

LC Building Management Group
Lake Star Hotel - Seattle
Lake Star Hotel

Report Date: 5/5/1995

Prior Inspection No : 10104 April 4, 1994
Current Inspection No : 10105 May 5, 1995

Operation Priority Key

CTO = Critical to operation
 ETO = Essential to operation
 NON = Non-essential to operation
 UNC = Un-Classified

Prior Inspection

Current Inspection

Operation Priority Prior Insp# Prior Prob# Temp Rise Current Prob# Temp Rise % Load Repair Priority

Location Main Building \ 1 Floor \ Mech Room

Equipment: Main Chill Water Pump Motor ETO M 1 75 F 10% 2-Serious
 Component: abnormal heating on Motor Bearing
 Failure of This Component Could Cause a Loss to Production: Yes No Unknown
 Consequences of Component Failure : Loss of Main Chill Water Pump Motor

Cost Estimate	Labor Hrs	Cost/Hr	SubTotal	Lost Revenue	Cost/Hr	SubTotal	Parts Replacement (\$)	Total Cost
Before Failure	1.00	\$35	\$35.00	0.00	\$0	\$0.00	\$179	\$214.00
After Failure:	10.00	\$50	\$500.00	0.00	\$0	\$0.00	\$5,000	\$5,500.00
Increased Revenue/Savings:			\$465.00			\$0.00		\$5,286.00

Location Main Building \ 1 Floor \ Main Elect Vault \ MCC 1

Equipment: Exh fan 1 ETO 10103 E 6 57 F E 1 90 F 19% 1-Critical
 Component: B Phase line side wire lug connection on fuse disconnect switch
 Failure of This Component Could Cause a Loss to Production: Yes No Unknown
 Consequences of Component Failure : Loss of Exh fan 1

Cost Estimate	Labor Hrs	Cost/Hr	SubTotal	Lost Revenue	Cost/Hr	SubTotal	Parts Replacement (\$)	Total Cost
Before Failure	1.00	\$35	\$35.00	0.00	\$0	\$0.00	\$10	\$45.00
After Failure:	2.00	\$35	\$70.00	0.00	\$0	\$0.00	\$287	\$357.00
Increased Revenue/Savings:			\$35.00			\$0.00		\$312.00

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Operation Priority	Prior Inspection			Current Inspection		
	Prior Insp#	Prior Prob#	Temp Rise	Current Prob#	Temp Rise	% Load
						Repair Priority

Report Summary:

Cost Estimate Summary:				
	Total Labor Cost	Total Lost Revenue	Total Parts Cost	Grand Total Cost
Before Failure:	\$332.50	\$0.00	\$284.00	\$616.50
After Failure:	\$892.50	\$0.00	\$7,923.00	\$8,815.50
Increased Revenue/Savings:	\$560.00	\$0.00	\$7,639.00	\$8,199.00

I/C Electrical Problem Documentation

LC Building Management Group

Lake Star Hotel - Seattle, May 5 1995, #10105
Lake Star Hotel

Report Date: 5/5/1995

Temperature Information

Ambient: **80 F** Environment: Wind **0**
Adjusted Temperature Rise: **55**
Est Temp Rise over reference @ 50% Load: **21**
Est Temp Rise over reference @ 100% Load: **86**
Est Melting Temp of Component Material:

Equipment Information

ANSI/IEEE/NEMA Max Temp Criteria:

Component: **circuit breakers 3 pole molded case**
Fault Type: **I/C Electrical**
Manufacturer:
Catalog No:
Model No:
Size:
Circuit Voltage: **480 Volts**
AWG:
Conductor Material Line Side:
Conductor Material Load Side:
Component Rated Load: 50
Line Side Rating:
Load Side Rating:
XFMR KVA Rating:

