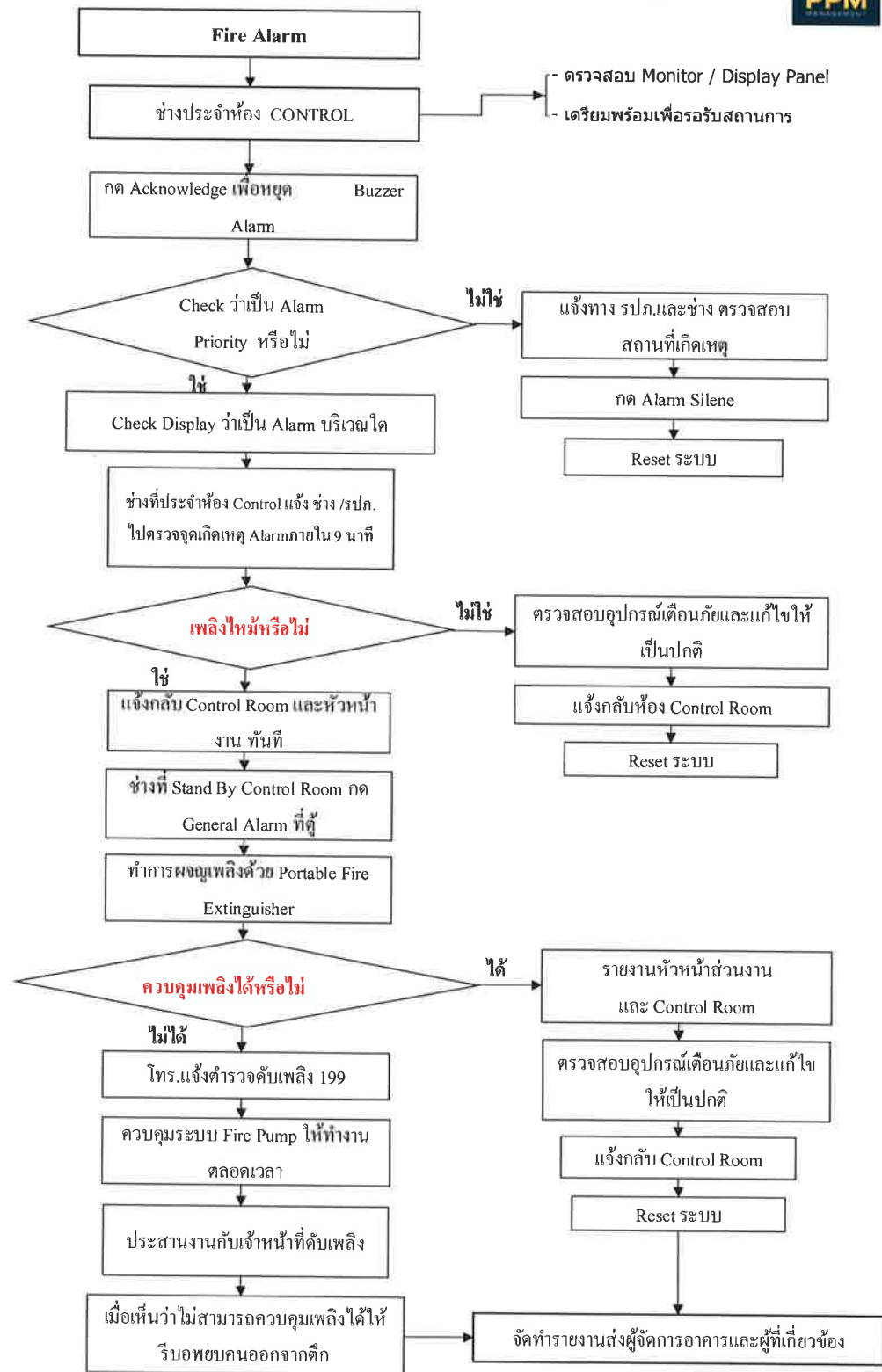
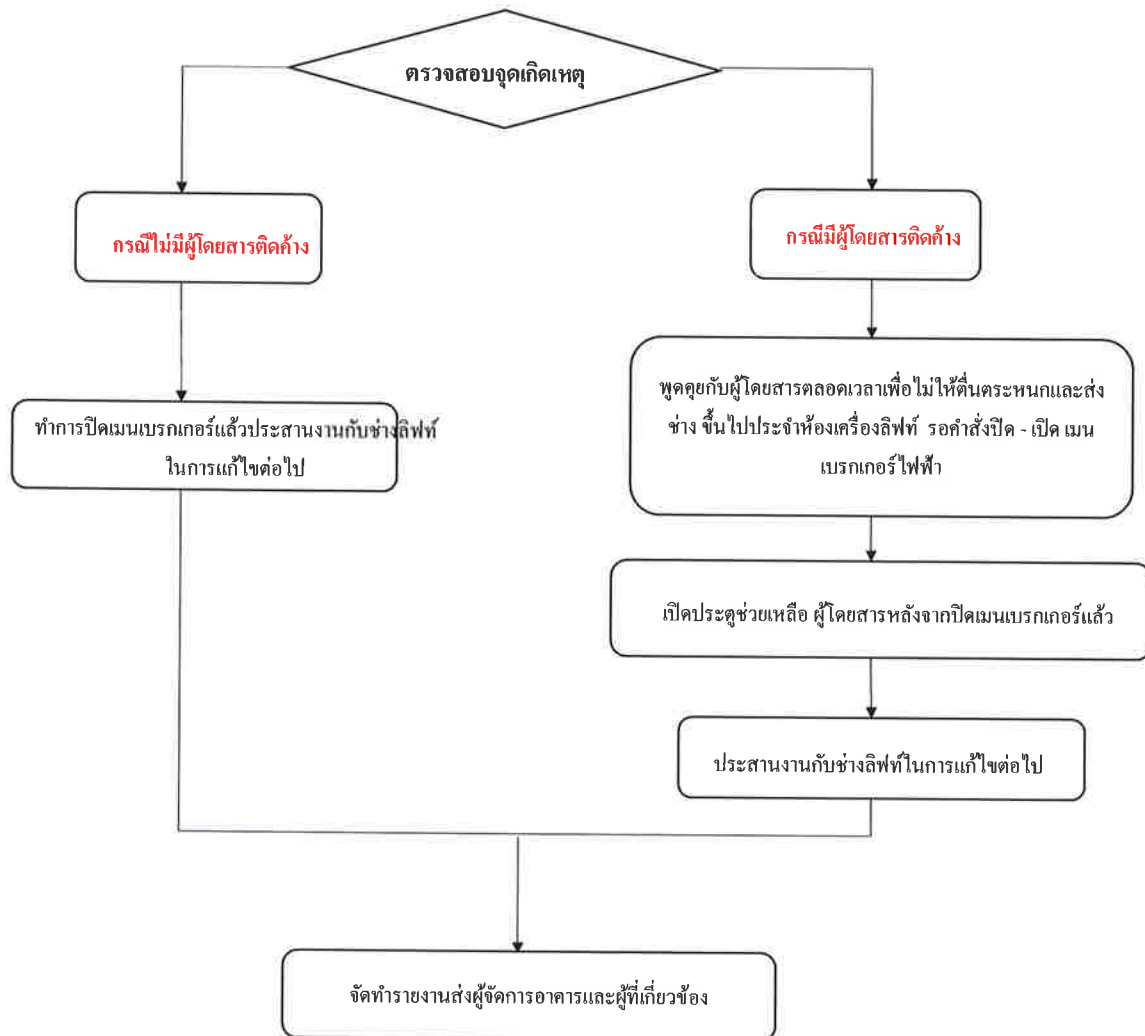


ภาคผนวกที่ 2-12
แผนปฏิบัติการฉุกเฉิน

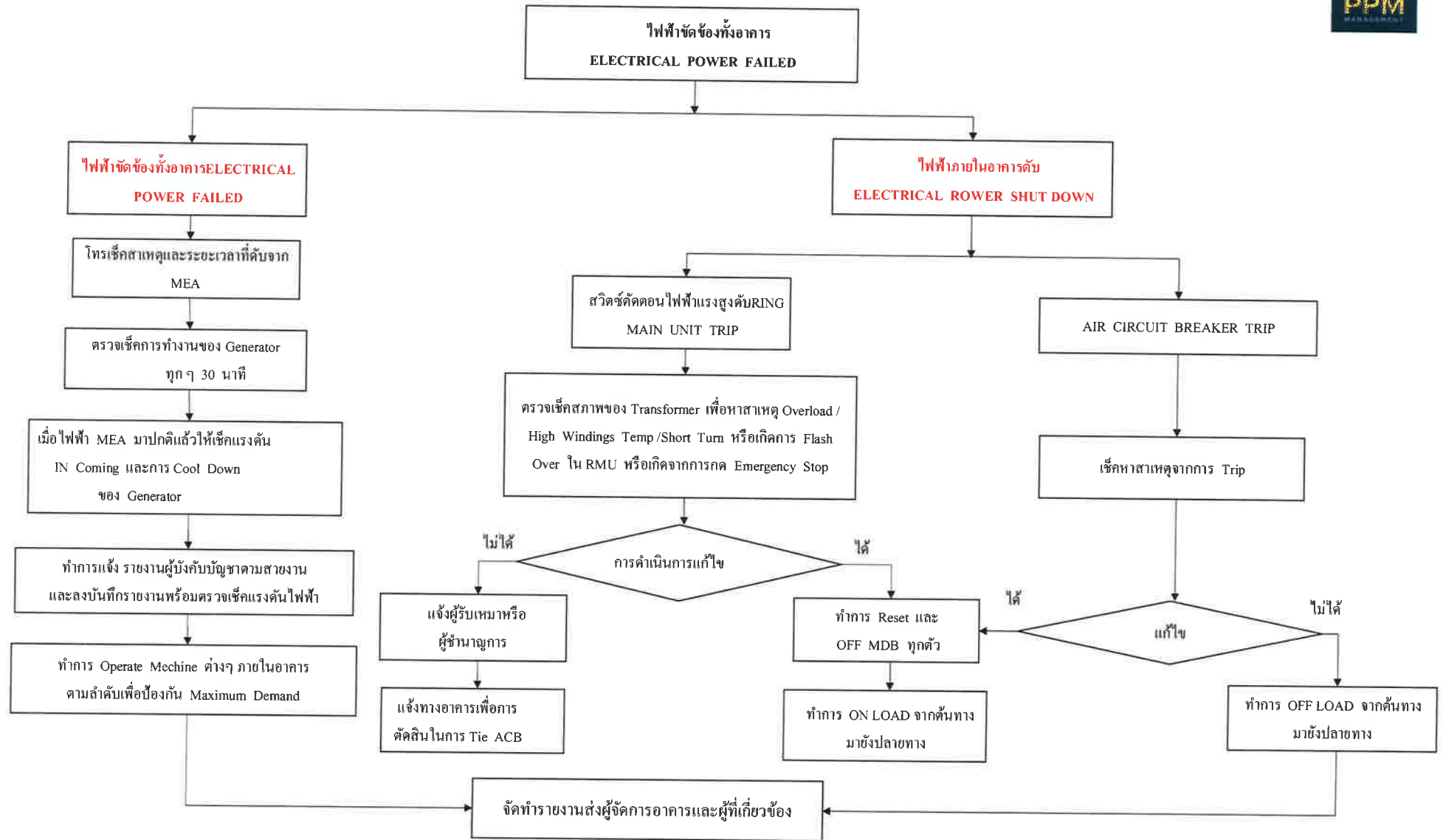
ขั้นตอนการปฏิบัติเมื่อเกิดสัญญาณแจ้งเหตุเพลิงไหม้



