

Thermographic Inspection at

**ABC Corporation** 

123 Main Street, Anytown, USA

March 5, 2025

By

**Certified Infrared Inc.** 



Date: March 5, 2025

Inspection Site Information		
Customer	ABC Corporation	
Address	123 Main Street, Anytown, USA	
Company Contact	John Doe	
Phone number	888-888-8888	
E-mail address	JDoe@email.com	
Thermographer	Thermographer	

Information contained in the following report is the result of a Thermographic Survey conducted by Certified Infrared Inc.

In most cases, the first manifestation of an electrical problem is excess heat in a local area. Thermographic inspection of electrical systems can pinpoint problems in early stages. The Maintenance Staff can then evaluate thermographic findings and plan to take corrective action before a major problem occurs which may damage or shut down essential equipment.

#### **Overview of Fault Rating:**

**0**: Normal No action

1: Low grade To be monitored – Plan new inspection

2: Medium grade Repair at scheduled shut down

**3**: Serious Repair ASAP

**4**: Critical Repair immediately





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#### **Summary of Inspection Issues**

Location	Equipment Name	Fault Level	Page Number	Temperature Rise
2 <sup>nd</sup> Floor, Main Switch Gear Room	Panel P-CB	3	4	40.8°F
20 <sup>th</sup> Floor, North Gym Electrical Room	H6	2	5	19.9°F
18 <sup>th</sup> Floor, Control Room	BKT4A	2	6	13.6°F
9 <sup>th</sup> Floor, Electrical Room A	H1A	3	7	51.3°F
7 <sup>th</sup> Floor, Distribution Switch Gear Room	LP-3C	3	8	54.3°F
2 <sup>nd</sup> Floor, Men's Room Closet	2CV	2	9	7.9°F
2 <sup>nd</sup> Floor, Server Room	SC-3-12	2	10	10.0°F
19 <sup>th</sup> Floor, Electric Room (A)	P1-B	4	11	484.9°F



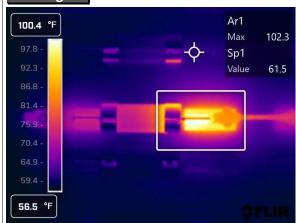
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#### Photo 1



Location	2 <sup>nd</sup> Floor, Main Switch Gear
	Room
Equipment Type	Switchboard
Equipment Name	Panel P-CB
Equipment Size	200a, 277/480v
Problem Item	Fuse Clip
Fault Level	3
Actual Load (A)	A: 35.2, B: 34.7, C: 34.6

#### Thermogram



Sp1 Temperature	61.5 °F
Ar1 Temperature	102.3 °F
Temperature Rise	40.8°F

#### **Analysis & Recommended action:**

C Phase, Line Side

Loose fuse jaws / clips. Remove fuse. Clean contact area of fuse. Adjust spring tension if applicable and/or replace fuse jaws/clips.

High resistance connection. Clean and tighten all related connections.

#### Inspected by: Thermographer

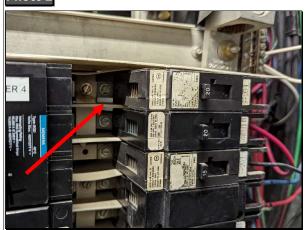
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Repaired by: ...... date:



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#### Photo 2



Location	20 <sup>th</sup> Floor, North Gym
	Electrical Room
Equipment Type	Panelboard
Equipment Name	H6
Equipment Size	400a, 120/208v
Problem Item	Circuit 2
Fault Level	2
Actual Load (A)	A: 16.0 B: 16.0, C: 0.2

## Thermogram 94.4 °F Ar1 Max 96.8 Sp1 Value 76.9

Sp1 Temperature	76.9 °F
Ar1 Temperature	96.8 °F
Temperature Rise	19.9 °F

#### Analysis & Recommended action:

A Phase, Line Side

67.2 °F

Internal Breaker Problem. Replace breaker.

