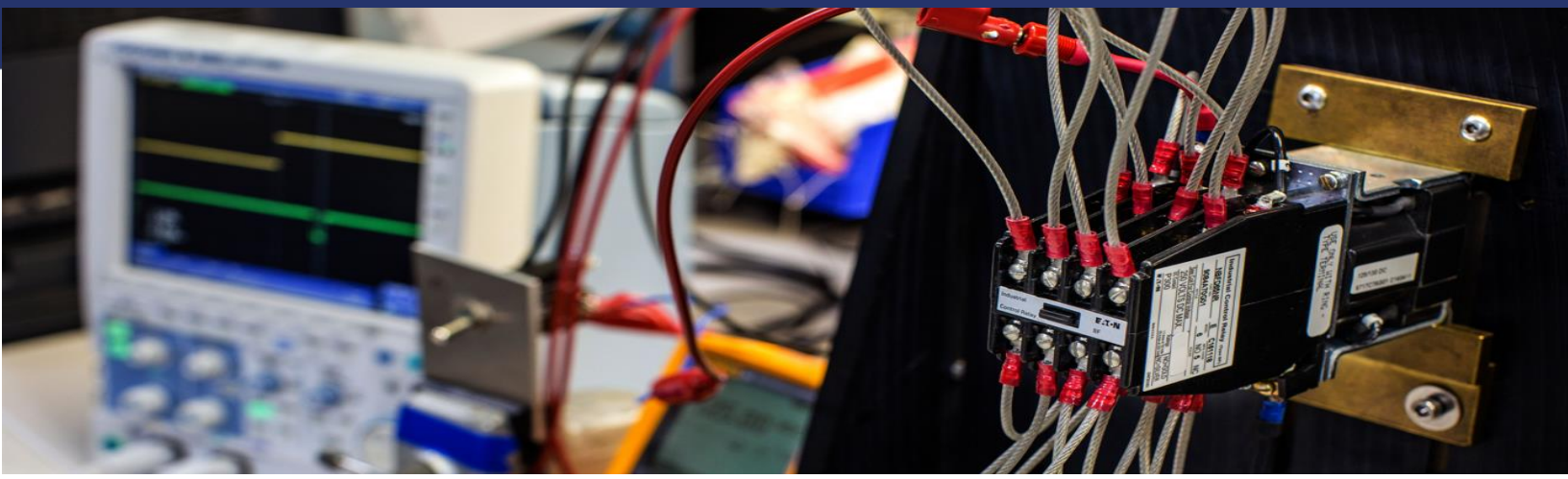
Westinghouse Parts Business

Commercial Grade Dedication



Background

Commercial Grade Dedication (CGD) is the process of procuring parts commercially without imposing Appendix B Quality Assurance requirements on the supplier and then dedicating them for use in safety-related applications. The dedication process involves:

- An engineering evaluation to identify critical characteristics of the item, based on the end-use safety function and a Failure Mode and Effects (FMEA) analysis, to develop a specification of acceptance criteria that provides reasonable assurance that the part will perform its required safety function
- Quality control activities to ensure the item(s) supplied meets the acceptance criteria

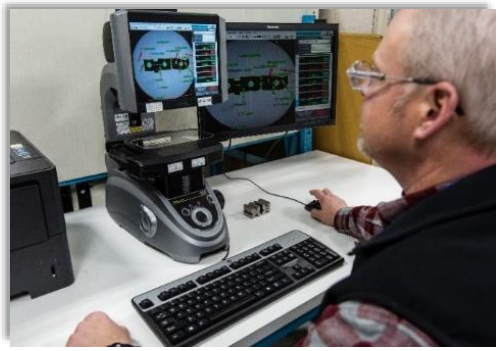
As an original designer of nuclear plants around the world – from the first commercial nuclear plant at Shippingport, PA to today's AP1000® plants – Westinghouse has the expertise to identify the required critical characteristics and has the methods and facilities necessary to validate them through testing and inspection.

