



THERMOGRAPHIC INSPECTION REPORT

Royal Suite Hotels

Buena Park

9/29/99

Summary of Inspection for

Royal Suite Hotels

Buena Park

List of Inspected Items

SECTION	EQUIPMENT	PRIORITY	FAULT	PAGE
Center Building	Panel "ED"	B	Hot Breaker	5
Northside Building "B"	Main Pwr Panel #2 (East)	C	Hot Lead	6
Center Building	Panel "EA"	C	Hot Breaker	7
Center Building	Main Breaker Panel	D	"A" Phase hot lead	8
Main Office	Panel "AA"	D	Hot connector	9
Pool Room	Equipment Panel	D	Connector screw	10



INFRARED SURVEYS ELECTRICAL CRITERIA FOR INDUSTRIAL AND MARINE INDUSTRIES

We have completed your infrared survey and submitting the following report of the items surveyed and the anomalies found. Please review the findings, and call us with any questions you have about the abnormalities. Here is the electrical criteria you need to determine priority of maintenance scheduling based on temperature rise.

HIGH VOLTAGE - POWER DISTRIBUTION EQUIPMENT

Temperature Rise Above Ambient / Reference

<u>CLASS</u>	<u>RISE</u>	<u>REMARKS</u>
Priority "D"	0 - 10°C	Corrective measures should be at the next maintenance period.
Priority "C"	10 - 20°C	Corrective measures required as scheduling permits.
Priority "B"	20 - 40°C	Corrective measures required ASAP, depending upon the class of load carried and the severity of temperature rise in this range.
Priority "A"	40°C and over	Corrective measures required IMMEDIATELY.

LOW VOLTAGE - CONTROL AND DISTRIBUTION EQUIPMENT

Temperature Rise Above Ambient / Reference

<u>CLASS</u>	<u>RISE</u>	<u>REMARKS</u>
Priority "D"	0 - 10°C	Corrective measures should be at the next maintenance period.
Priority "C"	10 - 20°C	Corrective measures required as scheduling permits.
Priority "B"	20 - 40°C	Corrective measures required ASAP, depending upon the class of load carried and the severity of temperature rise in this range.
Priority "A"	40°C and over	Corrective measures required IMMEDIATELY.

NOTE: The above Criteria has been determined by past field experience for maintenance scheduling. Final decision as to priorities and order should be determined by the degree of temperature rise and criticality for the equipment / process involved.

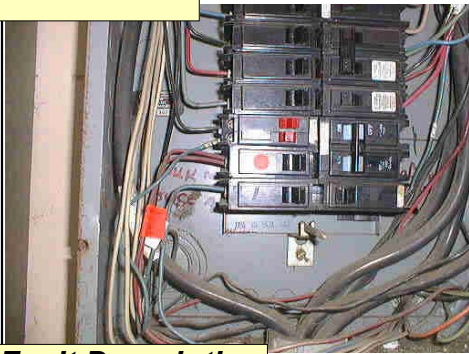
[1-888-545-5327](tel:1-888-545-5327)

Embassy Suite Hotel, Bueno Park, CA

EQUIPMENT SURVEYED	XFMR	PANEL	Report Pg.#
CENTER BUILDING			
Transformer & Main Breaker Panel	X	X	Pg# 8
Panel ED		X	Pg# 5
Panel EA		X	Pg# 7
Panel EB		X	
Panel EX		X	
MAIN ELECTRICAL ROOM			
Main Service SWBD MSB-1 2000A 227/480V		X	
Panel MSB 2 and Transformer	X	X	
PUMP ROOM			
Main Power Panel 2		X	
Sublet Panel C		X	
Dunham-Bush		X	
BUILDING B North Side			
#1 & #2 TRANSFORMER & MAIN PWR PANEL	X X	X	Pg.# 6
Panel BC		X	
Panel BB		X	
Panel BA		X	
Panel BD		X	
Panel BE		X	
Panel BF		X	
BUILDING A			
MAIN POWER PANEL AND TRANSFORMER	X	X	
BUILDING D			
MAIN POWER PANEL & TRANSFORMER	X	X	
Panel D1		X	
Panel D2		X	
Panel D3		X	
Panel D4		X	
Panel D5		X	
POOL ROOM EQUIPMENT PANEL		X	Pg# 10
WORKSHOP PANEL D6		X	
HOUSE LAUNDRY PANEL		X	
MAIN OFFICE PANEL			
AA		X	Pg# 9
AB		X	
GIFT SHOP POWER PANEL		X	
2ND FLOOR STAIR		X	
EAST WALL CA		X	
OUT CB		X	

