

Utility Transformers

Application Moisture is monitored in utility transformers during refilling operations.

Problem Utility transformers are periodically taken out of service for maintenance. These transformers are filled with an insulating oil, then topped off with a pressurized nitrogen blanket. Prior to refilling, the transformers must be purged with dry nitrogen for a period of time, until the moisture inside the transformer windings has been removed. The nitrogen source must be verified as dry, then the transformer exhaust must be monitored until a certain dryness has been achieved.

Solution A portable dewpoint meter is used for this application. The actual readings will typically be in the range of -20°F or lower. The exhaust is periodically monitored until a calculated “winding moisture” level is achieved. This is determined by the exhaust dewpoint and the ambient temperature.

Equipment Any portable instrument will work for this application.

Advantages All Delta portable instruments will respond very quickly. If the reading is very wet, the internal desiccant chamber will quickly dry out the sensor in preparation for another reading.