

NATF Redacted Operating Experience Report

Moisture Testing of SF6 Gas

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Topic

Moisture Testing of SF6 Gas

Description

Following the delivery of a mobile substation with an SF6 gas breaker to a project site, the project crew tested the gas in the SF6 cylinders and discovered high moisture readings. The responsible region ordered two SF6 cylinders and the crew decided to procure another gas testing unit. The crew discovered high moisture readings using the second test unit. The region ordered two more cylinders and requested a pickup of the original two cylinders. Because of project deadlines, the project crew ordered five SF6 cylinders from an alternate supplier to get the product sooner.

For both tests (test units 1 and 2), the equipment hookup was from cylinder to test unit. After consulting technical support for the second test unit, which the crew was not familiar with, the crew was instructed that a regulator was required to bring the pressure to less than 100 psi going into the test equipment. If the pressure is higher, the test unit does not provide an error message to indicate this. Instead, the test unit indicates high moisture to the test technician. Once the regulator was in place, testing continued successfully. The mobile breaker was gas filled, and the mobile was placed in service.

The first test unit was sent in for calibration testing, and its sensors were replaced. The crew was aware that first test unit was close to its calibration expiration but was not aware that the sensor was bad.

Lessons Learned

1. The crew was following procedures properly by testing the gas for moisture levels prior to adding to the system. They also identified that the first tester, the unit that they were familiar with, was not operating properly.
2. When the use of unfamiliar equipment is necessary, its operating manual should be consulted, particularly to identify any differences.

Actions Taken

- Lessons learned have been distributed to regional personnel, who were asked to provide the test equipment information (manufacturers and model numbers) to the corporate support group.

Extent of Condition

We are unaware of how many different types of test equipment are being used at this time and are in the process of collecting information from regional personnel.