Load Test Results

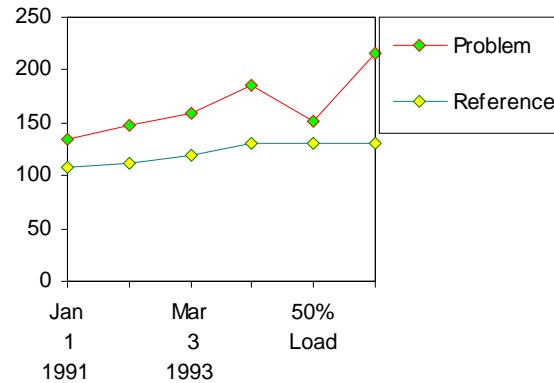
True RMS Amps:

A Phase: **40**
C Phase: **40**

Emissivity:
Voltage from Neutral to Ground:

Temp Rise History Loads Tested vs. Normalized to 50%

May 5 1995 : 55F@80% vs 21F@50% / -72% Chg in 1585 Days
Mar 3 1993 : 40F@34% vs 87F@50% / 16% Chg in 792 Days
Feb 2 1992 : 37F@30% vs 103F@50% / 37% Chg in 397 Days
Jan 1 1991 : 27F @30% vs 75F@50%



Is Chronic: **Yes**

Work Order#:

Current Prob No: I/C Electrical/2

Operation Priority: **Essential to operation**

Repair Priority: **2-Serious**

Component Temperature On A Phase: **185 F**

C Phase Reference Temperature: **130 F**

Temperature Rise Above Reference: **55 F**

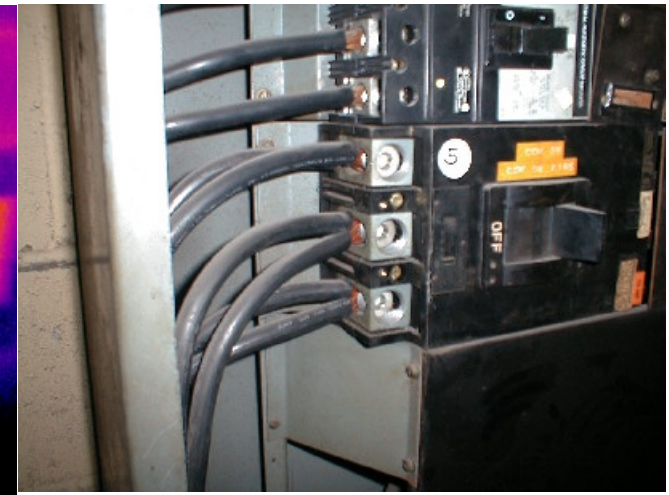
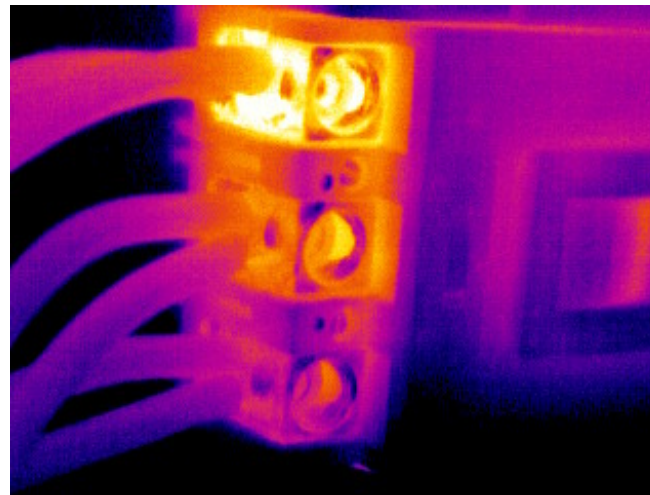
ANSI/IEEE/NEMA Max Allowable Temp @ 100% Load: **225 F**

Location/Equipment Information

Equipment ID: 6501-0010-0002

Main Building
1 Floor
Main Elect Vault
MCC 1
Sup Fan 1

A Phase line side wire lug connection on circuit breaker - 100 amp



File: B0213-05.bmp Date: 5/5/1995 Time: 3:06 PM
File: 12020014.JPG Date: 5/5/1995 Time: 3:07 PM

Technician: **Joe Thermographer**
Certification Level/No.: **Level 3**

Mechanical Problem Documentation

LC Building Management Group
 Lake Star Hotel - Seattle, May 5 1995 , #10105
 Lake Star Hotel

