NOVA INDUSTRIAL SA

Power transformers and shunt reactors prophylaxis

1. Maintenance and diagnosis services

NOVA INDUSTRIAL S.A. evaluates the technical state of the power / distribution transformers and shunt reactors based on the analysis of the history data (referring to construction, factory tests, transport, substation assembling, tests for putting into service or for preventive maintenance, incidents in operation, etc.), in addition to diagnoses tests and measurements specific to each type of transformer or shunt reactor:

- measurement of the winding resistance;
- measurement of the windings insulation resistance (R_{15} and R_{60}) and assessment of the absorption factor;
- measurement of the dissipation factor (tg) and of the capacitances of the winding insulation system (between windings and between windings and ground);
- measurement of the insulation resistance (R_{60}), dissipation factor and capacitance of the main insulation (R_{C1}, C1 and tg_{C1}) and of the test tap insulation (R_{C2}, C_2 and tg_{C2}) for condenser type bushings;
- measurement of the insulation resistance (R_{60}) and of the winding resistance, test of the insulation using power-frequency voltage, as well as assessment of the magnetization curve (for current instrument transformers included on the bushings);
- measurement of the insulation resistance of the magnetic core: between core end ground, between sheet packs, between scaffolds, between scaffolds and ground;
- Assessment of oil contamination level (using analysis of dissolved gases, water content, particle content, resistivity, dissipation factor, electric strength voltage, insoluble sludge, interfacial tension, neutralization value, furanic compound content, anti-oxidant inhibitor content, etc.);
- Assessment of the mechanical condition of the power transformers and shunt reactors (evaluation of the mechanical distortion of the windings), using the low voltage impulse method and the frequency response analysis method;
- Infrared investigation for early identification of potential problems, without direct contact or interference with the power transformers or shunt reactors in operation;
- Other special tests (for example diagnosis tests using the recovery voltage method).



2. Technical specifications completion, bidder's documentation analysis and offers evaluations for bids regarding the acquisition of power transformers and shunt reactors, as well as for modernizing or repairing activities for those already in place.

3. Technical assistance for the acquisition and the factory reception; technical assistance for assembling, putting into operation, repairing and maintenance activities.

4. Incident and Fault analysis.

5. Specific technologies for the on-site refurbishing of the power transformers and shunt reactors; project management and technical coordination of these specific works.

6. Engineering activities referring to the diagnosis expert systems, the on-line or/and off line monitoring systems, databases, interpretations of the analysis and/ or tests results made during the maintenance activities.

7. Purchase of special materials or equipment necessary for maintenance activities.

8. Other consulting activities requested by power companies and not only.

Over 25 years of experience

ISO 9001, ISO 14001, ISO 45001

QUALITAS
CERTIFICAT SMC NR. QC/1105
SR EN ISO 9001 : 2015

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CERTIFICAT SMM NR. QM/1034
SR EN ISO 14001 : 2015

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CERTIFICAT SMSSM NR. QSM 38
SR EN ISO 45001 : 2023

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