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ESS Common Motion Control Project for Neutron Instruments

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The ESS neutron instrument suite requires a large number of cabinets and cables for motion applications. The Motion Control and Automation Group (MCAG) standardization effort of the motion components across the facility ensures that the quality and reliability requirements are met. This standardization directly impacts the operation, maintenance, and upgrade of the systems.

During the final critical design review of the first instruments, MCAG identified an opportunity to further improve the quality, reliability, and compatibility of the motion control systems. To ease the transition from supporting the instruments to taking ownership of the instrument itself, with a focus on the operation phase, the Common Motion Control and Automation Project (CMCA) for the instruments was implemented. CMCA encompasses the motion control cabinets, the cables from cabinet to subsystem and motion safety of the neutron instruments.

This contribution describes the approach and processes used to achieve the expected quality, reliability, and compatibility, as well as a detailed description of the deliverables provided by the project.

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