Osmose®

Infrared Inspection Services

Effective Predictive Maintenance

Maintaining and managing regulatory compliance, system reliability, and overall system safety and risk are a few challenges pole owners face regarding overhead systems. Certain regions may have higher demand for these inspections due to equipment failures from age, frequency of use, and harshness of environments such as high temperature, humidity, or salt spray atmosphere. Further risks arise when poles are in high fire or fire prone areas.

Infrared inspection is a proven, proactive approach to identifying issues in overhead systems before they cause a serious or costly outage. When an electrical component gets hot, it is unseen to the naked eye. Because nearly all electrical components get hot before failure, electrical infrared inspections are a safe and cost-effective way for utilities to understand the operating condition of assets and implement or complement a predictive maintenance strategy.

A properly executed infrared inspection program can help:

- ✓ Identify overheating and defective equipment
- ✓ Reduce potential outages and catastrophic failures
- ✓ Reduce emergency and prioritize necessary repairs
- ✓ Reduce damage to equipment
- ✓ Avoid costly shutdowns
- ✓ Improve power quality by identifying poor connections
- ✓ Meet regulatory compliance
- ✓ Improve a utility's wildfire mitigation program

Why Osmose?

Osmose offers many deployment options based on terrain, including ground patrol, driving-based evaluation, and aerial inspections.

Infrared inspections can be combined with other overhead and underground inspection activities.

Speed

Highly-trained Level I, II, and III Thermographers equipped with innovative technology allows quick deployment and ability to meet tight project deadlines.

Scale

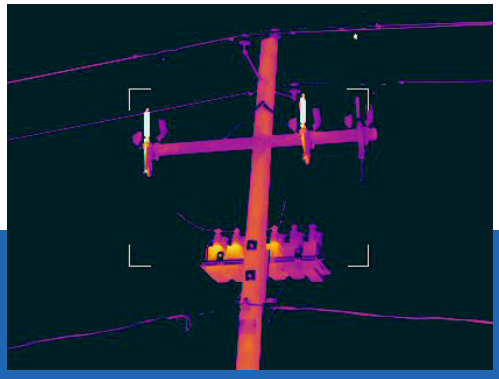
With the ability to inspect over 100,000 miles annually across the U.S., Osmose can scale to support projects of any size.

Accuracy

Leading technology delivers the accuracy needed to identify and categorize equipment with the potential to fail. Osmose deploys blueline GPS trail to ensure all facilities are captured.

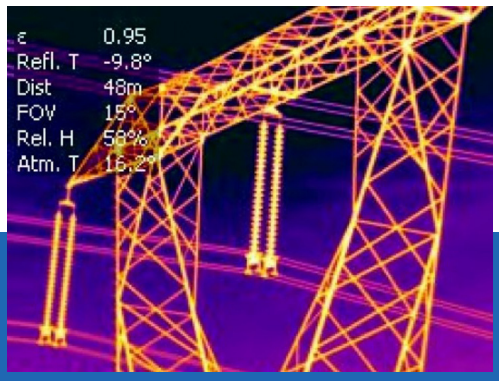
Where Are Infrared Inspections Performed?

Osmose specializes in the inspection of overhead and underground distribution, transmission, and substation systems for electric utilities.



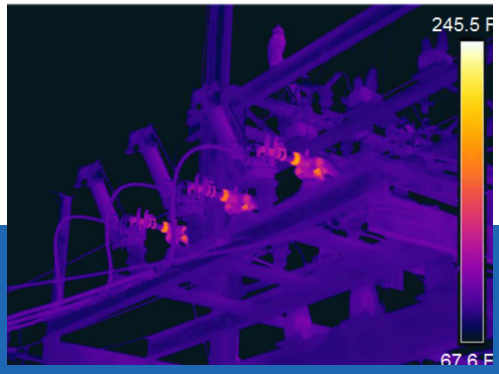
Distribution System

Arrestors, air switches, voltage regulators, capacitor banks, connectors, fused disconnects, insulators, solid disconnects, transformers, bushings, busses, regulators, reclosers, riser pole terminations, splices, padmounted equipment, switchgear, vaults, manholes



Transmission System

Dead-end sleeves, splice sleeve connectors, concerns over line sag, and potential connection failures due to increasing load



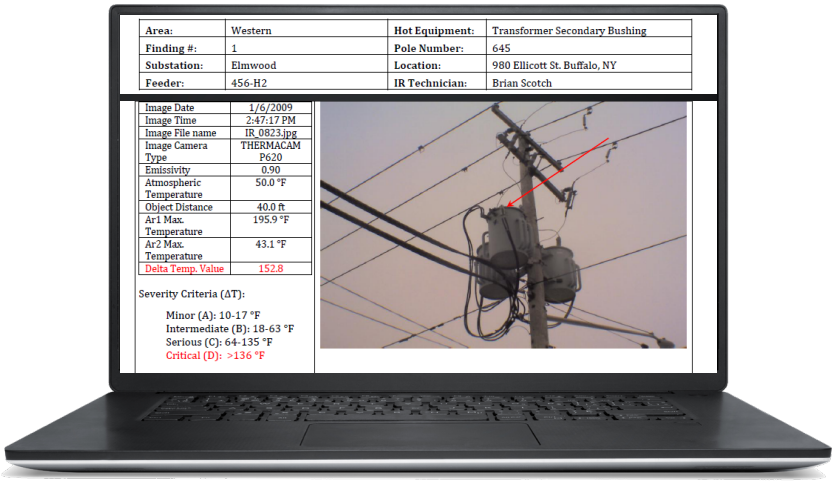
Substations

Transformers, breakers, switches, lightning arrestors, and exterior (transformer) cooling fins

Inspection Reports and Data Deliverables

Using high-resolution infrared camera technology, highly trained Osmose technicians quickly and accurately scan power lines and associated equipment. A Level III Certified Thermographer (the highest level of infrared certification) provides detailed, customized reports that include:

- ✓ An inspection coverage audit trail
- ✓ Thermal image of hotspot
- ✓ Digital visual image of structure
- ✓ Temperature rise
- ✓ Location information
- ✓ Equipment identification information



Area:	Western	**Hot Equipment:**	Transformer Secondary Bushing
Finding #:	1	**Pole Number:**	645
Substation:	Elmwood	**Location:**	980 Ellicott St. Buffalo, NY
Feeder:	456-H2	**IR Technician:**	Brian Scotch

Image Date	1/6/2009
Image Time	2:47:17 PM
Image File name	IR_0823.jpg
Image Camera Type	THERMACAM P620
Emissivity	0.90
Atmospheric Temperature	50.0 °F
Object Distance	40.0 ft
Ar1 Max. Temperature	195.9 °F
Ar2 Max. Temperature	43.1 °F
Delta Temp. Value	152.8

Severity Criteria (ΔT):

Minor (A): 10-17 °F
Intermediate (B): 18-63 °F
Serious (C): 64-135 °F
Critical (D): >136 °F

Inspection data can be provided in a number of other electronic formats that can be used to feed various target systems of utilities.

To contact your local Osmose expert, call 770.632.6700 or email technicalservices@osmose.com.