

ภาคผนวก ค
สำเนาใบเสร็จค่าธรรมเนียม
การใช้บริการบำบัดน้ำเสีย



Tab 11/15

P003560 ③



เล่มที่ 486
เลขที่ 42

ใบเสร็จรับเงิน

๒๐๓-กพ๖๕ สำนักการคลัง จังหวัดชลบุรี
เจ้าพนักงานเมืองพัทยา.....

วันที่ 7 เดือน ๑๒ พ.ศ. ๖๕
ได้รับเงินค่า ธรรมเนียมการให้บริการบำบัดน้ำเสีย

จาก มรด. โรงแรม เซ็นทรัล พลาซ่า (มททช.) ๒๗๗ ๒.๕

เป็นจำนวนเงิน 111,888 บาท

สตางค์ ไม่มี
นางสาวสุวิมล
(ตัวอักษร)

ไว้ดู

ลงชื่อ

หัวหน้าหน่วยงานคลัง

เจ้าพนักงานจัดเก็บรายได้ปฏิบัติงาน

ลงชื่อ.....
(นายปิ่นนพพัฒน์ ดษรฐวรกุลสง)
เจ้าพนักงานจัดเก็บรายได้ปฏิบัติงาน

...หัวหน้าหน่วยงานคลัง

ภาคผนวก ง

ตัวอย่างสำเนาเอกสารบันทึกการซ่อมบำรุงเชิงป้องกัน



ภาคผนวก ง-1
ตัวอย่างเอกสารบันทึก
การซ่อมบำรุงเชิงป้องกัน - แอร์



AIR CONDITIONING SYSTEM

P.M. WEEK :

Machine Code:

LOCATION :



DATE :

Service code:

☐ W ☐ M ☐ Q ☐ H ☒ Y

TYPE					DESCRIPTION	RESULT	
					CHILLED WATER PIPE		
M	Q	H	Y	- Clean strainer	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty	
		H	Y	- Test both supply and return chill water valves	<input checked="" type="checkbox"/> Closed <input checked="" type="checkbox"/> Open all	<input type="checkbox"/> Not Closed <input type="checkbox"/> Not open all	
		H	Y	- Test motor drive valve (open-close) if working	<input checked="" type="checkbox"/> Revolve well <input checked="" type="checkbox"/> Closed	<input type="checkbox"/> Can not revolve <input type="checkbox"/> Not Closed	
M	Q	H	Y	- Examine insulation	<input checked="" type="checkbox"/> Open all <input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Not open all <input type="checkbox"/> Torn damaged	
		H	Y	- Lubricate supply and return valves	<input checked="" type="checkbox"/> Lubricate		
					FILTER		
M	Q	H	Y	- Clean filter with water.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty	
M	Q	H	Y	- Clean return chamber.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking	
M	Q	H	Y	- Check filter condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged	
					FINCOIL		
M	Q	H	Y	- Clean fin coil	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty	
M	Q	H	Y	- Check if coil is leaking	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking	
M	Q	H	Y	- Comb fin coil (if is in proper position)	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Has combed fin coil again	
					DRAIN		
M	Q	H	Y	- Clean air drain water tray	<input checked="" type="checkbox"/> Clean by using water	<input type="checkbox"/>	
		H	Y	- Check drain condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking	
		H	Y	- Make sure drain pipe has no blockage	<input checked="" type="checkbox"/> Flow smoothly	<input type="checkbox"/> Flow slowly and clear	
					MOTOR		
		H	Y	- Examine Electrical terminal	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose	
		H	Y	- Examine insulation between coil and motor by using M.c	1.....M.ohm 3.....M.ohm	2.....M.ohm	
M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	
		H	Y	- Measure current phase A.B.C	1.....Amp. 3.....Amp.	2.....Amp.	
		H	Y	- Measure motor speedrpm.		
		H	Y	- Measure blower wheelrpm.		
		H	Y	- Examine screw, nut if still fixed	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Loose	
		H	Y	- Examine pulley, key shaft and lock screw of pulley	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose	
		H	Y	- Clean motor, fan blade and motor cover	<input checked="" type="checkbox"/> Clean		
					FAN BLADE		
		H	Y	- Clean fan blade	<input checked="" type="checkbox"/> Clean		
		H	Y	- Check shaft position	<input checked="" type="checkbox"/> Align	<input type="checkbox"/> Loose (adjusted)	
		H	Y	- Examine pulley, key shaft if fixed and balanced	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose	
		H	Y	- Examine screw, nut of fan blade and shaft	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Loose	
		H	Y	- Lubricate shaft bearing	<input checked="" type="checkbox"/> Re-lubricate and clean		
M	Q	H	Y	- Check V-belt condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Broken	
		H	Y	- Adjust V-belt	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted	
M	Q	H	Y	- Notice fan blade sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted	
					CONTROL PANEL		
		H	Y	- Examine Electrical terminal and fuse if still tight	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point	
		H	Y	- Check overload if still operating well and in position ofamp.	<input checked="" type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off	
M	Q	H	Y	- Clean magnetic contactor	<input checked="" type="checkbox"/> Clean		
		H	Y	- Check operating condition of magnetic starter	<input checked="" type="checkbox"/> Quite	<input type="checkbox"/> Humming	
		H	Y	- Clean control panel	<input checked="" type="checkbox"/> Clean		
M	Q	H	Y	- Check if control panel operate normally	Set point.....°C Valve open.....%	Duct temp.....°C	
					Before PM / 16 =cfm. In =°C	After PM / 16 =cfm. Out =°C	
					AIR HOUSING		
		H	Y	- Check spring & support	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Rusty	
		H	Y	- Check screw, nut condition	<input checked="" type="checkbox"/> Secured	<input type="checkbox"/> Broken	
		H	Y	- Examine air housing insulation	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn	
		H	Y	- Examine air housing condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted	

Comment :

Check By :

Date :

Asst. Of DE / Director Of Engineering By :

Date :

P.M. WEEK :

Machine Code: A1-1A-09

CENTRAL & EASTERN
MIRAGE
SOUTH AFRICA
Pretoria

DATE : 9/5/65
vice code: ☐ W ☐ M ☐ Q ☐ H ☒ Y

Service code: ☐ W ☐ M ☐ Q ☐ H ☒ Y

Comment :

Check By :

Date : _____

Asst. Of DE / Director Of Engineering By : _____

Date : _____

PREVENTIVE MAINTENANCE
AIR CONDITIONING SYSTEM

P.M. WEEK : 24
Machine Code: RUC PU - 102
LOCATION: MAIE TDIET



DATE : 12/5/65
Service code: ☐ W ☐ M ☐ Q ☐ H ☒ Y

TYPE					DESCRIPTION	RESULT	
					CHILLED WATER PIPE		
			H	Y	- Clean strainer	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Test both supply and return chill water valves	<input checked="" type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
						<input checked="" type="checkbox"/> Open all	<input type="checkbox"/> Not open all
			H	Y	- Test motor drive valve (open-close) if working	<input checked="" type="checkbox"/> Revolve well	<input type="checkbox"/> Can not revolve
						<input checked="" type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
	M	Q	H	Y	- Examine insulation	<input checked="" type="checkbox"/> Open all	<input type="checkbox"/> Not open all
			H	Y	- Lubricate supply and return valves	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
						<input checked="" type="checkbox"/> Lubricate	
					FILTER		
	M	Q	H	Y	- Clean filter with water.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Clean return chamber.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking
	M	Q	H	Y	- Check filter condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
					FINCOIL		
	M	Q	H	Y	- Clean fin coil	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Leaking
	M	Q	H	Y	- Check if coil is leaking	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
	M	Q	H	Y	- Confirm coil (if in proper position)	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
					DRAIN		
		Q	H	Y	- Clean air drain water tray	<input type="checkbox"/> Clean by using water	<input type="checkbox"/> Flow slowly and clear
	M	Q	H	Y	- Check drain condition	<input checked="" type="checkbox"/> Flow smoothly	
		Q	H	Y	- Make sure drain pipe has no blockage		
					MOTOR		
			H	Y	- Examine Electrical terminal	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Examine insulation between coil and motor by using M.c	1.....M.ohm	2.....M.ohm.
						3.....M.ohm	
	M	Q	H	Y	- Notice motor sound while operating	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
						3.....Amp.	
			H	Y	- Measure motor speed		rpm.
		Q	H	Y	- Measure blower wheel		rpm.
			H	Y	- Examine screw, nut if still fixed	<input type="checkbox"/> Normal	<input type="checkbox"/> Loose
		Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Clean motor, fan blade and motor cover		
					FAN BLADE		
		Q	H	Y	- Clean fan blade	<input type="checkbox"/> Clean	<input type="checkbox"/> Loose (adjusted)
		Q	H	Y	- Check shaft position	<input checked="" type="checkbox"/> Align	<input type="checkbox"/> Loose
		Q	H	Y	- Examine pulley, key shaft if fixed and balanced	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Examine screw, nut of fan blade and shaft	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Loose
			H	Y	- Lubricate shaft bearing	<input checked="" type="checkbox"/> Lubricate and clean	
	M	Q	H	Y	- Check V-belt condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Broken
			H	Y	- Adjust V-belt	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	M	Q	H	Y	- Notice fan blade sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
					CONTROL PANEL		
			H	Y	- Examine Electrical terminal and fuse if still tight	<input type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			H	Y	- Check overload (if still working)	<input checked="" type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
	M	Q	H	Y	- Clean magnetic contactor	<input checked="" type="checkbox"/> Quite	<input type="checkbox"/> Humming
			H	Y	- Check operating condition of magnetic starter	<input checked="" type="checkbox"/> Clean	
	M	Q	H <td Y	- Clean control panel	<input checked="" type="checkbox"/> Clean		
					- Check if control panel operate normally	Set point.....°C	Duct temp.....°C
					AIR HOUSING		
		Q	H	Y	- Check spring & support	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Rusty
		Q	H	Y	- Check screw, nut condition	<input checked="" type="checkbox"/> Secured	<input type="checkbox"/> Rusty
		Q	H	Y	- Examine air housing insulation	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn
		Q	H	Y	- Examine air housing condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted

Comment :

Credit Card: XXXXXXXXXXXXX2165

Credit Card: VISA

Phone No : 0818615255

Check By :

Email : appleja33@gmail.com

Zip Code : 10260

Asst. Of DE / Director Of Engineering By :

Country : Thailand

Date :

State :

City :

Address : 7 หมู่บ้าน 8 ถนน 70/3

Last Name :

First Name :

PREVENTIVE MAINTENANCE
AIR CONDITIONING SYSTEM

P.M. WEEK : 24

Machine Code: FCU 00A-101

LOCATION: PEMALE-TOLET (Thai tpuse)

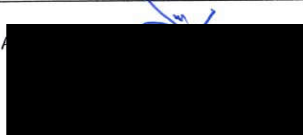


DATE : 12/5/65

Service code: ☐ W ☐ M ☐ Q ☐ H ☒ Y

TYPE					DESCRIPTION	RESULT	
					CHILLED WATER PIPE		
			H	Y	- Clean strainer	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Test both supply and return chill water valves	<input checked="" type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
						<input checked="" type="checkbox"/> Open all	<input type="checkbox"/> Not open all
			H	Y	- Test motor drive valve (open-close) if working	<input checked="" type="checkbox"/> Revolve well	<input type="checkbox"/> Can not revolve
						<input checked="" type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
	M	Q	H	Y	- Examine insulation	<input checked="" type="checkbox"/> Open all	<input type="checkbox"/> Not open all
			H	Y	- Lubricate supply and return valves	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
						<input checked="" type="checkbox"/> Lubricate	
					FILTER		
	M	Q	H	Y	- Clean filter with water.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Clean return chamber.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking
	M	Q	H	Y	- Check filter condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
					FINCOIL		
	M	Q	H	Y	- Clean fin coil	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Check if coil is leaking	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking
	M	Q	H	Y	- Comb fin coil (if is in proper position)	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Has combed fin coil again
					DRAIN		
		Q	H	Y	- Clean air drain water tray	<input checked="" type="checkbox"/> Clean by using water	<input type="checkbox"/> Leaking
	M	Q	H	Y	- Check drain condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Flow slowly and clear
			H	Y	- Make sure drain pipe has no blockage	<input checked="" type="checkbox"/> Flow smoothly	
					MOTOR		
			H	Y	- Examine Electrical terminal	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Examine insulation between coil and motor by using M.c	1.....M.ohm	2.....M.ohm.
						3.....M.ohm	
	M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
						3.....Amp.	
			H	Y	- Measure motor speedrpm.	
		Q	H	Y	- Measure blower wheelrpm.	
			H	Y	- Examine screw, nut if still fixed	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Loose
		Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Clean motor, fan blade and motor cover	<input checked="" type="checkbox"/> Clean	
					FAN BLADE		
		Q	H	Y	- Clean fan blade	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Loose (adjusted)
		Q	H	Y	- Check shaft position	<input checked="" type="checkbox"/> Align	<input type="checkbox"/> Loose
		Q	H	Y	- Examine pulley, key shaft if fixed and balanced	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Examine screw, nut of fan blade and shaft	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Loose
			H	Y	- Lubricate shaft bearing	<input checked="" type="checkbox"/> Re-lubricate and clean	
	M	Q	H	Y	- Check V-belt condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Broken
			H	Y	- Adjust V-belt	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	M	Q	H	Y	- Notice fan blade sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
					CONTROL PANEL		
			H	Y	- Examine Electrical terminal and fuse if still tight	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			H	Y	- Check overload if still operating well and in position of.....amp.	<input checked="" type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
	M	Q	H	Y	- Clean magnetic contactor	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Humming
			H	Y	- Check operating condition of magnetic starter	<input checked="" type="checkbox"/> Quite	
			H	Y	- Clean control panel	<input checked="" type="checkbox"/> Clean	
	M	Q	H	Y	- Check if control panel operate normally	Set point..... <u>95</u> °C	Duct temp... <u>95</u> °C
						Valve open..... <u>100</u> %	
						<u>12.1</u>	<u>2.9</u>
	M	Q	H	Y	- Check chilled water temp.	Before PM / 16 =cfm. In =°C	After PM / 16 =cfm. Out =°C
					AIR HOUSING		
		Q	H	Y	- Check spring & support	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Rusty <input type="checkbox"/> Broken
		Q	H	Y	- Check screw, nut condition	<input checked="" type="checkbox"/> Secured	<input type="checkbox"/> Rusty <input type="checkbox"/> Loose
		Q	H	Y	- Examine air housing insulation	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn
		Q	H	Y	- Examine air housing condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted

