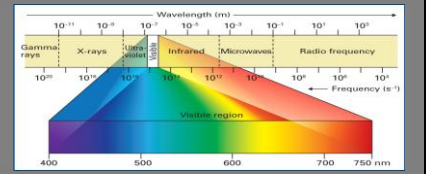




Over Current Breaker



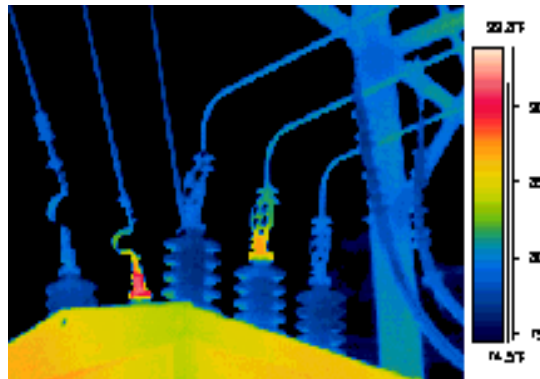
- With infrared technology a potential disaster was prevented.
- Regular preventive maintenance and infrared scanning of electrical components make for a safer and more efficient company.

Can open breakers be dangerous?

As a safety precaution, I always scan all electrical components in a substation. This is a good practice since some areas may have leakage current or ground current, which would be a safety hazard.

During my scan, the OCB (over current breaker) and 12 other breakers were scanned. The digital picture of the vacuum breaker connections (line side on the left and load side on the right) is shown in the picture at the top.

The Infrared picture to the right shows a hot spot on the center phase leads on the line side and load side. On the line side there was a 13 degree F temperature rise between the B phase and the A and C phases. I started to get concerned about the vacuum breaker. I asked the electrician to double check to make sure the breaker was open. He confirmed that the unit was open and there should not be any current flow through or back feeding in any way through the system. Reflectivity was eliminated by taking pictures from different angles.



After discussing the history of the breaker with the electrician, I found that in the past year they had a vacuum bottle replaced.

Since this was an abnormal characteristic for a vacuum breaker that was open (line side not connected to the load side through the vacuum bottles), the Electrical Engineer for the plant was immediately called. The current was checked and the center phase had approximately 1.2 amps flowing through it.

All proper safety measures were set in place and the blade disconnects were pulled. The manufacturer of the vacuum breaker was called and the unit was dismantled. It was found that the center bottle was bad and current was leaking through the center phase. This could have been a very dangerous condition in the plant if all visual plant disconnects and lockout procedures were not followed.

Spend a little money now to save big money later.

Any questions feel free to contact Larry Massey
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