Note: Visible Scorch mark on panel bus.

#### 

**\$FLIR** 



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#### Photo 3



Location	18 <sup>th</sup> Floor, Control Room
Equipment Type	Breaker
Equipment Name	BKT4A
Equipment Size	225a, 240v
Problem Item	Terminal Connection
	Phase A
Fault Level	2
Actual Load (A)	A: 21, B: 24

# Thermogram 90.2 °F 89.1 86.7 84.3 81.9 79.5 77.1 74.7 72.3 71.1 °F Sp1 Value 80.1 Ar1 Max 93.7

Sp1 Temperature	80.1 °F
Ar1 Temperature	93.7 °F
Temperature Rise	13.6°F

#### Analysis & Recommended action:

A Phase, Line Side.

Loose wire connection. Disassemble, inspect lug and cable end. Clean, reassemble, and torque to proper specification.

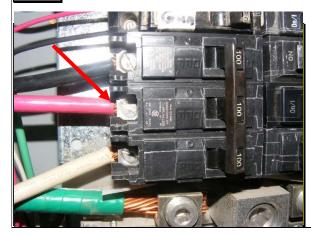
High resistance connection. Clean and tighten related connection.

Inspected by:	Thermographer	Date: March 5, 2025
Repaired by:		date:
Comment:		



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#### Photo 4



Location	9 <sup>th</sup> Floor, Electrical Room A
Equipment Type	Panelboard
Equipment Name	H1A
Equipment Size	400a, 120/208v
Problem Item	Breakers 33, 35, 37
Fault Level	3
Actual Load (A)	A: 100.7, B: 102.1, C: 102.2

## Thermogram Ar1 Max 148.7 Sp1 Value 97.4

Sp1 Temperature	97.4 °F
Ar1 Temperature	148.7 °F
Temperature Rise	51.3 °F

#### Analysis & Recommended action:

A, B, & C Phases, Load Side.

Overload. Load on circuit should be reduced.

## Inspected by : Thermographer Date: March 5, 2025 Repaired by: date:



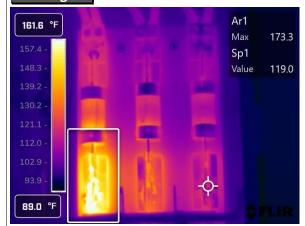
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#### Photo 5



Location	7 <sup>th</sup> Floor, Distribution Switch
	Gear Room
Equipment Type	Fused Disconnect Switch
Equipment Name	LP-3C
Equipment Size	600a, 480v
Problem Item	Hinge Point
Fault Level	3
Actual Load (A)	A: 58, B: 62, C: 61

#### Thermogram



Sp1 Temperature	119.0 °F
Ar1 Temperature	173.3 °F
Temperature Rise	54.3 °F

#### Analysis & Recommended action:

A Phase, Line Side

Pivot (Hinge) point of switch is loose. Disassemble, inspect, clean and adjust tightness of hinge point.

High Resistance Connection. Clean and tighten all related connections.

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Repaired by: ...... date:



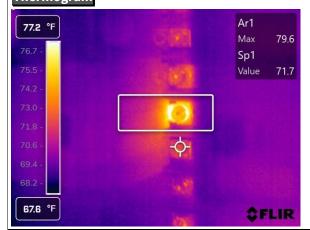
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#### Photo 6



Location	2 <sup>nd</sup> Floor, Server Room
Equipment Type	Power Distribution Unit
Equipment Name	2CV
Equipment Size	225a, 120/208v
Problem Item	Breaker 13, S28H
Fault Level	2
Actual Load (A)	A: 12.1, B: 12.0, C: 11.7

#### Thermogram



Sp1 Temperature	71.7 °F
Ar1 Temperature	79.6 °F
Temperature Rise	7.9

#### **Analysis & Recommended action:**

Line Side.