Comment :



Check By : _____

Date : _____

Asst. Of DE / Director Of Engineering By : _____

Date : _____

PREVENTIVE MAINTENANCE
AIR CONDITIONING SYSTEM

P.M. WEEK : 24

Machine Code: REC'D DU-102

LOCATION: MAIS TOLET (Thai House)



DATE : 12/15/65

Service code: ☐ W ☐ M ☐ Q ☐ H ☐ Y

TYPE					DESCRIPTION	RESULT	
					CHILLED WATER PIPE		
			H	Y	- Clean strainer	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Test both supply and return chill water valves	<input checked="" type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
						<input checked="" type="checkbox"/> Open all	<input type="checkbox"/> Not open all
			H	Y	- Test motor drive valve (open-close) if working	<input checked="" type="checkbox"/> Revolve well	<input type="checkbox"/> Can not revolve
						<input checked="" type="checkbox"/> Closed	<input type="checkbox"/> Not Closed
	M	Q	H	Y	- Examine insulation	<input checked="" type="checkbox"/> Open all	<input type="checkbox"/> Not open all
			H	Y	- Lubricate supply and return valves	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
						<input checked="" type="checkbox"/> Lubricate	
					FILTER		
	M	Q	H	Y	- Clean filter with water.	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Clean return chamber.	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking
	M	Q	H	Y	- Check filter condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn damaged
					FINCOIL		
	M	Q	H	Y	- Clean fin coil	<input checked="" type="checkbox"/> Clean	<input type="checkbox"/> Dirty
	M	Q	H	Y	- Check if coil is leaking	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking
	M	Q	H	Y	- Comb fin coil (if is in proper position)	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Has combed fin coil again
					DRAIN		
		Q	H	Y	- Clean air drain water tray	<input checked="" type="checkbox"/> Clean by using water	<input type="checkbox"/>
	M	Q	H	Y	- Check drain condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Leaking
			H	Y	- Make sure drain pipe has no blockage	<input checked="" type="checkbox"/> Flow smoothly	<input type="checkbox"/> Flow slowly and clear
					MOTOR		
			H	Y	- Examine Electrical terminal	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Examine insulation between coil and motor by using M.c	1.....M.ohm	2.....M.ohm.
						3.....M.ohm	
	M	Q	H	Y	- Notice motor sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Abnormal
			H	Y	- Measure current phase A.B.C	1.....Amp.	2.....Amp.
						3.....Amp.	
			H	Y	- Measure motor speedrpm.	
		Q	H	Y	- Measure blower wheelrpm.	
			H	Y	- Examine screw, nut if still fixed	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Loose
		Q	H	Y	- Examine pulley, key shaft and lock screw of pulley	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Clean motor, fan blade and motor cover	<input type="checkbox"/> Clean	
					FAN BLADE		
		Q	H	Y	- Clean fan blade	<input checked="" type="checkbox"/> Clean	
		Q	H	Y	- Check shaft position	<input checked="" type="checkbox"/> Align	<input type="checkbox"/> Loose (adjusted)
		Q	H	Y	- Examine pulley, key shaft if fixed and balanced	<input checked="" type="checkbox"/> Tight	<input type="checkbox"/> Loose
			H	Y	- Examine screw, nut of fan blade and shaft	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Loose
			H	Y	- Lubricate shaft bearing	<input checked="" type="checkbox"/> Re-lubricate and clean	
	M	Q	H	Y	- Check V-belt condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Broken
			H	Y	- Adjust V-belt	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
	M	Q	H	Y	- Notice fan blade sound while operating	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted
					CONTROL PANEL		
			H	Y	- Examine Electrical terminal and fuse if still tight	<input checked="" type="checkbox"/> Loose	<input type="checkbox"/> Tight every point
			H	Y	- Check overload if still operating well and in position of.....amp.	<input checked="" type="checkbox"/> Operating well	<input type="checkbox"/> Not cut off
						<input checked="" type="checkbox"/> Clean	
	M	Q	H	Y	- Clean magnetic contactor	<input checked="" type="checkbox"/> Quite	<input type="checkbox"/> Humming
			H	Y	- Check operating condition of magnetic starter	<input checked="" type="checkbox"/> Clean	
			H	Y	- Clean control panel		
	M	Q	H	Y	- Check if control panel operate normally	Set point.....°C	Duct temp.....°C
						Valve open.....%	
						<u>21</u>	<u>29</u>
	M	Q	H	Y	- Check chilled water temp.	Before PM / 16 =cfm. In =°C	After PM / 16 =cfm. Out =°C
					AIR HOUSING		
		Q	H	Y	- Check spring & support	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Rusty <input type="checkbox"/> Broken
		Q	H	Y	- Check screw, nut condition	<input checked="" type="checkbox"/> Secured	<input type="checkbox"/> Rusty <input type="checkbox"/> Loose
		Q	H	Y	- Examine air housing insulation	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Torn
		Q	H	Y	- Examine air housing condition	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Adjusted

Comment :



Check By : _____

Date : _____

Asst. Of DE / Director Of Engineering By : _____

Date : _____

ภาคผนวก ง-2
ตัวอย่างเอกสารบันทึก
การซ่อมบำรุงเชิงป้องกัน - ไฟฟ้า





CENTARA GRAND
MIRAGE
BEACH RESORT PATTAYA

THERMOGRAPHY AFTER

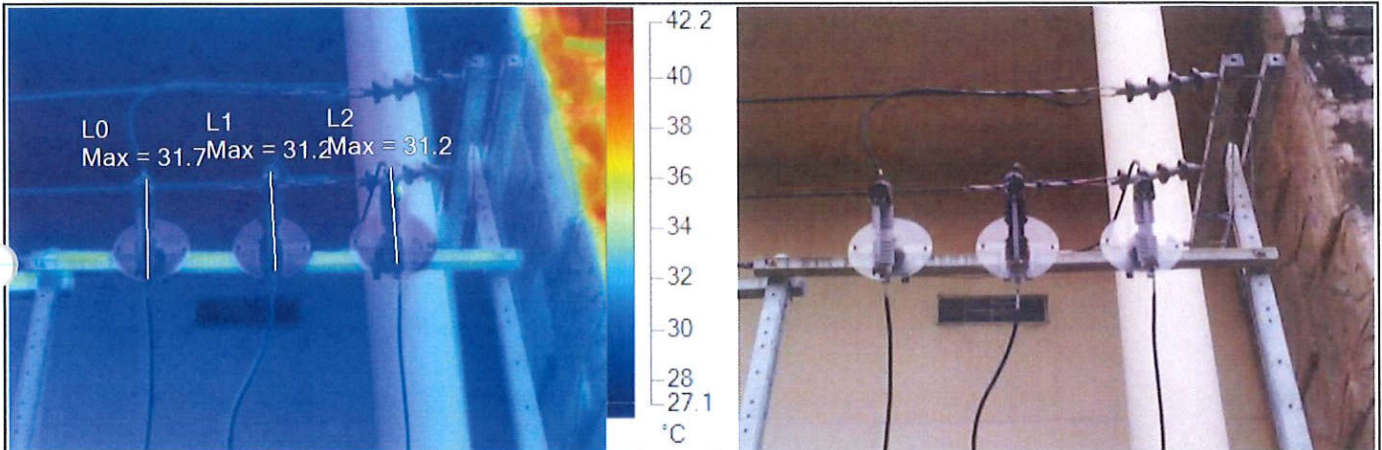
2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM.

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.1

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Drop Out Fuse 22 kV	Distance :	5	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point L0	Point L1	Point L2	Point 3	Point 4
Hotspot Temp (°C)	31.70	31.20	31.20	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	31.20	0.00	31.20	0.00	0.00
Priority Rate	0.50	0.00	0.00	0.00	0.00
Status	4		4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

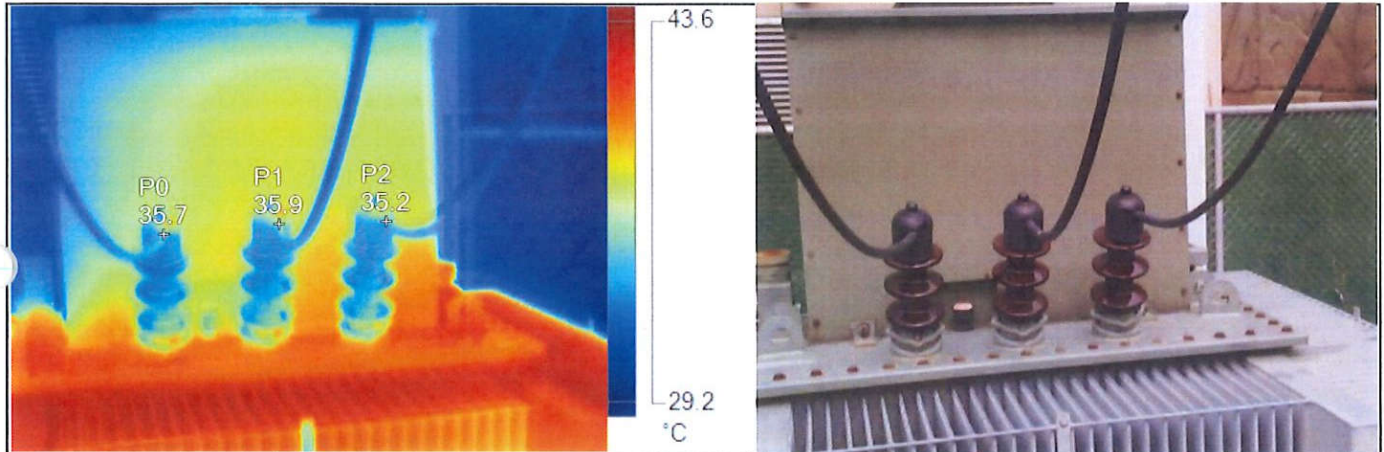
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.1

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Hight Volt	Distance :	1	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point P0	Point P1	Point P2	Point 3	Point 4
Hotspot Temp (°C)	35.70	35.90	35.20	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	35.20	35.20	0.00	0.00	0.00
Priority Rate	0.50	0.70	0.00	0.00	0.00
Status	4	4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
 4 3 2 1	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิศวกรพิจารณา)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

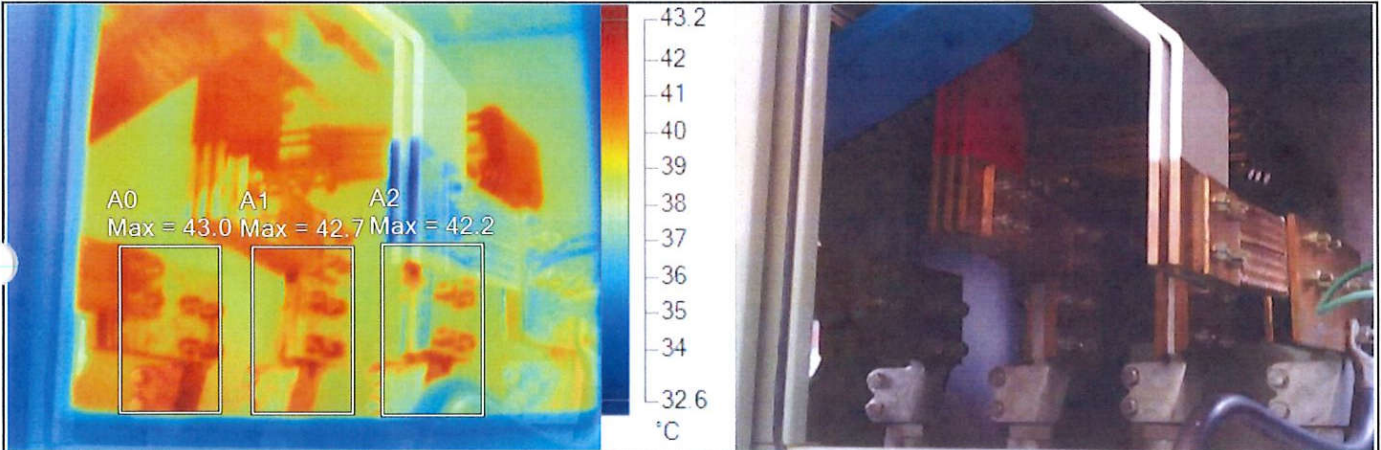
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.1