Priority: B	Inspected Equipment: Center Building Panel "ED"	Operator: Sal DiFrancia ThermaCAM PM280	A02.tif
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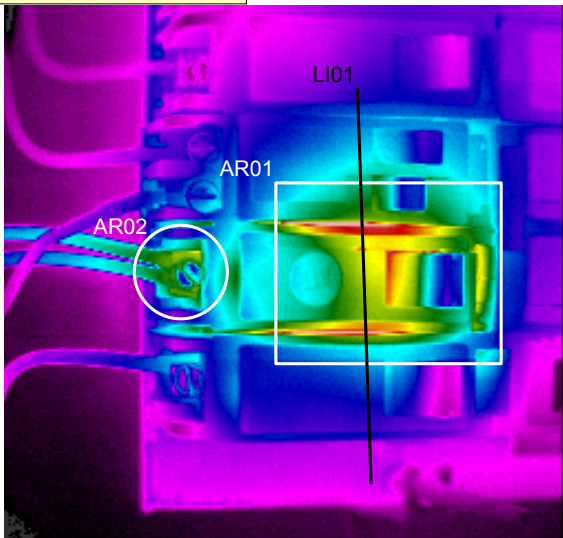
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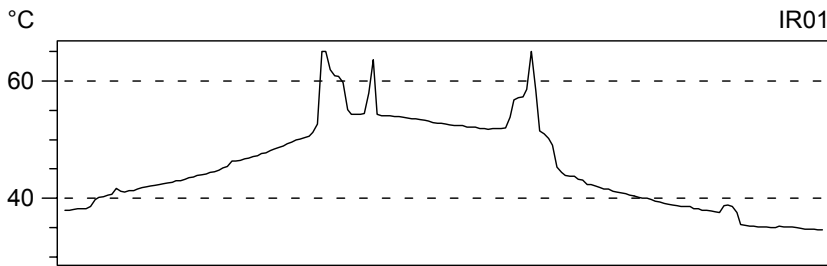
Working Conditions:
Previously reported condition.

Company	Royal Suite Hotels
9/28/99	09:09:20 PM
Center Building	Panel "ED"
Breaker @Amps	20
Measured @Amps	11
Percentage @%	52%
Fault	Hot Breaker
Recommendation	Inspect, clean and Replace

Fault Description



Object parameter	Value
Emissivity	0.93
Object distance	1.0 m
Ambient temperature	23.0°C
Transmission	0.95
Relative humidity	0.50
Label	Value
LI01 : max	>65.0°C
AR01 : max	>65.0°C
AR02 : max	54.9°C



Recommendation

This breaker is loaded only to 52% capacity. The temperature increase with further loading will be exponential. It represents an **"B" priority** item.