Poor panel bus connection. Remove breaker, clean bus area, check tightness of connection and reinstall. Replace breaker if necessary.

High resistance connection. Clean and tighten all related connections.

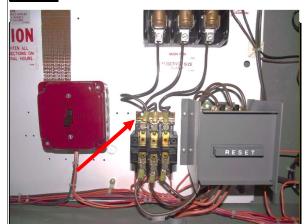
#### Inspected by: Thermographer Date: March 5, 2025

Repaired by: ...... date:



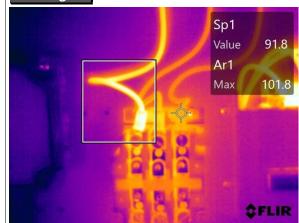
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#### Photo 7



Location	2 <sup>nd</sup> Floor, Server Room
Equipment Type	CRAC
Equipment Name	SC-3-12
Equipment Size	15a, 480v
Problem Item	Thermal Block
Fault Level	2
Actual Load (A)	A: 8.0, B: 8.1, C: 8.0

#### Thermogram



Sp1 Temperature	91.8 °F
Ar1 Temperature	101.8 °F
Temperature Rise	10.0 °F

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#### **Analysis & Recommended action:**

A Phase

Thermal block off fuse labeled 'main fan'.

Bad wire terminal. Redo crimp connection and retorque connection.

#### Inspected by: Thermographer

Repaired by: ..... date:



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#### Photo 8



Location	19 <sup>th</sup> Floor, Electrical Room (A)
Equipment Type	Panelboard
Equipment Name	P1-B
Equipment Size	400a, 120/208v
Problem Item	Circuit 18
Fault Level	4
Actual Load (A)	A: 17.2, B: 17.0, C: 8.7

# Thermogram Sp1 Value 92.5 Ar1 Max 577.4 75.0 °F

Sp1 Temperature	92.5 °F
Ar1 Temperature	577.4 °F
Temperature Rise	484.9 °F

#### **Analysis & Recommended action:**

Phase C, Line Side.

Poor panel bus connection. High resistance connection. Breaker is compromised and should be replaced. Inspect panel bus for damage.

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#### **ABC Corporation Equipment List**

#### 22<sup>nd</sup> Floor

#### **Elevator Machine Room**

Fused Disconnect Switch	PE1	
Fused Disconnect Switch	PE2	
Fused Disconnect Switch	PE3	
Fused Disconnect Switch	PE4	
Fused Disconnect Switch	SE1	
Fused Disconnect Switch	Cab Lights PE1	
Fused Disconnect Switch	Cab Lights PE2	
Fused Disconnect Switch	Cab Lights SE1	

#### 21<sup>st</sup> Floor

#### **Mechanical Room**

Panelboard	HR1	
Panelboard	SDPH2	
Panelboard	HRA	
Disconnect Switch	P4	
Disconnect Switch	P3	
Disconnect Switch	CT 1B	
Disconnect Switch	CT 1A	
Disconnect Switch	CT 1B	
Disconnect Switch	CT 1A	
Disconnect Switch	NO ID (200A)	
Disconnect Switch	P2	
Disconnect Switch	P5	
Disconnect Switch	P6	
Distribution Panel	HRA SEC 1	
Distribution Panel	HRA SEC 2	