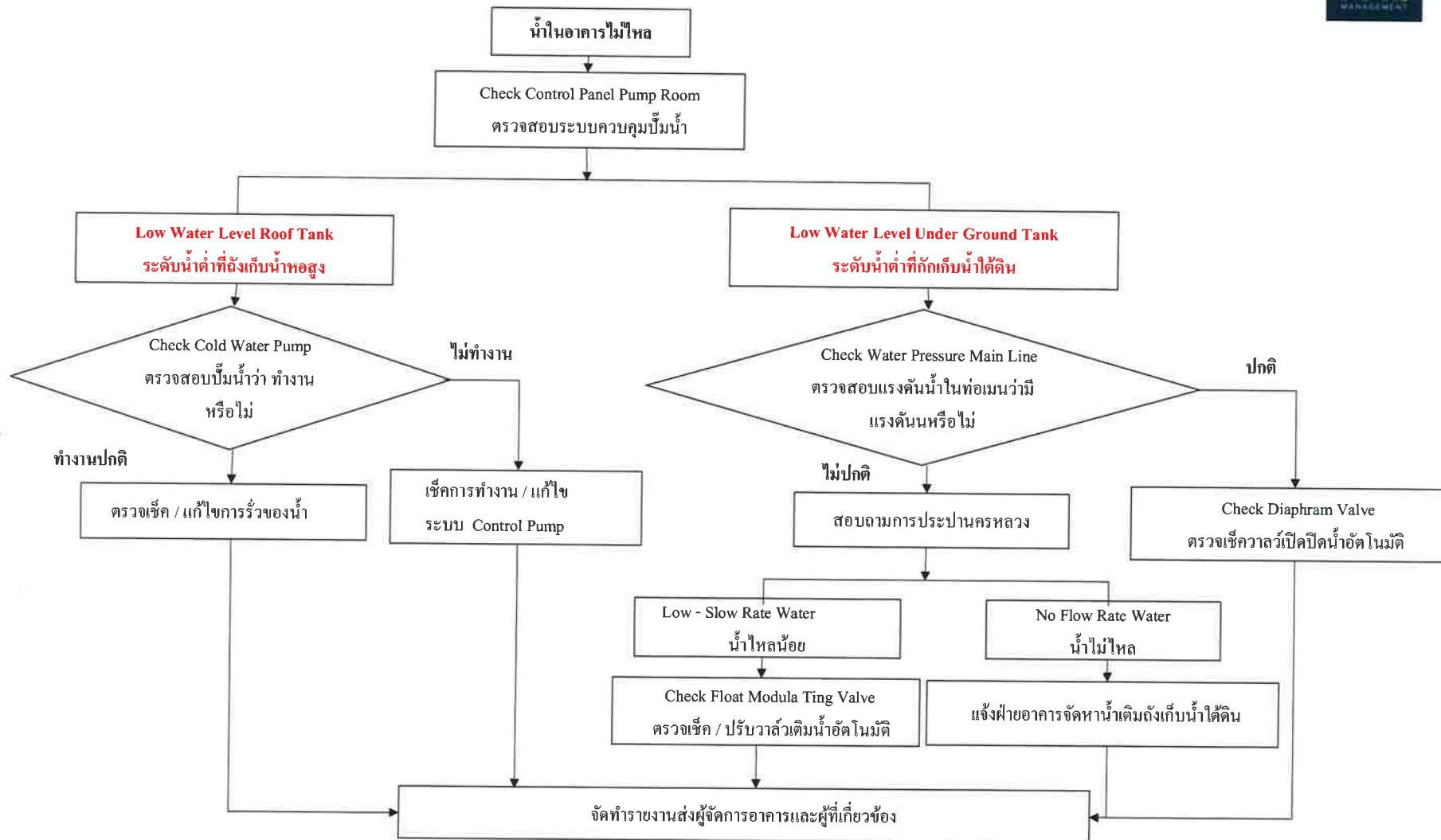
กรณีเกิดลิฟต์ค้าง

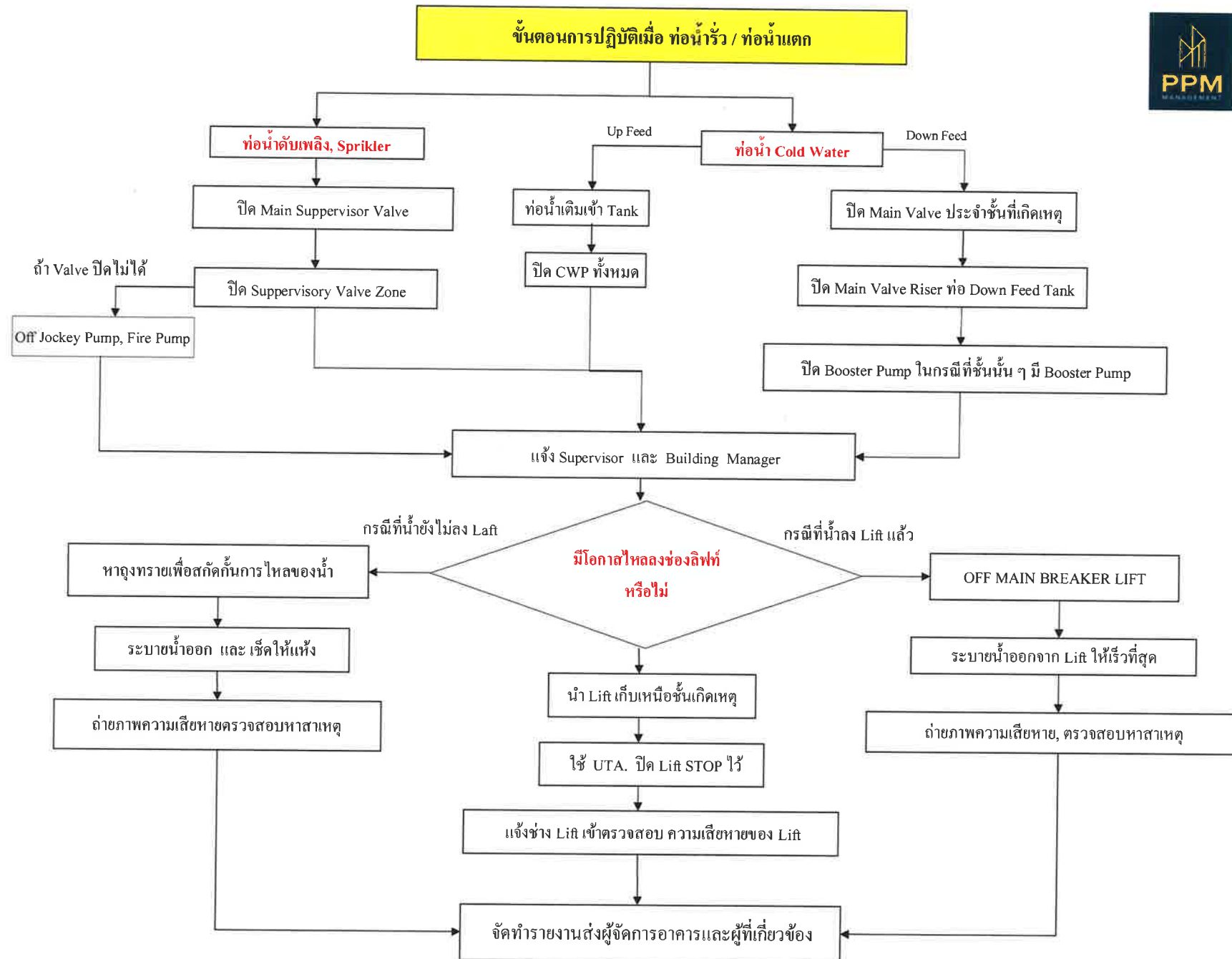


ขั้นตอนการปฏิบัติเมื่อเกิดไฟฟ้าขัดข้อง

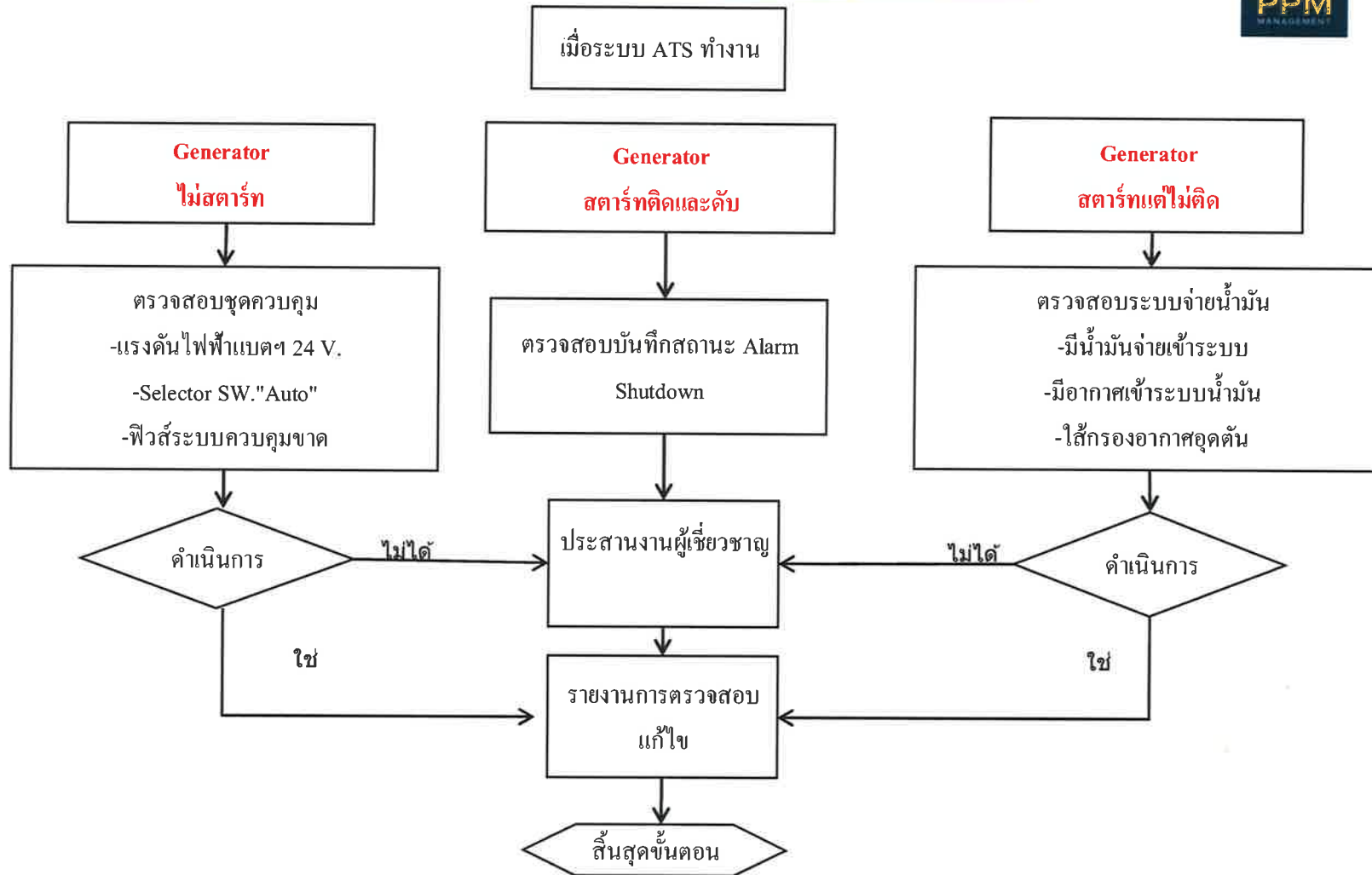


ขั้นตอนการปฏิบัติเมื่อน้ำในอาคารไม่ไหล



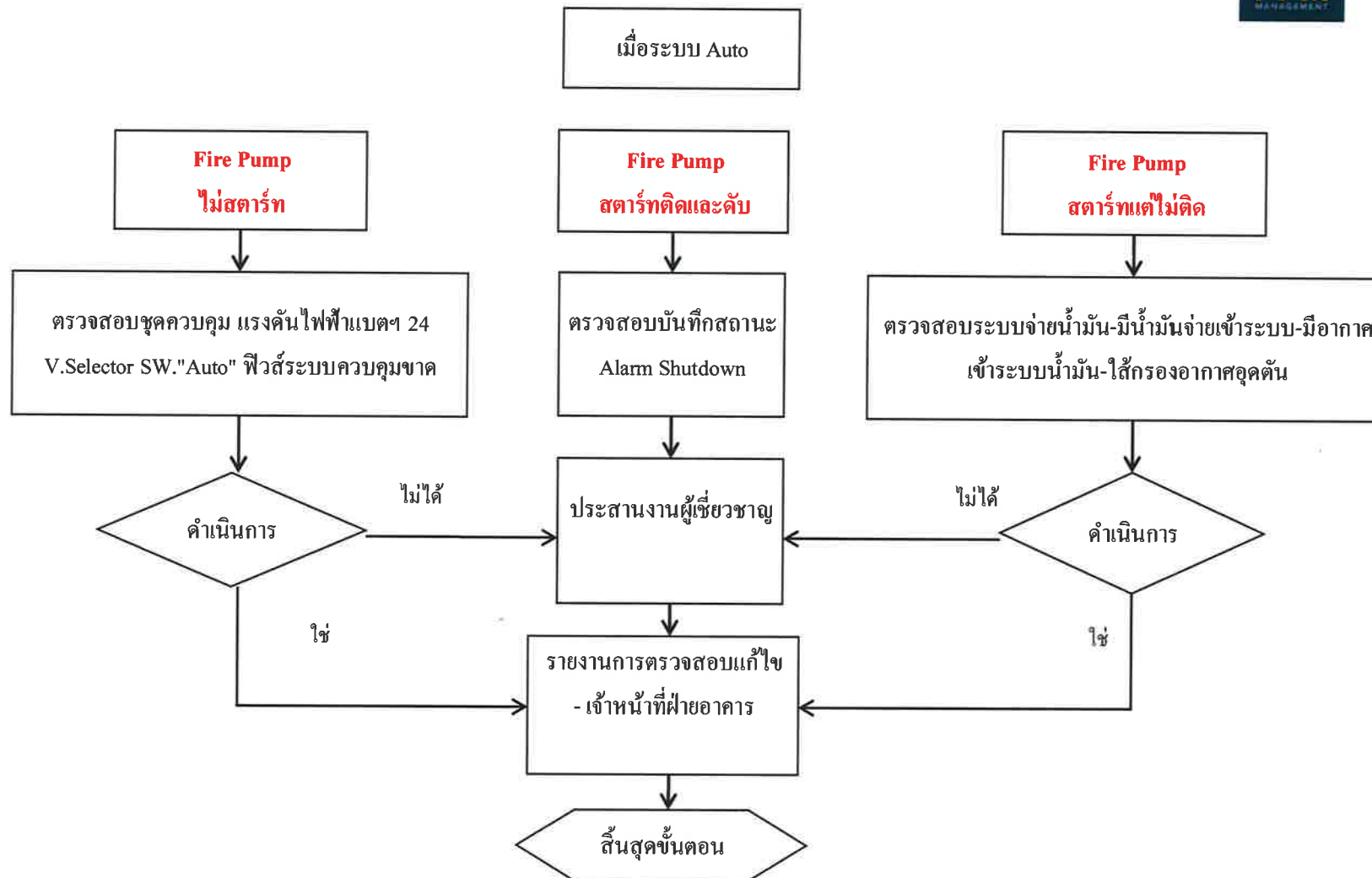


ขั้นตอนการปฏิบัติเมื่อ GENERATOR ขัดข้อง



กรณีเกิดจากแบตเตอรี่ให้น้ำแบตเตอรี่จากเครื่อง Fire Pump มาใช้ทดแทนในการสตาร์ทโดยเร่งด่วน

ขั้นตอนการปฏิบัติเมื่อ FIRE PUMP ขัดข้อง



กรณีเกิดจากแบตเตอรี่ให้น้ำแบตเตอรี่จากเครื่อง Genertor มาใช้ทดแทนในการสตาร์ทโดยเร่งด่วน

Millennium
RESIDENCE @ SUKHUMVIT

10 STEPS ▶▶

for Fire Safety in a condominium

10 ยุทธวิธีหนีภัยเพลิงไหม้ บนอาคารสูง



บริษัท พีทีเอ็ม แมนเนจเม้นท์ จำกัด และ บริษัทในเครือ



by PPM Management





Every condominium or high-rise building will have fire safety and protection systems in place already. Take a minute to review the systems available to you. In Millennium Residences @ Sukhumvit, we have: 2 Fire escape exits on every floor, a fire alarm system, a sprinkler system in the units and common areas, a fire hose and extinguisher located on each floor in the common areas. Keep this manual in a place easily accessible and read it with every person in your family living here.

โดยทั่วไป อาคารสูงส่วนใหญ่ไม่ว่าจะเป็นคอนโดฯ หรือโรงแรมมักมีการติดตั้งระบบป้องกันอัคคีภัย และอุปกรณ์ดับเพลิงไว้ควบคู่กันแทบทุกแห่ง แต่เพื่อความปลอดภัย ก่อนเข้าห้องพักหรือจองห้องพักควรสอบถามว่าสถานที่นั้นๆ มีเครื่องป้องกัน หรือชุดควันไฟ สปริงเกอร์ฉีดน้ำอัตโนมัติหรือไม่ และควรอ่านคำแนะนำเกี่ยวกับความปลอดภัยจากเพลิงไหม้ และการหนีไฟ



Check and know the exits nearest to your unit . Check that fire equipment and exits are accessible and not locked up or blocked by anything. Count the number of steps it take from your unit door to the fire exit door, in the case of a fire where the electricity is out or there's a lot of smoke, you'll still be able to get to the fire exit right away.

สำรวจทางออกฉุกเฉินสองทางที่ใกล้ห้องพักของคุณ ตรวจสอบประตูหนีไฟฉุกเฉินไม่ได้ปิดล็อกตายหรือมีสิ่งกีดขวาง ควรนับและจดจำจำนวนประตูห้องโดยเริ่มนับจากห้องของคุณ สู่ทางหนีไฟฉุกเฉินทั้งสองทางเพราะถ้าขณะเกิดเพลิงไหม้ ไฟฟ้าดับ หรือทางเดินปกคลุมด้วยกลุ่มควัน คุณก็สามารถไปถึงทางหนีไฟได้อย่างรวดเร็วและแม่นยำ



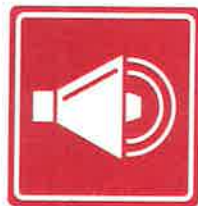
Practice walking around in the dark in your unit, practice entering and exiting doors in your unit also. Keep a set of keys, keycard and a flashlight near to your bed. In the case of a fire, grab your keys and flashlight first, don't waste time trying to take other items.

ฝึกเดินในความมืดให้คล่องในห้องพักโดยฝึกเดินเข้าหาประตูและเปิดประตู และควรวางกุญแจห้องพักและไฟฉายไว้ใกล้เตียงนอนมากที่สุด ในกรณีเกิดเพลิงไหม้ ให้นำกุญแจห้อง และไฟฉายติดตัวไปได้ อย่าเสียเวลากับการเก็บสิ่งของ



In the case you find a fire, you should find the nearest alarm and pull it, then immediately go down the fire escape and exit the building. Call the management and fire brigade as soon as possible.

หากประสบเหตุเพลิงไหม้ ควรหาสัญญาณเตือนเพลิงไหม้ให้พบ และรีบเปิดสัญญาณเตือนภัย จากนั้นควรรีบหนีลงจากอาคาร แล้วโทรแจ้งหน่วยดับเพลิงทันที



In the case you hear an alarm go off, immediately exit down and out of the building. Don't waste time trying to find out where the location of the fire is, safety first.

เมื่อได้ยินสัญญาณเพลิงไหม้ ให้หนีลงจากอาคารโดยเร็วที่สุด อย่าเสียเวลาตรวจสอบว่าเพลิงกำลังลุกไหม้ที่บริเวณไหน



In the case of fire inside your unit, immediately leave the unit and don't forget to close the door behind you to reduce the chance of the fire spreading to other units. Notify the management and fire department immediately after.

กรณีเกิดเหตุเพลิงไหม้ในห้องพักของคุณ ควรรีบหนีออกมาให้เร็วที่สุด และอย่าลืมปิดประตูห้องทันที เพื่อยับยั้งไม่ให้เพลิงลุกลามไปยังห้องข้างเคียงได้ง่าย หลังจากนั้นให้รีบแจ้งเจ้าหน้าที่ดูแลอาคาร และโทรศัพท์แจ้งหน่วยดับเพลิง



If you hear an alarm go off and you don't know the location of the fire, you should leave your unit immediately to go down the fire exits. Before opening your door, place your hand close to the door and assess the level of heat. If you cannot detect any heat, carefully open the door and quickly go to the nearest fire exit.

หากคุณไม่ทราบว่าเพลิงกำลังไหม้ที่จุดใด คุณควรรีบหนีออกจากห้องโดยทันที โดยก่อนอื่นตรวจสอบความร้อนจากภายในห้อง ด้วยการวางมือบนประตูและใช้หลังมือแตะลูกบิด หากมีความเย็นอยู่ให้ค่อยๆเปิดประตู แล้วรีบหนีไปยังทางหนีไฟฉุกเฉินที่ใกล้ที่สุด



If the handle or the door is hot, do not open the door! Your unit may be the safest place for you to be at that time. Immediately call the fire department and inform them of your location, floor and unit. Following place damp cloths over every opening and under the doors to reduce the chance of smoke entering into your unit. Turn off fans and aircons in the unit. Place bright cloths or signals on the windows or balcony to notify others of your situation and ask for help.

หากลูกบิดและประตูร้อนจัดอย่าเปิดประตู เพราะสถานการณ์เช่นนี้ภายในห้องของคุณอาจจะเป็นสถานที่ที่ปลอดภัยที่สุดสำหรับคุณ ควรรีบโทรศัพท์แจ้งหน่วยดับเพลิง บอกตำแหน่งและสถานการณ์ของคุณ และรีบนำผ้าชุบน้ำปิดทางเข้าของควัน ปิดพัดลม และเครื่องปรับอากาศ ส่งสัญญาณขอความช่วยเหลือที่หน้าต่าง หรือระเบียงอาคาร เพื่อรอความช่วยเหลือ



If you encounter a lot of smoke, as smoke rises, it's recommended to immediately crawl as low as possible and find your way to the nearest fire exit to ask for help. Remember to take your keycard with you, in the case that you cannot find the exit cannot go down, use it to go back into your unit and ask for help.

เมื่อมีควันปกคลุม ออกซิเจนจะอยู่บริเวณล่างของพื้นที่ห้อง ฉะนั้นหากต้องเผชิญกับควันไฟ คลานให้ต่ำ หนีไปทางออกฉุกเฉิน และอย่าลืมนำกุญแจห้องไปด้วย เพราะหากหมดทางหนี คุณก็ยังกลับไปขอความช่วยเหลือในห้องพักได้



Never use the elevators in the case of a fire. Always use the fire exits, and in the case that you cannot use the fire exit, use any other stairway option to exit the building. In the case of a fire, never go up, the risk of staying inside a building during a fire are always higher so the best way is to exit down through the fire exits.