Corrective Action

Date Completed: _____



Priority: C	Inspected Equipment: Northside Building "B"	Operator: Sal DiFrancia
	Main Pwr Panel #2 (East)	ThermaCAM PM280 A07.tif

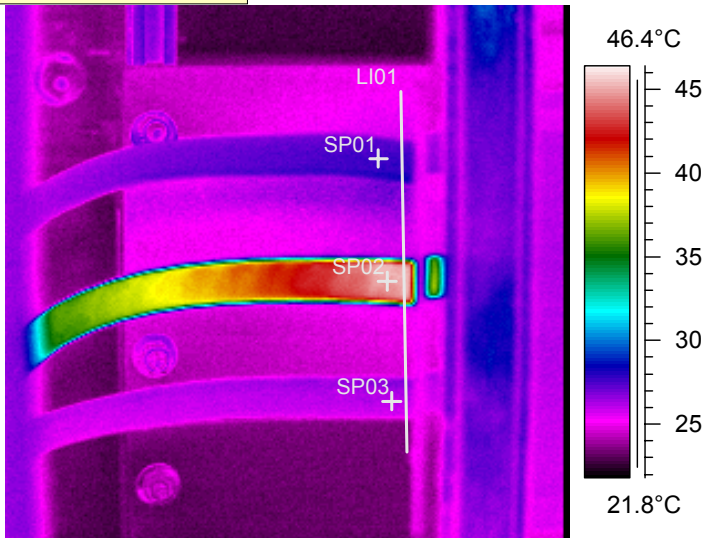
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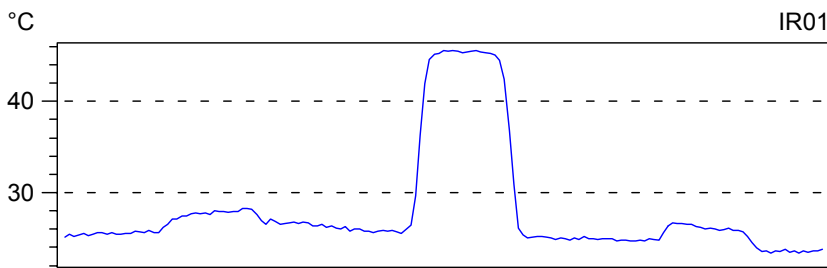
Working Conditions:
Tested under normal loading conditions.

Company	Buena Park
9/28/99	09:44:52 PM
Northside Building	Main Pwr Panel #2 (East)
Breaker @Amps	N/A
Measured @Amps	14/13/6
Percentage @%	N/A
Fault	Hot Lead
Recommendation	Inspect, clean and tighten

Fault Description



Object parameter	Value
Emissivity	0.93
Object distance	1.0 m
Ambient temperature	23.0°C
Transmission	0.95
Relative humidity	0.50
Label	Value
SP01	27.6°C
SP02	45.1°C
SP03	26.1°C
LI01 : max	45.6°C



Recommendation

This breaker represents a 20°C rise, "C" priority. It appears to be a loose cable connector.

Corrective Action

Date Completed: _____



Priority: C	Center Building Inspected Equipment: Panel "EA"	Operator: Sal DiFrancia ThermaCAM PM280 A03.tif
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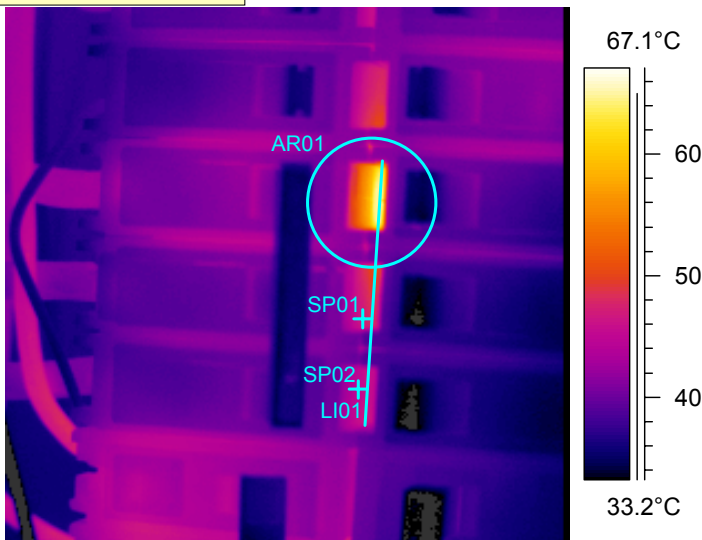
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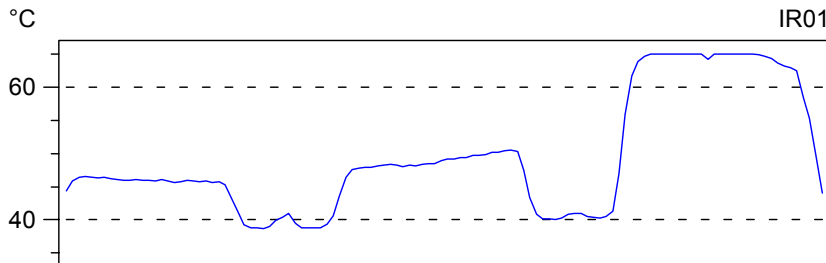
Working Conditions:
Tested under normal load conditions.