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Low Volt	Distance :	1	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	43.00	42.70	42.20	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	42.20	42.20	0.00	0.00	0.00
Priority Rate	0.80	0.50	0.00	0.00	0.00
Status	4	4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

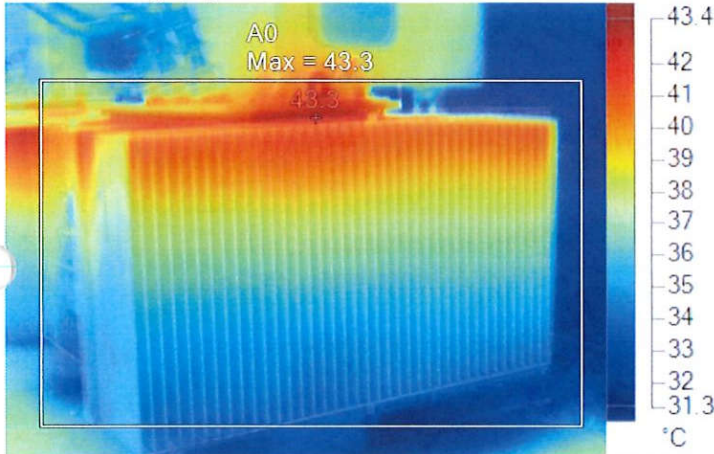
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.1

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Main Tank Transformer	Distance :	1	Metre
Hotspot Point :	Oil Temp & Winding Temp	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Oil Temp & Winding Temp ... =....85.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	43.30	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	85.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1°C – 3°C	1°C – 10°C	No fault found. Equipment is available for continued use.
	4°C – 15°C	11°C – 20°C	Indicates probable deficiency; repair as time permits
	----	21°C – 40°C	Monitor until corrective measures can be accomplished
	>15°C	> 40°C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

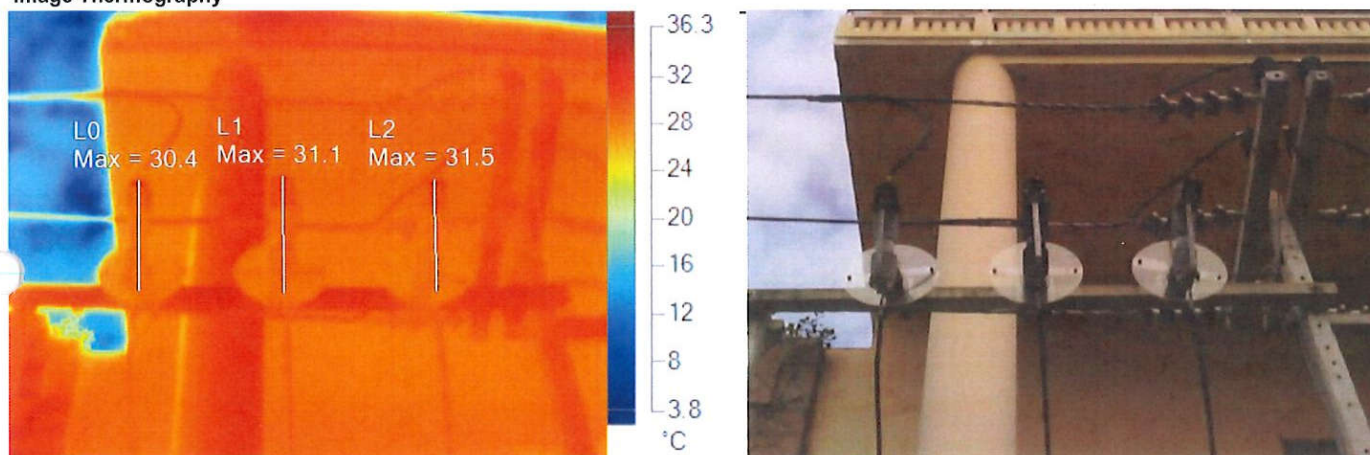
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาด้านปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.2

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Drop Out Fuse 22 kV	Distance :	5	Metre.
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography





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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp =..... °C)

Measurement Points	Point L0	Point L1	Point L2	Point 3	Point 4
Hotspot Temp (°C)	30.40	31.10	31.50	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	0.00	30.40	30.40	0.00	0.00
Priority Rate	0.00	0.70	1.10	0.00	0.00
Status		4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
 	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

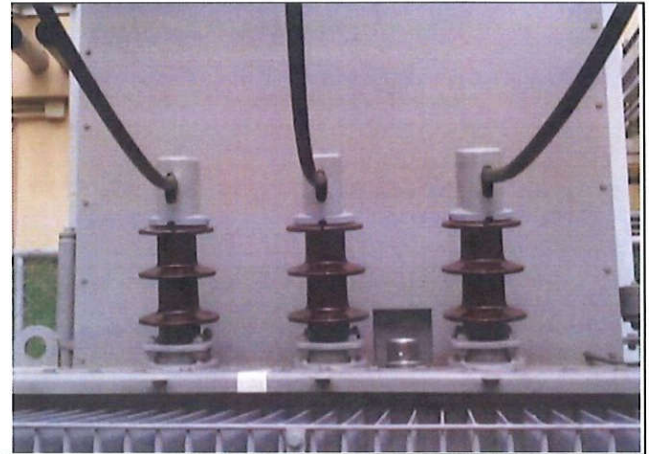
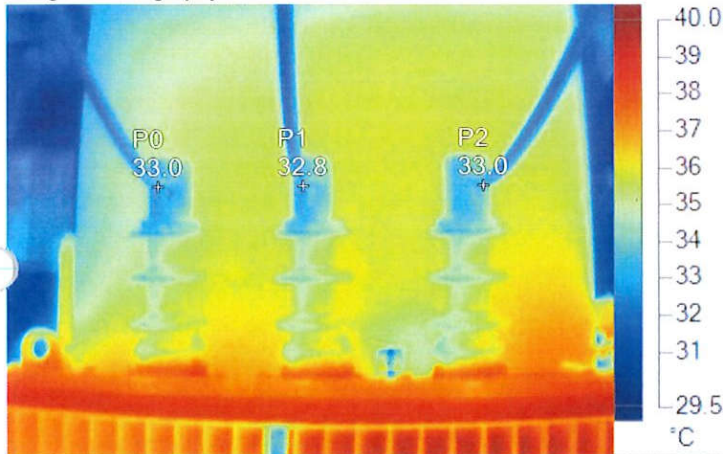
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.2

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Hight Volt	Distance :	1	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography





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Diagnosis:	<input checked="" type="checkbox"/> ΔT (Temperature difference)	<input type="checkbox"/> Equipment Referent Temp (Max Temp = °C)
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Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	33.00	32.80	33.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	32.80	0.00	32.80	0.00	0.00
Priority Rate	0.20	0.00	0.20	0.00	0.00
Status	4		4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
 	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิจารณ์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

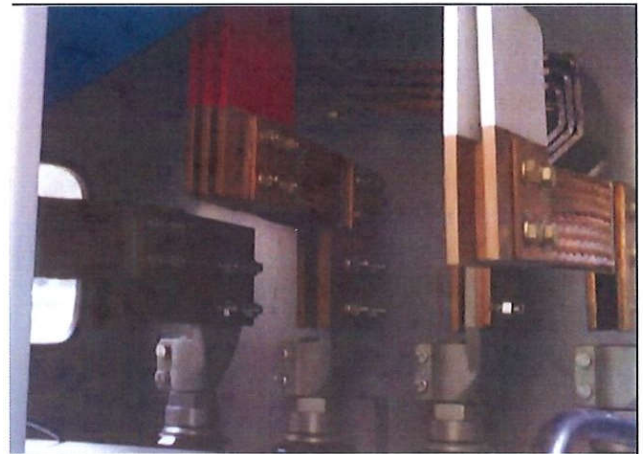
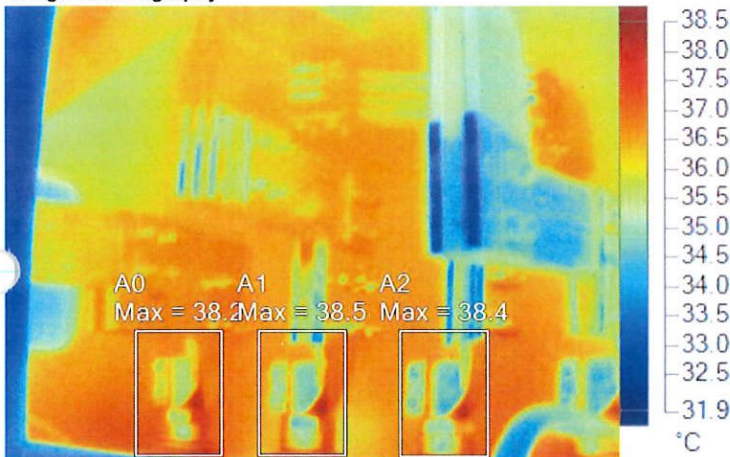
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.2

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Low Volt	Distance :	1	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	38.20	38.50	38.40	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	0.00	38.20	38.20	0.00	0.00
Priority Rate	0.00	0.30	0.20	0.00	0.00
Status		4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

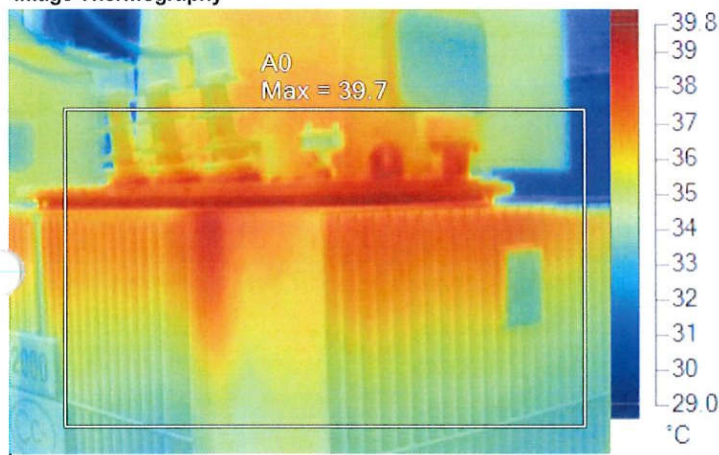
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.2

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Main Tank Transformer	Distance :	1	Metre.
Hotspot Point :	Oil Temp & Winding Temp	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Oil Temp & Winding Temp ... =....85.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	39.70	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	85.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิศวกรพิจารณา)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

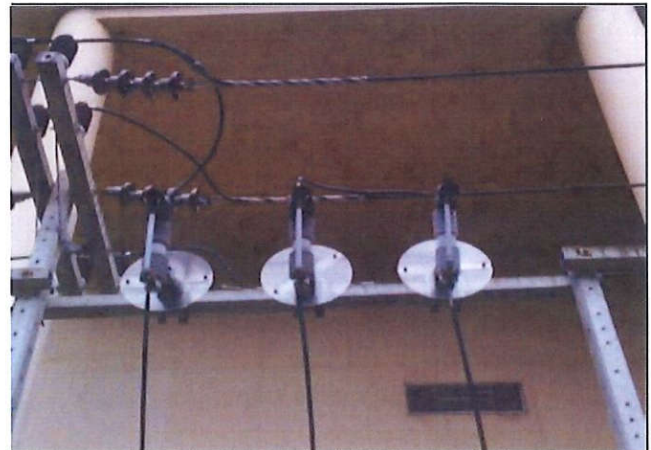
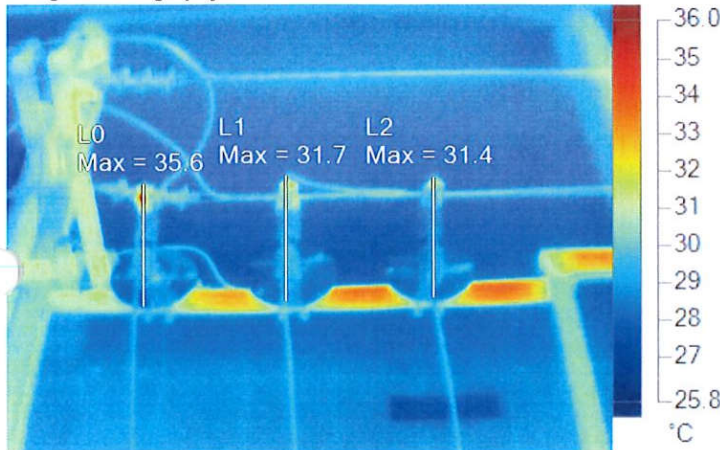
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.3

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Drop Out Fuse 22 kV	Distance :	5	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis:	<input checked="" type="checkbox"/> ΔT (Temperature difference)	<input type="checkbox"/> Equipment Referent Temp (Max Temp = °C)
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Measurement Points	Point L0	Point L1	Point L2	Point 3	Point 4
Hotspot Temp (°C)	35.60	31.70	31.40	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	31.40	31.40	0.00	0.00	0.00
Priority Rate	4.20	0.30	0.00	0.00	0.00
Status	3	4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# Repair as time permits	Conditions detectable (วิศวกรตรวจสอบ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
3	<input type="checkbox"/> Normal	<input type="checkbox"/> Unbalanced Load
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Defective equipment
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Inductive Heating
	<input type="checkbox"/> Open Circuit	<input checked="" type="checkbox"/> Inspection problems
	<input checked="" type="checkbox"/> Other.....	
	ระดับ 3 : บ่งชี้ถึงความน่าจะเป็น สามารถวางแผนกำหนดเวลาแก้ไขและหาสาเหตุ	<input type="checkbox"/> Normal Condition. <input type="checkbox"/> Remove and Replace <input checked="" type="checkbox"/> Tightening and Clean <input checked="" type="checkbox"/> Measure current or PQ. Measurement <input checked="" type="checkbox"/> Maintenance and Electrical Test.