ห้ามใช้ลิฟต์ขณะเกิดเพลิงไหม้โดยเด็ดขาด เพราะลิฟต์อาจหยุดทำงานบนชั้นที่เกิดเพลิงไหม้ควรใช้บันไดหนีไฟ หากไม่สามารถใช้บันไดหนีไฟได้ ให้ใช้บันไดภายในอาคารแทน

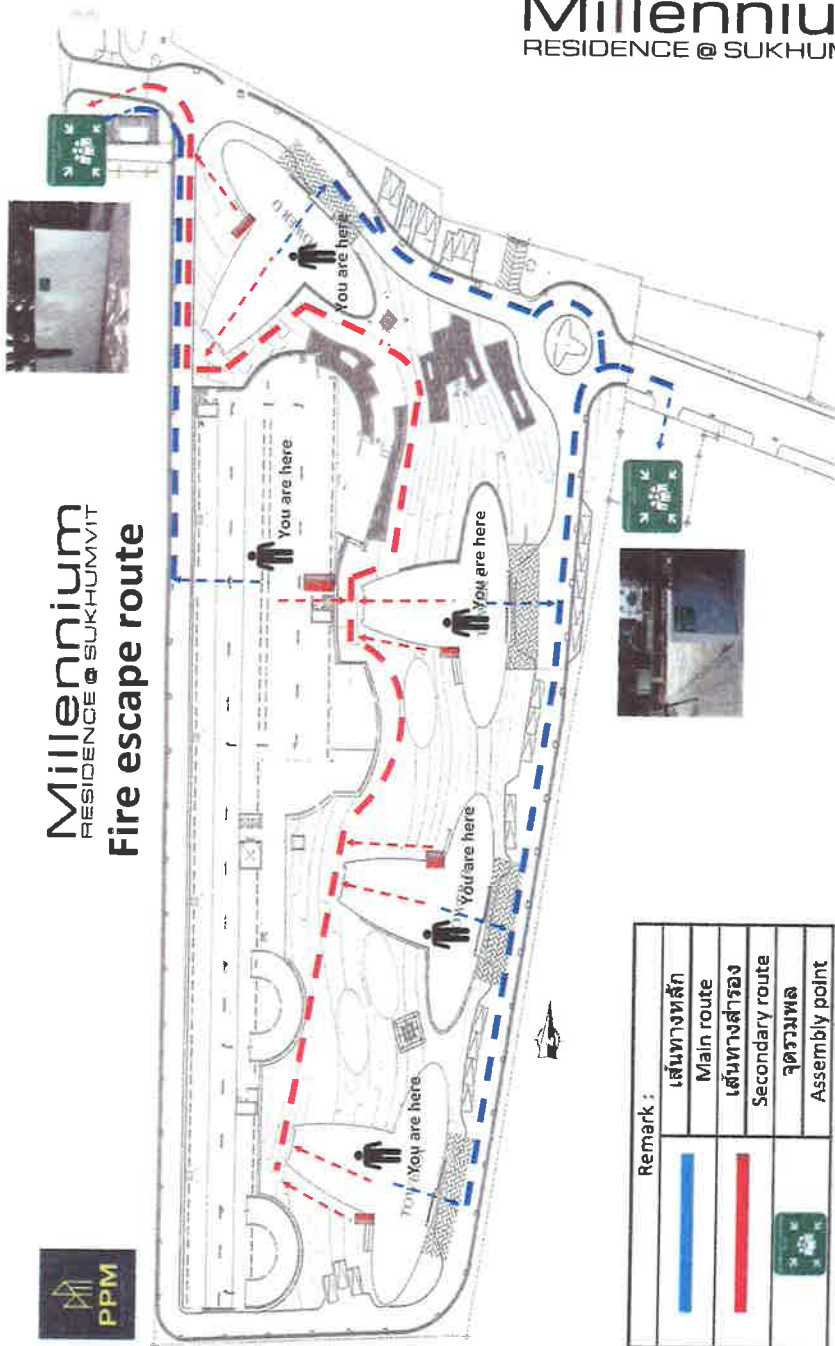


Emergency Call
เบอร์โทรสายด่วน-แจ้งเหตุฉุกเฉิน





Millennium RESIDENCE @ SUKHUMVIT Fire escape route



Millennium
RESIDENCE @ SUKHUMVIT

Millennium
RESIDENCE @ SUKHUMVIT

Assembly Point



ภาคผนวกที่ 2-13

รายงานการอบรมฝึกซ้อมดับเพลิงและอพยพหนีไฟ ปี 2565



ที่ กท ๑๘๐๕ / ๔๖๔๒

สำนักป้องกันและบรรเทาสาธารณภัย
๗๗/๑ ถนนพระรามที่ ๖ กทม. ๑๐๕๐๐

๒๑ ตุลาคม ๒๕๖๕

เรื่อง รายงานผลการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ

เรียน ผู้อำนวยการกองความปลอดภัยแรงงาน กรมสวัสดิการและคุ้มครองแรงงาน

สิ่งที่ส่งมาด้วย ๑. รายงานผลการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ จำนวน ๑ ฉบับ

ด้วยหนังสือฉบับนี้ให้ไว้เพื่อรับรองว่า นิติบุคคลอาคารชุดมิลเลนเนียม เรสซิเดนซ์ ขอรับการสนับสนุนวิทยากรดำเนินการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ เพื่อดำเนินการฝึกอบรมให้เป็นไปตามกฎกระทรวงกำหนดมาตรฐานในการบริหาร จัดการ และดำเนินการด้านความปลอดภัยอาชีวอนามัย และสภาพแวดล้อมในการทำงานที่เกี่ยวกับการป้องกันและระงับอัคคีภัย พ.ศ. ๒๕๕๕

สำนักป้องกันและบรรเทาสาธารณภัย กรุงเทพมหานคร ในฐานะหน่วยงานฝึกอบรมฯ ของกรุงเทพมหานคร ได้ดำเนินการฝึกอบรมการดับเพลิงขั้นต้น และการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ ให้กับพนักงานในอาคาร เมื่อวันที่ ๒๕ กันยายน ๒๕๖๕ ณ นิติบุคคลอาคารชุดมิลเลนเนียม เรสซิเดนซ์ เรียบร้อยแล้ว รายละเอียดตามสิ่งที่ส่งมาด้วยแล้ว

จึงเรียนมาเพื่อโปรดทราบ

ผู้อำนวยการสำนักป้องกันและบรรเทาสาธารณภัย

กองปฏิบัติการดับเพลิงและกู้ภัย ๒
โทรศัพท์/โทรสาร ๐ ๒๓๕๔ ๖๘๔๖



ที่ กท ๑๘๐๕ / ๕๖๕๑

สำนักป้องกันและบรรเทาสาธารณภัย
๗๗/๑ ถนนพระรามที่ ๖ กทม. ๑๐๕๐๐

๒๑ ตุลาคม ๒๕๖๕

เรื่อง รายงานผลการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ

เรียน ผู้จัดการอาคารนิติบุคคลอาคารชุดมิลเลนเนียม เรสซิเดนซ์

สิ่งที่ส่งมาด้วย ๑. รายงานผลการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ จำนวน ๑ ฉบับ

ด้วยนิติบุคคลอาคารชุดมิลเลนเนียม เรสซิเดนซ์ ขอรับการสนับสนุนวิทยากร เพื่อทำการฝึกอบรมการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ ให้กับพนักงานของอาคารฯ ในวันที่ ๒๕ กันยายน ๒๕๖๕ ความละเอียดแจ้งแล้วนั้น

สำนักป้องกันและบรรเทาสาธารณภัย กรุงเทพมหานคร ในฐานะหน่วยงานฝึกอบรมฯ ของกรุงเทพมหานคร ได้ดำเนินการฝึกอบรมการดับเพลิงขั้นต้น และการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ ให้กับพนักงานในอาคารฯ เมื่อวันที่ ๒๕ กันยายน ๒๕๖๕ ณ นิติบุคคลอาคารชุดมิลเลนเนียม เรสซิเดนซ์ เรียบร้อยแล้ว รายละเอียดตามสิ่งที่ส่งมาด้วยแล้ว

จึงเรียนมาเพื่อโปรดทราบ



ผู้อำนวยการสำนักป้องกันและบรรเทาสาธารณภัย

กองปฏิบัติการดับเพลิงและกู้ภัย ๒
โทรศัพท์/โทรสาร ๐ ๒๓๕๔ ๖๘๔๖

๑

รายงานผลการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ

ชื่อ/หน่วยงานที่ได้รับอนุญาต _____ กรุงเทพมหานคร _____

หมายเลขใบอนุญาต เลขที่ ดพฝ - ร ๒๐๒ _____ หมุดอายุ ๑๐ พฤษภาคม ๒๕๖๗ _____

อ้างอิงหนังสือแจ้งการฝึกซ้อม เลขที่ ESPSIA๐๐๑-๐๐๐๐๐๐๐๐๕๒๕๐๗๐ ลงวันที่ ๑๙ กันยายน ๒๕๖๕ _____

ส่วนที่ ๑ รายงานการฝึกอบรม

๑. ข้อมูลสถานประกอบกิจการที่เข้ารับการฝึกอบรม

ชื่อสถานประกอบกิจการ นิติบุคคลอาคารชุด มิลเลนเนียม เรสซิเดนซ์ _____

ประเภทกิจการ ที่พักอาศัย _____

ที่ตั้ง เลขที่ ๑๑๘ หมู่ที่ - ซอย สุขุมวิท ๒๐ ถนน สุขุมวิท _____

ตำบล/แขวง คลองเตย อำเภอ/เขต คลองเตย จังหวัด กรุงเทพมหานคร _____

โทรศัพท์ _____ โทรสาร _____

๒. วัน เดือน ปี ที่อบรม ๒๕ กันยายน ๒๕๖๕ _____

๓. จำนวนผู้เข้ารับการฝึกซ้อมดับเพลิง ๖๐ คน หญิง ๒๓ คน ชาย ๓๗ คน _____

๔. จำนวนผู้เข้ารับการฝึกซ้อมอพยพหนีไฟ ๖๐ คน หญิง ๒๓ คน ชาย ๓๗ คน _____

๕. ระยะเวลาในการฝึกซ้อมอพยพหนีไฟ ๔ นาที _____

(เริ่มตั้งแต่สัญญาณอพยพหนีไฟดังขึ้น จนถึงคนสุดท้ายมาถึงจุดรวมพล)

๖. ชื่อวิทยากรผู้ดำเนินการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ

๖.๑ นายมงคล ก้าว _____ ๖.๒ นายสมชาย อยู่สบาย _____

๖.๓ นายอภิสิทธิ์ เสรีกิจ _____ ๖.๔ _____

๗. ชื่อวิทยากรผู้ควบคุมการฝึกซ้อมหนีไฟ

๗.๑ นายมงคล ก้าว _____

๗.๓ นายอภิสิทธิ์ เสรีกิจ _____

ลงชื่อ _____

ลงชื่อ _____

ผู้จัดทำรายงาน

วัน เดือน ปี ที่รายงาน ๒๑ ต.ค. ๒๕๖๕ _____

ส่วนที่ ๒ การรับรอง

ข้าพเจ้าขอรับรองว่าได้มีการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ

ลงชื่อ _____

ลงชื่อ _____

ลงชื่อ _____

ลงชื่อ _____

() วิทยากร

ลงชื่อ _____

นายจ้าง/เจ้าของสถานประกอบกิจการที่ได้รับการฝึกซ้อมดับเพลิง

()

และฝึกซ้อมหนีไฟ หรือ ผู้มีอำนาจกระทำการแทน พร้อมประทับตรา (ถ้ามี)



ที่ กท ๑๘๐๕ / ๕๖๙๓

สำนักป้องกันและบรรเทาสาธารณภัย
๗๗/๑ ถนนพระรามที่ ๖ กทม. ๑๐๕๐๐

หนังสือฉบับนี้ให้ไว้เพื่อรับรองว่า นิติบุคคลอาคารชุดมิลเลนเนียม เรสซิเดนซ์ ตั้งอยู่เลขที่ ๑๑๘ ซอยสุขุมวิท ๒๐ ถนนสุขุมวิท แขวงคลองเตย เขตคลองเตย กรุงเทพมหานคร ๑๐๑๑๐ ได้ดำเนินการฝึกอบรมหลักสูตร ฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ เมื่อวันที่ ๒๕ กันยายน ๒๕๖๕ มีผู้เข้ารับการฝึกอบรมจำนวน ๖๐ คน (ตามบัญชีรายชื่อที่แนบ)

ให้ไว้



ผู้อำนวยการสำนักป้องกันและบรรเทาสาธารณภัย



รายชื่อพนักงานเข้าร่วมการอบรมอพยพหนีไฟ ประจำปี 2565

Millennium
RESIDENCE SUKHUMVIT

วันอาทิตย์ ที่ 25 เดือน กันยายน พ.ศ. 2565 เวลา 13.00-18.00 น.

อาคาร มิลเลนเนียม เรสซิเดนซ์

ลำดับที่	ชื่อ - สกุล	ตำแหน่ง	หมายเหตุ
1	คุณนาตาชา รอยส์ หลิมเจริญ	VP	
2	MR.VONGSAWATT PRATUMMAN	Building Manager	
3	คุณโสพิณชา วิริยะประภาศิลป์	Asst. Building Manager	
4	คุณกฤติเดช ศิริไชย	Asst. Building Manager	
5	คุณศรินทร์ฐ จินดานุภาพ	Project Manager	
6	คุณกาวิล สิทธิกัน	Project Manager	
7	คุณณปภัช โกสีย์พิญ	Senior Accounting	
8	คุณวิจิตรา ใจงาม	Administrator	
9	คุณไชยพันธ์ ทรัพย์อนันต์	Front Desk Manager	
10	คุณปิยาพัชร ศรีสุนทรพานิชย์	Heip Desk	
11	คุณเกวดี แต้สุวรรณกุล	Front Desk Officer	
12	คุณวิสุจน์ แต้สุวรรณกุล	Front Desk Officer	
13	คุณคารุณี ไชยมุติ	Front Desk Officer	
14	คุณเพ็ญพิสุทธิ์ พรหมมา	Support	
15	คุณ สมภพ พุ่มทองคำ	Engineering Manager	
16	คุณอภิสิทธิ์ ฉัตรยาลักษณ์	Asst.ENM	
17	คุณอำพล แฝงศรีพล	Head Technician	
18	คุณชาตรี ชัมฉันท	Head Technician	
19	คุณสมเกียรติ นรากรณ์	Head Handy Man	
20	คุณเจริญ ดวงศรี	Senior Tech.	
21	นายแมนไทย ศรีมาลา	Handy Man	
22	นายอาทิตย์นัน มารอชิง	Handy Man	
23	คุณอรรธรณ แสนสวย	Admin/Tech	
24	คุณตะวัน อึ้งจัน	Technician	
25	คุณสำเริง ขอบ่งกลาง	Technician	
26	คุณกิตติพันธ์ พิลาอาพิษ	Technician	
27	คุณธนวัฒน์ คงยะโสภา	Technician	
28	คุณวรพล จันทาร	Technician	
29	คุณณัฐพล อินทรวาศรี	Technician	
30	คุณจรรณพันธ์ มนต์ละคร	Technician	
31	คุณสุริยัน จันทุม	เจ้าหน้าที่รักษาความปลอดภัย	
32	คุณชวลิตร มีใจ	เจ้าหน้าที่รักษาความปลอดภัย	
33	คุณไพฑูรย์ ขันทอง		



รายชื่อพนักงานเข้าร่วมการอบรมอพยพหนีไฟ ประจำปี 2565
วันอาทิตย์ ที่ 25 เดือน กันยายน พ.ศ. 2565 เวลา 13.00-18.00 น.

Millennium
RESIDENCE @ SUKHUMVIT

อาคาร มิลเลนเนียม เรสซิเดนซ์

ลำดับที่	ชื่อ - สกุล	ตำแหน่ง	หมายเหตุ
34	คุณชากาเรีย มูซอ	เจ้าหน้าที่รักษาความปลอดภัย	
35	คุณรัชนิกร สายแสงจันทร์	เจ้าหน้าที่รักษาความปลอดภัย	
36	คุณอัจจิมา มีใจ	เจ้าหน้าที่รักษาความปลอดภัย	
37	คุณโนรียะ ชามัด	เจ้าหน้าที่รักษาความปลอดภัย	
38	คุณมาลีทิ เจ๊ะมามุ	เจ้าหน้าที่รักษาความปลอดภัย	
39	คุณณัชชา สุธรรมา	เจ้าหน้าที่รักษาความปลอดภัย	
40	คุณธัญชนก ไชยภรณ์ศักดิ์	เจ้าหน้าที่รักษาความปลอดภัย	
41	คุณลูกมัน ลาเต๊ะ	เจ้าหน้าที่รักษาความปลอดภัย	
42	คุณการิม อีแอ	เจ้าหน้าที่รักษาความปลอดภัย	
43	คุณชัยมี มะลิละ	เจ้าหน้าที่รักษาความปลอดภัย	
44	คุณชราวุฒิ จันบัตราช	เจ้าหน้าที่รักษาความปลอดภัย	
45	คุณสมปอง หงษ์คำ	เจ้าหน้าที่รักษาความปลอดภัย	
46	คุณพีรวิทย์ ทรัพย์ฉวี	เจ้าหน้าที่รักษาความปลอดภัย	
47	คุณอุตุพีร์ สายอตุลง	เจ้าหน้าที่รักษาความปลอดภัย	
48	คุณสนธยา รัตนคุณ	เจ้าหน้าที่รักษาความปลอดภัย	
49	คุณภักธิชา พลธัญเลิศ	พนักงานรักษาความสะอาด	
50	คุณผ่อง เจริญรัมย์	พนักงานรักษาความสะอาด	
51	คุณอาทิตย์ สาและ	พนักงานรักษาความสะอาด	
52	คุณรุสนานี สาหคำ	พนักงานรักษาความสะอาด	
53	คุณรอนัน พาสุข	พนักงานรักษาความสะอาด	
54	คุณสุวารี แซ่ย่าง	พนักงานรักษาความสะอาด	
55	คุณฟาเรฮา มามะ	พนักงานรักษาความสะอาด	
56	คุณจุฬา แสนพรม	พนักงานดูแลสวน	
57	คุณหมอก กัทโส	พนักงานดูแลสวน	
58	คุณพิทักษ์ ศรีวะสุทธิ์	พนักงานดูแลสวน	
59	คุณสุชาลินี จังสถิตย์กุล	ลูกบ้าน TD-312	
60	MR. JACK MIERZEJEWSKI	ลูกบ้าน TC-304	



กรุงเทพมหานคร



วุฒิบัตรเลขที่ สปภ.(กปภ.๒) ๑๓๐ ๕ / ๒๕๖๕

ได้รับใบอนุญาตจากกรมสวัสดิการและคุ้มครองแรงงาน ใบอนุญาตเลขที่ ดพฉ.-ร ๒๐๒

ขอรับรองว่า

นิติบุคคลอาคารชุด มิลเลนเนียม เรสซิเดนซ์

ตั้งอยู่เลขที่ ๑๑๘ ซอยสุขุมวิท ๒๐ ถนนสุขุมวิท แขวงคลองเตย เขตคลองเตย กรุงเทพมหานคร ๑๐๑๑๐

ได้ดำเนินการฝึกซ้อมดับเพลิงและฝึกซ้อมอพยพหนีไฟ

ตามกฎหมายกระทรวงกำหนดมาตรฐานในการบริหาร จัดการ และดำเนินการด้านความปลอดภัย อาชีวอนามัย และสภาพแวดล้อมในการทำงานเกี่ยวกับการป้องกันและระงับอัคคีภัย พ.ศ.๒๕๕๕ ลงวันที่ ๗ ธันวาคม พ.ศ.๒๕๕๕

มีผู้เข้ารับการฝึกอบรม จำนวน ๒๐ คน

เมื่อวันที่

ให้ไว้ ณ วันที่

ผู้อำนวยการสำนักป้องกันและบรรเทาสาธารณภัย

ปฏิบัติราชการแทนผู้ว่าราชการกรุงเทพมหานคร

ภาคผนวกที่ 2-14

ตัวอย่างเอกสารตรวจสอบความปลอดภัยของหม้อแปลง



TEST REPORT

PREVENTIVE MAINTENANCE

Millennium Residence
Bangkok.

