

Status and Preliminary Testing Results of the MicroTCA based Machine Protection System at the Spallation Neutron Source

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The primary goal of the Machine Protection System at the Spallation Neutron Source is to shutoff beam in under 20usec for any adverse condition that could affect or damage the beamline systems. The MPS at SNS is based on the original design that was completed in 2001 and has been obsolete for many years and requires an upgrade. The upgrade path for all new control systems in the Accelerator Division is to utilize MicroTCA were applicable. The new MPS is using MicroTCA for all components including MPS Master, Node Processors, Trigger Control, and end Field Nodes. The new system is undergoing final deployment currently and has been through preliminary testing. The new system must perform all functions and meet requirements as good or better than the legacy system and be fully functional and deployed by mid-2024.

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