



## Infrared Thermographic Inspection

Provided for  
Your Facility Name Here

Report Date: 9/18/2013

### Infrared Thermography

- Electrical Inspections
- Mechanical Inspections
- Roof Moisture Analysis
- Building Envelope / Heat Loss

### Power Quality Consulting

- Power Quality Surveys
- Load Studies
- Harmonic Content Analysis
- Power Metering

### Electrical Mapping/Documentation

- 1-Line Electrical Drawings
- Panel Schedules
- Panel Identification / Labeling





**Current Inspection No: 1234**  
**Report Date: 9/18/2013**  
**Inspected By : Joe Thermo**

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Recently, a Dyna Scan Thermographer performed an Infrared Thermographic Inspection of the electrical distribution system at your facility. The objective of this inspection was to expose temperature extremes, which could be indicative of problems and defects in the electrical system.

An Infrared Imager detects radiated energy as heat emanating from the target. In utilizing this tool for examining electrical power circuitry, it must be recognized that temperatures indicative of defects will normally be observed only in circuits which are normally or heavily loaded. Scanning lightly loaded or de-energized circuits may produce inconclusive results.

This report is set up to list all distribution panels and current carrying devices in an organized manner. The electrical equipment and the results of the inspection are listed for each location. A defect report is provided for each problem area found during the inspection. This defect report includes a load analysis, a visual inspection comment, and recommendations for corrective action.

The report summary on the following page is an arbitrary guideline intended to provide perspective with respect to temperature differences between target areas and reference points. Take note that many variables may affect the temperature differences, most notably the ambient temperature, wind speed and circuit load.

Many electrical panels such as switchboards and motor control centers contain multiple circuits that may or may not be de-energized at the time of inspection. Dyna Scan technicians will identify in the equipment inventory in this report when it is obvious that equipment is not running at time of inspection. However, without taking load readings on every circuit in each individual panel, it is impossible to identify all equipment and circuits that are not under load.

If you should have any questions regarding the scan or this report, feel free to contact our office at any of the numbers below. We appreciate the opportunity to be of service to you and look forward to working with you in the future.

Sincerely,

Jim O'Brien - Director of Operations  
Dyna Scan Technical Services  
(513) 245-5951

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**NOTE-**In the course of an Infrared Thermography Inspection on electrical distribution equipment, many times circuits are reported as being "overloaded." In general this statement is made on the basis of instantaneous amperage readings which have been found to be in excess of 80% of the overcurrent devices nameplate rating. In accordance to the National Electrical Code Articles 210-22(c) and 384-16(c) the total load on an overcurrent device shall not exceed 80% of its rating where in normal operation the load will continue for 3 hours or more (See NEC for exceptions).








Current Inspection No: **1234** September 16, 2013  
 Previous Inspection No: April 16, 2012

Page 1  
 Report Date: 9/18/2013

**Overview:**





The Infrared Electrical Inspection was performed by Dyna Scan Technical Services, by a certified Infrared Thermographer. All of the items inspected are listed in this InspecTrend report. Any anomalies are listed in order of priority based on the component's temperature rise, as measured from a reference component of equal type and load at the time of the inspection. Dyna Scan Technical Services assumes no liability directly or indirectly as a result of this inspection.

<u>Priority</u>	<u>Temp Rise</u>	<u>Current Inspection</u>	<u>Prior Inspection</u>	<u>Percent Change</u>
1-Critical 	60-Above	3 = 33%	1 = 8%	200%
2-Serious 	40 - 59	0 = 0%	2 = 15%	-100%
3-Important 	11 - 39	6 = 67%	9 = 69%	-33%
4-Minor 	1 - 10	0 = 0%	1 = 8%	-100%
5-Normal 	0	0 = 0%	0 = 0%	NA
<b>Total Tested Problems:</b>		<b>9</b>	<b>13</b>	<b>-31%</b>

Number of New Documented Problems: 9 = 100% 0 = 0% NA  
 Number of Tested re-occurring Problems: 0 = 0% 0 = 0% NA

Number of prior problems which were Not Tested this inspection : 0  
 Number of Total Open Problems : **9**  
 Number of prior problems which tested Normal this inspection : 42

**Problem Severity Definitions:**

-  Critical - Danger to life and limb, eminent danger to equipment.
-  Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
-  Important - If this is not redundant equipment, repair should be scheduled ASAP.
-  Minor - Problem is apparent and needs to be monitored on a regular basis.



INFRARED THERMOGRAPHIC INSPECTION  
OF  
VISUAL PROBLEMS

Provided for

Report Date: 9/18/2013

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**Current Inspection No:** 1234 **September 16, 2013**

**Prior Inspection No:** April 16, 2012

Priority	Temp Rise	Current Inspection	Prior Inspection	Percent of Change
1-Critical		0 = 0%	0 = 0%	NA
2-Serious		0 = 0%	1 = 50%	-100%
3-Important		2 =100%	1 = 50%	100%
4-Minor		0 = 0%	0 = 0%	NA
Total Tested Problems:		<b>2</b>	<b>2</b>	<b>0%</b>
Number of New Documented Problems:		2 =100%	0 = 0%	NA
Number of Tested re-occurring Problems:		0 = 0%	0 = 0%	NA

Number of prior problems which were Not Tested this inspection : 0

Number of Total Open Problems **2**

Number of prior problems which tested Normal this inspection : 2

I hereby certify the above project was inspected by myself or under my direction and that the enclosed data is the direct result of this inspection.