ZONE POWER CO., LTD.

20-24 February 2023



INDEX

The Millenium Club House.

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◆◆◆We Sale ◆◆◆ We service ◆◆◆ We guarantee ◆◆◆
Industrial Control and Automation
LV/MV Voltage Distribution
Electrical Maintenance (LV/MV)
Installation and Commissioning
Product system service(AC/DC Drives)



Preventive Maintenance Conclusion Report.

Project:	The Millenium Condo./Club House		Function:	Electrical power preventive maintenance.		Remark:
Item:	Function & Location:		Description:		Treatment & Suggestion:	
1	Infrared Thermoscan	TR,MDB,,DB.,Busduct Plug in.	- Yearly preventive maintenance - ไม่มีจุดร้อน สามารถใช้งานได้ตามปกติ			Normal
2	MV Switch Gear.	24/630A 24KV. 16KA. Normafix	- Yearly preventive maintenance - สามารถใช้งานได้ตามปกติ			Normal
3	MV CIRCUIT BREAKER	Cele DC 400A,24KV,16KA. Normafix	- Yearly preventive maintenance - สามารถใช้งานได้ตามปกติ - สามารถON-Offได้ตามปกติ			Normal
4	Cast Rasin Transformer. (Dry Type)	24000/416 V 1000/1400 KVA ABB	- Yearly preventive maintenance - Insulation Test สามารถใช้งานได้ตามปกติ - ชั้นแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ ควบคุมอุณหภูมิ			Normal
5	Main distribution board	Copper bus bar, MCCB	- Yearly preventive maintenance - Insulation Test Busbar - ชั้นแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ สามารถใช้งานได้ตามปกติ			Normal
Company						
Name						
Signature						
Date						



Preventive Maintenance Conclusion Report.					
Project:	The Millenium Condo./Club House		Function:	Electrical power preventive maintenance.	
Item:	Function & Location:	Description:	Treatment & Suggestion:		Remark:
6	Air circuit Breaker	NW16N1 1600 A Square D	<ul style="list-style-type: none">- Yearly preventive maintenance- Insulation Test Busbar- ชื่นแน่นจุดต่อ และทำความสะอาด- ตรวจเช็คอุปกรณ์ สามารถใช้งานได้ตามปกติ- ระบบป้องกันสามารถทำงานตามค่า Setting		Normal
7	Molded Case Circuit Breaker	NS800N 800 A Square D	<ul style="list-style-type: none">- Yearly preventive maintenance- สามารถ On- Off ได้ตามปกติ- สามารถใช้งานได้ตามปกติ- ระบบป้องกันสามารถทำงานตามค่า Setting		Normal
8	Capacitor Bank.	HPS-24-2-440-3P 2x25 KVAR 400/415 V. MKS.	<ul style="list-style-type: none">- Yearly preventive maintenance- สามารถใช้งานได้ตามปกติ- Power factor ของระบบมีค่าเป็นปกติ		Normal
9	Busduct Plug in Load Center & Load Panel	24NDB630L 630A 1000/1400 KVA Square D	<ul style="list-style-type: none">- Yearly preventive maintenance- Insulation Test สามารถใช้งานได้ตามปกติ- ชื่นแน่นจุดต่อ และทำความสะอาด- ตรวจเช็คอุปกรณ์ หลอดไฟหน้าตู้ มีหลอดไฟเสีย		Normal
10	Ground resistance	<ul style="list-style-type: none">- Transformer- Main distribution board- Generator No.1-3- Lightning arrestor	<ul style="list-style-type: none">- Yearly preventive maintenance- Ground resistance หม้อแปลงไฟฟ้าในระบบมีค่าน้อยกว่า 5 Ohm		Normal
Company					
Name					
Signature					
Date					



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24.Year. 2008
Location	Electrical room. Club House.	Type	NORMAFIX 24./630A.24KV 16 KA.
Function	SWGR.	Serial No.	32208276

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24. Year. 2008
Location	Electrical room. Club House.	Type	Cela IS. 400A/24KV/16KA
Function	Incoming 1. Form MEA.	Serial No.	32232529

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24.Year. 2008
Location	Electrical room. Club House.	Type	NORMAFIX 24./630A.24KV 16 KA.
Function	SWGR.	Serial No.	32208277

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company
Name
Signature
Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24. Year. 2008
Location	Electrical room. Club House.	Type	Cela IS. 400A/24KV/16KA
Function	Incoming 2. Form MEA.	Serial No.	32232533

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

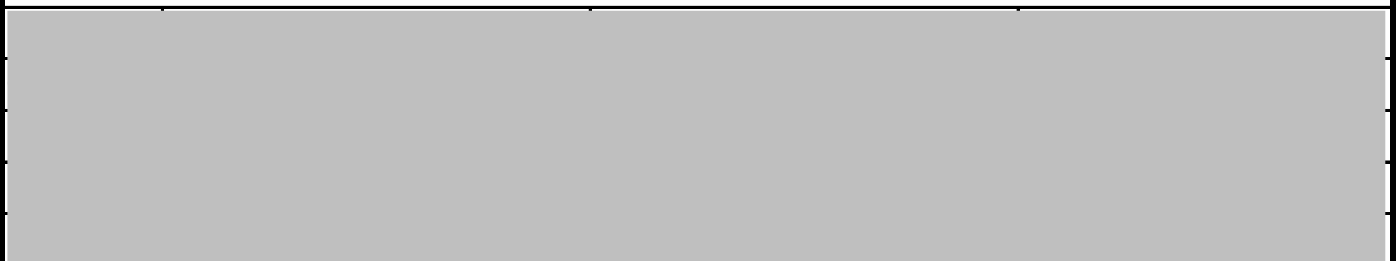
7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____





Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24. Year. 2008
Location	Electrical room. Club House.	Type	Cela CIS. 200A/24KV/16KA
Function	Incoming 2. Form MEA.	Serial No.	32232536

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. **50** Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____



FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Electrical room. Club House.	
Function	Out Going T1.		Serial No	32232530	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :



☐ FG 1 (green indicator)

☐ FG 2,3 (10.5 mm)

☐ IFG 4 (10.5 mm)

☐ SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐ With the 10.4 mm. shim the lamp does not Light up

☐ with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00031

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____





FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Club House.	
Function	Out Going T2.		Serial No	32232531	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :



☐ FG 1 (green indicator)

☐ FG 2,3 (10.5 mm)

☐ IFG 4 (10.5 mm)

☐ SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐ With the 10.4 mm. shim the lamp does not Light up

☐ with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00033

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

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FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Club House.	
Function	Out Going T3.		Serial No	32232534	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :



☐ FG 1 (green indicator)

☐ FG 2,3 (10.5 mm)

☐ IFG 4 (10.5 mm)

☐ SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐ With the 10.4 mm. shim the lamp does not Light up

☐ with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00021

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :



FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Club House.	
Function	Out Going T4.		Serial No	32232535	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :



☐ FG 1 (green indicator)

☐ FG 2,3 (10.5 mm)

☐ IFG 4 (10.5 mm)

☐ SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐ With the 10.4 mm. shim the lamp does not Light up

☐ with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00033

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company

Name

Signature

Date



Preventive Maintenance

Cast Rasin Transformer. (Dry Type)

Project	The Millenium Condo.				
Location	Electrical room. Club House.	Function	Transformer No.5.		
Specification Data					
Brand	ABB	Series No,	081633		
Rated	1000/1400 KVA	Rated voltage	24000/416 V		
Frequency	50 Hz	Rated current	24.1/33.7 A - 1387.9/1943.0 A		
Cooling type	AN	Insulate class	F/F	Sybol	Dyn11

1. Body compartments.

- Clean the pole unit with dry cloth.
- Clean the main cable and main bus bar.
- Check the tightness of all connected with torque wrench.
- Check the grounding connected systems.



2. Protection & Control systems.

- Clean the control box and check the wiring connected.
- Cooling fan testing by AUTO-OFF-MANUAL selector switch.



3. Testing.

High side - Ground:

Phase	Result
R - G	39.6 GΩ
S - G	39.6 GΩ
T - G	39.6 GΩ

High side - Low side:

Phase	Result
R - r	48.1 GΩ
S - s	48.1 GΩ
T - t	48.1 GΩ

Temperature:

Phase	Result
R	54 °C
S	55 °C
T	55 °C

Temperature detection	Active fan	Alarm	Trip
TEC (T154)	60/75 °C	90 °C	110 °C

Primary main cable	XLPE 24 KV	70	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company
Name
Signature
Date



FIELD SERVICE REPORT

MAIN DISTRIBUTION BOARD

Project :	The Millenium Condo.
Panel No. :	Main distribution board No.5
Location :	Electrical room. Club House.

Preliminary checking	Yes	No	Remark
1. Check inside and outside the switch board.	✓		
2. Use a vacuum cleaner to clean.	✓		
3. Clean old grease of all mechanical parts and re-grease lightly.	✓		
4. Visually check the bus bar.	✓		
5. Visually check the condition and tightness of bus bar supports.	✓		
6. Check the tightness of main cable.	✓		
7. General inspection.	✓		
8. Check on contact on main bus bar.	✓		
9. Check the tightness of all power and control connection.	✓		

10. Voltage measurement.

A - B	B - C	A - C		A - N	B - N	C - N
409	412	408		235	236	236

Insulation resistance measurement (1 min)

Phase	Test Voltage	Measurement(Before)	Measurement(After)	Remark
Phase A + Phase B	1000 VDC	- GΩ	4.74 GΩ	
Phase B + Phase C	1000 VDC	- GΩ	4.41 GΩ	
Phase A + Phase C	1000 VDC	- GΩ	4.21 GΩ	
Phase A + Ground	1000 VDC	- GΩ	2.76 GΩ	
Phase B + Ground	1000 VDC	- GΩ	2.89 GΩ	
Phase C + Ground	1000 VDC	- GΩ	2.16 GΩ	
Primary main cable	Busbar			RSTN G

Remark :

Company

Name

Signature

Date



FIELD SERVICE REPORT

MAIN DISTRIBUTION BOARD

Project :	The Millenium Condo.
Panel No. :	Emergency Main distribution board .
Location :	Electrical room. Club House.

Preliminary checking	Yes	No	Remark
1. Check inside and outside the switch board.	✓		
2. Use a vacuum cleaner to clean.	✓		
3. Clean old grease of all mechanical parts and re-grease lightly.	✓		
4. Visually check the bus bar.	✓		
5. Visually check the condition and tightness of bus bar supports.	✓		
6. Check the tightness of main cable.	✓		
7. General inspection.	✓		
8. Check on contact on main bus bar.	✓		
9. Check the tightness of all power and control connection.	✓		

10. Voltage measurement.

A - B	B - C	A - C		A - N	B - N	C - N
400	400	400		231	231	231

Insulation resistance measurement (1 min)

Phase	Test Voltage	Measurement(Before)	Measurement(After)	Remark
Phase A + Phase B	1000 VDC	- GΩ	21.90 GΩ	
Phase B + Phase C	1000 VDC	- GΩ	28.10 GΩ	
Phase A + Phase C	1000 VDC	- GΩ	30.50 GΩ	
Phase A + Ground	1000 VDC	- GΩ	9.42 GΩ	
Phase B + Ground	1000 VDC	- GΩ	8.17 GΩ	
Phase C + Ground	1000 VDC	- GΩ	9.53 GΩ	
Primary main cable		-		RSTN G

Remark :

Company

Name

Signature

Date



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Electrical room. Club House.)				
Panel No	Main distribution board No.5.	Function	MAIN - CB		
1. Name Plate					
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NW16N1	Opening coil	✓	Rated voltage	1000 V
Serial No	1404095620 5	Under voltage	✓	Rated current	1600 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 6.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	0.7In	3360 A	14.455 S	Auto test	Pass
Long time delay	4S	-	-	-	-
Short time	4Ir	7040 A	0.271 S	Auto test	Pass
Short time delay	0.1 S on	-	-	-	-
Instantaneous	6In	12000 A	0.044 S	Auto test	Pass
Ground fault	A (500A)	1000 A	0.129 S	Auto test	Pass
Ground fault delay	0.1 S on	-	-	-	-
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	19 $\mu\Omega$	17 $\mu\Omega$	19 $\mu\Omega$	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω	
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No	GCP 1 Panel.	Function	Main From Generator No.1		
1. Name Plate					
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NW12N1	Opening coil	✗	Rated voltage	1000 V
Serial No	1404095620 6	Under voltage	✗	Rated current	1250 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 2.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1667 A	14.654 S	Auto test	Pass
Long time delay	0.5S	-	-	-	-
Short time	1.5Ir	2344 A	0.053 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	33 $\mu\Omega$	38 $\mu\Omega$	40 $\mu\Omega$	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω	
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No	GCP 2 Panel.	Function	Main From Generator No.2		
1. Name Plate					
MNF	Square D	Closing coil	X	Motor drive	X
Type	NW12N1	Opening coil	X	Rated voltage	1000 V
Serial No	1404095620 6	Under voltage	X	Rated current	1250 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 2.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1667 A	15.013 S	Auto test	Pass
Long time delay	0.5S	-	-	-	-
Short time	1.5Ir	2344 A	0.053 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	28 $\mu\Omega$	56 $\mu\Omega$	38 $\mu\Omega$	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω	
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Electrical room. Club House.)				
Panel No.	Emergency Main distribution board .	Function	Normal Line.		
MNF	Square D	Closing coil	✓	Motor drive	✓
Type	NS800N	Shunt coil	✓	Rated voltage	1000 V
Serial no.	1404096941 1 2/6	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.780 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	64 $\mu\Omega$	104 $\mu\Omega$	177 $\mu\Omega$	146 $\mu\Omega$
Panel No.	Emergency Main distribution board .	Function	Emergency Line.		
MNF	Square D	Closing coil	✓	Motor drive	✓
Type	NS800N	Shunt coil	✓	Rated voltage	1000 V
Serial no.	1404096941 1 5/6	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.823 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.053 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	43 $\mu\Omega$	38 $\mu\Omega$	45 $\mu\Omega$	31 $\mu\Omega$
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No.	GCP-3 Panel	Function	Tower To ATS 5.		
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	140409695285 1 5/7	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1867 A	53.548 S	Auto test.	Passed.
Long time delay	0.8 S	-	-	-	-
Short time	3lr	3000 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	67 $\mu\Omega$	82 $\mu\Omega$	101 $\mu\Omega$	- $\mu\Omega$
Panel No.	-	Function	-		
MNF	-	Closing coil	✗	Motor drive	✗
Type	-	Shunt coil	✗	Rated voltage	-
Serial no.	-	Under voltage	✗	Rated current	-
2. Protective relay test		Type	-		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	-	-	-	-	-
Long time delay	-	-	-	-	-
Short time	-	-	-	-	-
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No.	GCP1 Panel.		Function	Tower To ATS 2.	
MNF	Square D	Closing coil	✗	Motor drive	✓
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404098365 2	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.956 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.053 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	196 $\mu\Omega$	144 $\mu\Omega$	107 $\mu\Omega$	- $\mu\Omega$
Panel No.	GCP1 Panel.		Function	Tower To ATS 1.	
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404073241 4	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.079 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.053 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	207 $\mu\Omega$	211 $\mu\Omega$	296 $\mu\Omega$	- $\mu\Omega$
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No.	GCP2 Panel.	Function	Tower To ATS 4.		
MNF	Square D	Closing coil	✗	Motor drive	✓
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404097559 2	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.889 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	206 $\mu\Omega$	170 $\mu\Omega$	118 $\mu\Omega$	- $\mu\Omega$

Panel No.	GCP2 Panel.	Function	Tower To ATS 3.		
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404077079	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.514 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	142 $\mu\Omega$	185 $\mu\Omega$	193 $\mu\Omega$	- $\mu\Omega$

Company	
Name	
Signature	
Date	



CAPACITOR BANK

Project :	The Millenium Condo. (Electrical room. Club House.)
Panel :	Capacitor Bank.

Name plate :

MNF	MKS.	Kvar	2x25
Type	HPS-24-2-440-3P	Volt	400/415

Power factor controller :		Magnetic Contactor :		Circuit breaker / HRC fuse :	
MNF	MiRO	MNF	FEDERAL	MNF	MiRO
Type	PFR60	Type	FC-95K-21	Type	NHC00, 125 A

Setting :

Target cos φ	0.95 Ind	Delay time	45
C/K	0.23	Angle	-

Step	Current of capacitor (Amp)			Capacity (μ F)			Remark
	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	
1	73	72	72	489	488	488	Normal capacity.
2	70	67	67	479	477	443	Normal capacity.
3	73	73	72	489	489	489	Normal capacity.
4	72	72	72	489	489	487	Normal capacity.
5	72	72	72	488	488	489	Normal capacity.
6	67	67	72	459	482	480	Normal capacity.

Remark : - Normal capacitor.

- Power factor ของระบบมีค่าเป็นปกติ

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
1	GEDB1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	MDB Room.		EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			CV	N	1x120	SQMM	
				G	1x25	SQMM	
2	2P1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.2		EZD100N	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			60 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x25	SQMM	
			CV	N	1x25	SQMM	
				G	1x4	SQMM	
3	2EP1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.2		EZD100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			50 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x25	SQMM	
			CV	N	1x25	SQMM	
				G	1x4	SQMM	

Company
Name
Signature
Date



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
4	4EDB1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.3		EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			175 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			CV	N	1x120	SQMM	
				G	1x16	SQMM	
5	3DB1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.3		NDB630H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			500 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	2x240	SQMM	
			CV	N	2x240	SQMM	
				G	1x70	SQMM	
6	3DB2-CH	Load Panel	Main lug	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.3			B-C	>2.2 GΩ	B-E	>2.2 GΩ
				A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x150	SQMM	
			CV	N	1x150	SQMM	
				G	1x25	SQMM	

Company	
Name	
Signature	
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FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)	Function	Load panel.					
1. Mechanical and Electrical Inspection		Yes	No	Remark				
Body and seal		✓						
Pole and arc contact		✓						
Cleaning and lubricate of mechanism		✓						
Check & tightening cable terminal		✓						
Mechanism operation test		✓						
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.				
7	4P2-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.4		EZD100N	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			30 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x16	SQMM		
			CV	N	1x16	SQMM		
				G	1x4	SQMM		
8	4P1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.4		EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			175 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			CV	N	1x120	SQMM		
				G	1x16	SQMM		
9	4EP1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.4		EZD100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			50 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	-	SQMM		
			CV	N	-	SQMM		
				G	-	SQMM		
<div style="display: flex;"> <div style="width: 15%;"> <div style="border: 1px solid black; padding: 2px;">Company</div> <div style="border: 1px solid black; padding: 2px;">Name</div> <div style="border: 1px solid black; padding: 2px;">Signature</div> <div style="border: 1px solid black; padding: 2px;">Date</div> </div> <div style="width: 85%; background-color: #cccccc;"></div> </div>								



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)		Function	Load panel.			
1. Mechanical and Electrical Inspection		Yes	No	Remark			
Body and seal		✓					
Pole and arc contact		✓					
Cleaning and lubricate of mechanism		✓					
Check & tightening cable terminal		✓					
Mechanism operation test		✓					
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
10	5DB-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.5		NDB630L	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			500 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x300	SQMM	
			CV	N	1x300	SQMM	
				G	1x35	SQMM	
Company							
Name							
Signature							
Date							



GROUND SYSTEMS TEST

☐ RM-U ☐ Transformer ☒ LV switch board ☒ Generator ☐ Order:

Project	The Millenium Condo.		
Location	Electrical room. Club House.	Type	-
Function	Ground resistance.	Serial No.	-

1 Switch Gear.

Ground resistance.

