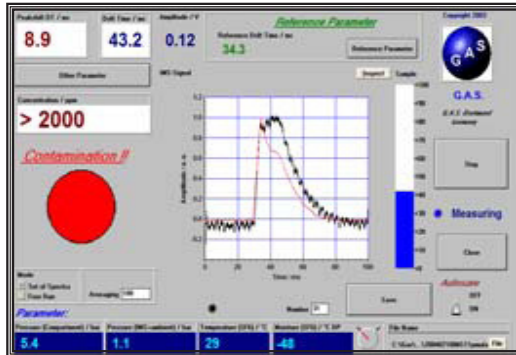




## R&D Fund Project

### On-site Testing Of SF6 Gas Spectrometry For High Voltage Circuit Breakers



The TEIMS Portable PM



Measurement taken displayed on screen

### Project Overview

The reliability of gas-insulated switchgears (GIS) is critical to TNB. The quality of the SF6 gas can deteriorate during service. Therefore, it is of utmost importance that the SF6 gas be monitored for growing problems that could lead to flashovers. In TNB, the in-service SF6 gas is measured for its dew points and

partial discharges. Whilst these measurements serve, to a certain extent, as good-and-quick indicators of the conditions of the SF6 gas, these measurements do not reveal any information on the contaminants that may be present in the SF6 gas.

This project studies the Ion Mobility Spectrometry (IMS) technique for measuring the contaminants in SF6. The measurement equipment (Model TEIMS-Portable PM) will be fieldtested and evaluated for performance and for suitability in TNB. Measurements will be performed at the selected gas-insulated switchgears in TNB.

### Deliverables

Project final report that provides the following:

- Evaluation of the Ion Mobility Spectrometry (IMS) technique and measurement instrument (Model TEIMS; Portable PM)
- Information on contaminants in gas-insulated switchgears as measured using the IMS technique that serves as input to the development of GIS maintenance strategies

### Benefits

- Reduced risks of flashovers of gas-insulated switchgears through early detection of contaminants
- Increased reliability of gas-insulated switchgears and power system in TNB
- Reduced costs and effective use of resources through condition-based maintenance