#### 20th Floor

#### **New Gym Electrical Room**

Distribution Panel	ELSDP2	
Panelboard	ELSRI	
Panelboard	H6	Photo 1
Bus Duct		



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#### 19th Floor

#### **Electrical Room (A)**

Panelboard	EQD	
Panelboard	EQDP2	
Panelboard	EQ7	
Panelboard	P1-B	Photo 8

#### 18th Floor

#### **Control Room**

Breaker	BKT4A	Photo 2
Breaker	BKT4B	

#### 17th Floor

#### **Penthouse Electrical Room**

Fused Disconnect Switch	FID32	
Bus Duct		

#### 16th Floor

#### **North Mechanical Closet (A)**

Bus Duct		
Panelboard	BRD	

#### 15th Floor

#### Electrical Room (A)

Bus Duct		
Panelboard	EC-9	
Panelboard	EC-8	
Switchboard	RS	

#### 14th Floor

#### **Electrical Room**

Fused Disconnect Switch	52 <sup>nd</sup> Floor Meter Bank	
Bus Duct		



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#### 12th Floor

#### **Bus Duct Room**

Bus Duct	

#### 11th Floor

#### **Compactor Room**

Disconnect Switch	EQBP	
Panelboard	EQ2	
Disconnect Switch	MCCDS	
Motor Control Center	Section 1	
Motor Control Center	Section 2	
Motor Control Center	Section 3	
Bust Duct		

#### 10th Floor

#### North Mechanical Room (A)

l	
I Buc Duct	
I DUS DUCL	

#### 9th Floor

#### **Electrical Room (A)**

Panelboard	H2A	
Panelboard	H2	
Panelboard	H2 SEC 2	
Panelboard	НВ	
Panelboard	H1A	Photo 4
Disconnect Switch	T EQ1	
Bus Duct		

#### 8th Floor

#### **Bus Duct Room**

Bus Duct	



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#### 7th Floor

#### **Distribution Switch Gear Room**

Switchgear	Sec 1	
Switchgear	Sec 2	
Switchgear	DE 21	
Fused Disconnect Switch	LP-3C	Photo 5
Service Disconnect	9-22	
Service Disconnect	Fire Pump Low Zone	
Service Disconnect	Fire Pump High Zone	
Bus Duct		

#### 6th Floor

#### **Fire Pump Room**

Panelboard	CWP Panel	
Panelboard	Jockey Pump Panel	
Automatic Transfer Switch	Fire Pump Ats	
Panelboard	Fire Pump Panel	
Control Panel	FO Pumps	
Disconnect Switch	Domestic Water Pump	
Bust Duct		

#### 5th Floor

#### **Electrical Closet**

Panelboard	LS	
Panelboard	RS	
Disconnect Switch	NOID	
Bust Duct		

#### 4th Floor

#### **Electrical Closet (A)**

Panelboard	LS	
Panelboard	RS	
Disconnect Switch	NOID	
Transformer	150KVA	
Bust Duct		

#### **Electrical Closet (B)**

Panelboard	LS	
Disconnect Switch	LP-1	
Transformer	150KVA	



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#### 3rd Floor

#### **Electrical Room**

Panelboard	LPL	
Panelboard	LPH-A	
Panelboard	В	
Panelboard	С	
Bust Duct		

#### 2<sup>nd</sup> Floor

#### **Main Switch Gear Room**

Panelboard	H1	
Panelboard	H2	
Panelboard	H3	
Fused Disconnect Switch	Panel P-CB	Photo 3
Switchgear	Sec 1	
Switchgear	Sec 2	
Switchgear	Sec 3	
Service Disconnect	9-22	

#### **Server Room**

Panelboard	RP-1A	
Panelboard	RP-1B	
Power Distribution Unit	2CV	Photo 6
Power Distribution Unit	ELP-1-A	
Power Distribution Unit	LP-1-A	
Power Distribution Unit	LP-1	
Panelboard	LP-1B	
CRAC	SC-3-10	
CRAC	SC-3-11	
CRAC	SC-3-12	Photo 7
CRAC	SC-3-13	

#### 1<sup>st</sup> Floor

#### **East Mechanical Room**

Control Panel	LF1	
Nonfused Disconnect Switch	LF1DS	
Variable Frequency Drive	AHU3	
Control Panel	SCR	



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#### **Basement**

#### **Electrical Room**

Control Panel	LF2	
Nonfused Disconnect Switch	LF2DS	
Variable Frequency Drive	AHU2	
Control Panel	SCR	