**Dyna Scan Technical Services**

**Joe Thermo**

Certification Level/No. Level II Thermographer

\* Summary of reoccurring problems on following page(s)

## Infrared Inspection Inventory

**Current Inspection No:** 1234  
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**Equipment Test Status Key**

TBT = To Be Tested  
 NT/NL = Not Tested/No Load  
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 NT/UR = Not Tested/Under Repair  
 NT/NA = Not Tested/Not Accessible

Equipment Type	Location / Name	Test Statu	Problem #
	Location: 1st Floor	TESTED	
	Boiler Room	TESTED	
Motor Control Center	MCC	TESTED	E1
Starter-Disconnect	11A	TESTED	
Starter-Disconnect	11B	TESTED	
Starter-Disconnect	EF8	TESTED	
Manual Transfer Switch	Fire Pump	NTNL	
Control Panel	Jockey Pump	NTNL	
Starter-Disconnect	HW Pump 7	TESTED	
Starter-Disconnect	HW Pump 8	TESTED	
Starter-Disconnect	HW Pump 9	TESTED	
Starter-Disconnect	HW Pump 10	TESTED	
Starter-Disconnect	HW Recirc.	TESTED	
Starter-Disconnect	HW Condensate	TESTED	
Starter-Disconnect	HW Condensate Pump (right)	TESTED	
Control panel	Medical Air	TESTED	
Control bPanel	Medical Vacuum	TESTED	
Control Panel	Feed Water Pump	TESTED	
Control Panel	Chiller 1	TESTED	
Control Panel	Chiller 2	TESTED	
Control Panel	Boiler !	TESTED	
Control Panel	Boiler 2	TESTED	
Control Panel	Make-up Wtare Pump	NTNL	
Control Panel	Compressor	TESTED	
	Main Distribution Room 1st Floor	TESTED	
Distribution Panel	MSB1 (2 sections)	TESTED	
Branch Panel	1EQL1	TESTED	
Transformer	EQL1	TESTED	
Distribution Panel	ESDP	TESTED	
Auto. Transfer Switch	ATS-EC	TESTED	
Auto. Transfer Switch	ATS-EA	TESTED	
Auto. Transfer Switch	ATS-EQ	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Distribution Panel	EQDP1	TESTED	
Distribution Panel	EADP	TESTED	
Distribution Panel	ECDP1	TESTED	
Distribution Panel	NDP1	TESTED	
Distribution Panel	MBPBBKNX	TESTED	
Distribution Panel	SDPA	TESTED	
Distribution Panel	SDPB	TESTED	
Breaker	Fire Pump	TESTED	
Branch Panel	EA	TESTED	
Transformer	T-EA	TESTED	
Branch Panel	QEZ1	TESTED	
Branch Panel	1EA	TESTED	
Distribution Panel	EQDP	TESTED	
Breaker	X-Ray	TESTED	
Breaker	PNL-EQM	TESTED	
Breaker	ELEV.2-EQE	TESTED	
Disconnect	CISTO	NTNL	
Branch Panel	EQ1	TESTED	
Distribution Panel	EC	TESTED	
Breaker	ECM	TESTED	
Breaker	ECER	TESTED	
Breaker	Xmer ECL	TESTED	
Transformer	T-1EC	TESTED	
Disconnect	PNL 1EC	TESTED	
Transformer	T-LD	TESTED	
Branch Panel	LD	TESTED	
Branch Panel	LDP	TESTED	
Switchboard	SDPA (4 sections)	TESTED	E3
Breaker	Disc Panel EQ1	TESTED	
Manual transfer Switch	Disc X-ray Rm 4	TESTED	
Transformer	T-EQ1	TESTED	
	Materials Management	TESTED	

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Branch Panel	EAM	TESTED	
Branch Panel	ECM	TESTED	
Branch Panel	EQM	TESTED	
Branch Panel	NDP	TESTED	
Transformer	T-MN	TESTED	
Branch Panel	MN (2 sections)	TESTED	
	Recovery Utility Room (behind door)	TESTED	
Branch Panel	ORR	TESTED	
	Pharmacy	TESTED	
Branch Panel	1ECB	TESTED	
	Elevator Room 5 & 6	TESTED	
Disconnect	E-5	TESTED	
Disconnect	E-6	TESTED	
Disconnect	Lighting (5)	TESTED	
Disconnect	Lighting (6)	TESTED	
	Physical Therapy	TESTED	
Branch Panel	1A	TESTED	
Branch Panel	1EC	TESTED	
	Surgery Hallway	TESTED	
Branch Panel	OR	TESTED	
Branch Panel	OR1	TESTED	
	Radiology Electric Room (Fire Panel Room)	TESTED	
Distribution Panel	#11	TESTED	
Distribution Panel	#12	TESTED	
Branch Panel	#13	TESTED	
Branch Panel	#14	TESTED	
Distribution Panel	#10	TESTED	
Transformer	Unnamed	TESTED	
Disconnect	Unnamed (to transformer)	TESTED	
Distribution Panel	XR	TESTED	
Branch Panel	EM	TESTED	
	Radiology Nurse's Station	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Branch Panel	Unnamed	TESTED	
	Mechanical Room AH #9 (off Nuclear Room #3)	TESTED	
Starter-Disconnect	RA #6	TESTED	
Starter-Disconnect	AH #9	TESTED	
	Radiology, Nuclear Medicine	TESTED	
	Room #3	TESTED	
Branch Panel	NM	TESTED	
	Room #3 Electric Closet	TESTED	
Branch Panel	EQ1	TESTED	
Transformer	EQ1	TESTED	
	Radiology (ER Electrical Room)	TESTED	
Distribution Panel	M	TESTED	
Branch Panel	EAER	TESTED	
Branch Panel	ECER	TESTED	
Branch Panel	ECER-1	TESTED	
Disconnect	ECER-Trans	TESTED	
Branch Panel	EQER	TESTED	
Branch Panel	NBER	TESTED	
Branch Panel	NAER	TESTED	
	ER Entrance (Hot Water Pump Room)	TESTED	
Starter-Disconnect	P27	TESTED	
Staret-Disconnect	P28	TESTED	
	Elevator Room 3 & 4	TESTED	
Manual Transfer Switch	Elevator 4	NTNA	
Manual Transfer Switch	Elevator 3	NTNA	
	Room AC6 (outside)	TESTED	
Branch Panel	PP1	TESTED	
Disconnect	Unnamed (PP1)	TESTED	
Branch Panel	EC4	TESTED	
Branch Panel	1NP1	TESTED	
Branch Panel	EQ	TESTED	
Branch Panel	EA	TESTED	V1