Recommendation : - จากภาพถ่าย Thermography Unbalanced Temp เมื่อเทียบกับ ΔT (Temperature difference)

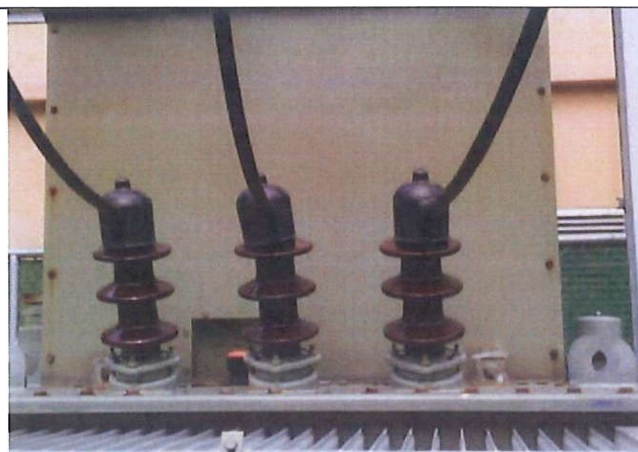
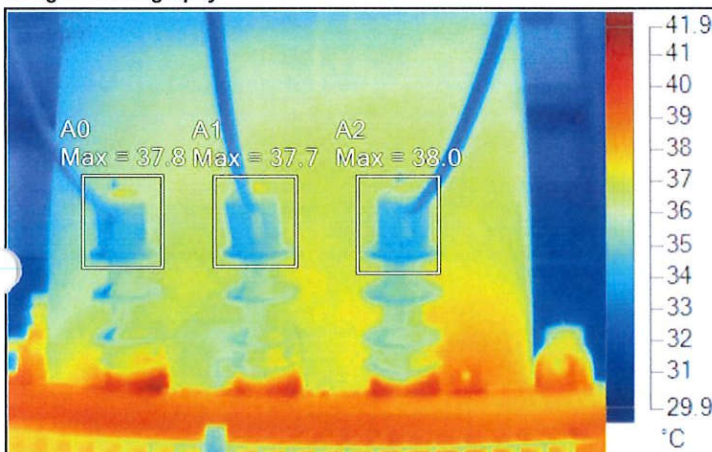
- สถานะอุปกรณ์ อยู่ในลำดับที่ (3) สามารถวางแผนงานตรวจสอบเช็คสาเหตุ ตามเวลาที่กำหนดได้

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.3

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Hight Volt	Distance :	1	Metre.
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	37.80	37.70	38.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	37.80	0.00	37.70	0.00	0.00
Priority Rate	0.00	0.00	0.30	0.00	0.00
Status	4		4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
4	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
3	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
2	----	21° C – 40° C	Monitor until corrective measures can be accomplished
1	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Loose Connection <input type="checkbox"/> Load of Overload <input type="checkbox"/> Open Circuit <input type="checkbox"/> Other.....	<input checked="" type="checkbox"/> Normal Condition. <input type="checkbox"/> Remove and Replace <input type="checkbox"/> Tightening and Clean <input type="checkbox"/> Measure current or PQ. Measurement <input type="checkbox"/> Maintenance and Electrical Test.

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

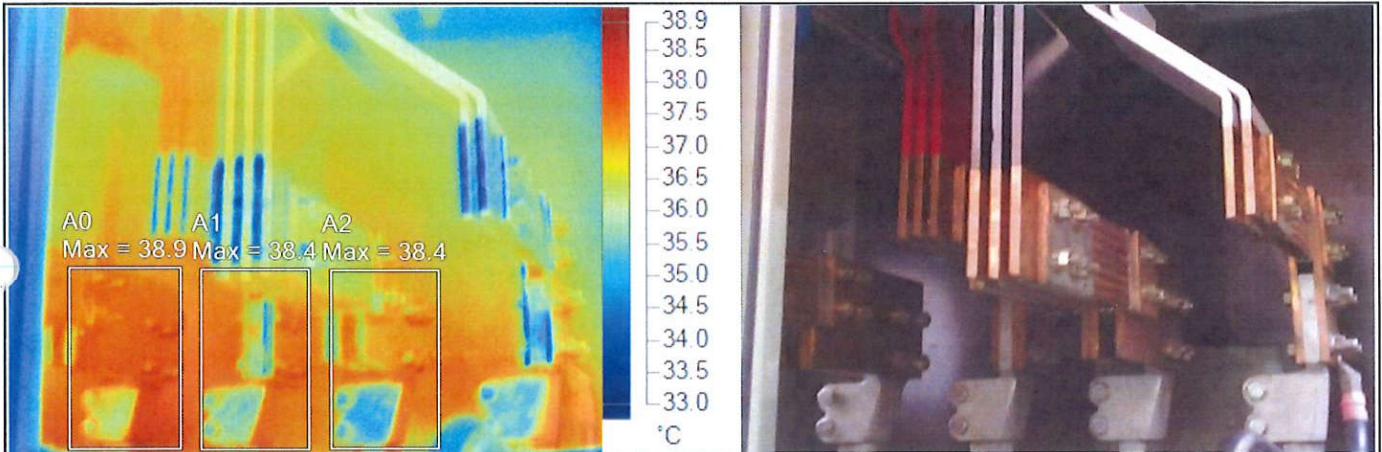
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาดำเนินการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.3

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Low Volt	Distance :	1	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	38.90	38.40	38.40	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	38.40	0.00	38.40	0.00	0.00
Priority Rate	0.50	0.00	0.00	0.00	0.00
Status	4		4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

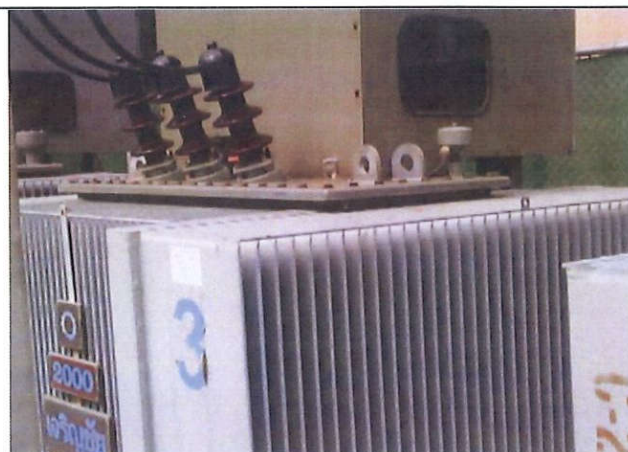
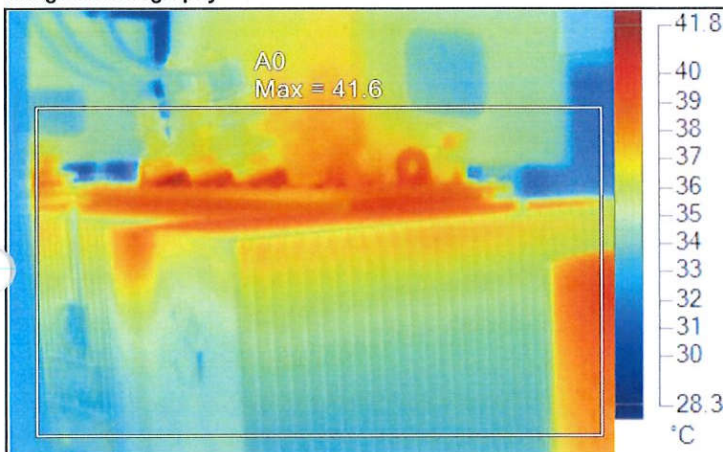
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าที่ต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.3

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Main Tank Transformer	Distance :	1	Metre
Hotspot Point :	Oil Temp & Winding Temp	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Oil Temp & Winding Temp ... =...85.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	41.60	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	85.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

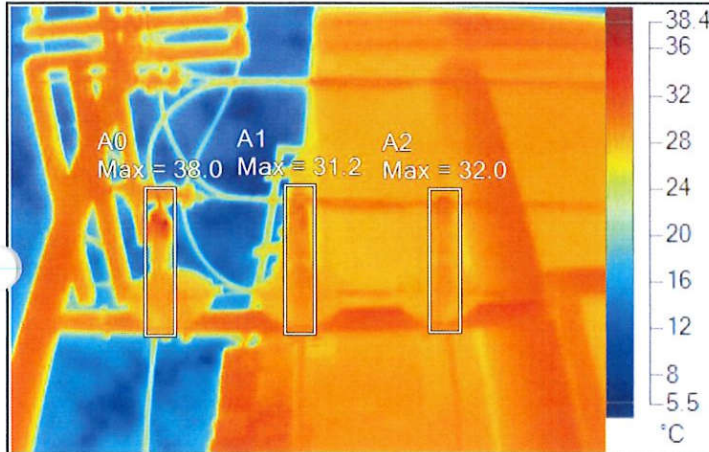
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.4

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Drop Out Fuse 22 kV	Distance :	5	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	38.00	31.20	32.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	31.20	0.00	31.20	0.00	0.00
Priority Rate	6.80	0.00	0.80	0.00	0.00
Status	3		4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
4	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
3	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
2	----	21° C – 40° C	Monitor until corrective measures can be accomplished
1	>15° C	> 40° C	Major discrepancy; repair immediately

# Repair as time permits	Conditions detectable (วิศวกรหาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
3	<input type="checkbox"/> Normal	<input type="checkbox"/> Unbalanced Load
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Defective equipment
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Inductive Heating
	<input type="checkbox"/> Open Circuit	<input checked="" type="checkbox"/> Inspection problems
	<input checked="" type="checkbox"/> Other.....	
		ระดับ 3 : บ่งชี้ถึงความ น่าจะเป็น สามารถวางแผน กำหนดเวลาแก้ไขและหา สาเหตุ
		<input type="checkbox"/> Normal Condition.
		<input type="checkbox"/> Remove and Replace
		<input checked="" type="checkbox"/> Tightening and Clean
		<input checked="" type="checkbox"/> Measure current or PQ. Measurement
		<input checked="" type="checkbox"/> Maintenance and Electrical Test.

Recommendation : - จากภาพถ่าย Thermography Unbalanced Temp เมื่อเทียบกับ ΔT (Temperature difference)

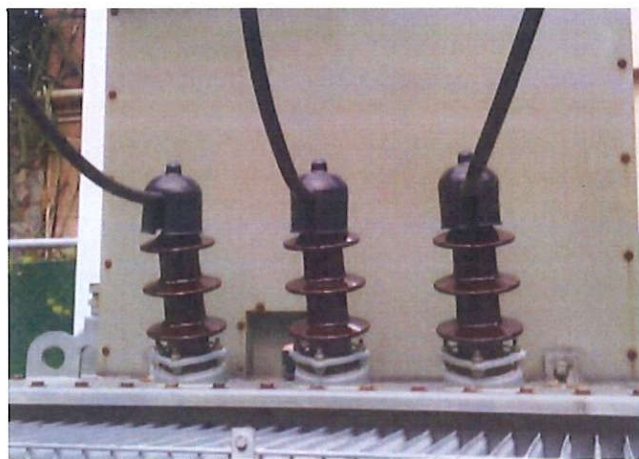
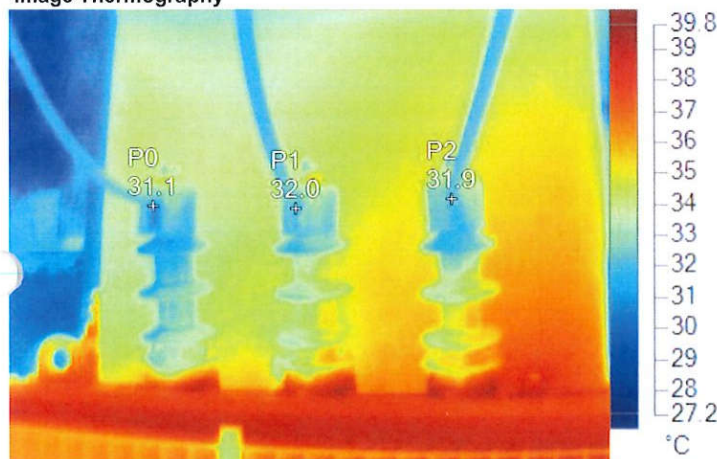
- สถานะอุปกรณ์ อยู่ในลำดับที่ (3) สามารถวางแผนงานตรวจเช็คสาเหตุ ตามเวลาที่กำหนดได้

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.4

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Hight Volt	Distance :	1	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography





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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point P0	Point P1	Point P2	Point 3	Point 4
Hotspot Temp (°C)	31.10	32.00	31.90	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	0.00	31.10	31.10	0.00	0.00
Priority Rate	0.00	0.90	0.80	0.00	0.00
Status		4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
 	1°C – 3°C	1°C – 10°C	No fault found. Equipment is available for continued use.
	4°C – 15°C	11°C – 20°C	Indicates probable deficiency; repair as time permits
	----	21°C – 40°C	Monitor until corrective measures can be accomplished
	>15°C	> 40°C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