2.79

Ω

2 Transformer.No.5

Ground resistance.

3.24

Ω

3 Main distribution board.& ATS 5

Ground resistance.

3.75

Ω

4 Gen.1

Ground resistance.

4.43

Ω

5 Gen.2

Ground resistance.

3.92

Ω

6 Gen.3

Ground resistance.

4.29

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Remark: - Ground resistance ในระบบไม่ควรมีค่ามากกว่า 5 Ohm

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TEST REPORT

PREVENTIVE MAINTENANCE

Millennium Residence
Bangkok.

ZONE POWER CO., LTD.

20-24 February 2023



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The Millenium Club House.

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◆◆◆We Sale ◆◆◆ We service ◆◆◆ We guarantee ◆◆◆
Industrial Control and Automation
LV/MV Voltage Distribution
Electrical Maintenance (LV/MV)
Installation and Commissioning
Product system service(AC/DC Drives)



Preventive Maintenance Conclusion Report.

Project:	The Millenium Condo./Club House		Function:	Electrical power preventive maintenance.	
Item:	Function & Location:	Description:	Treatment & Suggestion:		Remark:
1	Infrared Thermoscan	TR,MDB.,DB.,Busduct Plug in.	- Yearly preventive maintenance - ไม่มีจุดร้อน สามารถใช้งานได้ตามปกติ		Normal
2	MV Switch Gear.	24/630A 24KV. 16KA. Normafix	- Yearly preventive maintenance - สามารถใช้งานได้ตามปกติ		Normal
3	MV CIRCUIT BREAKER	Cele DC 400A,24KV,16KA. Normafix	- Yearly preventive maintenance - สามารถใช้งานได้ตามปกติ - สามารถON-Offได้ตามปกติ		Normal
4	Cast Rasin Transformer. (Dry Type)	24000/416 V 1000/1400 KVA ABB	- Yearly preventive maintenance - Insulation Test สามารถใช้งานได้ตามปกติ - ชันแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ ควบคุมอุณหภูมิ		Normal
5	Main distribution board	Copper bus bar, MCCB	- Yearly preventive maintenance - Insulation Test Busbar - ชันแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ สามารถใช้งานได้ตามปกติ		Normal

Company

Name

Signature

Date



Preventive Maintenance Conclusion Report.

Project:	The Millenium Condo./Club House		Function:	Electrical power preventive maintenance.	
Item:	Function & Location:	Description:	Treatment & Suggestion:		Remark:
6	Air circuit Breaker	NW16N1 1600 A Square D	- Yearly preventive maintenance - Insulation Test Busbar - ชันแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ สามารถใช้งานได้ตามปกติ - ระบบป้องกันสามารถทำงานตามค่า Setting		Normal
7	Molded Case Circuit Breaker	NS800N 800 A Square D	- Yearly preventive maintenance - สามารถ On- Off ได้ตามปกติ - สามารถใช้งานได้ตามปกติ - ระบบป้องกันสามารถทำงานตามค่า Setting		Normal
8	Capacitor Bank.	HPS-24-2-440-3P 2x25 KVAR 400/415 V. MKS.	- Yearly preventive maintenance - สามารถใช้งานได้ตามปกติ - Power factor ของระบบมีค่าเป็นปกติ		Normal
9	Busduct Plug in Load Center & Load Panel	24NDB630L 630A 1000/1400 KVA Square D	- Yearly preventive maintenance - Insulation Test สามารถใช้งานได้ตามปกติ - ชันแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ หลอดไฟหน้าตู้ มีหลอดไฟเสีย		Normal
10	Ground resistance	- Transformer - Main distribution board - Generator No.1-3 - Lightning arrestor	- Yearly preventive maintenance - Ground resistance หม้อแปลงไฟฟ้าในระบบมีค่าน้อยกว่า 5 Ohm		Normal
<div style="display: flex; justify-content: space-between;"> <div style="width: 15%;"> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Company</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Name</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Signature</div> <div style="border-bottom: 1px solid black; padding-bottom: 2px;">Date</div> </div> <div style="width: 85%; background-color: #cccccc;"></div> </div>					



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24.Year. 2008
Location	Electrical room. Club House.	Type	NORMAFIX 24./630A.24KV 16 KA.
Function	SWGR.	Serial No.	32208276

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
--------------------	------------	---	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24. Year. 2008
Location	Electrical room. Club House.	Type	Cela IS. 400A/24KV/16KA
Function	Incoming 1. Form MEA.	Serial No.	32232529

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
--------------------	------------	---	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company	
Name	
Signature	
Date	



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24.Year. 2008
Location	Electrical room. Club House.	Type	NORMAFIX 24./630A.24KV 16 KA.
Function	SWGR.	Serial No.	32208277

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
--------------------	------------	---	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24. Year. 2008
Location	Electrical room. Club House.	Type	Cela IS. 400A/24KV/16KA
Function	Incoming 2. Form MEA.	Serial No.	32232533

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
--------------------	------------	---	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24. Year. 2008
Location	Electrical room. Club House.	Type	Cela CIS. 200A/24KV/16KA
Function	Incoming 2. Form MEA.	Serial No.	32232536

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. **50** Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company

Name

Signature

Date



FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Electrical room. Club House.	
Function	Out Going T1.		Serial No	32232530	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :

☐

FG 1 (green indicator)

☐

FG 2,3 (10.5 mm)

☐

IFG 4 (10.5 mm)

☐

SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐

With the 10.4 mm. shim the lamp does not Light up

☐

with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00031

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company

Name

Signature

Date



FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Club House.	
Function	Out Going T2.		Serial No	32232531	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :



☐ FG 1 (green indicator)

☐ FG 2,3 (10.5 mm)

☐ IFG 4 (10.5 mm)

☐ SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐ With the 10.4 mm. shim the lamp does not Light up

☐ with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00033

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company

Name

Signature

Date



FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Club House.	
Function	Out Going T3.		Serial No	32232534	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :



☐ FG 1 (green indicator)

☐ FG 2,3 (10.5 mm)

☐ IFG 4 (10.5 mm)

☐ SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐ With the 10.4 mm. shim the lamp does not Light up

☐ with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00021

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company

Name

Signature

Date



FIELD SERVICE REPORT

MV CIRCUIT BREAKER / ROLLARC CONTACTORS

Project	The Millenium Condo.		Location	Club House.	
Function	Out Going T4.		Serial No	32232535	
Brands	NORMAFIX 24.		Type	Cela DC. Year. 2008	
Rating	400 A, 24 KV, 16 KA.		Supply	230 AAC	
Pole No.	R :	-	S :	-	T : -

Caution For Safety the operator must perform the following, operation with the breaker "OPEN" and Mechanism "UNCHARGED"

Maintenance : Mechanism BlockOperating Mechanism

-Grease the guides of spring / lubricate other point

Latching Mechanism

- Clean two Latches with Solvent



- Lubricate the two Latches ,joint and bearing

Geared Motor

- Lubricate the wheels



- Clean the commutator

Pole Unit

- Dust and clean insulator with dry cloth



- Remove the old grease and clean with solvent

Earthing Bus Bar

- Cleaning earthing Bus Bar with Solvent



- Grease the earthing Bus Bar

**Checking**

- LV. auxiliaries main plug/ connection of control unit



- Check the condition of earthing sliding contact



- Check the wear on the arcing contact are :



☐ FG 1 (green indicator)

☐ FG 2,3 (10.5 mm)

☐ IFG 4 (10.5 mm)

☐ SF,LF,FB (green indicator)

For Rollarc contactor mm.

☐ With the 10.4 mm. shim the lamp does not Light up

☐ with 10 mm. shim the lamp light up

Contact wear

Phase A (mm)	Phase B (mm)	Phase C (mm)	counter (time)
-	-	-	00033

Low resistance measurement

Pole	Test current	Phase A	Phase B	Phase C
Contact resistance	100 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$

Insulation resistance measurement (1 min)

Pole	Test Voltage	Phase A	Phase B	Phase C
Top and Bottom - Ground (on)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$
Top - Bottom (off)	2500 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company

Name

Signature

Date



Preventive Maintenance

Cast Rasin Transformer. (Dry Type)

Project	The Millenium Condo.				
Location	Electrical room. Club House.	Function	Transformer No.5.		
Specification Data					
Brand	ABB	Series No,	081633		
Rated	1000/1400 KVA	Rated voltage	24000/416 V		
Frequency	50 Hz	Rated current	24.1/33.7 A - 1387.9/1943.0 A		
Cooling type	AN	Insulate class	F/F	Sybol	Dyn11

1. Body compartments.

- Clean the pole unit with dry cloth.
- Clean the main cable and main bus bar.
- Check the tightness of all connected with torque wrench.
- Check the grounding connected systems.

☒☒☒☒

2. Protection & Control systems.

- Clean the control box and check the wiring connected.
- Cooling fan testing by AUTO-OFF-MANUAL selector switch.

☐☐

3. Testing.

High side - Ground:

Phase	Result
R - G	39.6 GΩ
S - G	39.6 GΩ
T - G	39.6 GΩ

High side - Low side:

Phase	Result
R - r	48.1 GΩ
S - s	48.1 GΩ
T - t	48.1 GΩ

Temperature:

Phase	Result
R	54 °C
S	55 °C
T	55 °C

Temperature detection	Active fan	Alarm	Trip
TEC (T154)	60/75 °C	90 °C	110 °C

Primary main cable	XLPE 24 KV	70	SQMM	RST
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Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

MAIN DISTRIBUTION BOARD

Project :	The Millenium Condo.
Panel No. :	Main distribution board No.5
Location :	Electrical room. Club House.

Preliminary checking	Yes	No	Remark
1. Check inside and outside the switch board.	✓		
2. Use a vacuum cleaner to clean.	✓		
3. Clean old grease of all mechanical parts and re-grease lightly.	✓		
4. Visually check the bus bar.	✓		
5. Visually check the condition and tightness of bus bar supports.	✓		
6. Check the tightness of main cable.	✓		
7. General inspection.	✓		
8. Check on contact on main bus bar.	✓		
9. Check the tightness of all power and control connection.	✓		

10. Voltage measurement.

A - B	B - C	A - C		A - N	B - N	C - N
409	412	408		235	236	236

Insulation resistance measurement (1 min)

Phase	Test Voltage	Measurement(Before)	Measurement(After)	Remark
Phase A + Phase B	1000 VDC	- GΩ	4.74 GΩ	
Phase B + Phase C	1000 VDC	- GΩ	4.41 GΩ	
Phase A + Phase C	1000 VDC	- GΩ	4.21 GΩ	
Phase A + Ground	1000 VDC	- GΩ	2.76 GΩ	
Phase B + Ground	1000 VDC	- GΩ	2.89 GΩ	
Phase C + Ground	1000 VDC	- GΩ	2.16 GΩ	
Primary main cable	Busbar			RSTN G

Remark :

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

MAIN DISTRIBUTION BOARD

Project :	The Millenium Condo.
Panel No. :	Emergency Main distribution board .
Location :	Electrical room. Club House.

Preliminary checking	Yes	No	Remark
1. Check inside and outside the switch board.	✓		
2. Use a vacuum cleaner to clean.	✓		
3. Clean old grease of all mechanical parts and re-grease lightly.	✓		
4. Visually check the bus bar.	✓		
5. Visually check the condition and tightness of bus bar supports.	✓		
6. Check the tightness of main cable.	✓		
7. General inspection.	✓		
8. Check on contact on main bus bar.	✓		
9. Check the tightness of all power and control connection.	✓		

10. Voltage measurement.	A - B	B - C	A - C		A - N	B - N	C - N
	400	400	400		231	231	231

Insulation resistance measurement (1 min)

Phase	Test Voltage	Measurement(Before)	Measurement(After)	Remark
Phase A + Phase B	1000 VDC	- GΩ	21.90 GΩ	
Phase B + Phase C	1000 VDC	- GΩ	28.10 GΩ	
Phase A + Phase C	1000 VDC	- GΩ	30.50 GΩ	
Phase A + Ground	1000 VDC	- GΩ	9.42 GΩ	
Phase B + Ground	1000 VDC	- GΩ	8.17 GΩ	
Phase C + Ground	1000 VDC	- GΩ	9.53 GΩ	
Primary main cable		-		RSTN G

Remark : _____

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Electrical room. Club House.)				
Panel No	Main distribution board No.5.	Function	MAIN - CB		
1. Name Plate					
MNF	Square D	Closing coil	X	Motor drive	X
Type	NW16N1	Opening coil	✓	Rated voltage	1000 V
Serial No	1404095620 5	Under voltage	✓	Rated current	1600 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 6.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	0.7In	3360 A	14.455 S	Auto test	Pass
Long time delay	4S	-	-	-	-
Short time	4Ir	7040 A	0.271 S	Auto test	Pass
Short time delay	0.1 S on	-	-	-	-
Instantaneous	6In	12000 A	0.044 S	Auto test	Pass
Ground fault	A (500A)	1000 A	0.129 S	Auto test	Pass
Ground fault delay	0.1 S on	-	-	-	-
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	19 $\mu\Omega$	17 $\mu\Omega$	19 $\mu\Omega$	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω	
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No	GCP 1 Panel.		Function	Main From Generator No.1	
1. Name Plate					
MNF	Square D	Closing coil	✕	Motor drive	✕
Type	NW12N1	Opening coil	✕	Rated voltage	1000 V
Serial No	1404095620 6	Under voltage	✕	Rated current	1250 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 2.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1667 A	14.654 S	Auto test	Pass
Long time delay	0.5S	-	-	-	-
Short time	1.5Ir	2344 A	0.053 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	33 μΩ	38 μΩ	40 μΩ	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- GΩ	- GΩ	- GΩ	
Top-Bottom. (off)	1000 VDC	- GΩ	- GΩ	- GΩ	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected 					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No	GCP 2 Panel.	Function	Main From Generator No.2		
1. Name Plate					
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NW12N1	Opening coil	✗	Rated voltage	1000 V
Serial No	1404095620 6	Under voltage	✗	Rated current	1250 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 2.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1667 A	15.013 S	Auto test	Pass
Long time delay	0.5S	-	-	-	-
Short time	1.5Ir	2344 A	0.053 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	28 $\mu\Omega$	56 $\mu\Omega$	38 $\mu\Omega$	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$	
Top-Bottom. (off)	1000 VDC	- $G\Omega$	- $G\Omega$	- $G\Omega$	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Electrical room. Club House.)				
Panel No.	Emergency Main distribution board .	Function	Normal Line.		
MNF	Square D	Closing coil	✓	Motor drive	✓
Type	NS800N	Shunt coil	✓	Rated voltage	1000 V
Serial no.	1404096941 1 2/6	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.780 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	64 $\mu\Omega$	104 $\mu\Omega$	177 $\mu\Omega$	146 $\mu\Omega$

Panel No.	Emergency Main distribution board .	Function	Emergency Line.		
MNF	Square D	Closing coil	✓	Motor drive	✓
Type	NS800N	Shunt coil	✓	Rated voltage	1000 V
Serial no.	1404096941 1 5/6	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.823 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.053 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	43 $\mu\Omega$	38 $\mu\Omega$	45 $\mu\Omega$	31 $\mu\Omega$

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No.	GCP-3 Panel		Function	Tower To ATS 5.	
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	140409695285 1 5/7	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1867 A	53.548 S	Auto test.	Passed.
Long time delay	0.8 S	-	-	-	-
Short time	3lr	3000 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	67 $\mu\Omega$	82 $\mu\Omega$	101 $\mu\Omega$	- $\mu\Omega$
Panel No.	-		Function	-	
MNF	-	Closing coil	✗	Motor drive	✗
Type	-	Shunt coil	✗	Rated voltage	-
Serial no.	-	Under voltage	✗	Rated current	-
2. Protective relay test		Type	-		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	-	-	-	-	-
Long time delay	-	-	-	-	-
Short time	-	-	-	-	-
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No.	GCP1 Panel.	Function	Tower To ATS 2.		
MNF	Square D	Closing coil	✗	Motor drive	✓
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404098365 2	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.956 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.053 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	196 $\mu\Omega$	144 $\mu\Omega$	107 $\mu\Omega$	- $\mu\Omega$

Panel No.	GCP1 Panel.	Function	Tower To ATS 1.		
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404073241 4	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.079 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.053 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	207 $\mu\Omega$	211 $\mu\Omega$	296 $\mu\Omega$	- $\mu\Omega$

Company	
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FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Generator room. Club House.)				
Panel No.	GCP2 Panel.	Function	Tower To ATS 4.		
MNF	Square D	Closing coil	✗	Motor drive	✓
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404097559 2	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.889 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	206 $\mu\Omega$	170 $\mu\Omega$	118 $\mu\Omega$	- $\mu\Omega$

Panel No.	GCP2 Panel.	Function	Tower To ATS 3.		
MNF	Square D	Closing coil	✗	Motor drive	✗
Type	NS800N	Shunt coil	✗	Rated voltage	1000 V
Serial no.	1404077079	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	1067 A	15.514 S	Auto test.	Passed.
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.054 S	Auto test.	Passed.
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-

3. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	142 $\mu\Omega$	185 $\mu\Omega$	193 $\mu\Omega$	- $\mu\Omega$

Company	
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CAPACITOR BANK

Project :	The Millenium Condo. (Electrical room. Club House.)
Panel :	Capacitor Bank.

