected situations. Moreover, the radioactive radiation, radioactive gas monitoring and the personnel protection in the maintenance process have been fully considered.

This report provides a detailed description of the PBW replacement process at CSNS.

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