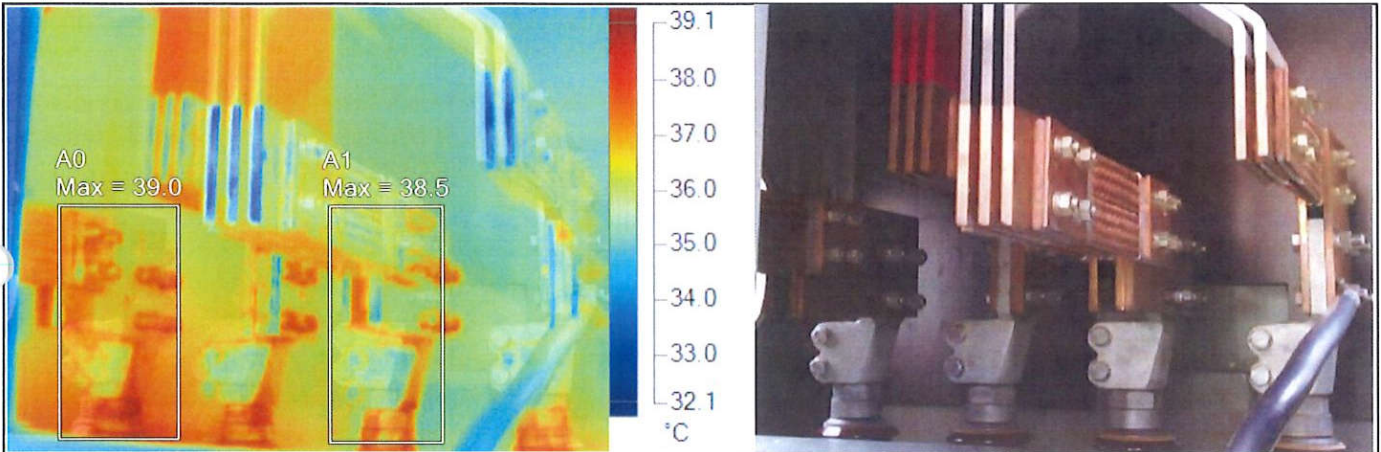
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.4

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Bushing Low Volt	Distance :	1	Metre.
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	39.00	38.50	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	38.50	0.00	0.00	0.00	0.00
Priority Rate	0.50	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

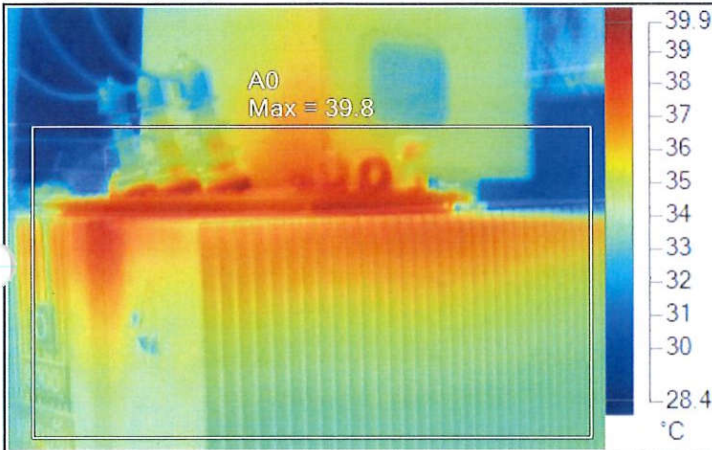
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าที่ต้องการบำรุงรักษาดมปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	TRANSMISSION LINE 22 KV	PANEL NAME TR. NAME	TR.2000 KVA	FEEDER CODE	TR.4

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Main Tank Transformer	Distance :	1	Metre.
Hotspot Point :	Oil Temp & Winding Temp	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Oil Temp & Winding Temp ... =.....85.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	39.80	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	85.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1°C – 3°C	1°C – 10°C	No fault found. Equipment is available for continued use.
	4°C – 15°C	11°C – 20°C	Indicates probable deficiency; repair as time permits
	----	21°C – 40°C	Monitor until corrective measures can be accomplished
	>15°C	> 40°C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

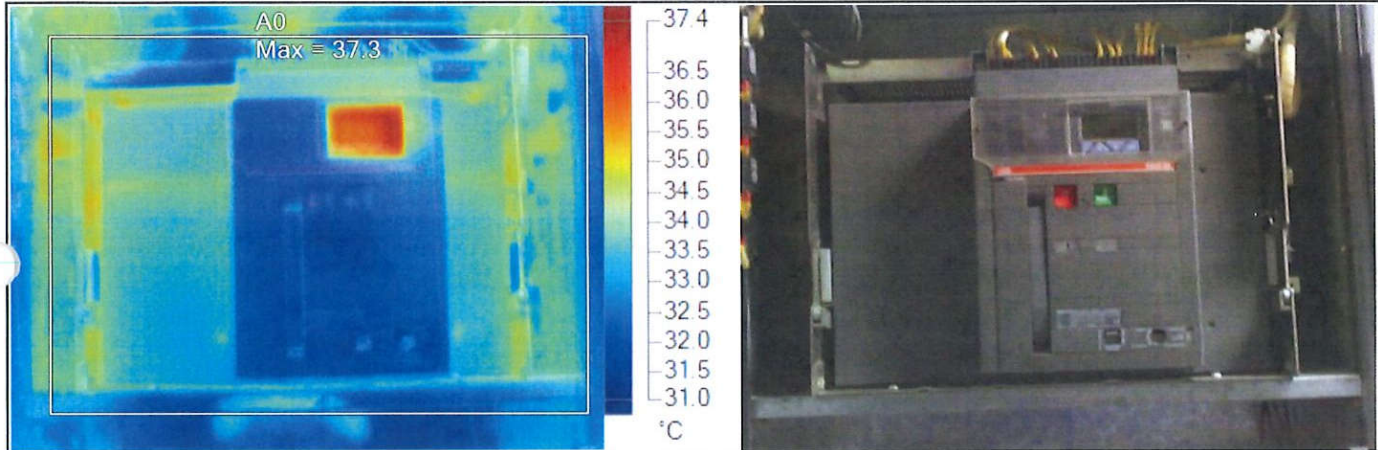
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.1	FEEDER CODE	FROM TR.1

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Air Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Air Circuit Breaker	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Air Circuit Breaker..... =60.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	37.30	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	60.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

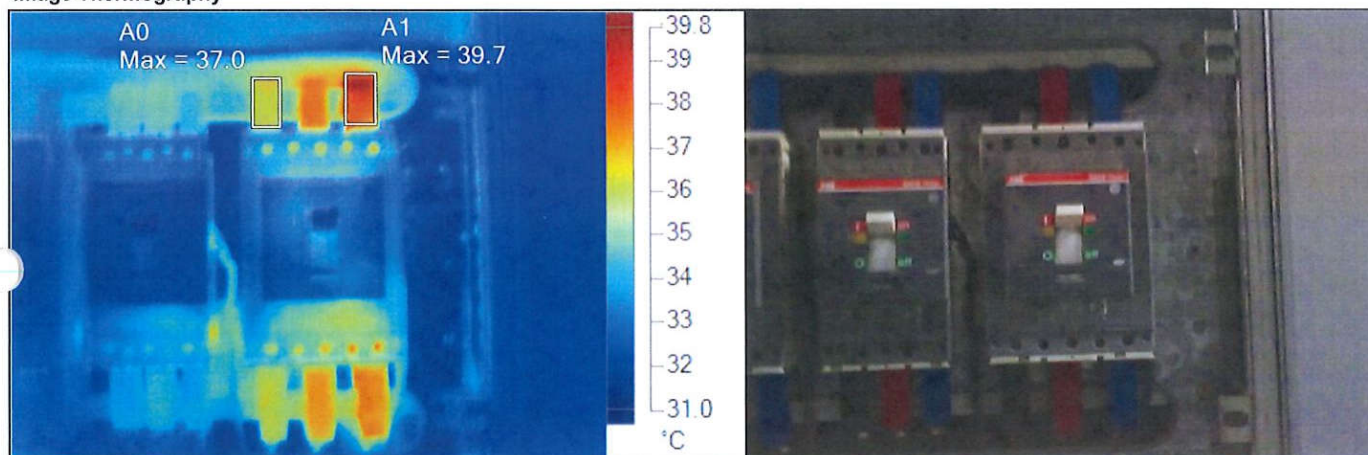
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.1	FEEDER CODE	DBPR 5

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Bus Bar	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	37.00	39.70	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	0.00	37.00	0.00	0.00	0.00
Priority Rate	0.00	2.70	0.00	0.00	0.00
Status		4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

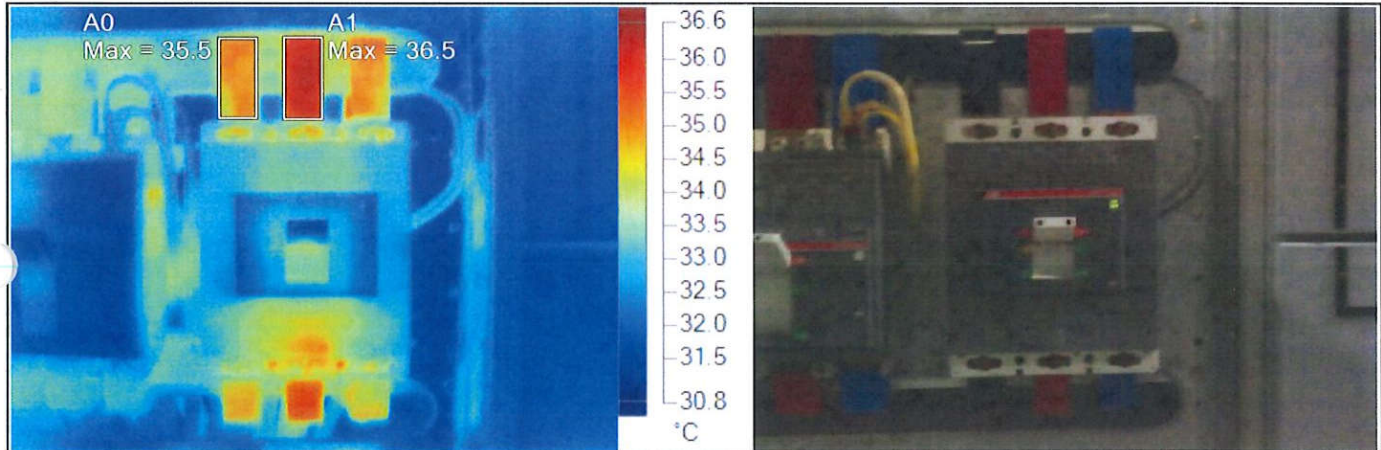
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาด้านปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.1	FEEDER CODE	DBB/A3

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Bus Bar	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	35.50	36.50	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	0.00	35.50	0.00	0.00	0.00
Priority Rate	0.00	1.00	0.00	0.00	0.00
Status		4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

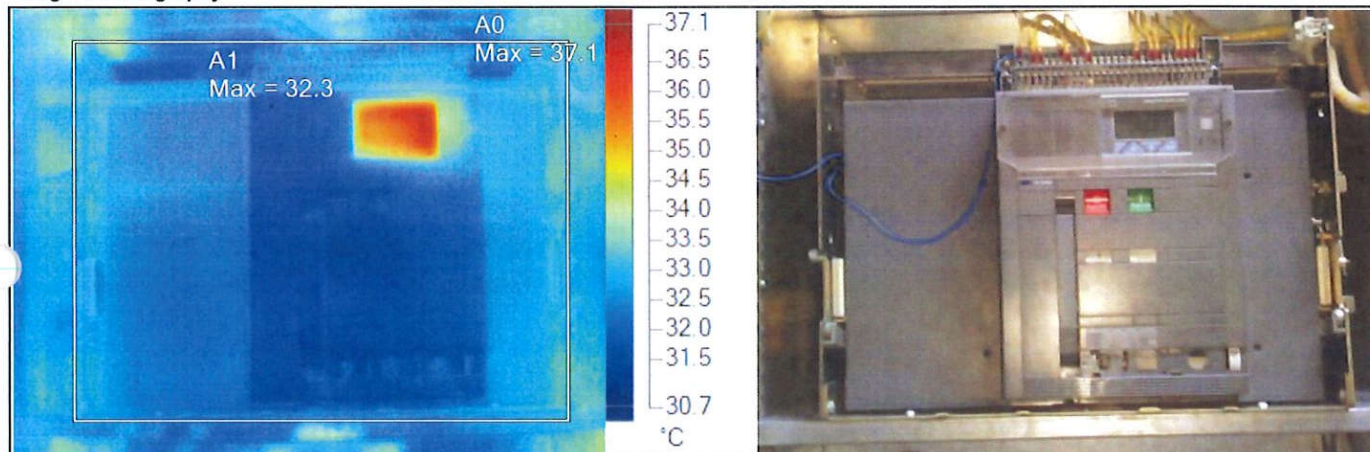
Recommendation : - พิจารณาวาลูปกรณีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.2	FEEDER CODE	FROM TR.2

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Air Circuit Breaker	Distance :	0.3	Metre.
Hotspot Point :	Air Circuit Breaker	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Air Circuit Breaker..... =60.....°C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	32.30	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	60.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
4	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
3	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
2	----	21° C – 40° C	Monitor until corrective measures can be accomplished
1	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Loose Connection <input type="checkbox"/> Load of Overload <input type="checkbox"/> Open Circuit <input type="checkbox"/> Other.....	<input checked="" type="checkbox"/> Normal Condition. <input type="checkbox"/> Remove and Replace <input type="checkbox"/> Tightening and Clean <input type="checkbox"/> Measure current or PQ. Measurement <input type="checkbox"/> Maintenance and Electrical Test.