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Equipment Type	Location / Name	Test Statu	Problem #
Distribution Panel	EC	TESTED	
Disconnect	Unnamed (200a Siemens)	TESTED	
Breaker	3rd Floor South Wing Panel C3	TESTED	
Branch Panel	Panel EC3	TESTED	
Starter-Disconnect	RA-6	TESTED	
Starter-Disconnect	AC-6	TESTED	
Distribution Panel	NDPW	TESTED	V2
Transformer	T-OB	TESTED	
Disconnect	T-OB	TESTED	
	Accounting Hallway Electrical Room	TESTED	
Transformer	T-MDP2	TESTED	
Transformer	T-EA	TESTED	
Transformer	T-EC	TESTED	
Transformer	ELEV	TESTED	
Transformer	T-EQ	TESTED	
Distribution Panel	MDP-2	TESTED	
Breaker	East Elevator	TESTED	
Breaker	South Elevator	TESTED	
Breaker	Panel EC	TESTED	
Breaker	Panel EQ	TESTED	
	IT Hallway	TESTED	
Branch Panel	Unnamed	TESTED	
	X-Ray Waiting Area	TESTED	
Branch Panel	EQ1	TESTED	
Branch Panel	EC2	TESTED	
Branch Panel	EA2	TESTED	
Branch Panel	N4	TESTED	
Branch Panel	N3-L	TESTED	
Branch Panel	N3-R	TESTED	
	Business Office Hallway	TESTED	
Distribution Panel	EL1-2	TESTED	
Distribution Panel	1HS	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Branch Panel	Unnamed (left of 1HS)	TESTED	
	Elevator Room 1 & 2	TESTED	
Manual Transfer Switch	Elev. 2	TESTED	
Manual Transfer Switch	Elev. 1	TESTED	
	Business Office Electrical Room	TESTED	
Distribution Panel	NDP4 (right)	TESTED	
Distribution Panel	NDP4 (left)	TESTED	
Branch Panel	EC5	TESTED	
Disconnect	No. 28	TESTED	
Branch Panel	#29	TESTED	
	Administration Electrical Room	TESTED	
Branch Panel	OB-1	TESTED	
Branch Panel	OB-2	TESTED	
	Café (Serving Area & Serving Line)	TESTED	
Branch Panel	K-3	TESTED	E4
Branch Panel	E115 (under serving line)	TESTED	
Branch Panel	E116 (under serving line)	TESTED	
Branch Panel	E117 (under serving line)	TESTED	
	Kitchen	TESTED	
Branch Panel	K1	TESTED	
Branch Panel	K2	TESTED	
Branch Panel	Q	TESTED	
Branch Panel	KEQ	TESTED	
	Lab	TESTED	
Branch Panel	NP2 (left)	TESTED	
Branch Panel	NP2 (right)	TESTED	
	AC4 Mechanical Room	TESTED	
Starter-Disconnect	R pump 2	TESTED	
Starter-Disconnect	EF12	TESTED	
Starter-Disconnect	Kitchen Condensate Pump	TESTED	
Transformer	T-KEQ	TESTED	
Starter-Disconnect	RA 3	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Starter-Disconnect	AC4	TESTED	
	Java Bean Lobby	TESTED	
Branch Panel	NAC	TESTED	
	Cath Lab	TESTED	
	Cath Lab #2 Control Room	TESTED	
Branch Panel	1ECL2	TESTED	
Branch Panel	1ECH2	TESTED	
	Physicians Dictation	TESTED	
Branch Panel	1EQL2	TESTED	
Branch Panel	1NL5	TESTED	
	Elevator Room 7 & 8	TESTED	
Disconnect	Elevator 7	TESTED	
Disconnect	Elevator 8	TESTED	
Disconnect	Lighting 7	TESTED	
Disconnect	Lighting 8	TESTED	
	Education Building, Classroom Storage	TESTED	
Branch Panel	1NL3-1	TESTED	
Branch Panel	1NL3-2	TESTED	
Branch Panel	1NL1-1	TESTED	
Branch Panel	1NL1-2	TESTED	
	Education Building, Mechanical Room	TESTED	
Branch Panel	1NH1	TESTED	
Transformer	NL1	TESTED	
Transformer	NL3	TESTED	
Transformer	ECL1	TESTED	
Disconnect	ECL1	TESTED	
Branch Panel	1ECL1	TESTED	
Branch Panel	1NL2	TESTED	
Transformer	NL2	TESTED	
VFD	AHU-3-03	TESTED	
	MRI	TESTED	
Disconnect	MRI	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Control Panel	MRI Lighting	TESTED	
	Location: 2nd Floor	TESTED	
	Day Surgery Hallway	TESTED	
Branch Panel	DR	TESTED	
Branch Panel	DR-1 (in hallway to nurse's lounge)	TESTED	
	Elevator 5 & 6 Lobby	TESTED	
Branch Panel	2EN	TESTED	
Branch Panel	2EN-2	TESTED	
	East Electrical Room	TESTED	
Branch Panel	2AB	TESTED	
Branch Panel	2A	TESTED	
Disconnect	2EN-1 & 2	TESTED	
Transformer	T-2A	TESTED	
Disconnect	T-2A	TESTED	
Disconnect	Panel D.R. disconnect	TESTED	
Transformer	T-DR	TESTED	
Disconnect	T-DR	TESTED	
	East Mechanical Room	TESTED	
Disconnect	2EQL	TESTED	
Branch Panel	2EQL	TESTED	
Starter-Disconnect	AC2	TESTED	
Starter-Disconnect	RA1	TESTED	
	ICU Nurse's Station Electrical Room	TESTED	
Disconnect	2NL1	TESTED	
Branch Panel	2NL1	TESTED	
Transformer	2NL1	TESTED	
Branch Panel	2CA	TESTED	
Branch Panel	2CB	TESTED	
Branch Panel	2CC	NTNL	
	ICU Electrical Room	TESTED	
Branch Panel	2ECH1	TESTED	
Branch Panel	2ECL1-1	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Branch Panel	2ECL1-2	TESTED	
Branch Panel	2ECL2	TESTED	
Transformer	2ECL2	TESTED	
Transformer	2ECL1	TESTED	
Transformer	2EQL1	TESTED	
Branch Panel	2EQL1-1	TESTED	
Branch Panel	2EQL1-2	TESTED	
Branch Panel	2EQH1	TESTED	
	ICU Mechanical Room AHU-4	TESTED	
Disconnect	Blower Motor	TESTED	
Disconnect	Filltered Exhaust Fan	TESTED	
VFD	Unnamed (AHU-4)	NTNA	
	2 South Hallway	TESTED	
Branch Panel	2 5B	TESTED	
Branch Panel	2 5A	TESTED	
Branch Panel	ELL	TESTED	
Branch Panel	2 SD-2	TESTED	
Branch Panel	2 SD-1	TESTED	
Branch Panel	ECG	TESTED	
	Location: 3rd Floor	TESTED	
	Triumph Electrical Room	TESTED	
Branch Panel	3A (left)	TESTED	
Branch Panel	3A (right)	TESTED	E7
Branch Panel	Unnamed	TESTED	
Transformer	T-3A	TESTED	
Disconnect	T-3A	TESTED	
Branch Panel	3EA	TESTED	
Disconnect	AC1	TESTED	E6
Transformer	T-3EC	TESTED	
Disconnect	T-3EC	TESTED	E5
Branch Panel	3EC	TESTED	
	TICU Electrical Room	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Branch Panel	3-ECBL	TESTED	
Disconnect	Transformer	TESTED	
Transformer	T-3ECBL	TESTED	
Branch Panel	3-CB	TESTED	
Branch Panel	3-CA	TESTED	
Branch Panel	3-CC	TESTED	
	TICU Hallway (by room 344)	TESTED	
Branch Panel	3-CD	TESTED	
	3 South Hallway	TESTED	
Branch Panel	B-3	TESTED	
Branch Panel	C-3	TESTED	
Branch Panel	A-3	TESTED	
Branch Panel	D-3	TESTED	
	3 South-Soiled Linens Room	TESTED	
Branch Panel	3EC	TESTED	
Branch Panel	3EAS	TESTED	
	East Mechanical Room AHU-5	TESTED	
Disconnect	AHU-5	TESTED	
	Location: 4th Floor	TESTED	
	East Mechanical Room	TESTED	
Starter-Disconnect	AC-1	TESTED	
Disconnect	Secondary Chilled Water Pump (#33)	TESTED	
Disconnect	HW Pump 2	NTNL	
Disconnect	HW Pump 1	TESTED	
	East Electrical Room	TESTED	
Branch Panel	4A1	TESTED	
Branch Panel	4A2	TESTED	
Disconnect	4A	TESTED	
Transformer	4A	TESTED	
Branch Panel	4EA	TESTED	E9
Disconnect	4EC	TESTED	
Transformer	T-4EC	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
Branch Panel	4EC	TESTED	
	Center Electrical Room	TESTED	
Branch Panel	#1	TESTED	
Branch Panel	#2	TESTED	
Branch Panel	#3	TESTED	
	Center Hallway	TESTED	
Branch Panel	4CD	TESTED	
	Location: 5th Floor	TESTED	
	East Electrical Room	TESTED	
Branch Panel	5A1	TESTED	
Branch Panel	5A2	TESTED	
Transformer	T-5A	TESTED	
Disconnect	T-5A	TESTED	
Transformer	5EC	TESTED	
Disconnect	5EC	TESTED	
Branch Panel	5EC	TESTED	
	East Mechanical Room	TESTED	
Starter-Disconnect	EF1	TESTED	
Starter-Disconnect	EF3	TESTED	
Starter-Disconnect	EF2	TESTED	
Starter-Disconnect	HW Pump 1	TESTED	
Starter-Disconnect	HW Pump 2	TESTED	
Starter-Disconnect	Chilled Water	TESTED	
Starter-Disconnect	RA5	TESTED	
Disconnect	CWP 1 & 2	TESTED	
Starter-Disconnect	AC-5	TESTED	
	East Chilled Water Mechanical Room	TESTED	
Starter-Disconnect	CWP 1	NTNL	
Starter-Disconnect	CWP 2	TESTED	
	Penthouse	TESTED	
Starter	Unnamed	TESTED	
Disconnect	Unnamed	TESTED	

