# (X) OFFLINE SERVICES

Has your power transformer been taken offline? Not a problem, as Transformer Clinic™ offers a unique line of Offline Services as well, including:



# Sweep Frequency Response (SFRA) Testing Services

SFRA measurements provide a sensitive diagnostic technique for detecting changes in physical geometry and construction in a power transformer's windings by detecting defects and distortion.



#### **Winding Resistance Testing Services**

This test is used to verify proper internal connections and determine whether open circuit condition or a high resistance connection are present in the windings, producing "hot spots" that could lead to gas generation.



## **Dielectric Frequency Response Testing Services**

The Dielectric Frequency Response testing technique diagnoses issues within insulating materials by measuring and calculating rates of impedance, capacitance, loss, and power factors. The results are used for insulation diagnosis of high and medium voltage equipment.



## **Insulation Resistance Testing Services**

Several factors affect and cause a transformer's electrical insulation; aging, temperature, harsh environments, and contamination. The Insulation resistance test can detect when and if the insulating material has deterioration occurring.



### Transformer Turn Ratio (TTR) Testing Services

The purpose of TTR is to help operators diagnose problems within their transformer's winding turns and other components. This test detects short-circuits within windings, in addition to the detection of load tap changer alignment issues.