Company	Royal Suite Hotels
9/28/99	09:14:43 PM
Center Building	Panel "EA"
Breaker @Amps	60
Measured @Amps	N/A
Percentage @%	N/A
Fault	Hot Breaker
Recommendation	Inspect, clean or replace

Fault Description



Object parameter	Value
Emissivity	0.93
Object distance	1.0 m
Ambient temperature	23.0°C
Transmission	0.95
Relative humidity	0.50
Label	Value
SP01	47.0°C
SP02	45.1°C
LI01 : max	>65.0°C
AR01 : max	>65.0°C



Recommendation

This is a triple breaker set and there appears to be excess heating at the inside clip for the top breaker in this set. With **20°C** rise, **"C"** priority.

Corrective Action

Date Completed: _____



Priority: D	Center Building Inspected Equipment: Main Breaker Panel	Operator: Sal DiFrancia ThermaCAM PM280 A01.tif
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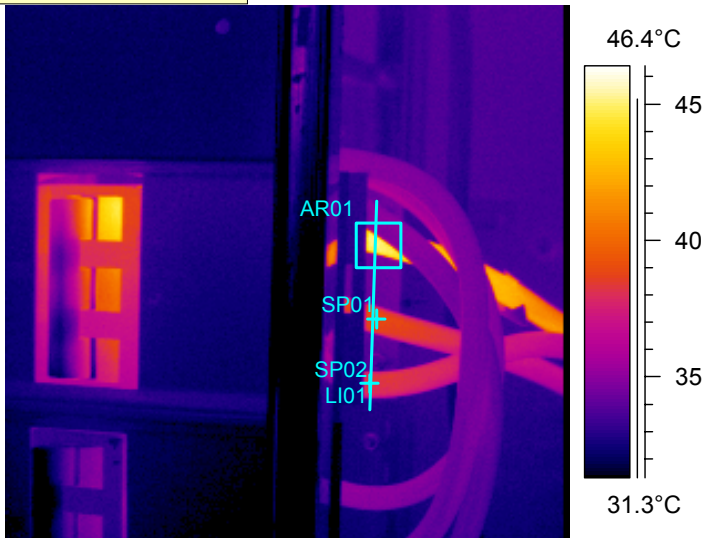
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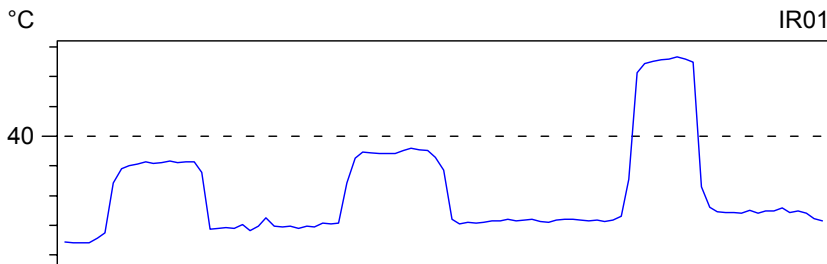
Working Conditions:
Main breaker for "EA" sub-panel system.