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Equipment Type	Location / Name	Test Statu	Problem #
	Location: Roofs	TESTED	
	Materials Management	TESTED	
Disconnect	AC-2 Cond. Unit	TESTED	E2
Disconnect	Unnamed (30amp)	TESTED	
Disconnect	AC-2 Fan	TESTED	
Control Panel	AC-2	TESTED	
Control Panel	CU-#2-03 (fan units)	TESTED	
Disconnect	CU-#3-03	TESTED	
	Cooling Tower	TESTED	
Control Panel	Cooling Tower #2	TESTED	
Control Panel	Cooling Tower #1	TESTED	
	Administration	TESTED	
Disconnect	AC-7	TESTED	
	IS	TESTED	
Disconnect	AC-7A	TESTED	
Disconnect	AC-7B	TESTED	
Disconnect	Liebert	TESTED	
	Lab	TESTED	
Starter-Disconnect	Unnamed (Lab)	TESTED	
	ER	TESTED	
Control Panel	RTU-1	TESTED	
Disconnect	RTU-1 AH	TESTED	
Disconnect	RTU-1 Compressors	TESTED	
Disconnect	A/C 1 COND UNIT	TESTED	E8
	MRI	TESTED	
Control Panel	MRI Chiller	TESTED	
Disconnect	MRI A/C	TESTED	