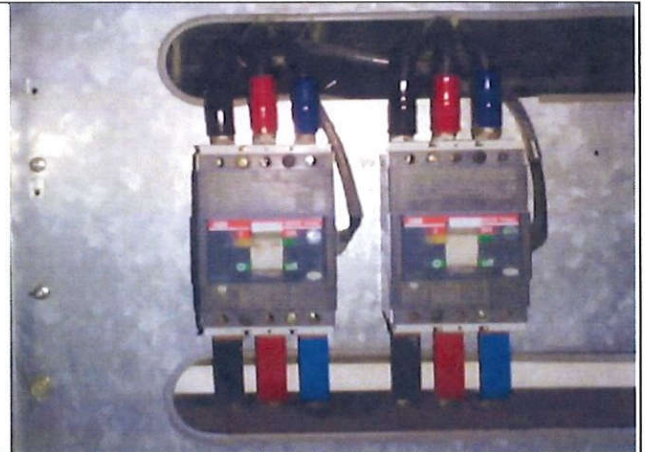
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาด้านปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.2	FEEDER CODE	FOR ENTRY P00L

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Bus Bar	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point P0	Point P1	Point P2	Point 3	Point 4
Hotspot Temp (°C)	43.70	45.20	44.90	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	0.00	43.70	43.70	0.00	0.00
Priority Rate	0.00	1.50	1.20	0.00	0.00
Status		4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

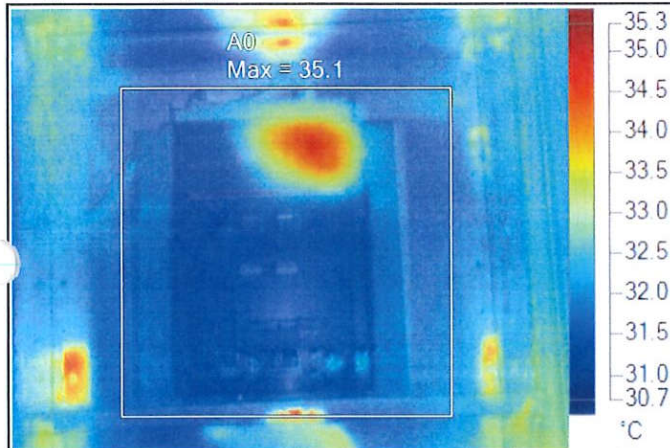
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME	MDB.4	FEEDER CODE	TO ATS #2
		TR. NAME			

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Air Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Air Circuit Breaker	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp ...Air Circuit Breaker..... =.....60.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	35.10	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	60.00	0.00	0.00	0.00	0.00
Priority Rate	> Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	---	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิจารณ์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

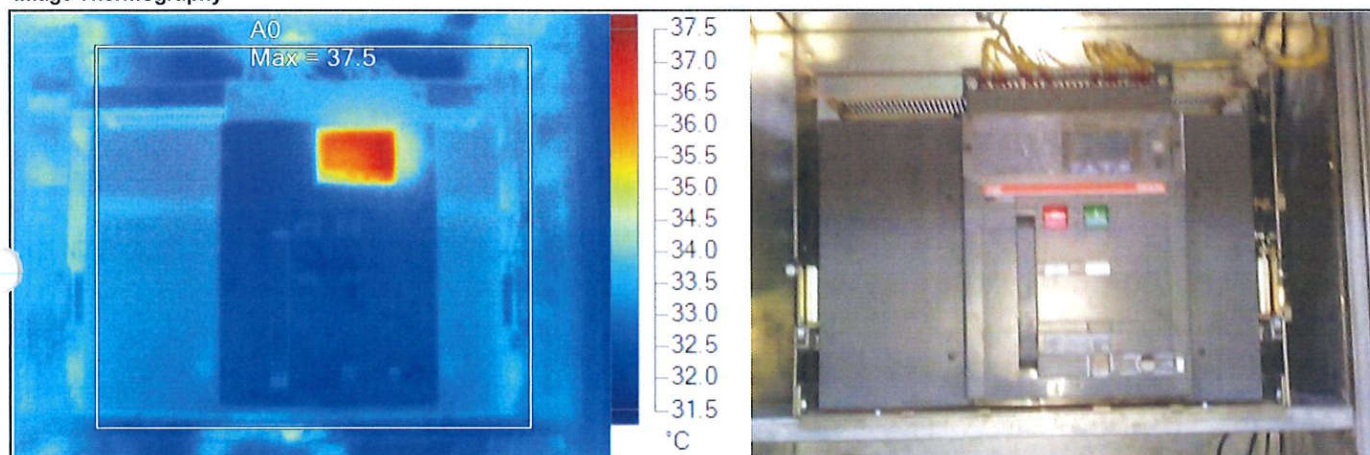
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.4	FEEDER CODE	FROM TR.4

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Air Circuit Breaker	Distance :	0.3	Metre.
Hotspot Point :	Air Circuit Breaker	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Air Circuit Breaker..... =60.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	37.50	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	60.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1°C – 3°C	1°C – 10°C	No fault found. Equipment is available for continued use.
	4°C – 15°C	11°C – 20°C	Indicates probable deficiency; repair as time permits
	----	21°C – 40°C	Monitor until corrective measures can be accomplished
	>15°C	> 40°C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

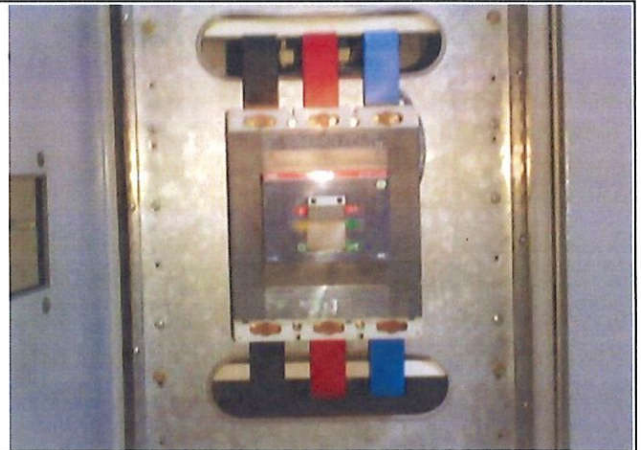
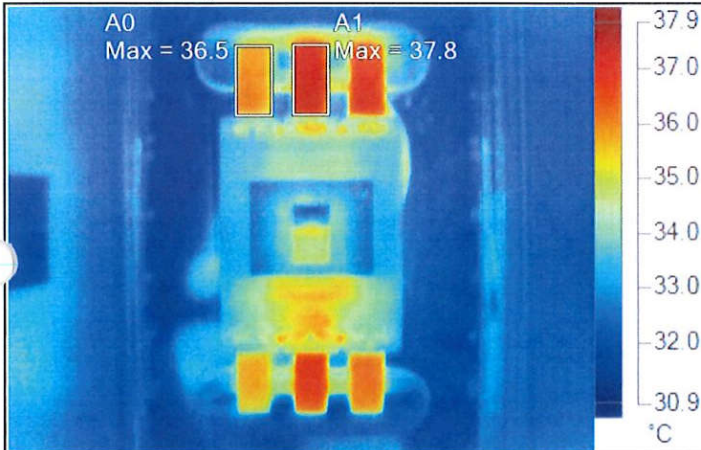
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME	MDB.4	FEEDER CODE	DBPR 1
		TR. NAME			

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Bus Bar	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	36.50	37.80	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	0.00	36.50	0.00	0.00	0.00
Priority Rate	0.00	1.30	0.00	0.00	0.00
Status		4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

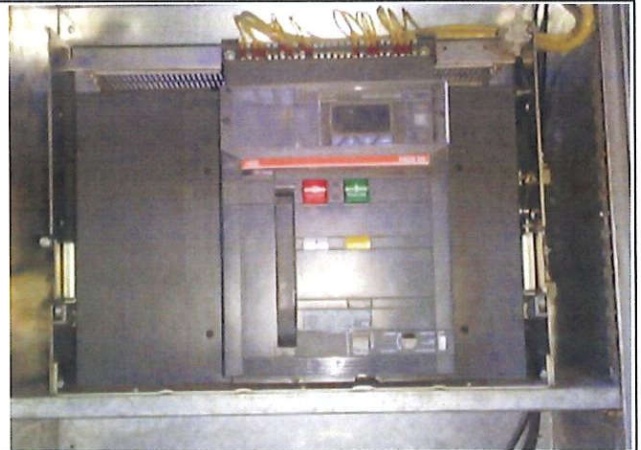
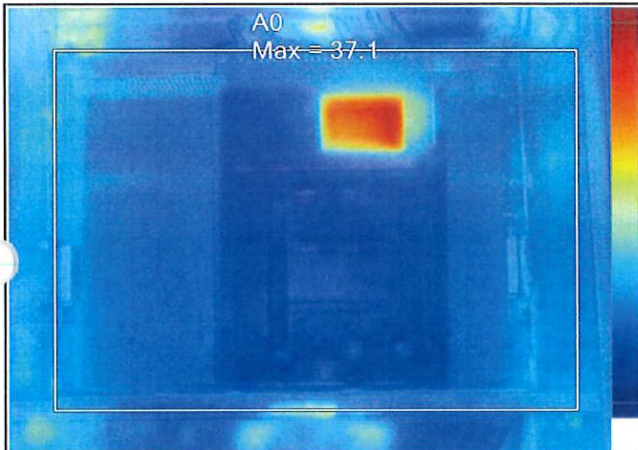
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาด้านปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.3	FEEDER CODE	FROM TR.3

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Air Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Air Circuit Breaker	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Air Circuit Breaker..... =.....60.....°C)

Measurement Points	Point A0	Point 1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	37.10	0.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	0.00	0.00	0.00	0.00
Referent Temp (°C)	60.00	0.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

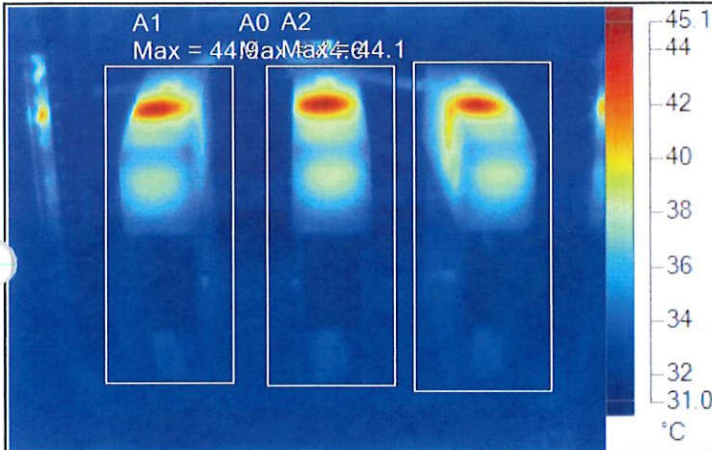
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.4	FEEDER CODE	Capacitor Bank Step 6,7,8

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Capacitor Bank	Distance :	0.3	Metre
Hotspot Point :	Body Capacitor Bank	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Body Capacitor Bank..... =....70....°C)

Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	44.60	44.90	44.10	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	70.00	70.00	70.00	0.00	0.00
Priority Rate	< Referent Temp	< Referent Temp	< Referent Temp	0.00	0.00
Status	4	4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

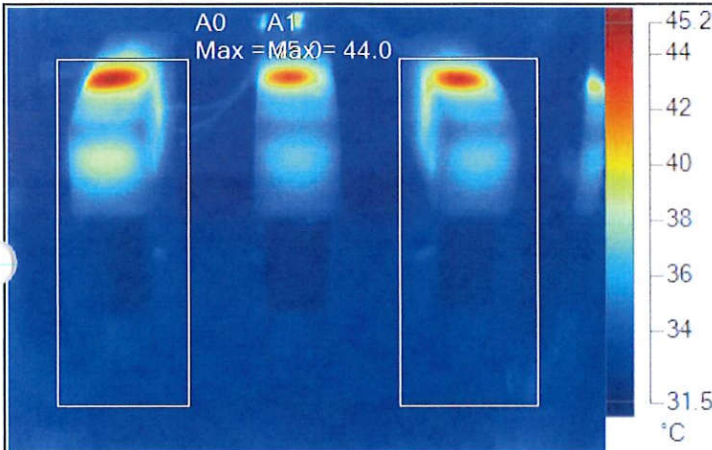
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.3	FEEDER CODE	Capacitor Bank Step 6,7,8

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Capacitor Bank	Distance :	0.3	Metre
Hotspot Point :	Body Capacitor Bank	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Body Capacitor Bank..... =....70....°C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	45.00	44.00	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	70.00	70.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	< Referent Temp	0.00	0.00	0.00
Status	4	4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
4	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
3	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
2	----	21° C – 40° C	Monitor until corrective measures can be accomplished
1	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Loose Connection <input type="checkbox"/> Load of Overload <input type="checkbox"/> Open Circuit <input type="checkbox"/> Other.....	<input checked="" type="checkbox"/> Normal Condition. <input type="checkbox"/> Remove and Replace <input type="checkbox"/> Tightening and Clean <input type="checkbox"/> Measure current or PQ. Measurement <input type="checkbox"/> Maintenance and Electrical Test.

