

# Case Study

A Multi-Tenant 37 Story Commercial Office Building in Jersey City, NJ.



## A Multi-Tenant 37 Story Commercial Office Building in Jersey City, NJ.

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### Overview:

This proactive client wanted to monitor the electrical panels and disconnects throughout 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 two times a day. This data was transmitted wirelessly to the Chief Engineer's computer for analysis and trending. On October 6, 2010, forty-four DeltaT Alert units were installed within this facility and programmed to transmit data to the Chief Engineer's computer at 10:00am and 3:00pm on a daily basis. During the last few months, the 30th Floor Electrical Closet showed that the operating status varied between „OK“, „Elevated“ and „Critical“ on numerous occasions. The trending graph in Figure 2 illustrates the Delta T fluctuations over the three month time frame.



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As seen in Figure 2, the Delta T fluctuation varies depending on amperage which varies throughout the day. Delta T Alert provides multiple readings per day under different load conditions and during all seasons. Multiple readings at specific time intervals increases the ability to detect and warn customers of anomalies and allows for the investigation and repair of these anomalies prior to failure.



Figure 1 30th Floor Electrical Closet Panel RP-30A shows an operating status as “Critical” with a Delta T of 68°F.

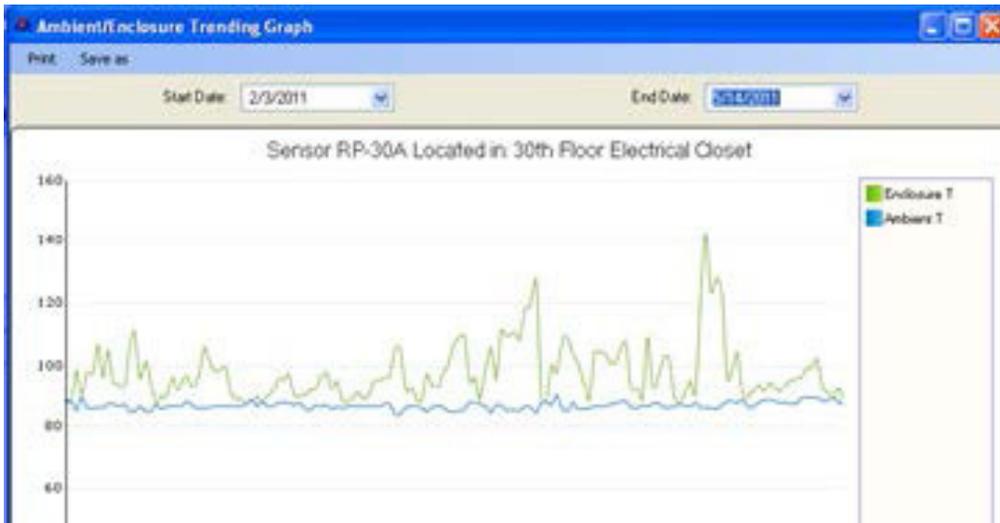


Figure 2 Compares the temperature of the enclosure to the room ambient where the enclosure is located. Notice how the two temperatures spread when the load condition increases.

## Identification of Problem

Once the panel cover was removed and scanned, thermography results show phase “A” breaker bus connection on main breaker is hot. As a #1 priority, it requires further investigation to determine root cause of hot spot (Figure 3).

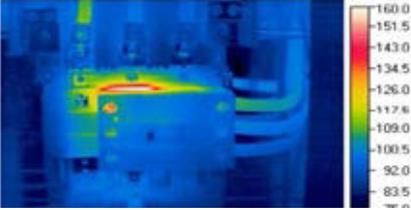
| Location:   | MCC or Panel | Equipment Label:  | Priority |
|---|--------------|---|----------|
| 30th Floor Electrical Closet  | RP 30A       | 200 Amp Main Breaker  | 1        |
| Thermogram  |              | Reference Photo:  |          |
|  |              |  |          |

Figure 3 Thermographic and visual image documenting the problem and priority level.

## Benefits & Conclusion

- Delta T Alert™ warned this customer of fluctuating delta t temperatures within this panel. This is an excellent example of how Delta T Alert™ can detect and warn customers of intermittent electrical anomalies within their facilities.
- Based on insurance studies of actual past losses which are expressed as “dollar savings per problem”, the repair cost savings are estimated to be \$3,000.00 for this particular anomaly. This amount does not attempt to quantify the costs of loss downtime, labor and environmental hazards, which are usually the largest monetary components of a failure.
- Delta T Alert records two 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).