## Infrared Inspection Report

**Equipment Type:** Motor Control Center

**Location:** 1st Floor  
Boiler Room  
MCC



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 1-Critical
.B-Phase: 180 F	.A-Phase: 111 F	69 F	

**Load Test Results:**

<b>.B-Phase:</b>	21.1 Amps	<b>Rated Load:</b>	45
<b>.A-Phase:</b>	20.8 Amps	<b>% Rated Load:</b>	46.8889
<b>.C-Phase:</b>	23.5 Amps		

**Comment:**

Target is MCC Sec 1 - Disconnect Labeled - A/C #3 - 45A Fuse Bank - B-Phase Load Side Fuse Clip - Connection Defect on Disconnect. \*\*REPAIRED ON SITE NEW TEMP 118 SEE IR PHOTO\*\*

**Recommendation:**

No corrective action required. FIXED ON SITE.

**Problem Severity Definitions:**

- Critical - Danger to life and limb, eminent danger to equipment.
- Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor - Problem is apparent and needs to be monitored on a regular basis.

**Corrective Action Log**

Date:	Person:
Repair Description:	

## Infrared Inspection Report

**Equipment Type:** Disconnect

**Location:** Roofs  
**Materials Management**  
**AC-2 Cond. Unit**



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 1-Critical
.A-Phase: 190 F	.C-Phase: 109 F	81 F	

**Load Test Results:**

<b>.A-Phase:</b>	76.2 Amps	<b>Rated Load:</b>	125
<b>.C-Phase:</b>	71.1 Amps	<b>% Rated Load:</b>	60.96
<b>.B-Phase:</b>	74.1 Amps		

**Comment:**

Target is 125A Fused Disconnect - A-Phase Load Side Fuse Clip - Connection Defect on Disconnect-Fused

**Recommendation:**

Shut off power to target. Remove fuse and fuse clip assembly. Clean and repair or replace as needed. Upon completion rescan target with heat gun.

**Problem Severity Definitions:**

- Critical** - Danger to life and limb, eminent danger to equipment.
- Serious** - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate** - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor** - Problem is apparent and needs to be monitored on a regular basis.

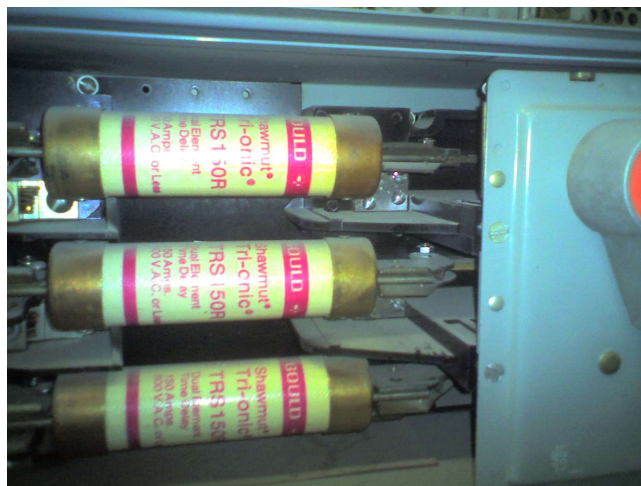
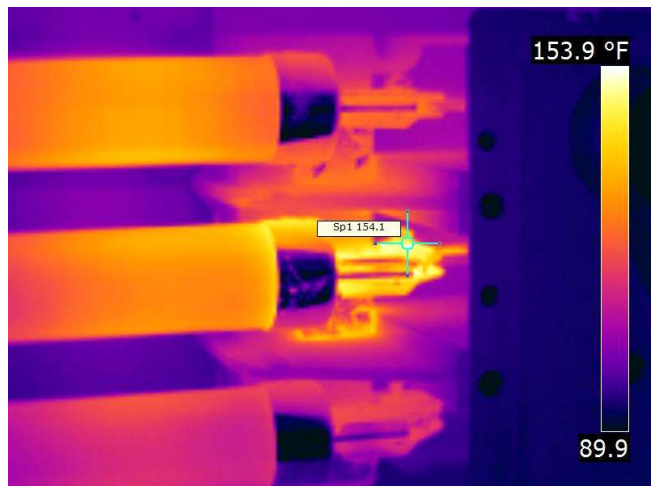
**Corrective Action Log**

Date:	Person:
Repair Description:	

## Infrared Inspection Report

**Equipment Type:** Switchboard

**Location:** 1st Floor  
Main Distribution Room 1st Floor  
SDPA (4 sections)



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 3-Important
.B-Phase: 154 F	.C-Phase: 122 F	32 F	

**Load Test Results:**

<b>.B-Phase:</b>	85.6 Amps	<b>Rated Load:</b>	200
<b>.C-Phase:</b>	77.1 Amps	<b>% Rated Load:</b>	42.8
<b>.A-Phase:</b>	95.2 Amps		

**Comment:**

Target is Switchboard - SDPA Sec 3 - Disconnect Labeled - FEEDER PANEL 2A,3A,4A,5A - B-Phase Line Side - Connection Defect on Disconnect-Fused.

**Recommendation:**

Shut off power to target. Remove fuse and fuse clip assembly. Clean and repair or replace as needed. Upon completion rescan target with heat gun.

**Problem Severity Definitions:**

- Critical - Danger to life and limb, eminent danger to equipment.
- Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor - Problem is apparent and needs to be monitored on a regular basis.

