

A Thermography Success Story

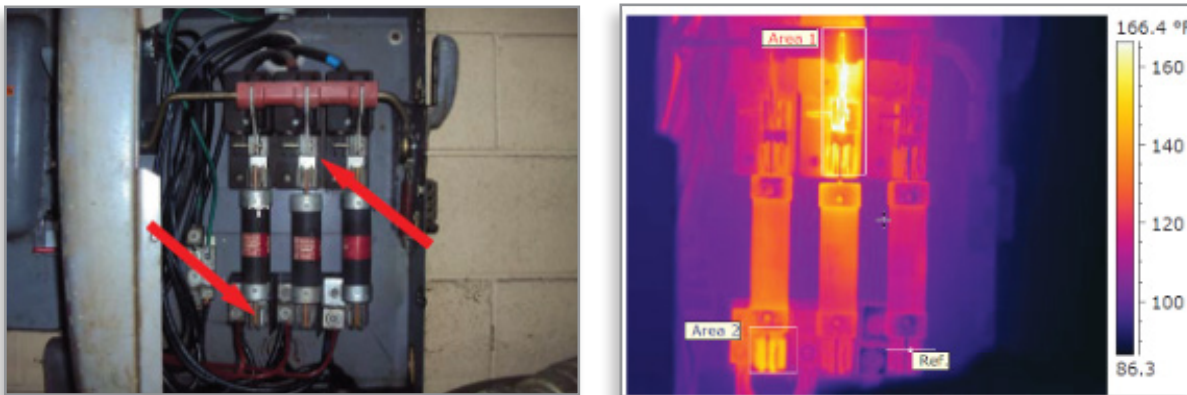


What is Thermography?

Infrared “thermographic” scans are non-contact, non-destructive examinations of a building’s electrical service panels and subpanels. These scans find abnormal thermal (heat) patterns or temperature differentials within the service panels. These thermal abnormalities may be an indication of a loose connection, overloaded circuit or phases, deteriorated or damaged insulation, or friction within the service panels.

A highly-sensitive infrared camera is used to scan the service panels. The camera used by our business partner, HSB, is the latest high definition FLIR infrared imaging system.

These photos illustrate how an infrared thermographic image will look.



How and why do we use thermography?

The goal of an infrared thermographic scan is to proactively identify problems in an electrical system BEFORE there’s a failure. Business owners can plan for repairs rather than scrambling after a failure. It’s considered “best practice” to have a scan conducted on key electrical service systems every two to three years.

We look to use infrared thermographic scans for our customers who have a high electrical demand on the electrical system from production equipment and where a failure in the electrical system will lead to a significant interruption to business operations.

Scans are coordinated by West Bend’s Loss Control team. The scan is conducted by our business partners at HSB and their specialized thermography technicians. Our customer is required to have a “qualified” electrician participate in the scan to open service panels and disconnect panels for everyone’s safety. The cost of the electrical contractor is paid by the customer.

A Success Story

Historically, infrared thermographic scans are conducted at Johns Disposal facilities every three years. Scans were conducted in September 2017 and again in July 2020. The scan was conducted on the main service disconnect in a structure located at their Whitewater, Wisconsin Recycling Center operations.

The scan in September 2017 showed no signs of concern. The updated scan on July 10, 2020, however, showed a significant change in conditions in the main service disconnect. The thermographic scanning technician identified this as a “critical” issue.

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An electrician from Johns electrical contractor was present for the scan, so they too could see firsthand the concern from the image that was taken.

Completing the necessary repair required working with the electrical utility provider, in this case, WE Energies, as power to the property had to be shut off. This work had to be performed on a weekend so as not to interrupt production. This added cost to the repairs as the electrical utility provider typically doesn't work weekends.

The main switch problem identified by the scan was the trigger for repairs; however, as the work was being performed, it was determined that the GFCI trip unit on the switch was also not functioning properly and also needed to be replaced. This required a second weekend of power shut down and repair.

While the total cost of the two repairs was \$20,900, Johns was able to budget and plan for the repairs with their electrical contractor, along with the local power utility.


This valuable infrared thermographic service coordinated by West Bend's Loss Control team and conducted by our partner, HSB's thermography technicians, saved Johns Disposal a potentially large loss from either an unplanned power failure and subsequent business interruption loss or a potentially devastating fire loss.

"The electrician told me multiple times that these repairs were crucial and that if something went wrong, there would have been no way to shut off power because the main switch had gone bad. Thankfully, we caught this and got it fixed before we found ourselves with a bigger problem!"


– Dan Jongetjes; GM Johns Disposal

Below is the image that captured the main disconnect switch problem.

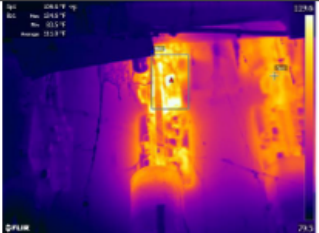
The Hartford Steam Boiler Insurance and Inspection Company
 HSB Thermography Services
 One State Street
 Hartford, CT 06102-5024



Finding No.	IR-20-07-10-01	CATEGORY	CRITICAL
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Location Area	Old Recycle
Equipment Location	Main Switch
Equipment ID	B Phase Switch
Est. Repair Cost Before Failure	\$800
Est. Repair Cost After Failure	\$15000
Est. % of Production	15%
Est. Down Time	8 Hours



I	
Sp1	91.2 °F
Areas	124.6
Box 1 Rise	33.4°F

Recommendation Comments:

B phase of the main switch is showing an elevated temperature. This is typically the result of a poor contact within the switch. Recommend disassembling the switch, cleaning all electrical and mechanical parts. Prior to re-energizing, apply antioxidant to the blades and terminations. Exercise the switch to ensure proper coating.
****Elevated to CRITICAL due to the possible negative impact to production****

Repair notes: Signature: Date:

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HSB has many resources available to assist in loss control efforts.

For more information, go to: <https://www.munichre.com/hsb/en.html>.

Sign up for HSB's Equipment Breakdown Blog which automatically provides updates on various property and equipment breakdown loss prevention topics via email.

Go to: <https://blog.hsb.com/>