
The Value of Third-Party Certification

January 18, 2019

It is very common in a customer specification to see a request for Third-Party Certification and labeling on equipment, but not every client understands what this request provides to them.

There are a number of Third-Party Certifiers available to do everything from witness design testing to creating specialized factory inspection and testing to evaluating the product after installation at the job site. Does this add value for the client? The answer is “sometimes”, but when it does, that value isn’t always what the client believes they are getting.

Third-Party witnessing of Design or Type testing provides a level of assurance that the testing Standards were accurately followed and the required performance level was met. When coupled with random factory inspections, there is a level of confidence that the “as sold” product is constructed in the same way as the tested design and that the components used are also validated for the specific use on that equipment. This adds value that benefits both the client and the manufacturer.

What it does not add, and what is unfortunately is believed by many clients, is that this certification extends in perpetuity for the life of the equipment. This is not the case. Technically, as soon as the equipment is modified to include any connections or control wiring, it may no longer comply with the implications of that Third-Party Label.

Switchgear is physically tested for performance including maximum ratings, operational life, and safety features, and then modified upon delivery to accommodate the incoming cables or bus, various control wires, and monitoring circuits on site. Additional relays and monitors are routinely added. As are various locks and interlocks and specialized operating devices. There are a many things that can be modified and many ways these modifications can impact the applicability of the Third-Party Label.

On the other hand, think of a toaster. A toaster was also tested for performance, safety, and operating life. The difference is that rarely does the end user modify the toaster. Holes are not cut to accommodate different sizes of bread. Additional equipment like remote operation and monitoring are not routinely added. The factory audit of the design and subsequent labeling is effectively for the full life of the toaster.

There is an obligation on the part of the end user to only make approved changes to the switchgear and an obligation to perform routine maintenance. The obligation with the toaster is to occasionally open the trap door to remove crumbs and I’ll bet not everyone even knows they should do that.

To be 100% compliant, the end user of the equipment can hire a Third-Party Certifier to check their installation and confirm the manufacturer’s requirements were met and the requirements of the previous label were not violated. This is often a costly endeavor and rarely done because of it.

There is also another type of Third-Party Certifier that creates a specialized test plan to validate the equipment after construction. This is often a very well-meaning but bad idea as repeating certain design tests on production equipment degrades the equipment and can shorten its life expectancy; quite the opposite of the intention of the client wanting the testing.

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Dielectric testing of insulations systems is an area where Third-Party Test Certifiers often get overzealous and damage the equipment. Not all insulation is self-restoring. This means that excessive stressing of the system can damage the insulation medium. Air, for example is self-restoring. Epoxy, plastic, glass polyester, rubber and a host of other materials are not self-restoring. Lightning Impulse Withstand testing can destroy the insulation system with a single flashover. Even if they are zero flashovers, repeated exposure to such voltage spikes incrementally damages the insulation so at the end of the testing, the client is receiving what is effectively a used piece of equipment.

Even the most benign of tests like thermal testing can do damage if method of thermocouple attachment involves drilling or gluing or altering the insulation system to perform. In other words, while these additional Production tests, beyond those recommended by Standards like the IEEE, seem like a good check of the manufacturer's process, there potential to do much more harm than good and there is no value added by undertaking such effort.

Finally, there is Field Certification. This can be performed by a Third-Party Certifier using the basic inspection program that is used at the factory to confirm the installation has not violated any of the requirements of the design. There is value added here, but at significant expense. To avoid that expense, it has become common practice to hire installation and commissioning teams that are not associated with the original equipment manufacturer. The perception is that in doing so, independence and autonomy is gained. While this may be true, often the crew hired will not have the necessary familiarity with specialized components like capacitance graded bushings or resistance grounding monitors and the result will be difficulty with the install and potential damage to those components. Again, the concept is well-meaning, but the end result often adds no value to the client.



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