**Corrective Action Log**

Date:	Person:
Repair Description:	

## Infrared Inspection Report

**Equipment Type: Branch Panel**

**Location: 1st Floor  
Café (Serving Area & Serving Line)  
K-3**



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 3-Important
Breaker #39: 121 F	Breaker #41: 103 F	18 F	

**Load Test Results:**

<b>Breaker #39:</b>	14.1	<b>Amps</b>	<b>Rated Load:</b>	20
<b>Breaker #41:</b>	11.4	<b>Amps</b>	<b>% Rated Load:</b>	70.5
		<b>Amps</b>		

**Comment:**

Target is Branch Panel - K-3 - Breaker #39 a 20A 1P - Connection Defect / Breaker Wear on Breaker

**Recommendation:**

Shut off power to breaker. Remove wire and inspect breaker assembly. If breaker appears to be faulty, replace as necessary. Otherwise, clean and re-install wire.

**Problem Severity Definitions:**

- Critical - Danger to life and limb, eminent danger to equipment.
- Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor - Problem is apparent and needs to be monitored on a regular basis.

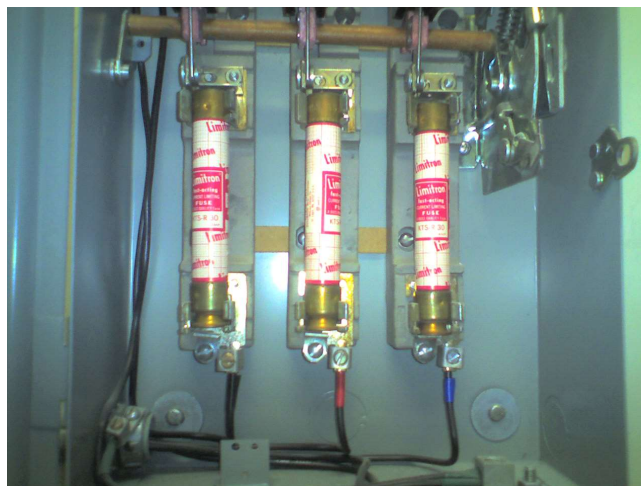
**Corrective Action Log**

Date:	Person:
Repair Description:	

## Infrared Inspection Report

**Equipment Type:** Disconnect

**Location:** 3rd Floor  
**Triumph Electrical Room**  
**T-3EC**



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 3-Important
.A-Phase: 116 F	.C-Phase: 89 F	27 F	

**Load Test Results:**

<b>.A-Phase:</b>	11.1 Amps	<b>Rated Load:</b>	30
<b>.C-Phase:</b>	7.1 Amps	<b>% Rated Load:</b>	37
<b>.B-Phase:</b>	7.4 Amps		

**Comment:**

Target is 30A Fused Disconnect - Labeled - T-3EC - A-Phase Load Side - Fuse clip on Disconnect.

**Recommendation:**

Shut off power to target. Remove fuse and fuse clip assembly. Clean and repair or replace as needed. Upon completion rescan target with heat gun.

**Problem Severity Definitions:**

- Critical - Danger to life and limb, eminent danger to equipment.
- Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor - Problem is apparent and needs to be monitored on a regular basis.

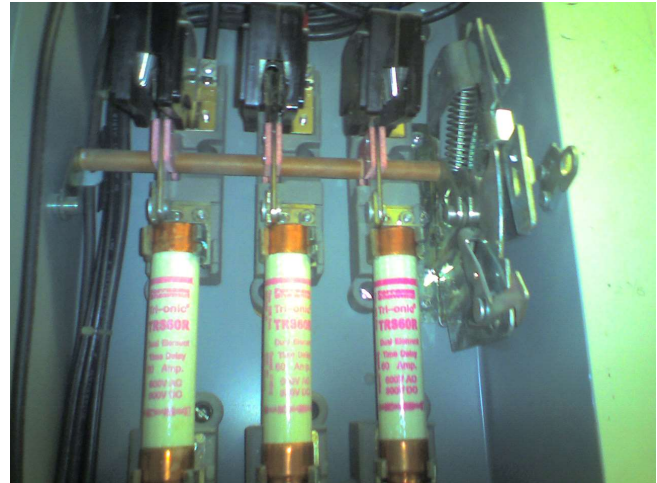
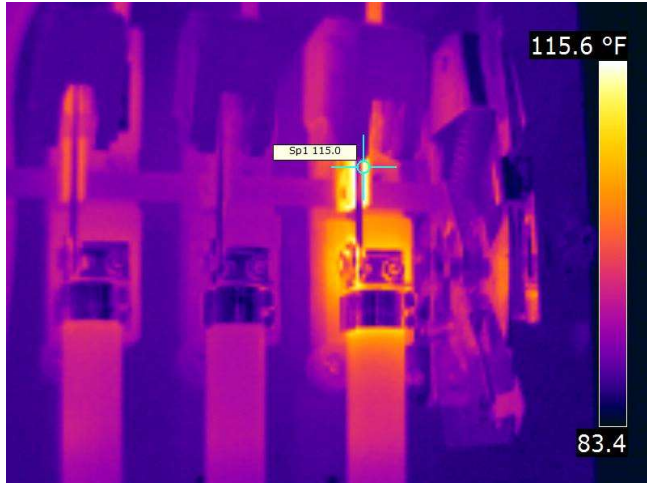
**Corrective Action Log**

Date:	Person:
Repair Description:	

## Infrared Inspection Report

**Equipment Type:** Disconnect

**Location:** 3rd Floor  
**Triumph Electrical Room**  
**AC1**



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 3-Important
.C-Phase: 115 F	.B-Phase: 95 F	20 F	

**Load Test Results:**

<b>.C-Phase:</b>	18.8 Amps	<b>Rated Load:</b> 60
<b>.B-Phase:</b>	18.1 Amps	<b>% Rated Load:</b> 31.3333
<b>.A-Phase:</b>	18.8 Amps	

**Comment:**

Target is 60A Fused Disconnect - C-Phase Line Side - Connection Defect on Disconnect-Fused

**Recommendation:**

Shut off power to target. Remove fuse and fuse clip assembly. Clean and repair or replace as needed. Upon completion rescan target with heat gun.