Report Date: 5/5/1995

Work Order#:

Current Prob No: Mechanical/1

Temperature Information

Ambient: **72 F** Enviroment: **Indoors** Wind **0**
 Adjusted Temperature Rise: **75**
 Est Melting Temp of Component Material:

Equipment Information

ANSI/IEEE/NEMA Max Temp Criteria:

Component: **400hp Motors**
 Fault Type: **Mechanical**
 Manufacturer:
 Catalog No:
 Model No:
 Oil Type:
 Circuit Voltage: **120 Volts**
 Bearing Type:
Component Rated Load: 100
 Horse Power (HP):
 RPM's:

Load Test Results

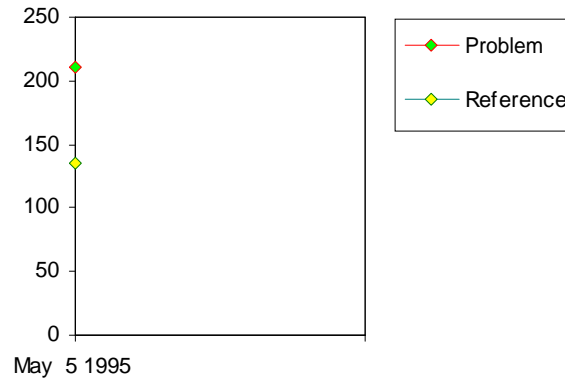
True RMS Amps:

Component: **10**
 Reference: **25**

Emissivity:
 Voltage from Neutral to Ground:

Temp Rise History Loads Tested

May 5 1995 : 75F @10%

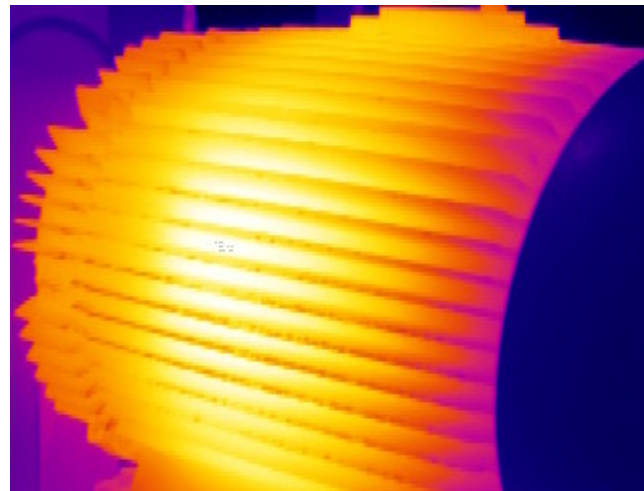


Is Chronic: **No**
 Operation Priority: **Essential to operation**
 Repair Priority: **2-Serious**
 Component Temperature: **210 F**
Reference Temperature: 135 F
Temperature Rise Above Reference: 75 F
 ANSI/EEE/NEMA Max Allowable Temp @ 100% Load: **F**

Location/Equipment Information

Equipment ID: w5543
 Main Building
 1 Floor
 Mech Room
 Main Chill Water Pump Motor

abnormal heating on Motor Bearing



File: I0616-17.bmp Date: 5/5/1995 Time: 3:43 PM
 File: image10.jpg Date: 5/5/1995 Time: 3:44 PM

Technician: **Joe Thermographer**
 Certification Level/No.: **Level 3**

Visual Problem Documentation

LC Building Management Group
Lake Star Hotel - Seattle, May 5 1995 , #10105
Lake Star Hotel

