



## Polo Rodriguez Information

### Background:

- Transformer Engineer with extensive experience in testing of a variety of Transformers: Power, GSU, Autotransformers, Distribution, Step-up, three winding, double LV, Variable Flux, Single phase, no-taps, LTC in LV and in HV, buried delta, phase shifters, regulators, reactors, polygon, special design.
- Experienced in testing transformers for both domestic and international clients from Mexico, Central America, Europe, and Africa. Involved in the IEEE Standards and familiar with IEC, ANSI, ASTM, NEMA, ISO and other standards.
- Applied latest IEEE Standards and stringent test procedures to comply with the customer's Specifications thus giving them confidence in the quality and product reliability.
- Involved in several Test Laboratory Expansion projects in the U.S. and Mexico for different OEM's and is familiar with numerous test equipment systems and manufacturers.
- Directly involved in the after-failure-analysis of any test failures: troubleshooting, investigation tests, diagnosis, action plan, root cause determination and elimination process, as well as definition of corrective, preventive and predictive action plan, and the corresponding reports.
- Familiar with transformers design and construction: types of windings, phase formation, window cutaway, coils assembly, external connections, core and coil assembly, tanking process, Vapor-Phase drying process, External assembly, vacuum-filling-settling process.

### Focused Areas of Expertise:

- Factory Acceptance Testing oversight
- HV and EHV Power Transformer – Specifications, Test Plans/Sequence, Factory Acceptance Testing and Test Reports
- QA/QC Testing development and Oversight
- Test Laboratory Project Management, Engineering, Construction, Commissioning, operation, and training.
- OEM Factory Qualification
- Core & Coil Assembly Inspections
- Field Failure Analysis
- Manufacture Process Witness
- Transformer Training
- Asset Manager – Test equipment Calibration, Preventive Maintenance, Single Point of Failure, Obsolescence, Specifications and Operations
- Leadership of Organizations and Test Expansion Projects

## Past Relevant Working Experience:

Test Laboratory Manager for OEM's manufacturing and testing various SHELL type Power transformers up to 900MVA and 525kV and numerous CORE Type Power transformers up to 300MVA and 230kV.

- High Voltage Test Laboratory with two test bays (Power supply up to 200kVAC, 2500A 60Hz, 180MVAR, Impulse Test System of 2.4MV & 360kJ, Applied Voltage System of up to 500kV, Induced 200Hz). Manufacturing and Testing numerous Core Type Power transformers up to 300MVA and 345kV for diverse domestic utilities, electrical builders, and a few international customers (Canada and Central America).
- Project Manager for the Medium Power Test Bay with Testing capabilities up to 100MVA and 230kV. Completion of second Test bay for testing units simultaneously using variable frequency power supplies in lieu of MG sets for AC testing and use of Capacitor banks on primary and secondary (Power supply 70kVAC, 2000A, 57MVAR-HV, 2.5MVAR -LV, 50-500Hz).
- Test Coach for the Test Labs on the other three manufacturing plants (standardization of test procedures, SPoF, test equipment assessment and upgrade/update proposals, training, issues troubleshooting, failure analysis).
- Provided Testing Training and certification of test technicians.
- Problem solving and troubleshooting of product non-conformances while in testing stage.
- Supervised production testing (In-Process: Initial Turns ratio, Pre-VPD, Tanking, Pre-shipping).
- Oversight of the Oil Testing Laboratory (Physical, Chemical, Electrical Tests per ASTM and IEEE standards).
- Transformer Test Failure Investigation leader (test results assessment, investigation tests proposition, action plan definition, forensic analysis and root cause determination and elimination).
- Relocation of Test Laboratory and upgrade to a dual test bay for testing units simultaneously. Acquisition of New test equipment and recondition/refurbish of some old test equipment.
- Test laboratory Relocation and Upgrade with semi-automated high accuracy Loss Measurement System for No-Load, Load-Loss, Heat run, Induced Voltage and Applied Voltage Tests, two test bays for throughput increase with capability of testing Phase shifters, polygon and multi-tap transformers at 400Hz. Upgrade to 400kV Impulse Test System.
- Project Manager and Electrical Test engineer responsible for design, specification, construction, commissioning, training and operation for Extra High Voltage Test Laboratory, a complete test bay with capacity of up to 1000MVA and 800kV for Extra Large Power Transformers Testing. Purchase of various Test equipment: 3.2 MV Impulse Generator, 600kV Applied Voltage test set, MG sets, Step up Test Transformer, voltage regulator, 300 MVAR capacitor bank, 600Ton air pallets, minor equipment like Partial Discharge Detectors, Transformer Turns Ratio meters, DC Resistance meters, Insulation analyzers, Doble Sweep Frequency Response Analyzer, Dielectric Frequency Response, etc.



## **Key Skills**

Integrity, Responsible, Technical problem solving, People oriented, Organization, Initiative, Results oriented, Driven by Customer Satisfaction, Teamwork, Availability to travel

## **Languages**

English, Spanish

## **Certifications & Courses**

- Graduated with honors (best generation grades, class 1995).
- IEEE member
- PES and Transformers committee participant