

# ภาคผนวก ข

## เอกสารประกอบมาตรการ



## ภาคผนวก ข-1

ตัวอย่างใบบันทึกการตรวจสอบยางรองหมุดยึดราง  
และยางบริเวณคูล้อ



Preventive Maintenance (Track Work)  
List Visual inspection TRW at Silom Extension (S7-S12)+Sukhumwit Extension(E9-E14)  
January 2024

Order	Description	Functional Loc	Bas. start date	Actual start	Actual finish	System status	Revision
S07-S08							
600542602	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	1/1/2024	1/4/2024	1/5/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600559271	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	1/15/2024	1/18/2024	1/19/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600580220	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	1/29/2024	2/1/2024	2/2/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
S09-S012							
600542658	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	1/2/2024	1/5/2024	1/5/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600559312	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	1/16/2024	1/19/2024	1/19/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600580291	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	1/30/2024	2/2/2024	2/2/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600542669	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	1/3/2024	1/4/2024	1/5/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600559327	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	1/17/2024	1/19/2024	1/19/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600580300	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	1/31/2024	1/30/2024	1/30/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
E09-E014							
600552094	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	1/8/2024	1/11/2024	1/12/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600569797	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	1/22/2024	1/26/2024	1/27/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600552128	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	1/8/2024	1/12/2024	1/12/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600569856	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	1/22/2024	1/27/2024	1/27/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600542643	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	1/2/2024	1/3/2024	1/3/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600559308	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	1/16/2024	1/20/2024	1/20/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600580279	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	1/30/2024	2/4/2024	2/4/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2

Preventive Maintenance (Track Work)  
List Visual inspection TRW at Silom Extension (S7-S12)+Sukhumwit Extension(E9-E14)  
February 2024

Order	Description	Functional Loc	Bas. start date	Actual start	Actual finish	System status	Revision
S07-S08							
600598324	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	2/12/2024	2/16/2024	2/17/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600615167	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	2/26/2024	3/1/2024	3/2/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
S09-S012							
600598366	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	2/13/2024	2/17/2024	2/17/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600615245	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	2/27/2024	3/2/2024	3/2/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600598370	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	2/14/2024	2/17/2024	2/17/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600615261	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	2/28/2024	3/2/2024	3/2/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
E09-E014							
600588905	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	2/5/2024	2/9/2024	2/9/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600607959	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	2/19/2024	2/23/2024	2/24/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600588931	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	2/5/2024	2/8/2024	2/9/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600608001	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	2/19/2024	2/24/2024	2/24/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600598353	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	2/13/2024	2/16/2024	2/16/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600615227	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	2/27/2024	3/1/2024	3/1/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2

Preventive Maintenance (Track Work)  
List Visual inspection TRW at Silom Extension (S7-S12)+Sukhumwit Extension(E9-E14)  
March 2024

Order	Description	Functional Loc	Bas. start date	Actual start	Actual finish	System status	Revision
S07-S08							
600632760	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	3/11/2024	3/14/2024	3/15/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600648297	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	3/25/2024	3/31/2024	3/31/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
S09-S012							
600632809	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	3/12/2024	3/15/2024	3/15/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600648365	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	3/26/2024	3/31/2024	3/31/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600632817	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	3/13/2024	3/15/2024	3/15/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600648382	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	3/27/2024	3/31/2024	3/31/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
E09-E014							
600622363	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	3/4/2024	3/7/2024	3/8/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600641668	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	3/18/2024	3/24/2024	3/24/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600622412	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	3/4/2024	3/8/2024	3/8/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600641725	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	3/18/2024	3/23/2024	3/24/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600632797	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	3/12/2024	3/15/2024	3/16/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600648350	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	3/26/2024	3/29/2024	3/30/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2

Preventive Maintenance (Track Work)  
List Visual inspection TRW at Silom Extension (S7-S12)+Sukhumwit Extension(E9-E14)  
April 2024

Order	Description	Functional Loc	Bas. start date	Actual start	Actual finish	System status	Revision
S07-S08							
600666749	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	4/8/2024	4/13/2024	4/14/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600682430	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	4/22/2024	4/28/2024	4/28/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
S09-S012							
600666799	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	4/9/2024	4/14/2024	4/14/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600682494	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	4/23/2024	4/28/2024	4/28/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600666809	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	4/10/2024	4/14/2024	4/14/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600682514	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	4/24/2024	4/28/2024	4/28/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
E09-E014							
600656070	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	4/1/2024	4/8/2024	4/9/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600675485	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	4/15/2024	4/18/2024	4/19/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600689217	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	4/29/2024	4/29/2024	4/30/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600656117	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	4/1/2024	4/9/2024	4/9/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600675539	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	4/15/2024	4/19/2024	4/19/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600689293	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	4/29/2024	4/30/2024	4/30/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600666783	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	4/9/2024	4/12/2024	4/13/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2
600682477	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	4/23/2024	4/25/2024	4/26/2024	TECO CNF PRT CSER JBFI NMAT PRC SETC	W2



