

Upgrade of the Injection Kicker Control System utilizing MicroTCA at the Spallation Neutron Source

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The Injection Kicker system at the Spallation Neutron Source is responsible for minimizing the average beam current and space charge. This is accomplished through configurable waveforms that are stored and sent to the Injection Kicker Magnet Power Supplies at 60Hz by the control system. These waveforms then must be verified at the beam repetition rate by a monitoring system that is connected to the SNS Machine Protection System. Both the waveform generator and waveform monitor systems are required by the SNS Operating Envelope for any operation above 100kW. Due to obsolescence and spare concerns these systems reached a point of requiring an upgrade. MicroTCA is the platform of choice for the SNS controls modernization strategy and therefore was the choice for these upgrades.

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