Report Date: 5/5/1995

Hazard Type: Fire

Hazard Group: Animals

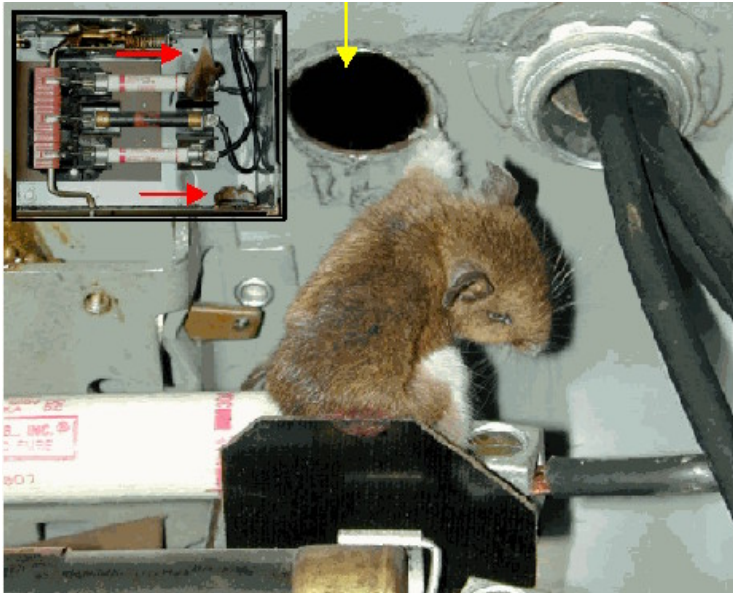
Hazard Issue: Mouse shorting out circuit

Observations: Animals, Mouse shorting out circuit - having a bad day on A phase

Consequences of Hazard:

What is the Cause:

Recommendations:



Hazard Classification: Potential Fire Hazard

Work Order#:

Current Prob No: Visual/1	
Is Chronic:	No
Operation Priority:	Essential to operation
Repair Priority:	3-Marginal

**PHOTO IMAGE IS NOT
AVAILABLE**

File: DTS_2 Blind Mice vi Date: 5/5/1995 Time: 03:57 PM
File: Date: 5/5/1995 Time: 03:58 PM

Technician: **Joe Thermographer**
Certification Level/No.: **Level 3**

Documentation/Work Order I/C Electrical

Work Order#:

10105-2

Current Prob No: I/C Electrical/2

IR File: B0213-05.bmp

Date: 5/5/1995 Time 3:06 PM

PH File: 12020014.JPG

Date: 5/5/1995 Time 3:07 PM

LC Building Management Group

Lake Star Hotel - Seattle, May 5 1995, #10105

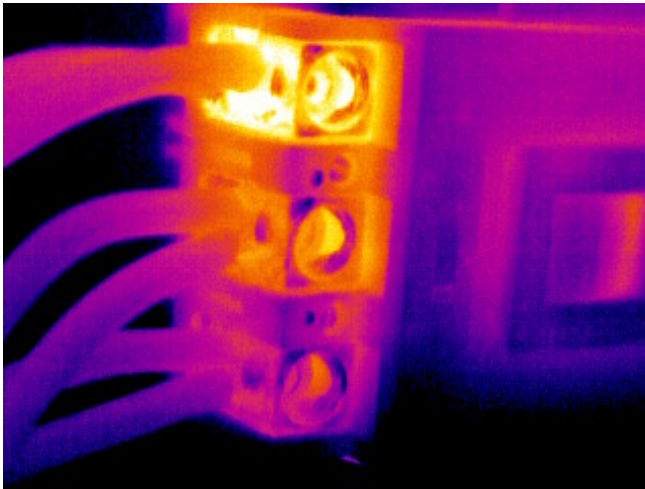
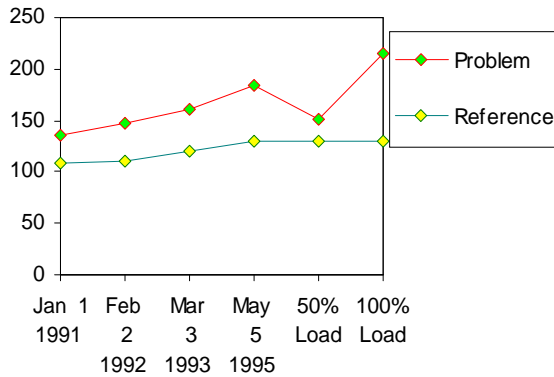
Lake Star Hotel