Westinghouse has made significant investments in equipment and skilled resources to perform a wide variety of commercial grade dedication. This team of qualified inspectors, technicians and engineers experienced in executing CGD activities enables Westinghouse to dedicate any type of component from fuses and bolts to circuit breakers and electrical cabinets.

Description/Resources

At the Westinghouse Parts Business facility in New Stanton Pennsylvania (USA), Westinghouse technical expertise, experience, and test equipment leads the nuclear industry in CGD. The Westinghouse CGD program continues to evolve, supporting development of new industry guidance, regulatory requirements, and operating experience.

- Extensive library of CGD plans (1000+) and instructions (4,000+) covering ~50,000 unique part numbers
- 100K sq. ft. dedicated CGD facility with expansion potential for special projects
- In-house state of the art provider of supporting products
    - Equipment qualification testing
    - Reverse engineering
    - Full-service machine shop
- Over 50 electrical, mechanical, and I&C engineers and nearly 75 technicians on staff supporting CGD activities



Digital Image Dimensional Measurement

Westinghouse

Experience/Capabilities

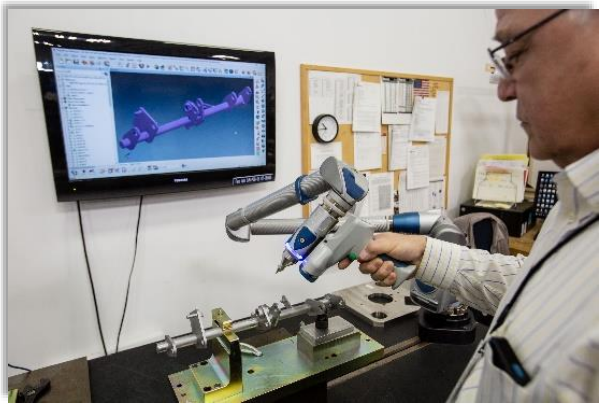
Westinghouse provides 3rd party dedication and CGD for OEM nuclear parts. We are uniquely positioned to create generic dedication plans for product families and develop GCD plans to support bulk purchases for the industry.

- Westinghouse has provided CGD services for all of the US market and 75% of global utilities
- Westinghouse provides ~50,000 CGD parts per year
- Specialized Test Equipment
    - Zeiss Primo Ultra Coordinate Measuring Machine (CMM)
    - Faro Edge & Faro Quantum 3D Measuring & Imaging Equipment
    - Vision EVO Cam Microscope
    - Keyence IM-6120 Image Dimensional Measuring System
    - Nikon V12 Optical Comparator
    - Load, Spring, Torsion, Force, and Hardness Testers
    - Brown-Sharpe Height Gauges
    - Agilent Fourier-transform infrared spectroscopy (FTIR)
    - Thermo Fisher Scientific XRF Material Analyzer
    - Keyence Laser Micrometer
    - 50 + Oscilloscopes and multi-meters
    - Over 30 various Power Supplies
    - Noyes OPM/OL Power Meter/Light Source
    - Numerous HiPot and Megger test equipment
    - Keithley Picoanmmeters
    - Programmable Timers
    - (4) Burn-In Ovens
    - Numerous hand-held meters, gauges, probes, etc

FTIR Spectroscopy Analysis

Benefits of CGD with Westinghouse

- **Part Availability:** CGD supports the supply of certified parts in an industry where the number of nuclear qualified suppliers is diminishing.
- **Lead Time:** Commercial grade items generally have higher inventories, shorter manufacture lead times, and thus can be turned around quicker.
- **Cost:** Potential to reduce part costs and utility outsourcing of CGD eliminates the expensive requirements of developing/ purchasing/ maintaining critical skills and specialized test equipment
- Westinghouse has been the **industry leader** in CGD for 35 years; developing standards and working with global regulators to approve program implementation
- Westinghouse has the **capabilities, capacity, and experience** needed for utilities to be confident in working with Westinghouse
- Westinghouse will work with the customer to develop a **cost-effective** delivery model that works for them and takes advantage of the scale of the Westinghouse business



Portable CMM 3D Imaging and Measurement

Westinghouse Electric Company
1000 Westinghouse Drive
Cranberry Township, PA 16066

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