

# TARGET CRYOGENIC MODERATOR UPGRADE FOR THE HYDROGEN GAS MANAGEMENT SYSTEM AT SNS

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The target moderator is a series of three cryogenic loops comprised of a circulator, accumulator, helium heat exchanger, and interconnecting cryogenic piping. Without the moderator accelerator beam power on target cannot exceed 65Kw. Hydrogen gas is supplied to the target moderator system using a vendor supplied gas management system (GMS) that utilizes proprietary control software. The upgrade is needed for control logic changes, reliability, a desire to increase maintainability, and to provide an intrinsically safe barrier to the hydrogen cabinet. This paper provides an overview of the commercial off-the-shelf (COTS) hardware to be used in the hydrogen GMS. Details of the design and challenges of an approach that will maintain the original logic for continued use of the cabinet until the new logic is tested, proven, and accepted will be covered in this paper.

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