Report Date: 5/5/1995

Location/Equipment Information	
Asset ID:	6501-0010-0002
Main Building	1 Floor
	Main Elect Vault
	MCC 1
	Sup Fan 1
A Phase line side wire lug connection on circuit breaker - 100 amp	

Thermal Information	
Repair Priority:	2-Serious
Component Temperature On A Phase:	185 F
C Phase Reference Temperature:	130 F
Temperature Rise Above Reference:	55 F

RATED LOAD:	50	amps
A Phase:	40	amps
C Phase:	40	amps
		amps



PLEASE FAX BACK AFTER REPAIR

Repair Information

Loss to Production

Yes No Unknown

Consequences of Failure:

Loss of Sup Fan 1

Repair Date: _____ Repaired By: _____

Repair Action: _____

Parts Req. Before Failure:

Root Cause of this Problem: _____

Parts Req. After Failure:

Repair Recommendation:

Dissassemble clean, reassemble tighten.

Resistance Test (Ohms)

Before Repair: _____ After Repair: _____ Reference: _____

List of Finding Alphabetically by Location

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Equipment	Asset ID	Operation Priority	Prior Insp#	Prior Prob	Temp Rise	Curr Prob#	Temp Rise	% Load	Repair Priority	Repair Status
Equipment: Annex Build \ Annex Elect Room \ Dist Pnl A1 Component: B Phase line side wire lug connection on circuit breaker # 10 - 100 amp	1234-ABCD	CTO	10104	E 1	22 F	E 6	43 F	44%	3-Important	Open
Equipment: Annex Build \ Annex Elect Room \ Dist Pnl A1 Component: B Phase contacts in jaw end on c-crimp - c-crimp	1234-ABCD	CTO				TD 1	20 F	45%	4-Minor	Open
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ Lighting Panel L1 Component: C Phase heating at junction on circuit breaker - 20 amp		ETO				E 8	110 F	50%	1-Critical	Open
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ MCC 1 \ Exh fan 1 Component: B Phase line side wire lug connection on fuse disconnect switch	6501-0010-0001	ETO	10100	E 2	47 F	E 7	69 F	45%	2-Serious	Open
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ MCC 1 \ Exh fan 1 Component: B Phase line side wire lug connection on fuse disconnect switch	6501-0010-0001	ETO	10103	E 6	57 F	E 1	60 F	60%	2-Serious	Open
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ MCC 1 \ Sup Fan 1 Component: A phase line side wire lug connection on starter - 3 pole, nema size 3	6501-0010-0002	ETO	10103	E 3	40 F	E 2	55 F	80%	2-Serious	Open
Equipment: Main Building \ 1 Floor \ Mech Room \ Main Chill Water Pump Motor Component: abnormal heating on Motor Bearing	w5543	ETO				M 1	75 F	10%	2-Serious	Open
Equipment: Main Building \ 1 Floor \ Mech Room \ Main Chill Water Pump Motor Component: A Phase line side wire lug connection on circuit breaker - 100 amp	w5543	ETO				E 3	25 F	55%	3-Important	Open
Equipment: Outside Service Entrance \ Pole Mounted XFMR Component: Field side phase pivot connection on 15kv Transformer		ETO				TD 2	30 F	100%	2-Serious	Open
Equipment: West Tower \ 1 Floor West \ Elect Room WT-1 \ Panel H1W Component: A phase line side bolt to bus connection on circuit breaker19		ETO	10103	E 2	37 F	E 5	66 F	60%	2-Serious	Open