Preventive Maintenance (Track Work)  
List Visual inspection TRW at Silom Extension (S7-S12)+Sukhumwit Extension(E9-E14)  
May 2024

Order	Description	Functional Loc	Bas. start date	Actual start	Actual finish	System status	Revision
S07-S08							
600697065	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	5/6/2024	5/11/2024	5/12/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600715419	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	5/20/2024	5/25/2024	5/26/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
S09-S012							
600697099	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	5/7/2024	5/12/2024	5/12/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600715463	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	5/21/2024	5/26/2024	5/26/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600697109	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	5/8/2024	5/12/2024	5/12/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600715479	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	5/22/2024	5/26/2024	5/26/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
E09-E014							
600707721	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	5/13/2024	5/16/2024	5/17/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600721142	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	5/27/2024	6/2/2024	6/2/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600707771	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	5/13/2024	5/17/2024	5/17/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600721242	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	5/27/2024	6/2/2024	6/2/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600697086	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	5/7/2024	5/10/2024	5/12/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600715447	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	5/21/2024	5/23/2024	5/24/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2

Preventive Maintenance (Track Work)  
List Visual inspection TRW at Silom Extension (S7-S12)+Sukhumwit Extension(E9-E14)  
June 2024

Order	Description	Functional Loc	Bas. start date	Actual start	Actual finish	System status	Revision
S07-S08							
600728793	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	6/3/2024	6/8/2024	6/9/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600747440	Visual insp. of TRW equipm. 04S S07-SEOL	GN-TRW-04S	6/17/2024			REL PRT NMAT PRC SETC	W2
S09-S012							
600728839	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	6/4/2024	6/9/2024	6/9/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600728850	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	6/5/2024	6/9/2024	6/9/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600747485	Visual insp. of TRW equipm. 05S S09-S10	GN-TRW-05S	6/18/2024			REL PRT NMAT PRC SETC	W2
600747496	Visual insp. of TRW equipm. 06S S11-S12	GN-TRW-06S	6/19/2024			REL PRT NMAT PRC SETC	W2
E09-E014							
600728827	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	6/4/2024	6/7/2024	6/8/2024	TECO CNF PRT JBFI NMAT PRC SETC	W2
600739357	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	6/10/2024			REL PRT NMAT PRC SETC	W2
600739407	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	6/10/2024			REL PRT NMAT PRC SETC	W2
600747474	Visual insp. of TRW equipm. 07E E13-E14	GN-TRW-07E	6/18/2024			REL PRT NMAT PRC SETC	W2
600754256	Visual insp. of TRW equipm. 05E E09-E11	GN-TRW-05E	6/24/2024			REL PRT NMAT PRC SETC	W2
600754326	Visual insp. of TRW equipm. 06E E11-E13	GN-TRW-06E	6/24/2024			REL PRT NMAT PRC SETC	W2