Company	Royal Suite Hotels
9/28/99	09:05:10 PM
Center Building	Main Breaker Panel
Breaker @Amps	100
Measured @Amps	55/60/69
Percentage @%	69%
Fault	"A" Phase hot lead
Recommendation	Inspect, clean and tighten

Fault Description



Object parameter	Value
Emissivity	0.95
Object distance	1.0 m
Ambient temperature	23.0°C
Transmission	0.95
Relative humidity	0.50
Label	Value
SP01	38.9°C
SP02	38.2°C
LI01 : max	45.3°C
AR01 : max	45.3°C



Recommendation

The "A" phase lead in this circuit, main breaker for "EA" sub-panel, is showing a **7°C rise, "D" priority.** Possibly a loose connector.

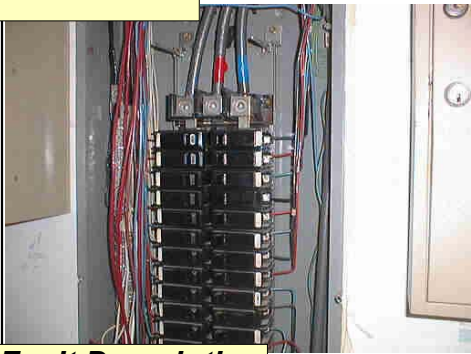
Corrective Action

Date Completed: _____



Priority: D	Inspected Equipment: Main Office Panel "AA"	Operator: Sal DiFrancia ThermaCAM PM280	A06.tif
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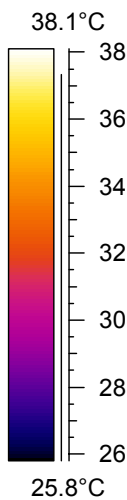
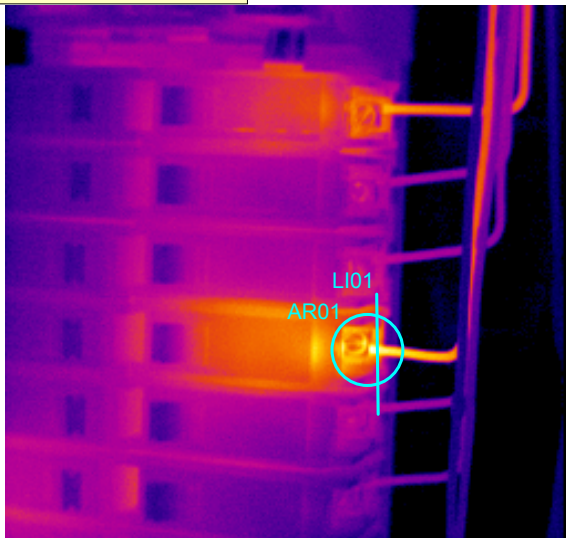
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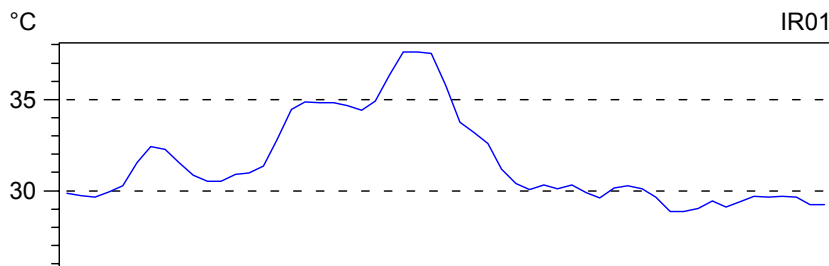
Working Conditions:
Tested under normal operating load.