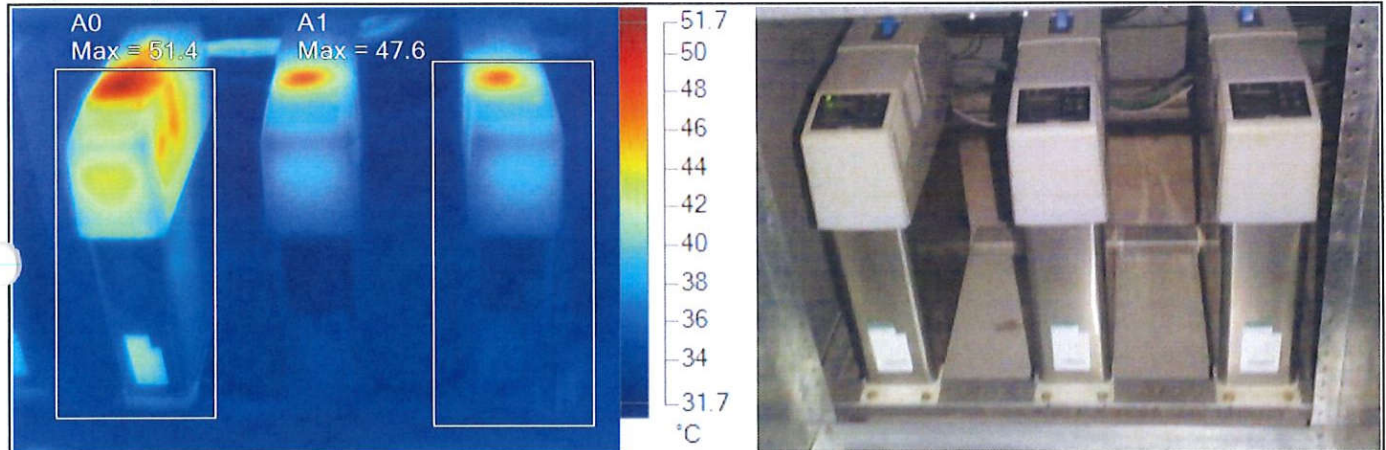
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.2	FEEDER CODE	Capacitor Bank Step 3,4,5

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Capacitor Bank	Distance :	0.3	Metre
Hotspot Point :	Body Capacitor Bank	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Body Capacitor Bank..... =....70....°C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	51.40	47.60	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	70.00	70.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	< Referent Temp	0.00	0.00	0.00
Status	4	4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ /ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

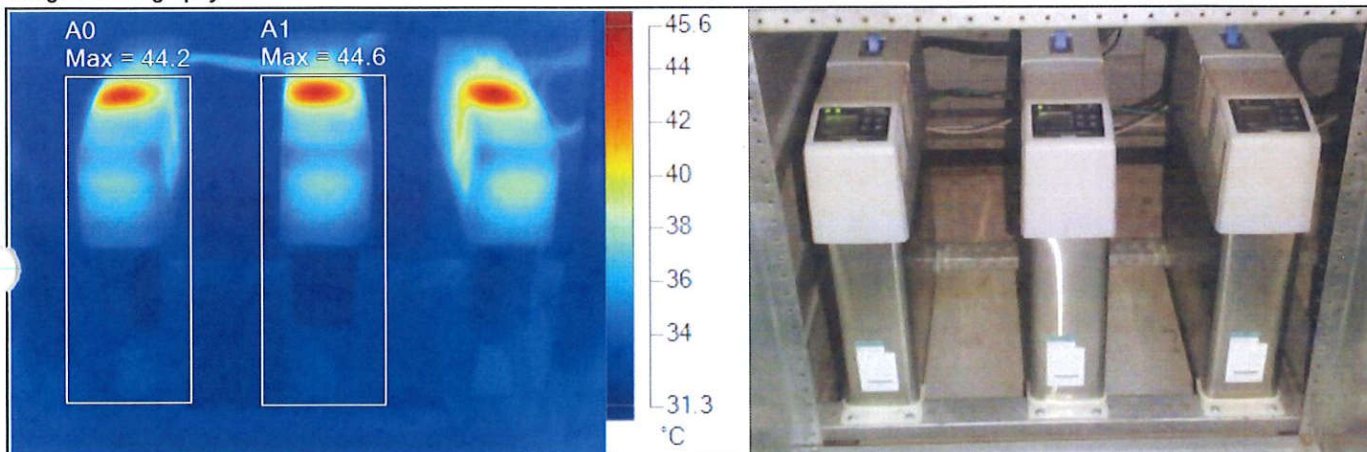
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	ELECTRICAL ROOM 1	PANEL NAME TR. NAME	MDB.1	FEEDER CODE	Capacitor Bank Step 3,4,5

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Capacitor Bank	Distance :	0.3	Metre
Hotspot Point :	Body Capacitor Bank	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☐ ΔT (Temperature difference) ☒ Equipment Referent Temp (Max Temp ...Body Capacitor Bank..... =....70....°C)

Measurement Points	Point A0	Point A1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	44.20	44.60	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	70.00	70.00	0.00	0.00	0.00
Priority Rate	< Referent Temp	< Referent Temp	0.00	0.00	0.00
Status	4	4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

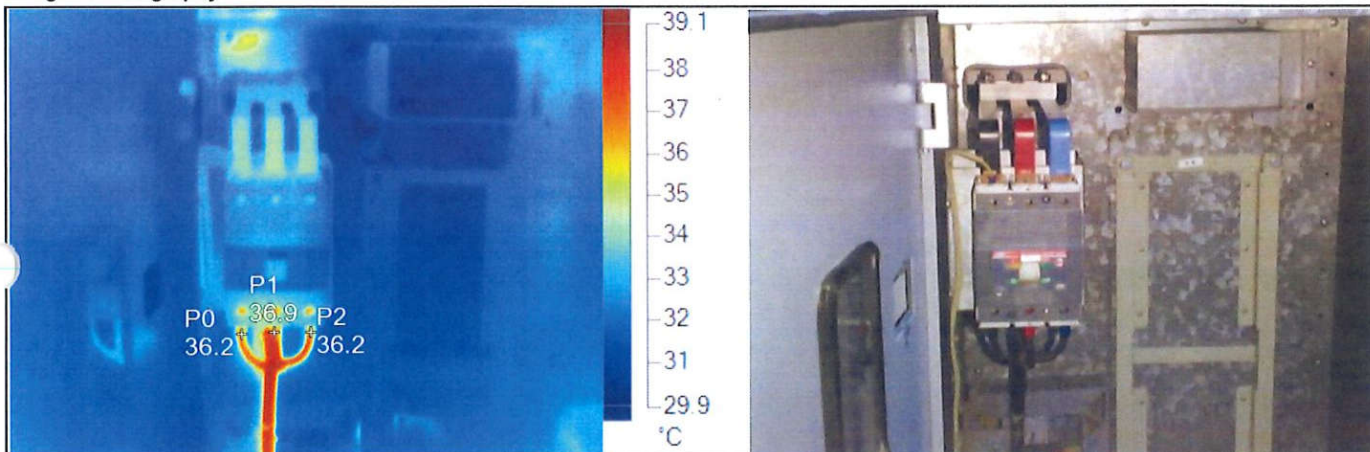
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	CHILLER ROOM	PANEL NAME TR. NAME	MCB-2	FEEDER CODE	CHP2-06

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point P0	Point P1	Point P2	Point 3	Point 4
Hotspot Temp (°C)	36.20	36.90	36.20	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	0.00	36.20	36.20	0.00	0.00
Priority Rate	0.00	0.70	0.00	0.00	0.00
Status		4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ/ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

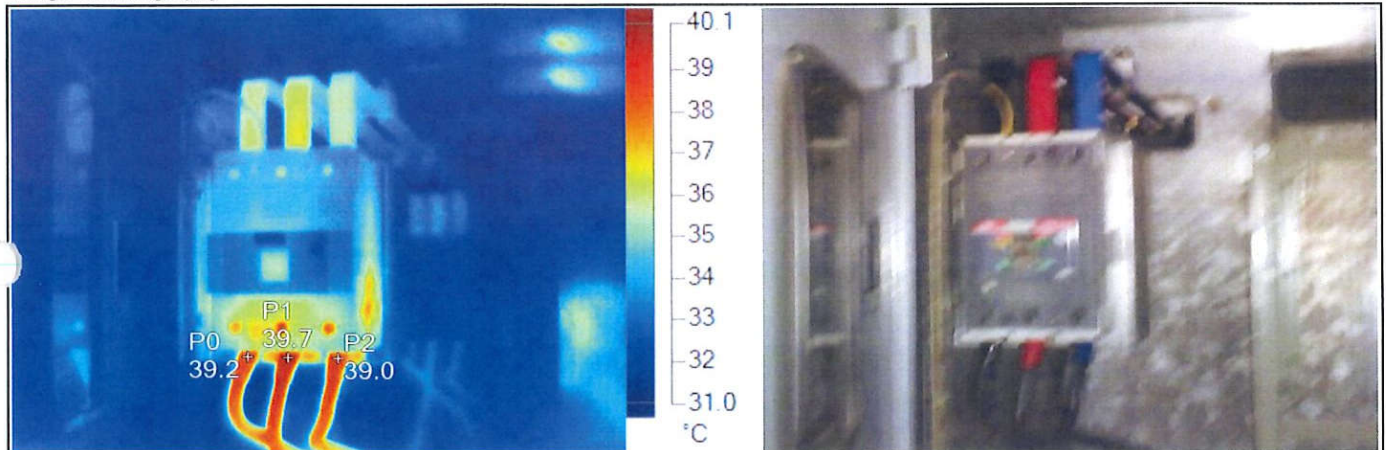
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	CHILLER ROOM	PANEL NAME TR. NAME	MCB-1	FEEDER CODE	CHP2-03

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography




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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point P0	Point P1	Point P2	Point 3	Point 4
Hotspot Temp (°C)	39.20	39.70	39.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	39.00	39.00	0.00	0.00	0.00
Priority Rate	0.20	0.70	0.00	0.00	0.00
Status	4	4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
 <div> <div>4</div> <div>3</div> <div>2</div> <div>1</div> </div>	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)		Recommended Action. (แนะนำ /ควรดำเนินการ)	
4	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Unbalanced Load	ระดับ 4 : ไม่พบข้อบกพร่อง อุปกรณ์พร้อมใช้งาน ต่อเนื่อง	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Defective equipment		<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Inductive Heating		<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Inspection problems		<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....			<input type="checkbox"/> Maintenance and Electrical Test.

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

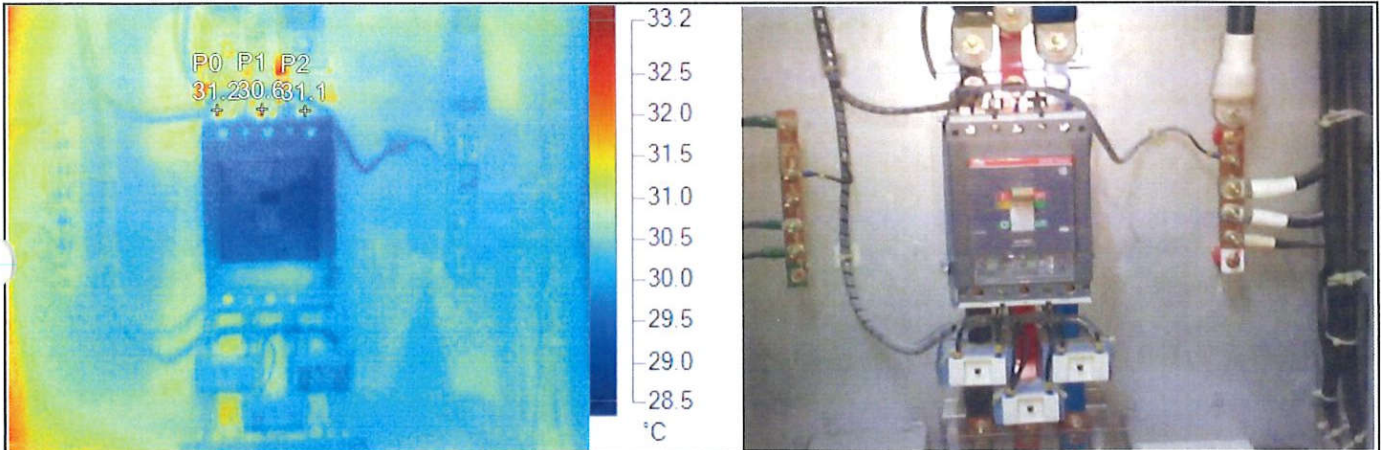
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	IT ROOM	PANEL NAME	DBB/A1	FEEDER CODE	MAIN MCB
		TR. NAME			

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point P0	Point P1	Point P2	Point 3	Point 4
Hotspot Temp (°C)	31.20	30.60	31.10	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	30.60	0.00	30.60	0.00	0.00
Priority Rate	0.60	0.00	0.50	0.00	0.00
Status	4		4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
	<input type="checkbox"/> Unbalanced Load	