## ภาคผนวก ข-2

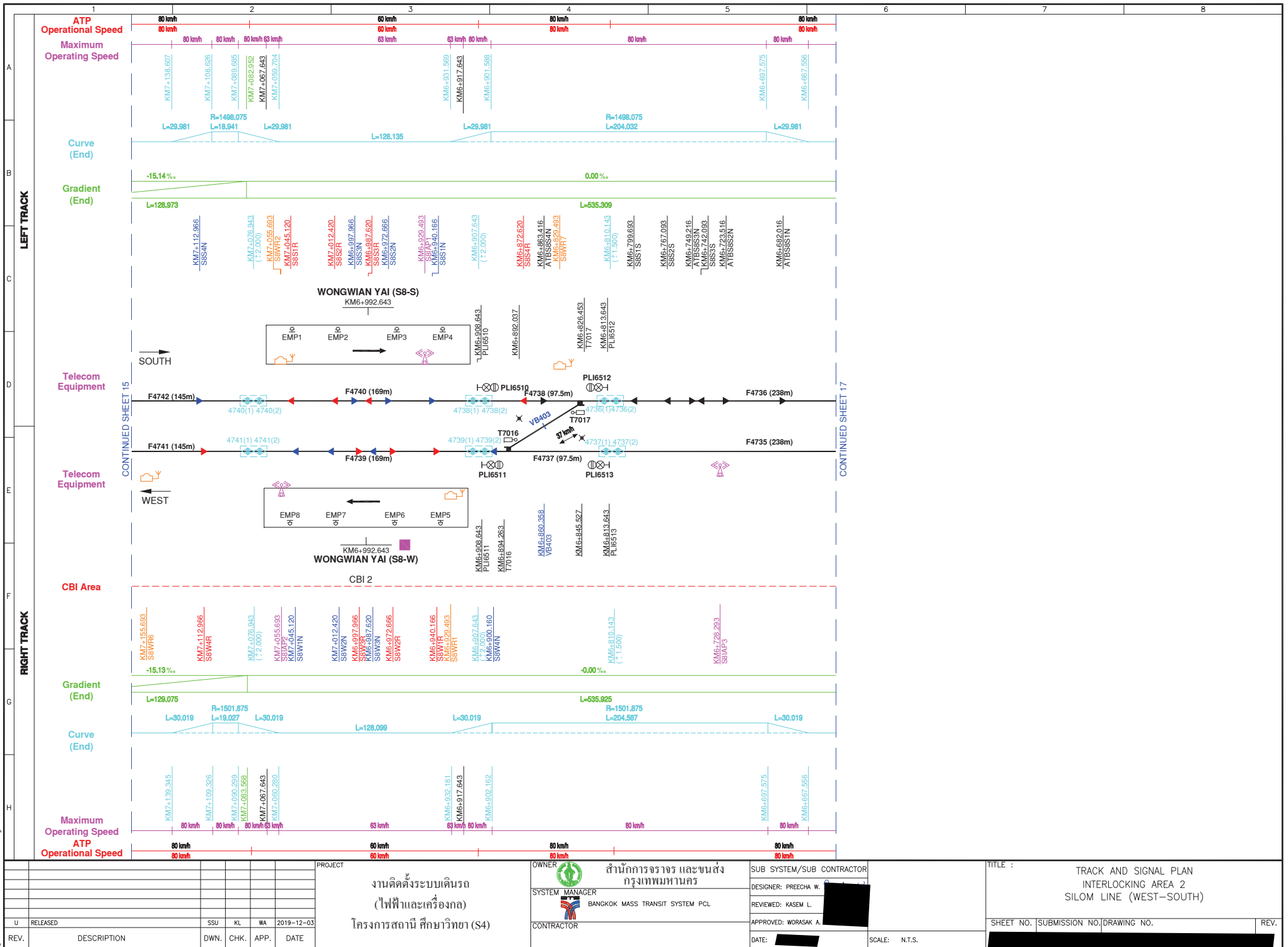
เอกสารกำหนดความเร็วของรถไฟฟ้าผ่านทางโค้งต่างๆ



[illegible]

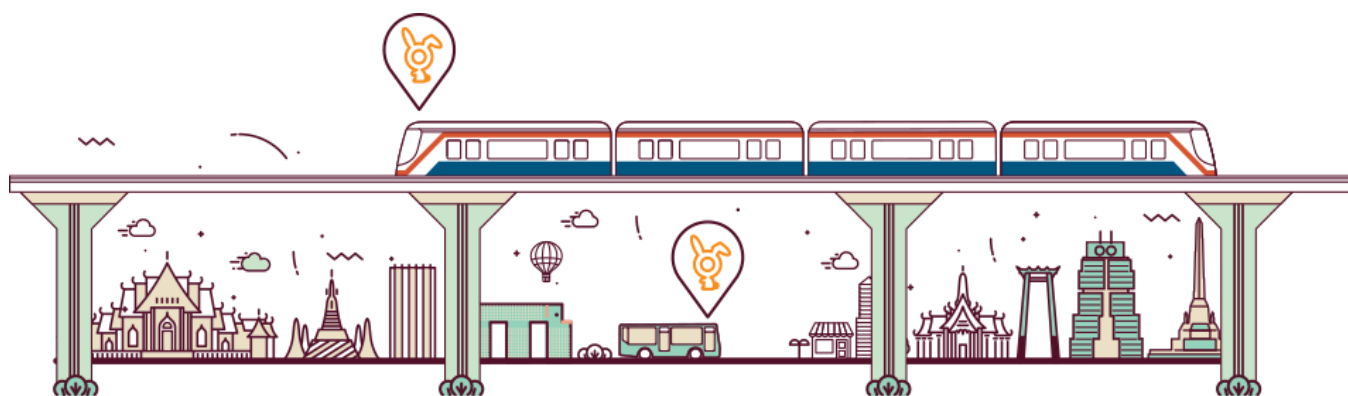


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## ภาคผนวก ข-3

ตัวอย่างใบเสร็จรับเงินส่งขยะมูลฝอยไปกำจัด





**ใบเสร็จรับเงิน** เลขที่ 6700029435 วันที่ 25 เมษายน 2567

สำนักงานเขต คลองสาน โทร 0 2437 5279, 0 2437 2309  
ที่อยู่สำนักงานเขต 861 ถนนลาดหญ้า แขวงคลองสาน เขตคลองสาน กรุงเทพมหานคร 10600