Company	Buena Park
9/28/99	09:26:11 PM
Main Office	Panel "AA"
Breaker @Amps	20
Measured @Amps	16
Percentage @%	80
Fault	Hot connector
Recommendation	Inspect, clean and tighten

Fault Description



Object parameter	Value
Emissivity	0.85
Object distance	1.0 m
Ambient temperature	23.0°C
Transmission	0.95
Relative humidity	0.50
Label	Value
LI01 : max	37.6°C
AR01 : max	38.0°C



Recommendation

A **"D"** priority. This appears to be a minor problem with a loose connection screw.

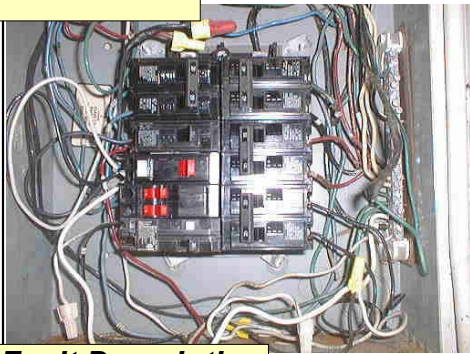
Corrective Action

Date Completed: _____



Priority: D	Inspected Equipment: Pool Room	Operator: Sal DiFrancia
	Equipment Panel	ThermaCAM PM280 A09.tif

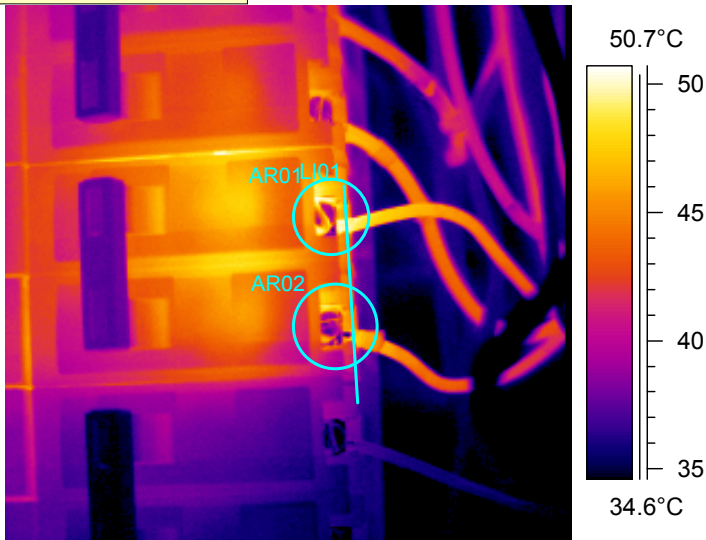
Identification



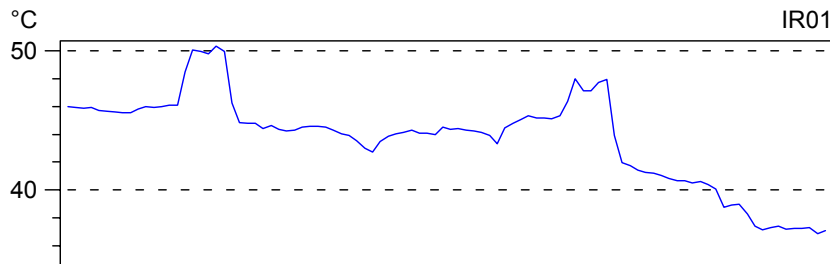
Working Conditions:
Tested under normal conditions.

Company	Buena Park
9/28/99	10:21:24 PM
Pool Room	Equipment Panel
Breaker @Amps	dual 20
Measured @Amps	.07 & .06
Percentage @%	N/A
Fault	Connector screw
Recommendation	Inspect, clean and tighten

Fault Description



Object parameter	Value
Emissivity	0.85
Object distance	1.0 m
Ambient temperature	23.0°C
Transmission	0.95
Relative humidity	0.50
Label	Value
LI01 : max	50.3°C
AR01 : max	50.8°C
AR02 : max	49.2°C



Recommendation

A "**D**" priority item. A possible loose connector screw.

Corrective Action

Date Completed: _____