**Problem Severity Definitions:**

- Critical** - Danger to life and limb, eminent danger to equipment.
- Serious** - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate** - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor** - Problem is apparent and needs to be monitored on a regular basis.

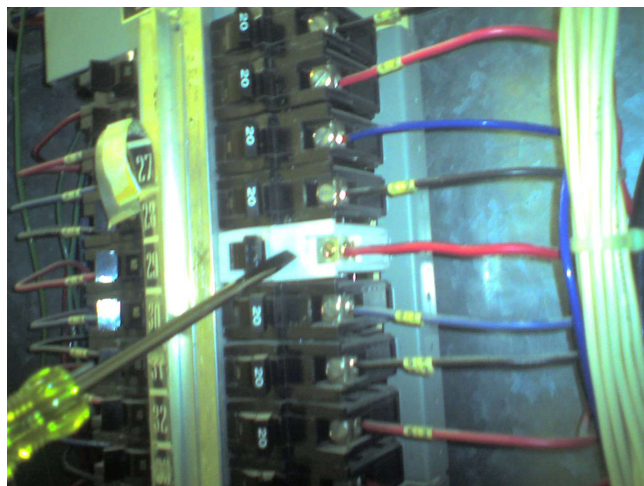
**Corrective Action Log**

Date:	Person:
Repair Description:	

## Infrared Inspection Report

**Equipment Type: Branch Panel**

**Location: 3rd Floor  
Triumph Electrical Room  
3A (right)**



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 3-Important
Breaker #50: 118 F	Breaker 51: 93 F	25 F	

**Load Test Results:**

<b>Breaker #50:</b>	19	<b>Amps</b>	<b>Rated Load:</b> 20
<b>Breaker 51:</b>	2	<b>Amps</b>	<b>% Rated Load:</b> 95
		<b>Amps</b>	

**Comment:**

Target is Branch Panel - 3A Right - Breaker #50 a 20A 1P - Relative Breaker Overload on Breaker. (Feeds: CORR LTG)

**Recommendation:**

The load exceeds 80 % of the device rating. This is a National Electric Code violation

**Problem Severity Definitions:**

- Critical - Danger to life and limb, eminent danger to equipment.
- Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor - Problem is apparent and needs to be monitored on a regular basis.

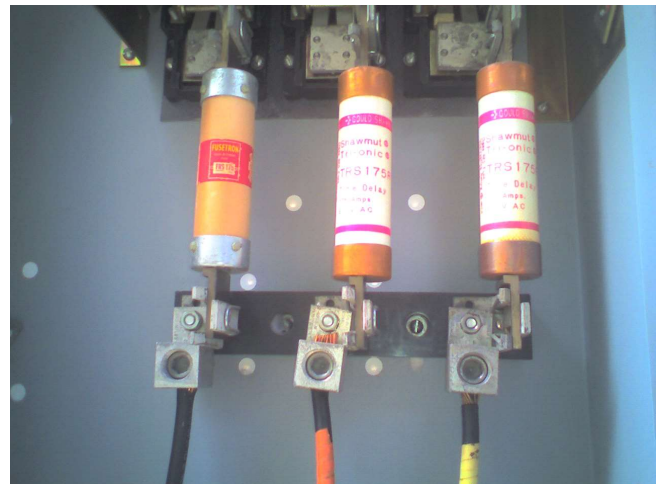
**Corrective Action Log**

Date:	Person:
Repair Description:	

## Infrared Inspection Report

**Equipment Type:** Disconnect

**Location:** Roofs  
**ER**  
**A/C 1 COND UNIT**



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 1-Critical
.C-Phase: 276 F	.B-Phase: 102 F	174 F	

**Load Test Results:**

<b>.C-Phase:</b>	102 Amps	<b>Rated Load:</b>	175
<b>.B-Phase:</b>	96.2 Amps	<b>% Rated Load:</b>	58.4
<b>.A-Phase:</b>	104 Amps		

**Comment:**

Target is 175A Fused Disconnect - A/C 1 Cond Unit - C-Phase Load Side - Connection Defect on Disconnect.

**Recommendation:**

Shut off power to target. Remove fuse and fuse clip assembly. Clean and repair or replace as needed. Upon completion rescan target with heat gun.

**Problem Severity Definitions:**

- Critical - Danger to life and limb, eminent danger to equipment.
- Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP.
- Intermediate - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor - Problem is apparent and needs to be monitored on a regular basis.

**Corrective Action Log**

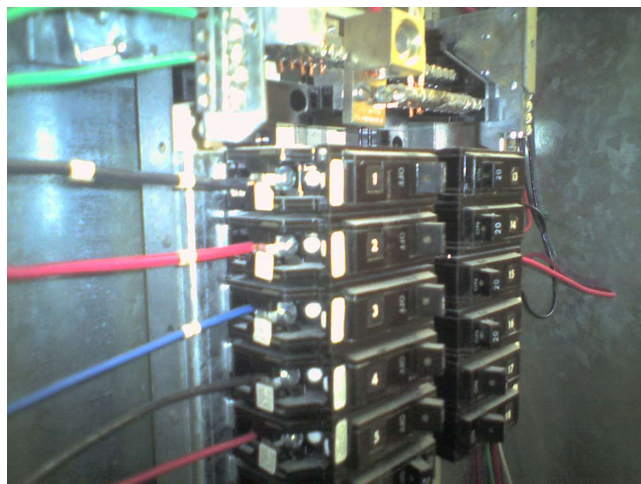
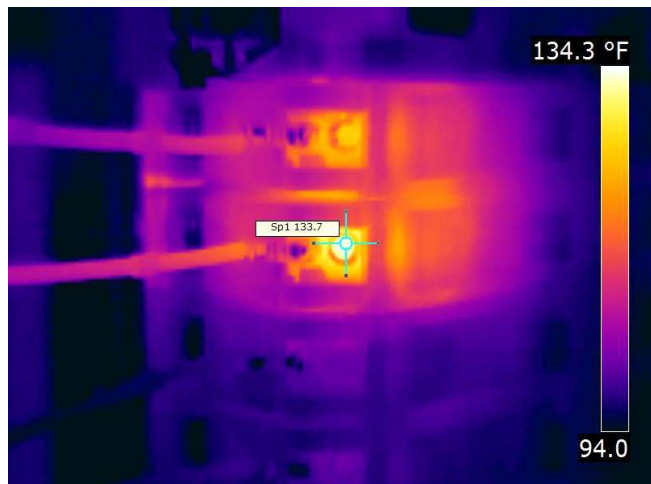
Date:	Person:
Repair Description:	