Name plate :

MNF	MKS.	Kvar	2x25
Type	HPS-24-2-440-3P	Volt	400/415

Power factor controller :		Magnetic Contactor :		Circuit breaker / HRC fuse :	
MNF	MiRO	MNF	FEDERAL	MNF	MiRO
Type	PFR60	Type	FC-95K-21	Type	NHC00, 125 A

Setting :

Target cos φ	0.95 Ind	Delay time	45
C/K	0.23	Angle	-

Step	Current of capacitor (Amp)			Capacity (μ F)			Remark
	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	
1	73	72	72	489	488	488	Normal capacity.
2	70	67	67	479	477	443	Normal capacity.
3	73	73	72	489	489	489	Normal capacity.
4	72	72	72	489	489	487	Normal capacity.
5	72	72	72	488	488	489	Normal capacity.
6	67	67	72	459	482	480	Normal capacity.

Remark : - Normal capacitor.

- Power factor ของระบบมีค่าเป็นปกติ

Company	
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FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
1	GEDB1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	MDB Room.		EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			CV	N	1x120		SQMM
				G	1x25		SQMM
2	2P1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.2		EZD100N	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			60 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x25		SQMM
			CV	N	1x25		SQMM
				G	1x4		SQMM
3	2EP1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.2		EZD100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			50 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x25		SQMM
			CV	N	1x25		SQMM
				G	1x4		SQMM

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)	Function	Load panel.
1. Mechanical and Electrical Inspection		Yes	No
Body and seal		✓	
Pole and arc contact		✓	
Cleaning and lubricate of mechanism		✓	
Check & tightening cable terminal		✓	
Mechanism operation test		✓	

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
4	4EDB1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.3		EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			175 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			CV	N	1x120	SQMM	
				G	1x16	SQMM	
5	3DB1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.3		NDB630H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			500 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	2x240	SQMM	
			CV	N	2x240	SQMM	
				G	1x70	SQMM	
6	3DB2-CH	Load Panel	Main lug	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.3			B-C	>2.2 GΩ	B-E	>2.2 GΩ
				A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x150	SQMM	
			CV	N	1x150	SQMM	
				G	1x25	SQMM	

Company
Name
Signature
Date



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
7	4P2-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.4		EZD100N	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			30 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x16	SQMM	
			CV	N	1x16	SQMM	
				G	1x4	SQMM	
8	4P1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.4		EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			175 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			CV	N	1x120	SQMM	
				G	1x16	SQMM	
9	4EP1-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.4		EZD100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			50 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	-	SQMM	
			CV	N	-	SQMM	
				G	-	SQMM	

Company	
Name	
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FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Club House.)		Function	Load panel.			
1. Mechanical and Electrical Inspection		Yes	No	Remark			
Body and seal		✓					
Pole and arc contact		✓					
Cleaning and lubricate of mechanism		✓					
Check & tightening cable terminal		✓					
Mechanism operation test		✓					
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
10	5DB-CH	Load Panel	SQUARE D	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.5		NDB630L	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			500 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x300	SQMM	
			CV	N	1x300	SQMM	
				G	1x35	SQMM	
Company							
Name							
Signature							
Date							



GROUND SYSTEMS TEST

☐ RM-U ☐ Transformer ☒ LV switch board ☒ Generator ☐ Order:

Project	The Millenium Condo.		
Location	Electrical room. Club House.	Type	-
Function	Ground resistance.	Serial No.	-

1 Switch Gear.

Ground resistance.

2.79

Ω

2 Transformer.No.5

Ground resistance.

3.24

Ω

3 Main distribution board.& ATS 5

Ground resistance.

3.75

Ω

4 Gen.1

Ground resistance.

4.43

Ω

5 Gen.2

Ground resistance.

3.92

Ω

6 Gen.3

Ground resistance.

4.29

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Remark: - Ground resistance ในระบบไม่ควรมีค่ามากกว่า 5 Ohm

Company

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The Millenium Condo A.

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Preventive Maintenance Conclusion Report.

Project:	The Millenium Condo./Tower A		Function:	Electrical power preventive maintenance.	
Item:	Function & Location:	Description:	Treatment & Suggestion:		Remark:
1	Infrared Thermoscan	TR,MDB.,DB.,Busduct Plug in.	- Yearly preventive maintenance - ไม่มีจุดร้อน สามารถใช้งานได้ตามปกติ		Normal
2	MV Switch Gear.	24/630A 24KV. 16KA. Normafix	- Yearly preventive maintenance - สามารถใช้งานได้ตามปกติ		Normal
3	MV CIRCUIT BREAKER	Cele DC 400A,24KV,16KA. Normafix	- Yearly preventive maintenance - สามารถใช้งานได้ตามปกติ - สามารถON-Offได้ตามปกติ		Normal
4	Cast Rasin Transformer. (Dry Type)	24000/416 V 1000/1400 KVA ABB	- Yearly preventive maintenance - Insulation Test สามารถใช้งานได้ตามปกติ - ชันแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ ควบคุมอุณหภูมิ -Pilot Lamp(TR.1) แจ้งสถานะ แดกชำรุด		Plan
5	Main distribution board	Copper bus bar, MCCB	- Yearly preventive maintenance - Insulation Test Busbar - ชันแน่นจุดต่อ และทำความสะอาดตู้ - ตรวจเช็คอุปกรณ์ สามารถใช้งานได้ตามปกติ - Tme delay "Schneider" MDB.1 เสีย 1 Set แนะนำเปลี่ยน		Abnormal
Company					
Name					
Signature					
Date					



Preventive Maintenance Conclusion Report.

Project:	The Millenium Condo./Club House		Function:	Electrical power preventive maintenance.	
Item:	Function & Location:	Description:	Treatment & Suggestion:		Remark:
6	Air circuit Breaker	NW16N1 1600 A Square D	<ul style="list-style-type: none">- Yearly preventive maintenance- Insulation Test Busbar- ชันแน่นจุดต่อ และทำความสะอาดตู้- ตรวจเช็คอุปกรณ์ สามารถใช้งานได้ตามปกติ- ระบบป้องกันสามารถทำงานตามค่า Setting		Normal
7	Emergency Main distribution board . Molded Case Circuit Breaker	NS800N 800 A Square D	<ul style="list-style-type: none">- Yearly preventive maintenance- ระบบป้องกันสามารถทำงานตามค่า Setting- ไฟ Emer อุปกรณ์ Life ใช้งานไม่ได้ <p>ตรวจเช็คแล้วต้องลากสายไฟ Control เพิ่มจากMDB-Life Control</p>		Abnormal
8	Capacitor Bank.	HPS-24-2-440-3P 2x25 KVAR 400/415 V. MKS.	<ul style="list-style-type: none">- Yearly preventive maintenance- Power factor ของระบบมีค่าเป็นปกติ- Capacitor bank (MDB1/1) เสื่อมสภาพ 3 Set (2*20KVAR 400 V.) <p>เพื่อให้ระบบสมบูรณ์และป้องกันความเสียหายอื่นๆ สมควรเปลี่ยน</p>		Abnormal
9	Busduct Plug in Load Center & Load Panel	24NDB630L 630A 1000/1400 KVA Square D	<ul style="list-style-type: none">- Yearly preventive maintenance- Insulation Test สามารถใช้งานได้ตามปกติ- ชันแน่นจุดต่อ และทำความสะอาดตู้- ตรวจเช็คอุปกรณ์ หลอดไฟหน้าตู้ มีหลอดไฟเสีย		Normal
10	Ground resistance	<ul style="list-style-type: none">- Transformer- Main distribution board- Ring main Unit- Lightning arrestor	<ul style="list-style-type: none">- Yearly preventive maintenance- Ground resistance หม้อแปลงไฟฟ้าในระบบมีค่าน้อยกว่า 5 Ohm		Normal

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24.Year. 2008
Location	Electrical room. Tower A.	Type	Cela IS. 400A/24KV/16KA
Function	Incoming . MEA T1.	Serial No.	3223746

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	- mΩ	- mΩ	- mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	-	SQMM	RST
--------------------	------------	---	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24. Year. 2008
Location	Electrical room. Tower A.	Type	Cela CIS. 200A/24KV/16KA
Function	Outgoing. TR1/1.	Serial No.	32232747

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. **100** Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	19.4 mΩ	18.2 mΩ	18.2 mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	70	SQMM	RST
--------------------	-------------------	-----------	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company

Name

Signature

Date



Preventive Maintenance

☐ VM6 ☐ SM6 ☐ Fluair ☐ Mcset ☒ Order **Disconnecting Switch.**

Project	The Millenium Condo.	MNF	NORMAFIX 24.Year. 2008
Location	Electrical room. Tower A.	Type	Cela CIS. 200A/24KV/16KA
Function	Outgoing. TR1/2.	Serial No.	32232748

1. Cable compartments.

- Clean cable compartment ☒
- Check the tightness of main cable ☒

2. Low Voltage compartment.

- Clean low voltage compartment ☒
- Clean old grease of all mechanical parts and regrease lightly ☒

3. Bus bar compartment.

- Clean bus bar compartment ☒
- Visually check the condition and tightness of the busbar supports ☒

4. Earthing switch.

- Clean old grease of all mechanical parts and regrease lightly ☒
- Visually check the earthing switch and operation mechanism ☒

5. Rated power fuse. **100** Amp.

6. Low resistance Measurement.

Pole	Test Current	Phase A.	Phase B.	Phase C.
Fuse resistance	1 Amp.	18.8 mΩ	18.1 mΩ	17.9 mΩ
Contact resistance	100 Amp.	- μΩ	- μΩ	- μΩ

7. Insulation resistance measurement (1 min)

Phase to Phase	Test Voltage	L1-L2 : - GΩ	L2-L3 : - GΩ	L3-L1 : - GΩ
Phase to Ground	2500 VDC	L1- G : - GΩ	L2- G : - GΩ	L3- G : - GΩ

Primary main cable	XLPE 24 KV	70	SQMM	RST
--------------------	-------------------	-----------	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : _____

Company

Name

Signature

Date



Preventive Maintenance

Cast Rasin Transformer. (Dry Type)

Project	The Millenium Condo.				
Location	Electrical room. Tower A.	Function	Transformer No.1.		
Specification Data					
Brand	ABB	Series No,	-		
Rated	1600/2240 KVA	Rated voltage	24000/416 V		
Frequency	50 Hz	Rated current	38.5/53.9 A - 2225.9/3116.3 A		
Cooling type	AN / AF	Insulate class	F/F	Sybol	Dyn11

1. Body compartments.

- Clean the pole unit with dry cloth.
- Clean the main cable and main bus bar.
- Check the tightness of all connected with torque wrench.
- Check the grounding connected systems.

<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>

2. Protection & Control systems.

- Clean the control box and check the wiring connected.
- Cooling fan testing by AUTO-OFF-MANUAL selector switch.

<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>

3. Testing.

High side - Ground:

Phase	Result
R - G	41.1 GΩ
S - G	41.1 GΩ
T - G	41.1 GΩ

High side - Low side:

Phase	Result
R - r	37.5 GΩ
S - s	37.5 GΩ
T - t	37.5 GΩ

Temperature:

Phase	Result
R	54 °C
S	56 °C
T	53 °C

Temperature detection	Active fan	Alarm	Trip
TEC (T154)	60/70 °C	90 °C	110 °C

Primary main cable	XLPE 24 KV	70	SQMM	RST
--------------------	------------	----	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark : -Pilot Lamp แสดงสถานะแตก ขำรุด

Company
Name
Signature
Date



Preventive Maintenance

Cast Rasin Transformer. (Dry Type)

Project	The Millenium Condo.				
Location	Electrical room. Tower A.	Function	Transformer No.2.		
Specification Data					
Brand	ABB	Series No,	-		
Rated	1600/2240 KVA	Rated voltage	24000/416 V		
Frequency	50 Hz	Rated current	38.5/53.9 A - 2225.9/3116.3 A		
Cooling type	AN / AF	Insulate class	F/F	Sybol	Dyn11

1. Body compartments.

- Clean the pole unit with dry cloth.
- Clean the main cable and main bus bar.
- Check the tightness of all connected with torque wrench.
- Check the grounding connected systems.



2. Protection & Control systems.

- Clean the control box and check the wiring connected.
- Cooling fan testing by AUTO-OFF-MANUAL selector switch.



3. Testing.

High side - Ground:

Phase	Result
R - G	43 GΩ
S - G	43 GΩ
T - G	43 GΩ

High side - Low side:

Phase	Result
R - r	33 GΩ
S - s	33 GΩ
T - t	33 GΩ

Temperature:

Phase	Result
R	55 °C
S	60 °C
T	55 °C

Temperature detection	Active fan	Alarm	Trip
TEC (T154)	60/75 °C	90 °C	110 °C

Primary main cable	XLPE 24 KV	70	SQMM	RST
--------------------	------------	----	------	-----

Result : ☒ Passed ☒ Acceptable ☐ Defected

Remark :

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

MAIN DISTRIBUTION BOARD

Project :	The Millenium Condo.
Panel No. :	Main distribution board No.1/1
Location :	Electrical room. Tower A.

Preliminary checking	Yes	No	Remark
1. Check inside and outside the switch board.	✓		
2. Use a vacuum cleaner to clean.	✓		
3. Clean old grease of all mechanical parts and re-grease lightly.	✓		
4. Visually check the bus bar.	✓		
5. Visually check the condition and tightness of bus bar supports.	✓		
6. Check the tightness of main cable.	✓		
7. General inspection.	✓		
8. Check on contact on main bus bar.	✓		
9. Check the tightness of all power and control connection.	✓		

10. Voltage measurement.	A - B	B - C	A - C		A - N	B - N	C - N
	409	412	408		235	236	236

Insulation resistance measurement (1 min)

Phase	Test Voltage	Measurement(Before)	Measurement(After)	Remark
Phase A + Phase B	1000 VDC	- GΩ	8.20 GΩ	
Phase B + Phase C	1000 VDC	- GΩ	5.60 GΩ	
Phase A + Phase C	1000 VDC	- GΩ	6.80 GΩ	
Phase A + Ground	1000 VDC	- GΩ	6.20 GΩ	
Phase B + Ground	1000 VDC	- GΩ	6.50 GΩ	
Phase C + Ground	1000 VDC	- GΩ	7.20 GΩ	
Primary main cable	Busbar			RSTN G

Remark : **- Adjustable Delay Unit MN"Schneider" ๕๕๕ (Time Delay 200/250 Vac/Vdc)**

Company

Name

Signature

Date



FIELD SERVICE REPORT

MAIN DISTRIBUTION BOARD

Project :	The Millenium Condo.
Panel No. :	Main distribution board No.1/2
Location :	Electrical room. Tower A.

Preliminary checking	Yes	No	Remark
1. Check inside and outside the switch board.	✓		
2. Use a vacuum cleaner to clean.	✓		
3. Clean old grease of all mechanical parts and re-grease lightly.	✓		
4. Visually check the bus bar.	✓		
5. Visually check the condition and tightness of bus bar supports.	✓		
6. Check the tightness of main cable.	✓		
7. General inspection.	✓		
8. Check on contact on main bus bar.	✓		
9. Check the tightness of all power and control connection.	✓		

10. Voltage measurement.

A - B	B - C	A - C		A - N	B - N	C - N
407	409	409		234	235	235

Insulation resistance measurement (1 min)

Phase	Test Voltage	Measurement(Before)	Measurement(After)	Remark
Phase A + Phase B	1000 VDC	- GΩ	6.20 GΩ	
Phase B + Phase C	1000 VDC	- GΩ	6.80 GΩ	
Phase A + Phase C	1000 VDC	- GΩ	7.20 GΩ	
Phase A + Ground	1000 VDC	- GΩ	4.80 GΩ	
Phase B + Ground	1000 VDC	- GΩ	4.40 GΩ	
Phase C + Ground	1000 VDC	- GΩ	4.56 GΩ	
Primary main cable	Busbar			RSTN G

Remark :

Company

Name

Signature

Date



FIELD SERVICE REPORT

MAIN DISTRIBUTION BOARD

Project :	The Millenium Condo.
Panel No. :	Emergency Main distribution board .
Location :	Electrical room. Tower A.