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	<u>Asset ID</u>	<u>Operation Priority</u>	<u>Prob#</u>	<u>Insp#</u>	<u>Temp Rise</u>	<u>% Load</u>	<u>Severity</u>	<u>Status</u>
Equipment: Annex Build \ Annex Elect Room \ Dist Pnl A1 Component: B Phase contacts in jaw end on c-crimp - c-crimp	1234-ABCD	CTO	TD 1	10105	20 F	45%	3-Important	TESTED
Equipment: Annex Build \ Annex Elect Room \ Dist Pnl A1 Component: B Phase line side wire lug connection on circuit breaker # 10 - 100 amp	1234-ABCD	CTO	E 6	10105	43 F	22%	2-Serious	TESTED
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ Lighting Panel L1 Component: C Phase heating at junction on circuit breaker - 20 amp		ETO	E 8	10105	110 F	250%	1-Critical	TESTED
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ MCC 1 \ Exh fan 1 Component: B Phase line side wire lug connection on fuse disconnect switch	6501-0010-000	ETO	E 1	10105	90 F	19%	1-Critical	TESTED
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ MCC 1 \ Exh fan 1 Component: B Phase line side wire lug connection on fuse disconnect switch	6501-0010-000	ETO	E 7	10105	69 F	1%	1-Critical	TESTED
Equipment: Main Building \ 1 Floor \ Main Elect Vault \ MCC 1 \ Sup Fan 1 Component: A phase line side wire lug connection on starter - 3 pole, nema size 3	6501-0010-000	ETO	E 2	10105	55 F	80%	2-Serious	TESTED
Equipment: Main Building \ 1 Floor \ Mech Room \ Main Chill Water Pump Motor Component: abnormal heating on Motor Bearing	w5543	ETO	M 1	10105	75 F	10%	2-Serious	TESTED
Equipment: Main Building \ 1 Floor \ Mech Room \ Main Chill Water Pump Motor Component: A Phase line side wire lug connection on circuit breaker - 100 amp	w5543	ETO	E 3	10105	25 F	55%	3-Important	TESTED
Equipment: Outside Service Entrance \ Pole Mounted XFMR Component: Field side phase pivot connection on 15kv Transformer		ETO	TD 2	10105	30 F	100%	2-Serious	TESTED
Equipment: West Tower \ 1 Floor West \ Elect Room WT-1 \ Lighting Panel WT-L1-1 Component: B Phase load side wire lug connection on circuit breaker - 100 amp		ETO	E 5	10103	35 F	30%	3-Important	TBT
Equipment: West Tower \ 1 Floor West \ Elect Room WT-1 \ Panel H1W Component: A phase line side bolt to bus connection on circuit breaker19		ETO	E 5	10105	66 F	29%	1-Critical	NTNL
Equipment: West Tower \ 4 Floor West \ Elect Room WT-4 \ Elev Power Panel Component: A Phase line side wire lug connection on fuse disconnect switch	r5792	ETO	E 4	10105	68 F	24%	1-Critical	TESTED

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LC Building Management Group
Lake Star Hotel - Seattle
Lake Star Hotel

Report Date: 5/5/1995

Inspected By : User

Prior Inspection No: 10104

Current Inspection No: 10105

Problem Type Key

E = I/C Electrical
 TD = T/D Electrical
 M = Mechanical
 V = Visual Inspection

Operation Priority Key

CTO = Critical to operation
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Equipment Test Status Key

TBT = To Be Tested
 NT/NL = Not Tested/No Load
 NT/TC = Not Tested/Time Constraint
 NT/UR = Not Tested/Under Repair
 NT/LO = Not Tested/Locked Out
 NT/NA = Not Tested/Not Available
 NT/TC = Not Tested/Time Constraint
 NT/NS = Not Tested/Not Specified
 NSFI = Not Selected for this insp.