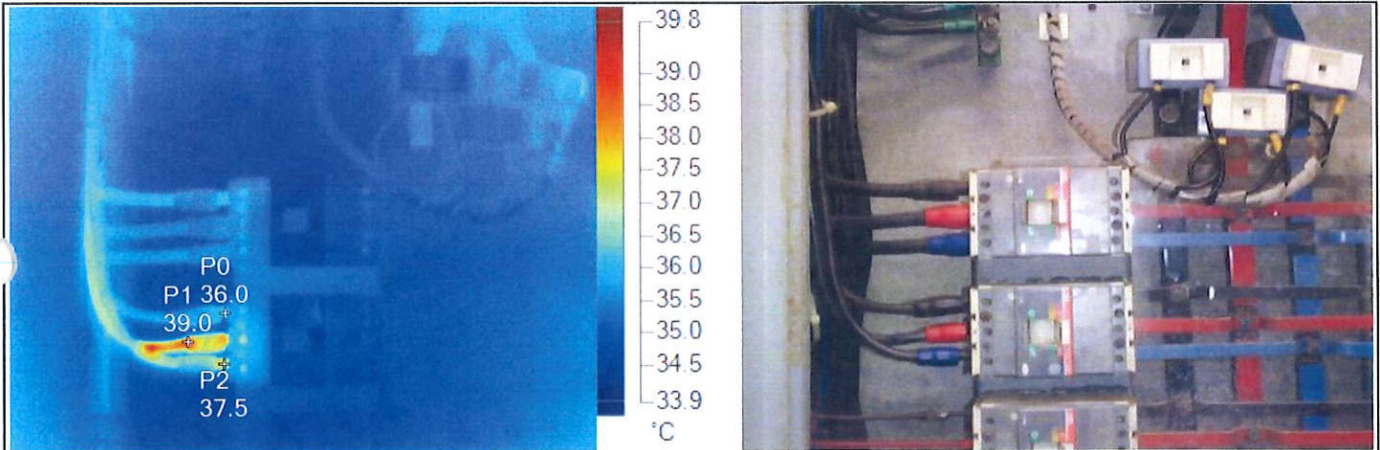
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	A6 ROOM	PANEL NAME TR. NAME	EDB1 A6	FEEDER CODE	A6-MVP-01

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point P0	Point P1	Point P2	Point 3	Point 4
Hotspot Temp (°C)	36.00	39.00	37.50	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	0.00	36.00	36.00	0.00	0.00
Priority Rate	0.00	3.00	1.50	0.00	0.00
Status		4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)		Recommended Action. (แนะนำ /ควรดำเนินการ)	
4	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Unbalanced Load	ระดับ 4 : ไม่พบข้อบกพร่อง อุปกรณ์พร้อมใช้งาน ต่อเนื่อง	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Defective equipment		<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Inductive Heating		<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Inspection problems		<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....			<input type="checkbox"/> Maintenance and Electrical Test.

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

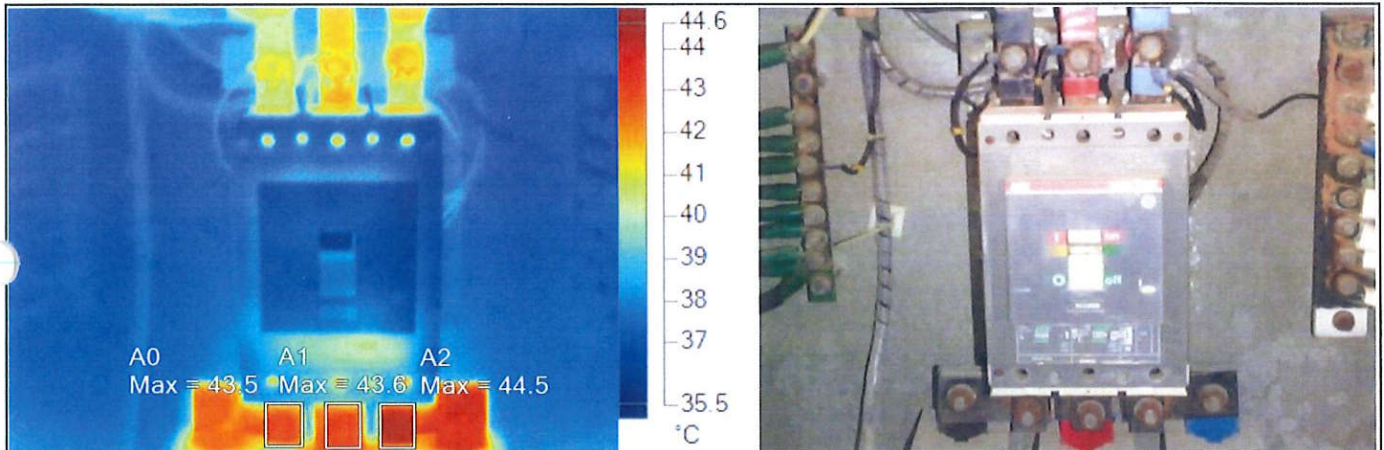
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	A6 ROOM	PANEL NAME TR. NAME	DBPR 5	FEEDER CODE	MAIN MCCB

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Bus Bar	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography




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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp = °C)

Measurement Points	Point A0	Point A1	Point A2	Point 3	Point 4
Hotspot Temp (°C)	43.50	43.60	44.50	0.00	0.00
Ambient Temp (°C)	28.00	28.00	28.00	0.00	0.00
Referent Temp (°C)	0.00	43.50	43.50	0.00	0.00
Priority Rate	0.00	0.10	1.00	0.00	0.00
Status		4	4		

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
 <div> <div>4</div> <div>3</div> <div>2</div> <div>1</div> </div>	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)	Recommended Action. (แนะนำ / ควรดำเนินการ)
4	<input checked="" type="checkbox"/> Normal	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....	<input type="checkbox"/> Maintenance and Electrical Test.
		ระดับ 4 : ไม่พบข้อบกพร่อง อุปกรณ์พร้อมใช้งานต่อเนื่อง

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ

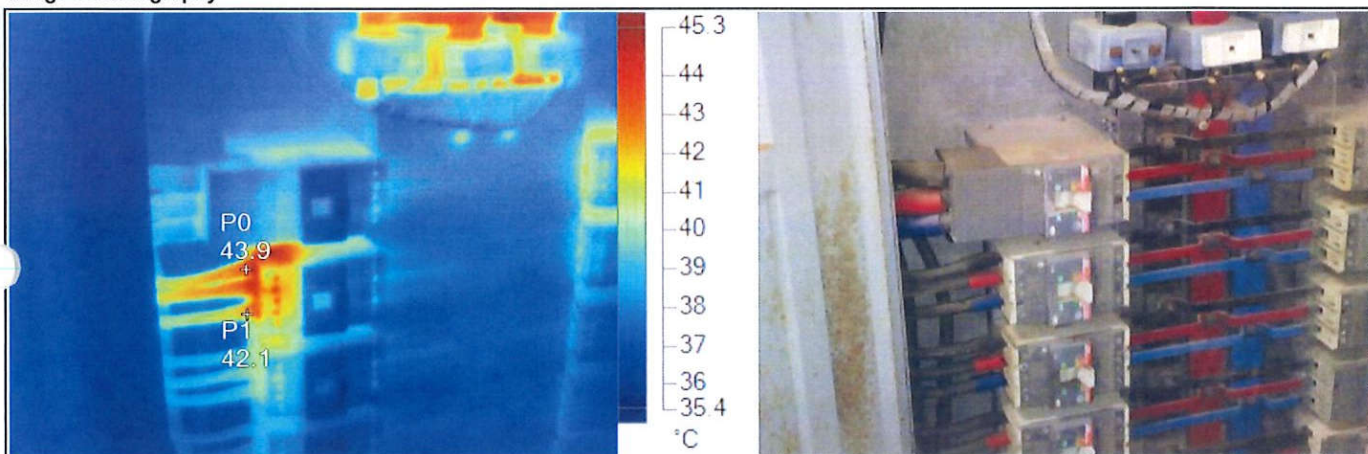
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	A6 ROOM	PANEL NAME TR. NAME	DBPR 5	FEEDER CODE	CB BOX PUMP ROOM6

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre.
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis: ☒ ΔT (Temperature difference) ☐ Equipment Referent Temp (Max Temp =..... °C)

Measurement Points	Point P0	Point P1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	43.90	42.10	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	42.10	0.00	0.00	0.00	0.00
Priority Rate	1.80	0.00	0.00	0.00	0.00
Status	4				

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)		Recommended Action. (แนะนำ /ควรดำเนินการ)	
4	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Unbalanced Load	ระดับ 4 : ไม่พบข้อบกพร่อง อุปกรณ์พร้อมใช้งานต่อเนื่อง	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Defective equipment		<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Inductive Heating		<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Inspection problems		<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....			<input type="checkbox"/> Maintenance and Electrical Test.

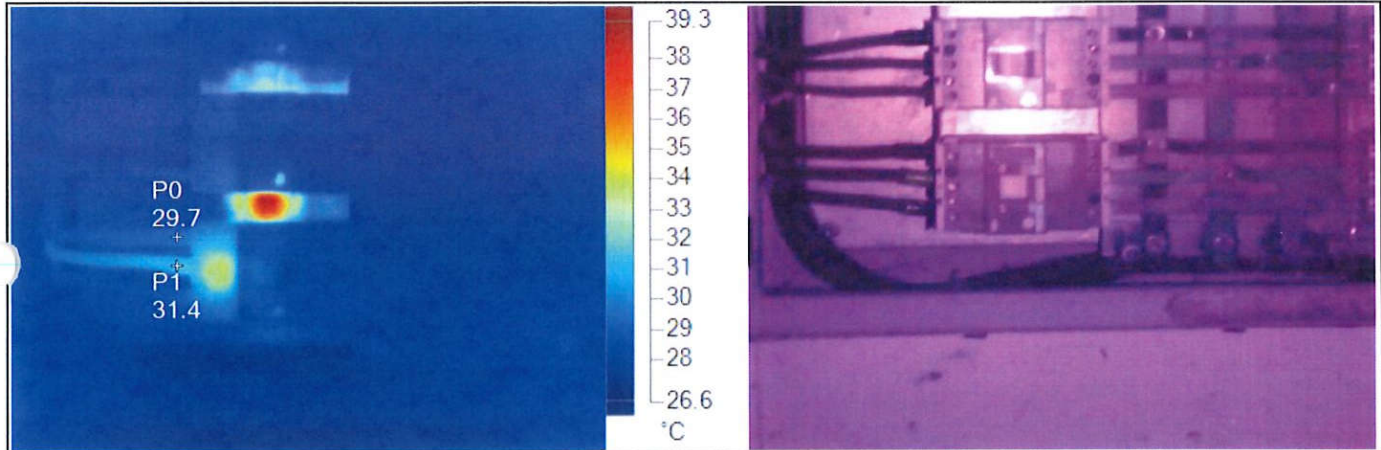
Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาคอนดักและการทดสอบทางไฟฟ้าตามกระบวนการปกติ

CUSTOMER	CENTARA GRAND MIRAGE BEACH RESORT PATTAYA			JOB	SOS-210313
DESCRIPTION	2021 PREVENTIVE MAINTENANCE FOR ELECTRICAL SYSTEM			DATE	21 December 2021
LOCATION	DB ROOM	PANEL NAME TR. NAME	EDB 1 / A4	FEEDER CODE	EP6 / A4

THERMOGRAPHY INSPECTION REPORT : AFTER

Equipment Name :	Molded Case Circuit Breaker	Distance :	0.3	Metre
Hotspot Point :	Joint Connect	Ambient Temp :	28	°C
Emissivity :	0.95	Year/Month :	12/2021	

Image Thermography



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Diagnosis:	<input checked="" type="checkbox"/> ΔT (Temperature difference)	<input type="checkbox"/> Equipment Referent Temp (Max Temp = °C)
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Measurement Points	Point P0	Point P1	Point 2	Point 3	Point 4
Hotspot Temp (°C)	29.70	31.40	0.00	0.00	0.00
Ambient Temp (°C)	28.00	28.00	0.00	0.00	0.00
Referent Temp (°C)	0.00	29.70	0.00	0.00	0.00
Priority Rate	0.00	1.70	0.00	0.00	0.00
Status		4			

TABLE 100.18 Thermographic Survey Suggested Actions Based on Temperature Rise

* ΔT (Temperature difference) Rise above ambient temperature	Temperature difference (ΔT) based on comparisons between similar components under similar loading.	Temperature difference (ΔT) based upon comparisons between component and ambient air temperatures.	Recommended Action
	1° C – 3° C	1° C – 10° C	No fault found. Equipment is available for continued use.
	4° C – 15° C	11° C – 20° C	Indicates probable deficiency; repair as time permits
	----	21° C – 40° C	Monitor until corrective measures can be accomplished
	>15° C	> 40° C	Major discrepancy; repair immediately

# No fault found	Conditions detectable (วิเคราะห์สาเหตุ)		Recommended Action. (แนะนำ / ควรดำเนินการ)	
4	<input checked="" type="checkbox"/> Normal	<input type="checkbox"/> Unbalanced Load	ระดับ 4 : ไม่พบข้อบกพร่อง อุปกรณ์พร้อมใช้งานต่อเนื่อง	<input checked="" type="checkbox"/> Normal Condition.
	<input type="checkbox"/> Loose Connection	<input type="checkbox"/> Defective equipment		<input type="checkbox"/> Remove and Replace
	<input type="checkbox"/> Load of Overload	<input type="checkbox"/> Inductive Heating		<input type="checkbox"/> Tightening and Clean
	<input type="checkbox"/> Open Circuit	<input type="checkbox"/> Inspection problems		<input type="checkbox"/> Measure current or PQ. Measurement
	<input type="checkbox"/> Other.....			<input type="checkbox"/> Maintenance and Electrical Test.

Recommendation : - พิจารณาว่าอุปกรณ์มีสภาพปกติ
- อุปกรณ์ไฟฟ้าต้องการบำรุงรักษาตามปกติและการทดสอบทางไฟฟ้าตามกระบวนการปกติ