Preliminary checking	Yes	No	Remark
1. Check inside and outside the switch board.	✓		
2. Use a vacuum cleaner to clean.	✓		
3. Clean old grease of all mechanical parts and re-grease lightly.	✓		
4. Visually check the bus bar.	✓		
5. Visually check the condition and tightness of bus bar supports.	✓		
6. Check the tightness of main cable.	✓		
7. General inspection.	✓		
8. Check on contact on main bus bar.	✓		
9. Check the tightness of all power and control connection.	✓		

10. Voltage measurement.

A - B	B - C	A - C		A - N	B - N	C - N
400	400	400		231	231	231

Insulation resistance measurement (1 min)

Phase	Test Voltage	Measurement(Before)	Measurement(After)	Remark
Phase A + Phase B	1000 VDC	- GΩ	6.25 GΩ	
Phase B + Phase C	1000 VDC	- GΩ	6.41 GΩ	
Phase A + Phase C	1000 VDC	- GΩ	7.44 GΩ	
Phase A + Ground	1000 VDC	- GΩ	4.74 GΩ	
Phase B + Ground	1000 VDC	- GΩ	3.99 GΩ	
Phase C + Ground	1000 VDC	- GΩ	4.52 GΩ	
Primary main cable	3(3Cx240)(3Cx120)(1Cx120)			RSTN G

Remark :

Company

Name

Signature

Date



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Electrical room. Tower A.)		
Panel No	Main distribution board No.1/1	Function	MAIN - CB1

1. Name Plate

MNF	SQURAE D	Closing coil	✗	Motor drive	✗
Type	NW32H1	Opening coil	✓	Rated voltage	1000 V
Serial No	1404095620 1 3/4	Under voltage	✓	Rated current	3200 A

2. Mechanical & Electrical Inspection

	Yes	No	Remark
Body and seal	✓		Fixed type
Pole and arc contact	✓		
Cleaning and lubricate of mechanism		✓	
Cleaning and lubricate of gear motor	✓		
Check of auxiliary / limit switch	✓		
Motor charging test		✓	
Mechanism operation test	✓		
Check contact wear on arcing contact	✓		

3. Protective relay test

		Type	Micrologic 6.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	0.5In	3733 A	26.086 S	Auto test	Pass
Long time delay	4S	-	-	-	-
Short time	3Ir	12000 A	0.171 S	Auto test	Pass
Short time delay	0.1 S on	-	-	-	-
Instantaneous	6In	24000 A	0.036 S	Auto test	Pass
Ground fault	A (500A)	1000 A	0.135 S	Auto test	Pass
Ground fault delay	0.1 S on	-	-	-	-

4. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C
Contact resistance	10 Amp	61 $\mu\Omega$	57 $\mu\Omega$	54 $\mu\Omega$

5. Insulation resistance measurement (1 min)

Pole	Test voltage	Phase A	Phase B	Phase C
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω

Remark : Result : ☒ Passed ☒ Acceptable ☐ Defected

Company

Name

Signature

Date



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Electrical room. Tower A.)				
Panel No	Main distribution board No.1/1	Function	BUSDUCT LOW 2500 A.		
1. Name Plate					
MNF	SQURAE D	Closing coil	×	Motor drive	×
Type	NW25H1	Opening coil	×	Rated voltage	1000 V
Serial No	1404095620 3 2/2	Under voltage	×	Rated current	2500 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 2.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	10833 A	0.853 S	Auto test	Pass
Long time delay	0.5S	-	-	-	-
Short time	6In	18750 A	0.053 S	Auto test	Pass
Short time delay					
Instantaneous					
Ground fault					
Ground fault delay					
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	12 $\mu\Omega$	11 $\mu\Omega$	11 $\mu\Omega$	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω	
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Electrical room. Tower A.)				
Panel No	Main distribution board No.1/2	Function	MAIN - CB2		

1. Name Plate

MNF	SQURAE D	Closing coil	✗	Motor drive	✗
Type	NW32H1	Opening coil	✓	Rated voltage	1000 V
Serial No	1404095620 1 4/4	Under voltage	✓	Rated current	3200 A

2. Mechanical & Electrical Inspection

	Yes	No	Remark
Body and seal	✓		Fixed type
Pole and arc contact	✓		
Cleaning and lubricate of mechanism		✓	
Cleaning and lubricate of gear motor	✓		
Check of auxiliary / limit switch	✓		
Motor charging test		✓	
Mechanism operation test	✓		
Check contact wear on arcing contact	✓		

3. Protective relay test

		Type	Micrologic 6.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	0.5In	4800 A	14.455 S	Auto test	Pass
Long time delay	4S	-	-	-	-
Short time	4Ir	12800 A	0.146 S	Auto test	Pass
Short time delay	0.1 S on	-	-	-	-
Instantaneous	6In	24000 A	0.037 S	Auto test	Pass
Ground fault	A (500A)	1000 A	0.138 S	Auto test	Pass
Ground fault delay	0.1 S on	-	-	-	-

4. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C
Contact resistance	10 Amp	17 $\mu\Omega$	18 $\mu\Omega$	17 $\mu\Omega$

5. Insulation resistance measurement (1 min)

Pole	Test voltage	Phase A	Phase B	Phase C
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω

Remark : Result : ☒ Passed ☒ Acceptable ☐ Defected

Company

Name

Signature

Date



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Electrical room. Tower A.)				
Panel No	Main distribution board No.1/2		Function	BUSDUCT HIGH 2000 A.	
1. Name Plate					
MNF	SQURAE D	Closing coil	✕	Motor drive	✕
Type	NW20H1	Opening coil	✕	Rated voltage	1000 V
Serial No	1404095620 4 1/2	Under voltage	✕	Rated current	2000 A
2. Mechanical & Electrical Inspection		Yes	No	Remark	
Body and seal		✓		Fixed type	
Pole and arc contact		✓			
Cleaning and lubricate of mechanism			✓		
Cleaning and lubricate of gear motor		✓			
Check of auxiliary / limit switch		✓			
Motor charging test			✓		
Mechanism operation test		✓			
Check contact wear on arcing contact		✓			
3. Protective relay test		Type	Micrologic 2.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	8667 A	0.870 S	Auto test	Pass
Long time delay	0.5S	-	-	-	-
Short time	6In	15000 A	0.053 S	Auto test	Pass
Short time delay					
Instantaneous					
Ground fault					
Ground fault delay					
4. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	
Contact resistance	10 Amp	29 μΩ	27 μΩ	32 μΩ	
5. Insulation resistance measurement (1 min)					
Pole	Test voltage	Phase A	Phase B	Phase C	
Top and Bottom-Ground. (on)	1000 VDC	- GΩ	- GΩ	- GΩ	
Top-Bottom. (off)	1000 VDC	- GΩ	- GΩ	- GΩ	
Remark : Result : <input checked="" type="checkbox"/> Passed <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Defected					
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

AIR CIRCUIT BREAKER

Project	The Millenium Condo. (Electrical room. Tower A.)		
Panel No	Main distribution board No.1/1&1/2	Function	TIE-CB

1. Name Plate

MNF	SQURAE D	Closing coil	✗	Motor drive	✗
Type	NW32H1	Opening coil	✓	Rated voltage	1000 V
Serial No	1404095620 2 1/2	Under voltage	✓	Rated current	3200 A

2. Mechanical & Electrical Inspection

	Yes	No	Remark
Body and seal	✓		Fixed type
Pole and arc contact	✓		
Cleaning and lubricate of mechanism		✓	
Cleaning and lubricate of gear motor	✓		
Check of auxiliary / limit switch	✓		
Motor charging test		✓	
Mechanism operation test	✓		
Check contact wear on arcing contact	✓		

3. Protective relay test

		Type	Micrologic 2.0 A		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	7467 A	53.636 S	Auto test	Pass
Long time delay	8S	-	-	-	-
Short time	3In	12000 A	0.053 S	Auto test	Pass
Short time delay					
Instantaneous					
Ground fault					
Ground fault delay					

4. Low resistance measurement

Pole	Test Current	Phase A	Phase B	Phase C
Contact resistance	10 Amp	19 $\mu\Omega$	19 $\mu\Omega$	20 $\mu\Omega$

5. Insulation resistance measurement (1 min)

Pole	Test voltage	Phase A	Phase B	Phase C
Top and Bottom-Ground. (on)	1000 VDC	- G Ω	- G Ω	- G Ω
Top-Bottom. (off)	1000 VDC	- G Ω	- G Ω	- G Ω

Remark : Result : ☒ Passed ☒ Acceptable ☐ Defected

Company

Name

Signature

Date



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Electrical room. Tower A.)				
Panel No.	Emergency Main distribution board .	Function	Normal Line.		
MNF	Square D	Closing coil	✓	Motor drive	✓
Type	NS800N	Shunt coil	✓	Rated voltage	1000 V
Serial no.	1404096941 1 4/6	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	3467 A	13.845 S	Auto test	Pass
Long time delay	8 S	-	-	-	-
Short time	6lr	6000 A	0.054 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	185 $\mu\Omega$	194 $\mu\Omega$	179 $\mu\Omega$	184 $\mu\Omega$
Panel No.	Emergency Main distribution board .	Function	Emergency Line.		
MNF	Square D	Closing coil	✓	Motor drive	✓
Type	NS800N	Shunt coil	✓	Rated voltage	1000 V
Serial no.	1404096941 1 3/6	Under voltage	✗	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	2400 A	22.703 S	Auto test	Pass
Long time delay	8 S	-	-	-	-
Short time	4lr	4000 A	0.054 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	231 $\mu\Omega$	214 $\mu\Omega$	209 $\mu\Omega$	228 $\mu\Omega$
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Electrical room. Tower A.)				
Panel No.	Main distribution board No1/1		Function	CAP BANK.	
MNF	Square D	Closing coil	×	Motor drive	×
Type	NS1000N	Shunt coil	×	Rated voltage	1000 V
Serial no.	1404095981 2 3/3	Under voltage	×	Rated current	1000 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	0.8In	1067 A	14.447 S	Auto test	Pass
Long time delay	0.5 S	-	-	-	-
Short time	1.5Ir	1500 A	0.054 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	27 $\mu\Omega$	49 $\mu\Omega$	17 $\mu\Omega$	- $\mu\Omega$
Panel No.	Main distribution board No1/2.		Function	CAP BANK.	
MNF	Square D	Closing coil	×	Motor drive	×
Type	NS1000N	Shunt coil	×	Rated voltage	1000 V
Serial no.	1404095981 2 2/3	Under voltage	×	Rated current	1000 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	4333 A	14.139 S	Auto test	Pass
Long time delay	8 S	-	-	-	-
Short time	6Ir	7500 A	0.054 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	51 $\mu\Omega$	72 $\mu\Omega$	85 $\mu\Omega$	- $\mu\Omega$
Company					
Name					
Signature					
Date					



FIELD SERVICE REPORT

Molded Case Circuit Breaker

Project	The Millenium Condo. (Electrical room. Tower A.)				
Panel No.	Main distribution board No1/2		Function	To ATS.	
MNF	Square D	Closing coil	×	Motor drive	×
Type	NS800N	Shunt coil	×	Rated voltage	1000 V
Serial no.	1404095284 11 1/1	Under voltage	×	Rated current	800 A
2. Protective relay test		Type	Micrologic 2.0		
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	1In	3467 A	13.861 S	Auto test	Pass
Long time delay	8 S	-	-	-	-
Short time	6lr	6000 A	0.054 S	Auto test	Pass
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	57 $\mu\Omega$	152 $\mu\Omega$	185 $\mu\Omega$	- $\mu\Omega$
Panel No.			Function		
MNF		Closing coil		Motor drive	
Type		Shunt coil		Rated voltage	
Serial no.		Under voltage		Rated current	
2. Protective relay test		Type			
Type of protection	Setting	Testing	Result	Theory	Trip indicator
Long time	-	-	-	-	-
Long time delay	-	-	-	-	-
Short time	-	-	-	-	-
Short time delay	-	-	-	-	-
Instantaneous	-	-	-	-	-
Ground fault	-	-	-	-	-
Ground fault delay	-	-	-	-	-
3. Low resistance measurement					
Pole	Test Current	Phase A	Phase B	Phase C	Phase N
Contact resistance	10 Amp	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$	- $\mu\Omega$
Company					
Name					
Signature					
Date					



CAPACITOR BANK

Project :	The Millenium Condo. (Electrical room. Tower A.)
Panel :	Capacitor Bank. (MDB 1/1)

Name plate :

MNF	MKS.	Kvar	2x20		
Type	HPS-24-2-440-3P	Volt	400/415		
Power factor controller :		Magnetic Contactor :	Circuit breaker / HRC fuse :		
MNF	MiRO	MNF	FEDERAL	MNF	MiRO
Type	PFR120	Type	FC-95DK-21	Type	NHC00, 100 A

Setting :

Target cos ϕ	1 Ind	Delay time	45
C/K	0.1	Angle	240

Step	Current of capacitor (Amp)			Capacity (μ F)			Remark
	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	
1	59	58	59	397	396	397	Normal capacity.
2	59	59	59	406	407	406	Normal capacity.
3	57	55	56	392	379	391	Normal capacity.
4	56	57	58	391	395	395	Normal capacity.
5	58	44	44	392	261	353	Abnormal capacity.
6	57	57	58	395	394	395	Normal capacity.
7	60	60	60	407	406	407	Normal capacity.
8	0	0	0	OL	OL	OL	Abnormal capacity. Cap หมด
9	57	57	57	395	395	396	Normal capacity.
10	57	57	57	395	395	395	Normal capacity.
11	57	44	44	392	265	352	Abnormal capacity.
12	55	57	55	411	428	426	Normal capacity.

Remark : - Abnormal capacity.3 Step

- Power factor ของระบบมีค่าเป็นปกติ

Company
Name
Signature
Date



CAPACITOR BANK

Project :	The Millenium Condo. (Electrical room. Tower A.)
Panel :	Capacitor Bank. (MDB 1/2)

Name plate :

MNF	MKS.	Kvar	2x20		
Type	HPS-24-2-440-3P	Volt	400/415		
Power factor controller :		Magnetic Contactor :	Circuit breaker / HRC fuse :		
MNF	MiRO	MNF	FEDERAL	MNF	MiRO
Type	PFR120	Type	FC-95DK-21	Type	NHC00, 100 A

Setting :

Target cos ϕ	0.90 Ind	Delay time	45
C/K	0.1	Angle	240

Step	Current of capacitor (Amp)			Capacity (μ F)			Remark
	Phase A	Phase B	Phase C	Phase A	Phase B	Phase C	
1	58	57	58	397	397	397	Normal capacity.
2	58	47	49	380	391	377	Normal capacity.
3	59	54	56	395	393	395	Normal capacity.
4	54	46	50	395	379	395	Normal capacity.
5	55	49	56	367	387	396	Normal capacity.
6	57	57	57	395	396	396	Normal capacity.
7	58	57	58	397	397	397	Normal capacity.
8	58	57	57	397	395	397	Normal capacity.
9	57	57	58	396	396	396	Normal capacity.
10	57	57	58	397	397	397	Normal capacity.
11	57	57	58	397	398	397	Normal capacity.
12	58	58	58	397	398	398	Normal capacity.

Remark : - Normal capacity.All Step

- Power factor ของระบบมีค่าเป็นปกติ

Company
Name
Signature
Date



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
1	8DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.8	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
2	9DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.9	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
3	10DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.10	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
4	10PDB1/T1	Load Panel	SQD	A-B	>2.2 GΩ	A-E	1.7 GΩ
	Floor.10		EZD100N	B-C	>2.2 GΩ	B-E	1.6 GΩ
			100A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x50	SQMM	
			THW	N	1x50	SQMM	
				G	1x16	SQMM	
5	10PEDB1/T1	Load Panel	SQD	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.10		EZD100N	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			50A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x25	SQMM	
			THW	N	1x25	SQMM	
				G	1x16	SQMM	
6	11DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.11	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	

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FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)		Function	Load panel.			
1. Mechanical and Electrical Inspection		Yes	No	Remark			
Body and seal		✓					
Pole and arc contact		✓					
Cleaning and lubricate of mechanism		✓					
Check & tightening cable terminal		✓					
Mechanism operation test		✓					
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
7	12DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.12	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
8	AADB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.13	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
9	14DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.14	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.					
1. Mechanical and Electrical Inspection		Yes	No	Remark				
Body and seal		✓						
Pole and arc contact		✓						
Cleaning and lubricate of mechanism		✓						
Check & tightening cable terminal		✓						
Mechanism operation test		✓						
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.				
10	15DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.15	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
11	16DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.16	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
12	17DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.17	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
13	18DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.18	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
14	19DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.19	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
15	20DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.20	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM

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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
16	21DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.21	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
17	22DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.22	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
18	23DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.23	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM

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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)			Function	Load panel.		
1. Mechanical and Electrical Inspection		Yes	No	Remark			
Body and seal		✓					
Pole and arc contact		✓					
Cleaning and lubricate of mechanism		✓					
Check & tightening cable terminal		✓					
Mechanism operation test		✓					
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
19	24DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.24	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
20	25DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.25	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
21	25PDB1/T1	Plug In	SQD	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.25	Load Panel	EZD100N	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			100A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x35	SQMM	
			THW	N	1x35	SQMM	
				G	1x6	SQMM	
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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
22	25PEDB1/T1	Plug In	SQD	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.25	Load Panel	EZD100N	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			50A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x25	SQMM	
			THW	N	1x25	SQMM	
				G	1x6	SQMM	
23	25DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.25	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
24	26DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.26	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	

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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
25	27DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.27	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
26	28DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.28	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
27	29DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.29	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	

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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
28	30DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.30	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
29	31DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.31	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
30	32DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.32	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	

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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
31	33DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.33	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
32	34DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.34	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
33	35DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.35	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM

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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.					
1. Mechanical and Electrical Inspection		Yes	No	Remark				
Body and seal		✓						
Pole and arc contact		✓						
Cleaning and lubricate of mechanism		✓						
Check & tightening cable terminal		✓						
Mechanism operation test		✓						
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.				
34	36DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.36	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
35	37DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.37	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
36	38DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.38	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)		Function	Load panel.			
1. Mechanical and Electrical Inspection		Yes	No	Remark			
Body and seal		✓					
Pole and arc contact		✓					
Cleaning and lubricate of mechanism		✓					
Check & tightening cable terminal		✓					
Mechanism operation test		✓					
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
37	39DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.39	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
38	40DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.40	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120	SQMM	
			THW	N	1x120	SQMM	
				G	1x16	SQMM	
39	40PDB1/T1	Load Panel	SQD	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.40		EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			175 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x50	SQMM	
			THW	N	1x50	SQMM	
				G	1x16	SQMM	
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Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.					
1. Mechanical and Electrical Inspection		Yes	No	Remark				
Body and seal		✓						
Pole and arc contact		✓						
Cleaning and lubricate of mechanism		✓						
Check & tightening cable terminal		✓						
Mechanism operation test		✓						
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.				
40	40PEDB1/T1	Plug In	SQD	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.40	Load Panel	NBD630H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			500A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	2x185	SQMM		
			THW	N	2x185	SQMM		
				G	2x35	SQMM		
41	41DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.41	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
42	42DB1/T1	Plug In	SQD	A-B	>2.2 GΩ	A-E	>2.2 GΩ	
	Floor.42	Load Panel	EZD250F	B-C	>2.2 GΩ	B-E	>2.2 GΩ	
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ	
	Cable	Incoming		RST	1x120	SQMM		
			THW	N	1x120	SQMM		
				G	1x16	SQMM		
<div style="display: flex;"> <div style="width: 15%; padding: 5px;"> Company Name Signature Date </div> <div style="width: 85%;"></div> </div>								



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
43	43DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.43	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
44	44DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.44	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
45	45DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.45	Load Panel	NS100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			100 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x50		SQMM
			THW	N	1x50		SQMM
				G	1x10		SQMM

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)	Function	Load panel.
1. Mechanical and Electrical Inspection	Yes	No	Remark
Body and seal	✓		
Pole and arc contact	✓		
Cleaning and lubricate of mechanism	✓		
Check & tightening cable terminal	✓		
Mechanism operation test	✓		

Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
46	46DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.46	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x120		SQMM
			THW	N	1x120		SQMM
				G	1x16		SQMM
47	47DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.47	Load Panel	NS100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			100 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x50		SQMM
			THW	N	1x50		SQMM
				G	1x10		SQMM
48	48DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.48	Load Panel	NS100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			100 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x50		SQMM
			THW	N	1x50		SQMM
				G	1x10		SQMM

Company	
Name	
Signature	
Date	



FIELD SERVICE REPORT

Load Center & Load Panel Preventive Maintenance.

