

ASHRAE Guideline 1.7P (SSPC 300)

Title: Application of the Commissioning Process to Semiconductor Fabrication Facilities

Purpose: The purpose of this guideline is to establish a standardized, scalable, and rigorous commissioning expectations for semiconductor fabrication facilities. It defines procedures that ensure critical systems, supporting high-precision, cleanroom, and mission-critical environments, are designed, installed, verified, and operated in alignment with the Owner's Project Requirements (OPR). The guideline supports both initial commissioning and ongoing performance management, enabling reliable operations, process quality, energy efficiency, and regulatory compliance across the facility lifecycle.

Scope:

This guideline applies to the commissioning and performance validation of new, renovated, and existing semiconductor manufacturing environments. It includes all phases of the facility lifecycle, from conceptual design through occupancy, tool integration, and ongoing commissioning. The guideline is applicable to various types of semiconductor operations, including but not limited to:

- a. Wafer fabrication facilities (Fabs)
- b. Research and development cleanrooms
- c. Tool installation and process bays
- d. Sub-fab infrastructure and interstitial mechanical zones
- e. Packaging, assembly, and test environments.