Tested	Next Insp. Date	CTO	Problem #	Barcode	Asset ID	Equipment Name	Test Status Notes
TBT	3/3/1994	ETO				Annex Build	
TBT	3/3/1994	CTO				Annex Elect Room	
TESTED	8/3/1995	CTO	E6, TD1		1234-ABCD	Dist Pnl A1	
TBT	1/1/1992	CTO				Main Building	
TBT	1/1/1992	ETO				1 Floor	
TBT	7/27/2001	ETO				Main Elect Vault	
TESTED	7/27/2001	ETO		f567899i		Dist Panel 1A	
TESTED	7/27/2001	ETO	E8			Lighting Panel L1	
NTNS	7/27/2001	ETO				Lighting Panel L2	
NTNS	7/27/2001	ETO				Lighting Panel L3	
TBT	7/27/2001	ETO				Main Switch Board	
TESTED	7/27/2001	ETO		j456341a		Dist. Pnl 1A Breaker	
TESTED	7/27/2001	CTO		w123126j	x2653	Main Breaker	
TESTED	7/27/2001	ETO		s345980k	d9452	Main Building Breaker	
TESTED	7/27/2001	ETO		y345678d	a4859	North Tower Breaker	
TESTED	7/27/2001	CTO		g345656k	s48168	South Tower Breaker	
TESTED	1/1/1992	ETO				MCC 1	
TESTED	1/1/1992	ETO	E1, E7	b567896	6501-0010-0001	Exh fan 1	
TESTED	1/1/1992	ETO	E2	f444567y	6501-0010-0002	Sup Fan 1	
TESTED	1/1/1992	ETO				Mech Room	
TESTED	1/1/1992	ETO	E3, M1	556	w5543	Main Chill Water Pump Motor	Test was done after 3 hours
TBT	1/1/1992	ETO				Roof	
NTTC	2/1/1993	ETO		vr56756h		Exh Fan 56	
TBT	1/1/1992	ETO				Outside Service Entrance	
NTLO	5/5/1995	ETO		z126583h		Pad mount XFMR 345-453	
TESTED	5/5/1995	ETO				Pole 555-808-3421	
TESTED	5/5/1995	ETO	TD2			Pole Mounted XFMR	
TBT	1/1/1992	ETO				West Tower	

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Lake Star Hotel

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Report Date: 5/5/1995

Main Building \ 1 Floor \ Mech Room \ Main Chill Water Pump Motor

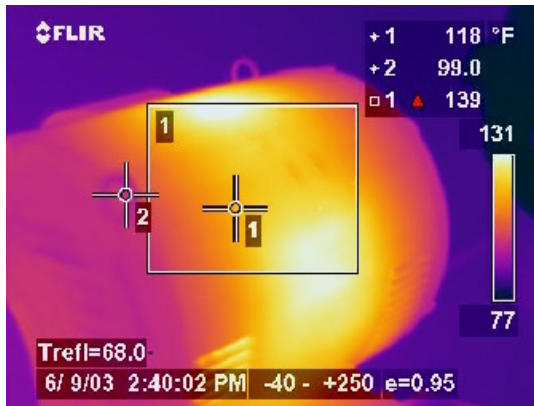
Equipment ID: w5543

Barcode: 556

Manufacturer: Westinghouse

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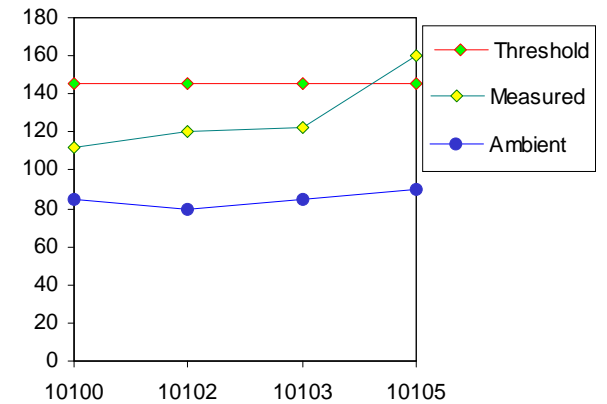


IR_060903_003.jpg



DC_060903_005.jpg

Operation Priority: ETO



Inspection History:

Inspection No	Date Inspected	Test Status	Measured Temp	Threshold Temp	Ambient Temp	Status Note	Customer Notes
10100	1/1/1991	TESTED	112 F	145 F	85 F	Motor was tested at full running load after it had been running for 3 hours.	Motor was at full running load
10102	2/2/1992	TESTED	120 F	145 F	80 F		The motor was running for 1 hour
10103	3/3/1993	TESTED	122 F	145 F	85 F		motor was running for 2 hours
10105	5/5/1995	TESTED	160 F	145 F	90 F	Test was done after 3 hours	The motor is over its Alarm Threshold temp by 15 deg.

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