Project	The Millenium Condo. (Tower A.)			Function	Load panel.		
1. Mechanical and Electrical Inspection			Yes	No	Remark		
Body and seal			✓				
Pole and arc contact			✓				
Cleaning and lubricate of mechanism			✓				
Check & tightening cable terminal			✓				
Mechanism operation test			✓				
Item	Name & Function	Type panel	Brand	Insulation test 1000 VDC.			
49	49DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.49	Load Panel	NS100H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			100 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x50	SQMM	
			THW	N	1x50	SQMM	
				G	1x10	SQMM	
50	50DB1/T1	Plug In	Merlin Gerin	A-B	>2.2 GΩ	A-E	>2.2 GΩ
	Floor.50	Load Panel	NS250H	B-C	>2.2 GΩ	B-E	>2.2 GΩ
			200 A	A-C	>2.2 GΩ	C-E	>2.2 GΩ
	Cable	Incoming		RST	1x95	SQMM	
			THW	N	1x95	SQMM	
				G	1x16	SQMM	
Company							
Name							
Signature							
Date							



GROUND SYSTEMS TEST

☒ RM-U ☒ Transformer ☒ LV switch board ☐ Generator ☐ Order:

Project	The Millenium Condo.		
Location	Electrical room. Tower A.	Type	-
Function	Ground resistance.	Serial No.	-

1 Switch Gear. RMU.

Ground resistance.

1.72

Ω

2 Transformer.No.1/1

Ground resistance.

1.74

Ω

3 Transformer.No.1/2

Ground resistance.

1.75

Ω

4 Main distribution board.No.1/1

Ground resistance.

1.75

Ω

5 Main distribution board.No.1/2

Ground resistance.

1.74

Ω

6 Emergency Main distribution board.

Ground resistance.

1.77

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Ground resistance.

-

Ω

Remark: - Ground resistance ในระบบไม่ควรมีค่ามากกว่า 5 Ohm

Company

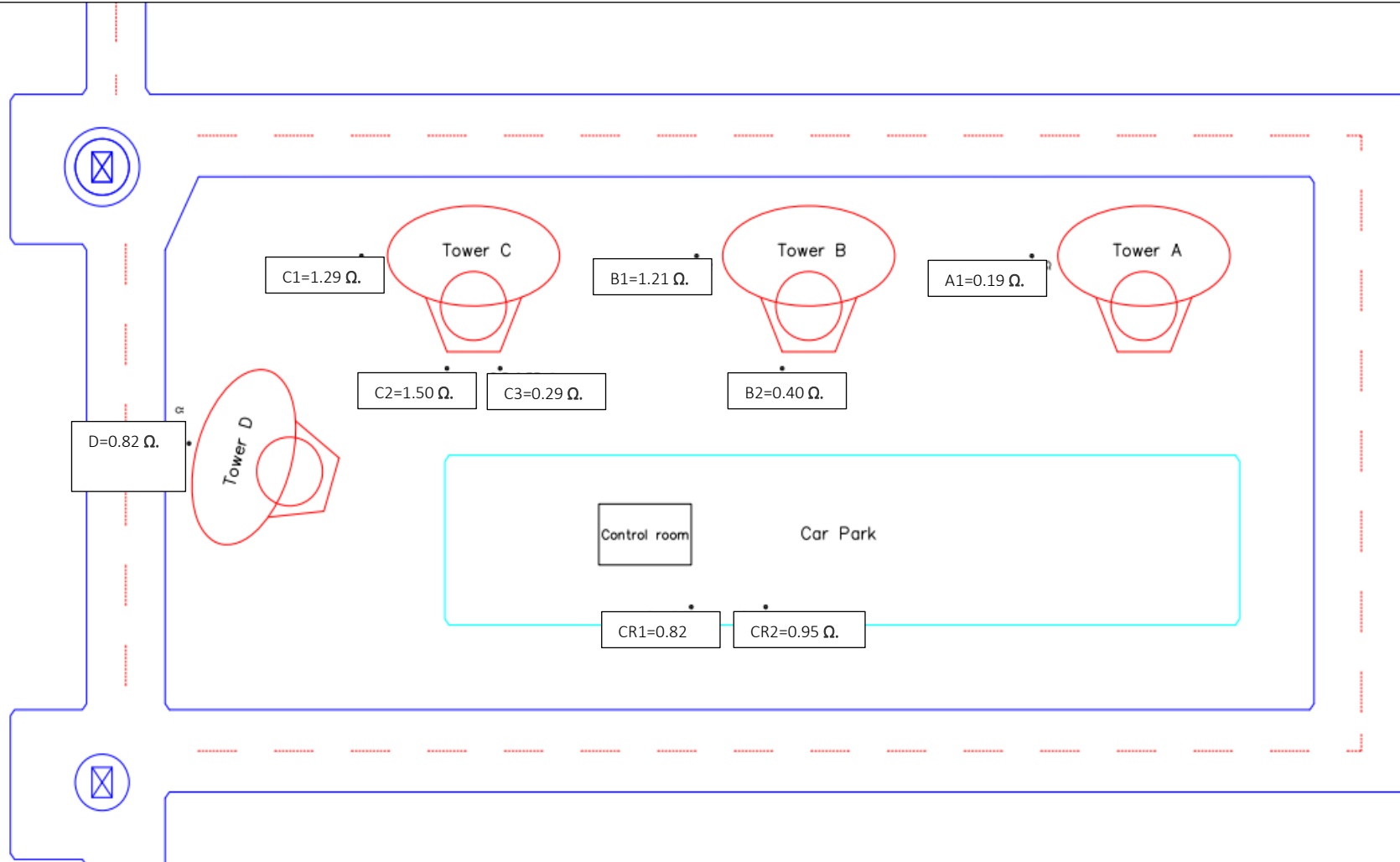
Name

Signature

Date



Ground resistance Lightning-arrester The Millennium Condo.2023



Company
Name
Date



INDEX

.....

The Millenium Condo Club house, Condo A-D.

.....

- MV SWITCH GEAR.
- CAST RASIN TRANSFORMER. (DRY TYPE) .
- MAIN DISTRIBUTION BOARD.
- AIR CIRCUIT BREAKER.
- MOLDED CASE CIRCUIT BREAKER.
- BUSDUCT PLUG-IN & LOAD PANEL.
- CAPACITOR BANKS.
- GROUND RESISTANCE.

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Product system service(AC/DC Drives)

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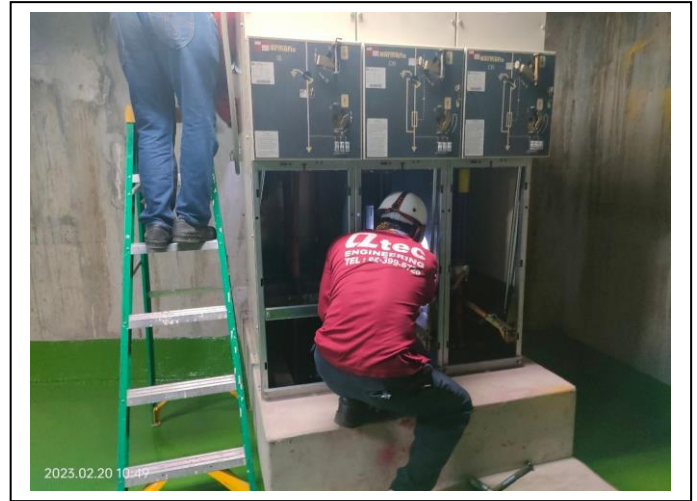
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Picture 1: Ring main Unit and preventive maintenance.



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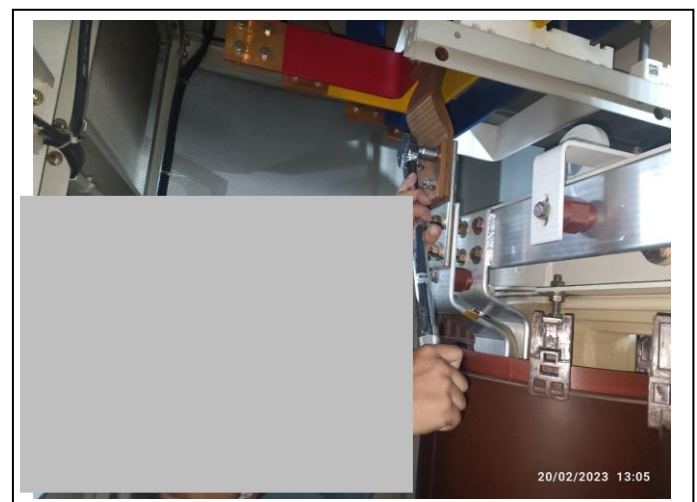
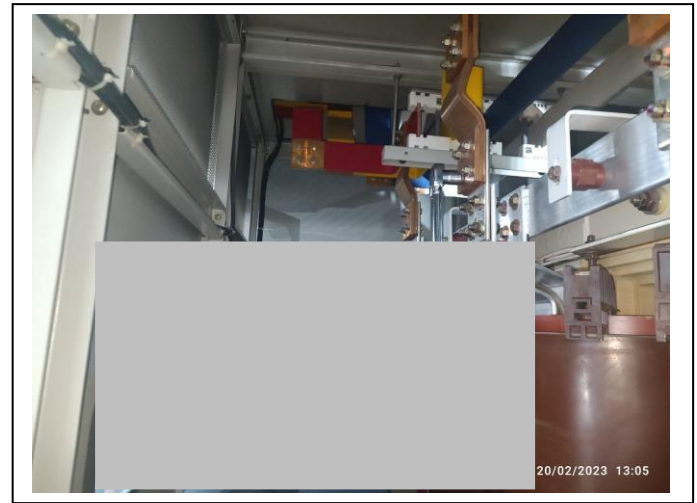
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Picture 2: Cast resin Dry type Transformer and preventive maintenance.



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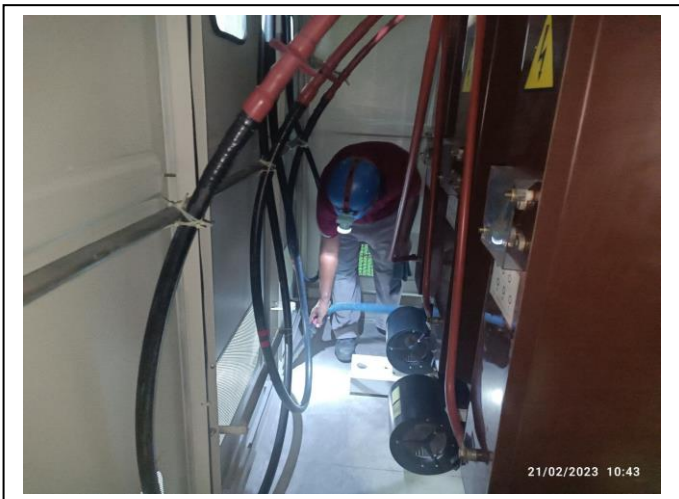
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Picture 3: Cast resin Transformer and preventive maintenance.



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Picture 4: Main distribution board and preventive maintenance.



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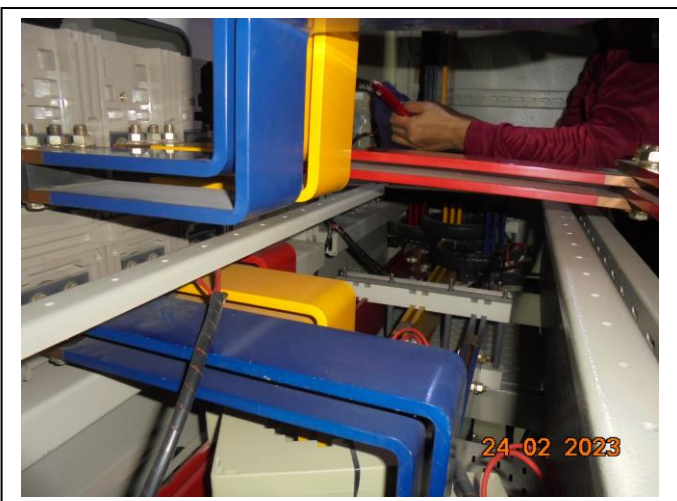
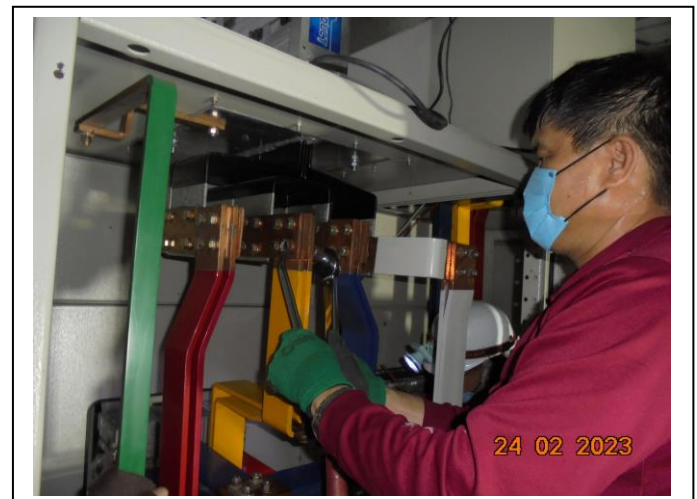
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Picture 5: Main distribution board and preventive maintenance.



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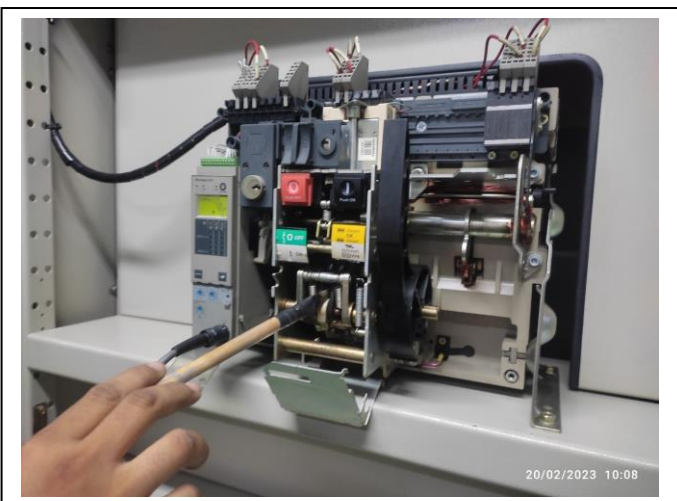
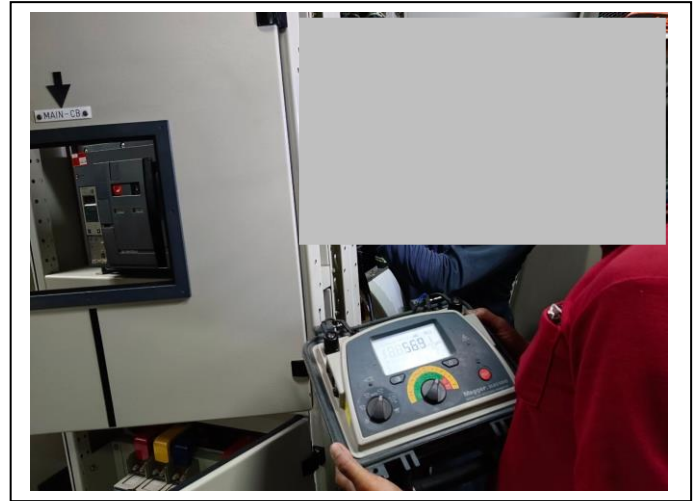
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Picture 6: Air circuit Breakers and preventive maintenance.



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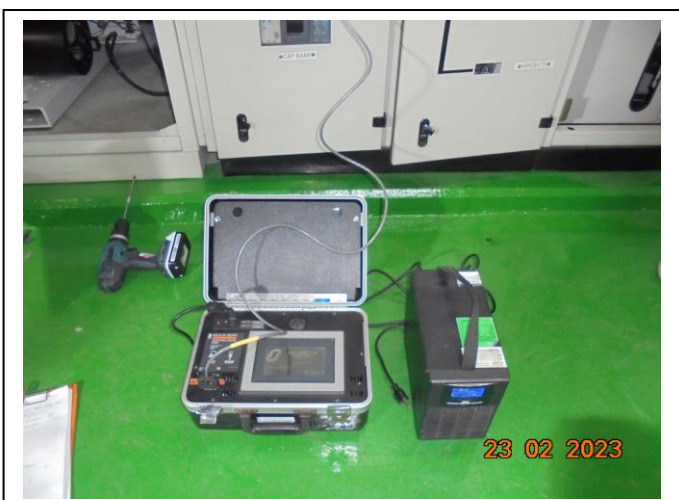
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Picture 7: Air circuit Breakers and preventive maintenance.



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Picture 8: Molded Case circuit Breakers and preventive maintenance.



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Picture 9: Ground & Capacitors Banks Preventive maintenance.



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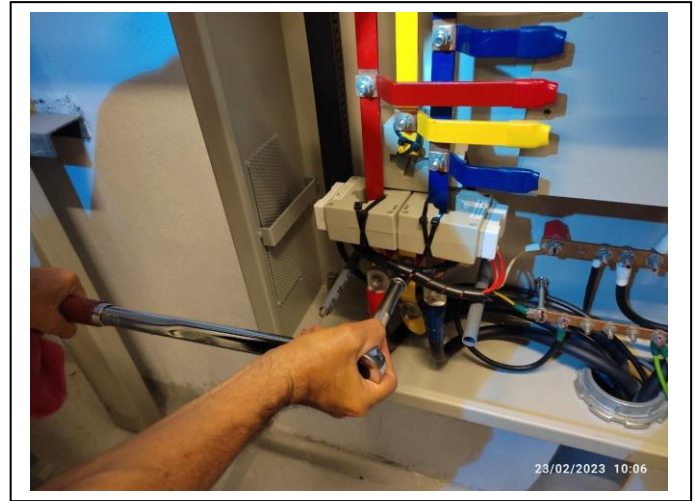
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Picture 10: Distribution Board., Busduct Plug in & Preventive maintenance



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Picture 12: Capacitors Banks Preventive maintenance.



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Picture 12: Ground System Preventive maintenance.



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Picture 13: Grounding System,Lightning-Arrester Check.



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