

# Case Study

A Multi-Tenant 1,000,000 Square Foot Commercial Office Building in Jersey City, N.J. Part 3



## A Multi-Tenant 1,000,000 Square Foot Commercial Office Building in Jersey City, NJ. Part 3

By Martin Robinson, CMRP Level III Thermographer President, IRISS Inc.

### Overview:

This proactive client wanted to monitor the Distribution Panels, Power Panels and a dry-type transformer of his facility daily versus annually. Delta T Alert's installed on all critical enclosures within the facility. The Delta T units were programmed to record temperature rise within the enclosures three times a day. This data was transmitted wirelessly to the Chief Engineer's computer for analysis and trending. The Delta T gave a critical alert on the 1st Floor Transformer enabling the Chief Engineer to address the issue before total failure.



[iriss.com](http://iriss.com)

Location	MCC-Panel	Equipment ID	Equipment Type	Enclosure Temp	Delta T	Reported	Status
1st Floor E.C.	N/A	D5-1A	Fused Disconnect	80.2	3.4	05/05 10:08	OK
1st Floor E.C.	N/A	D5-1C	Disconnect	73.29999	0.7	05/05 10:02	OK
1st Floor E.C.	N/A	PP-1A	Power Panel	74.3	2.5	05/05 10:06	OK
1st Floor E.C.	N/A	PP-1A	Power Panel	80.1	0	04/20 07:32	No Response
1st Floor E.C.	N/A	T-EMLTG	TP-158	195.3	8	05/05 10:14	CRITICAL
2nd Floor E.C.	N/A	D5-2A	Fused Disconnect	94.8	7.2	05/05 10:03	OK
2nd Floor E.C.	N/A	D5-2B	Disconnect	73	3.4	05/05 10:10	OK
2nd Floor E.C.	N/A	DP-2A	Distribution Panel	70.9	1.1	05/05 10:16	OK
3rd Floor E.C.	N/A	D5-3A	Disconnect	71.6	1.6	05/05 10:08	OK
3rd Floor E.C.	N/A	D5-3B	Disconnect	73	2.8	05/05 10:13	OK
3rd Floor E.C.	N/A	DP-3A	Distribution Panel	72.89999	2.7	05/05 10:18	Low Battery

Figure 1 Transformer T-EMLTG showing an enclosure temperature of 195.3°F

## Identification of Problem

After the Chief Engineer reviewed the Delta T Alert data, thermographic testing was conducted on T-EMLTG transformer. Thermography results showed phase's "A" and "B" windings are much warmer than phase "C" winding (Figure 2).

Event #	Date:	Location:	MCC or Panel	Equipment Label:	Priority
1	05/05/09	1st Floor Electrical Closet	N/A	T - EMLTG Transformer	1
Apparent Temperatures:		Image Date: 05/05/2009 Image Time: 11:16:59 AM		Reference Photo:	
Problem Temperature: <b>266.0 °F</b>  Reference Temperature: <b>154.4 °F</b>  Temperature Rise: <b>111.6 °F</b>					

Figure 2 Thermographic and visual image documenting the problem and priority level.



Figure 3 The Delta T Alert was magnetically installed on the vent of this transformer.

# Case Study

A Multi-Tenant 1,000,000 Square Foot Commercial Office Building in Jersey City, NJ. Part 3

## Benefits & Conclusion

- Many customers are reluctant to remove transformer covers due to the danger. Delta T Alert can record and trend your T/F temperatures on a daily basis and warn of excessive heat rise prior to failure.
- Delta T Alert records three readings per day, 365 days per year versus one infrared snapshot once per year.
- Delta T Alert's prevent downtime or possible catastrophic failure.

Use of IRISS family Electrical Maintenance Safety Devices (EMSDs) such as infrared windows, ultrasound ports, voltage detection ports and online monitoring, allow energized electrical maintenance tasks to safely and efficiently be completed while switchgear enclosure remains closed.

To learn more about infrared windows, Electrical Preventive Maintenance, NFPA standards or electrical thermography please visit [www.iriss.com](http://www.iriss.com).



[iriss.com](http://iriss.com)