

Westinghouse Parts Business

Parts Quality Program Testing and Inspection

Background

Parts Quality Program (PQP) testing and inspection is intended to reasonably assure operational function of a part that is required to support power generation.

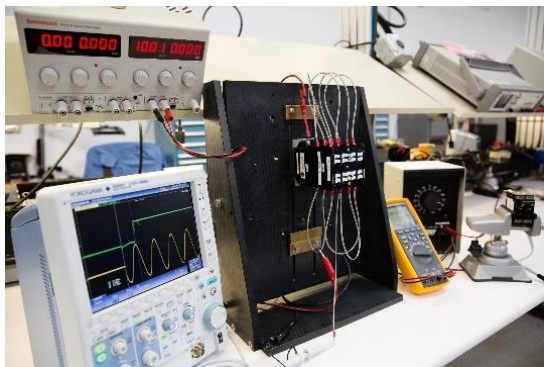
INPO IER 21-4 (September 2021) recommends sites implement a sustainable parts quality process to address an adverse performance trend in the industry.

- Parts must be procured, inspected, and tested considering the potential to result in a consequential event including impacting power generation
- Corrective actions (January 2022) and corrective action implementation plans (February 2022) are required to be communicated to INPO

At the Westinghouse Parts Business facility in New Stanton, Pennsylvania (USA), Westinghouse technical expertise, experience, and test equipment leads the nuclear industry in Commercial Grade Dedication (CGD).

- CGD programs reasonably assure safety function
- PQP programs support operational function required to prevent a consequential event including impacting power generation

Different parts will be categorized into each of these programs; however, the approach to testing of those parts will be very similar. Both programs require critical characteristics identification, development of a test plan, and inspection and testing per the plan.



Performance Testing of a Relay



100K sq. ft. dedicated space for PQP/CGD testing in New Stanton, PA

Benefits

Westinghouse delivered parts have several competitive advantages to make this process simpler, more cost effective, and to provide more precise results:

- Technical Advantages
 - Design knowledge, specialized test equipment, and experienced resources make us the superior option for testing Westinghouse parts
- Logistics Cost and Schedule Improvements
 - With third-party testing, the utility typically receives a part, inventories it, ships it to the third-party testing facility, receives it back, and warehouses it again
 - When Westinghouse performs the testing, the cost, oversight and schedule delay of logistics are eliminated
- Failure Returns Costs Eliminated
 - The oversight cost for the customer to return parts and the cost of testing replacements is eliminated

Westinghouse will provide Optional Scope on any parts offer for PQP testing and inspection for any offer desired.

Experience

Westinghouse has been an industry leader in performance testing and inspection for over 30 years via CGD.

- Westinghouse provides performance testing and inspection for 50,000+ parts per year
- Westinghouse has provided performance testing and inspection services for all of the US market and 75% of global utilities

Westinghouse has capabilities, capacity, and experience testing a wide variety of parts including:

Electrical Equipment Examples:

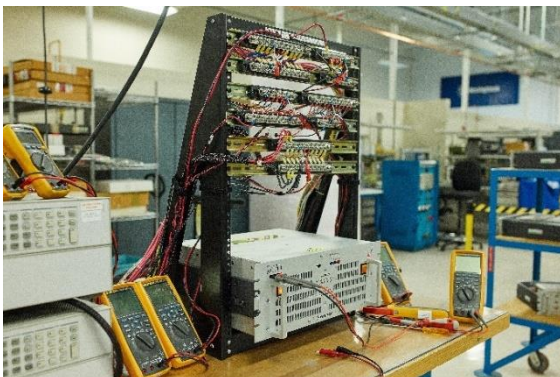
- Switchgear, breakers, breaker & switchgear parts, trip units
- Control components: Relays & switches,
- Motor control centers (MCCs), contactors, stabs, contacts
- Distribution devices: Transformers, insulators, cable, bus bars
- Electrical enclosures, conduit, conduit fittings, lugs

I&C Examples:

- Power supplies and circuit boards,
- Sensors, detectors, meters, instrument switches
- I&C cabinet assemblies
- Cable, cable assemblies, connectors, penetrations

Mechanical Equipment Examples:

- Mechanical seals, gaskets, o-rings
- Fasteners, pins, plugs, piping, rigging
- Valves, valve parts, actuators and parts
- Motor, motor parts, bearings, gauges



Performance Testing of a Power Supply



Fourier Transform Infrared (FTIR) Material Analyzer

Description & Capabilities

Westinghouse will leverage decades of CGD performance testing to support your PQP testing and inspection needs:

- 100K sq. ft. dedicated PQP/CGD facility with expansion potential for special projects
- Over 50 electrical, mechanical, and I&C engineers on staff supporting PQP/CGD activities
- Nearly 75 technicians on staff supporting PQP/CGD activities
- Extensive library of more than 4,000 PQP/CGD plans covering ~50,000 unique part numbers

For critical-to-generation components and parts we have the specialized equipment and critical design information to perform PQP testing.

Deliverable

- Full complement of inspected and tested parts (no risk of returns like with third-party testing, that is handled for you)
- Summary report
 - Test results
 - Failures (as needed)
 - Engineering eval
 - Part 21 evaluation
 - Already inventoried items evaluation (if higher than expected failure rate)