## Infrared Inspection Report

**Equipment Type: Branch Panel**

**Location: 4th Floor  
East Electrical Room  
4EA**



**Thermal Analysis:**

Target Point	Reference Point	Temperature Difference	Severity: 3-Important
Breaker #2: 133 F	Breaker #3: 102 F	31 F	

**Load Test Results:**

<b>Breaker #2:</b>	15.2	<b>Amps</b>	<b>Rated Load:</b>	20
<b>Breaker #3:</b>	3.1	<b>Amps</b>	<b>% Rated Load:</b>	76
		<b>Amps</b>		

**Comment:**

Target is Branch Panel - 4EA - Breaker #2 a 20A 1P - Connection Defect / Breaker Wear on Breaker. (Feeds: 4th Fl Corridor LTG)

**Recommendation:**

Shut off power to breaker. Remove wire and inspect breaker assembly. If breaker appears to be faulty, replace as necessary. Otherwise, clean and re-install wire.

**Problem Severity Definitions:**

- Critical - Danger to life and limb, eminent danger to equipment.
- Serious - Equipment failure is inevitable without immediate attention. Repair should be expedited ASAP
- Intermediate - If this is not redundant equipment, repair should be scheduled ASAP.
- Minor - Problem is apparent and needs to be monitored on a regular basis.

**Corrective Action Log**

Date:	Person:
Repair Description:	

# Visual Problem Documentation

Work Order#:

Location/Equipment Information
Asset ID: Branch Panel
Barcode:
Location: 1st Floor Room AC6 (outside) EA

Current Prob No: Visual/1	
Is Chronic:	<b>No</b>
Operation Priority:	<b>Critical to operation</b>
Repair Priority:	<b>3-Important</b>

Report Date: 9/18/2013

**Hazard Type:** NEC violation

**Hazard Classification:** Unclosed breaker slots.

**Hazard Group:** Exposed energized parts

**Hazard Issue:** NEC Code Violation - Breaker Slot Covers Missing

**Observations:** Target is Branch Panel - EA - Circuit Breaker's - #20 - 24 - Exposed energized parts NEC Code Violation - Breaker Slot Covers Missing

**Consequences of Hazard:**

**What is the Cause:** Missing Breaker Slot Covers

**Recommendations:** Replace Slot Covers At Once.



File: DC_4140.jpg	Date: 9/17/2013	Time: 11:13 AM
File: DC_4140.jpg	Date: 9/17/2013	Time: 11:13 AM

Technician: <b>Joe Thermo</b>
Certification Level/No.: <b>Level II Thermographer</b>

## Visual Problem Documentation

Work Order#:

Location/Equipment Information
Asset ID: Distribution Panel
Barcode:
Location: 1st Floor Room AC6 (outside) NDPW

Current Prob No: Visual/2	
Is Chronic:	<b>No</b>
Operation Priority:	<b>Critical to operation</b>
Repair Priority:	<b>3-Important</b>

Report Date: 9/18/2013

**Hazard Type:** NEC violation

**Hazard Classification:** Missing front cover

**Hazard Group:** Exposed energized parts

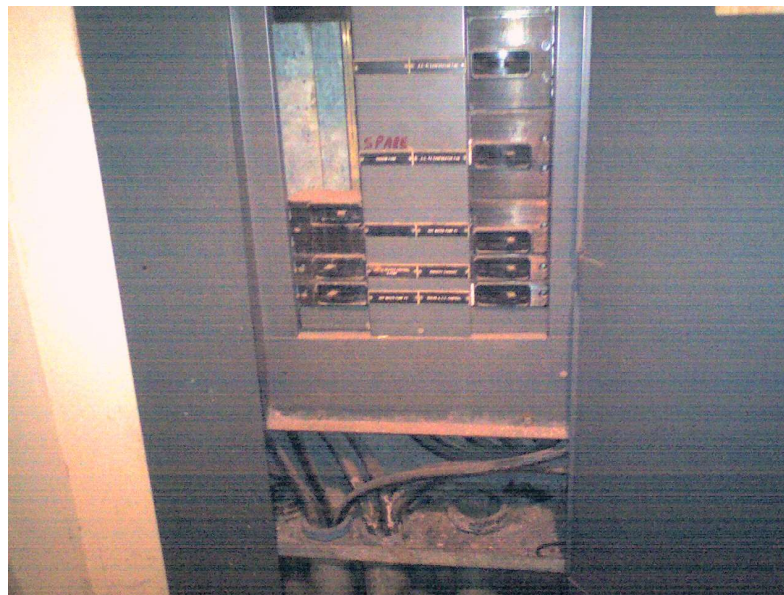
**Hazard Issue:** Death, personal injury or equipment lose due to object entry into unsealed holes in equipment enclosure

**Observations:** Target is Distribution Panel - NDPW - NEC Code Violation - Front Cover Missing & Unused Breaker Slot Openings - Exposed energized parts Death, personal injury or equipment lose due to object entry into unsealed holes in equipment enclosure

**Consequences of Hazard:**

**What is the Cause:** Opening not covered as per the National Electric Code.

**Recommendations:** Repair as per the National Electric Code



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File: DC_4141.jpg	Date: 9/17/2013	Time: 11:18 AM

Technician: <b>Joe Thermo</b>
Certification Level/No.: <b>Level II Thermographer</b>