ชื่อผู้ชำระค่าธรรมเนียม สถานีรถไฟ BTS(S7)  
ที่อยู่ [REDACTED]

ปริมาณมูลฝอย  
มีค่าธรรมเนียมจัดการมูลฝอยประจำเดือน น.ค. 67-มี.ค. 67 เป็นจำนวนเงิน 900.00 บาท

รายละเอียดดังนี้

ลำดับ	รายการ	จำนวนเงิน (บาท)	เดือน	บาท	เดือน	บาท
1	ค่าเก็บและขนมูลฝอย	900.00	ค.ค.	-	เม.ย.	-
2	ค่ากำจัดมูลฝอย	.00	พ.ย.	-	พ.ค.	-
3			ธ.ค.	-	มี.ย.	-
			ม.ก.	300.00	ก.ค.	-
			ก.พ.	300.00	ส.ค.	-
			มี.ก.	300.00	ก.ย.	-
	รวมทั้งสิ้น (บาท)	900.00				

จำนวนเงินทั้งสิ้น ๙๐๐ บาทถ้วน

ช่องทางชำระเงิน (Payment) เงินสด

ผู้รับเงิน

พิมพ์เมื่อ 25 เมษายน 2567 เวลา 10:12 น.

ใบเสร็จรับเงินนี้จะสมบูรณ์เมื่อกรุงเทพมหานครเรียกเก็บเงินได้ครบถ้วนแล้ว  
\*กรุณาเก็บใบเสร็จไว้เพื่อเป็นหลักฐานการชำระเงินของท่าน\*

**ใบเสร็จรับเงิน** เลขที่ 6700029436 วันที่ 25 เมษายน 2567

สำนักงานเขต คลองสาน โทร 0 2437 5279, 0 2437 2309  
ที่อยู่สำนักงานเขต 861 ถนนลาดหญ้า แขวงคลองสาน เขตคลองสาน กรุงเทพมหานคร 10600

ชื่อผู้ชำระค่าธรรมเนียม สถานีรถไฟ BTS(S8)  
ที่อยู่ [REDACTED]

ปริมาณมูลฝอย  
มีค่าธรรมเนียมจัดการมูลฝอยประจำเดือน น.ค. 67-มี.ค. 67 เป็นจำนวนเงิน 900.00 บาท

รายละเอียดดังนี้

ลำดับ	รายการ	จำนวนเงิน (บาท)	เดือน	บาท	เดือน	บาท
1	ค่าเก็บและขนมูลฝอย	900.00	ค.ค.	-	เม.ย.	-
2	ค่ากำจัดมูลฝอย	.00	พ.ย.	-	พ.ค.	-
3			ธ.ค.	-	มี.ย.	-
			ม.ก.	300.00	ก.ค.	-
			ก.พ.	300.00	ส.ค.	-
			มี.ก.	300.00	ก.ย.	-
	รวมทั้งสิ้น (บาท)	900.00				

จำนวนเงินทั้งสิ้น ๙๐๐ บาทถ้วน

ช่องทางชำระเงิน (Payment) เงินสด

ผู้รับเงิน

พิมพ์เมื่อ 25 เมษายน 2567 เวลา 10:13 น.

ใบเสร็จรับเงินนี้จะสมบูรณ์เมื่อกรุงเทพมหานครเรียกเก็บเงินได้ครบถ้วนแล้ว  
\*กรุณาเก็บใบเสร็จไว้เพื่อเป็นหลักฐานการชำระเงินของท่าน\*

**ใบแจ้งหนี้ (ครั้งที่ 2)** เลขที่ 6700027851 วันที่ 14 พฤษภาคม 2567

สำนักงานเขต ธนบุรี โทร 0 2465 5662, 0 2465 5699  
ที่อยู่สำนักงานเขต 160 ถนนตอไทย แขวงบางเขิน เขตธนบุรี กรุงเทพมหานคร 10600

ชื่อผู้ชำระค่าธรรมเนียม BTS โพร้นิมิตร  
ที่อยู่ [REDACTED]

ปริมาณมูลฝอย  
มีค่าธรรมเนียมจัดการมูลฝอยประจำเดือน ค.ค. 66-พ.ค. 67 เป็นจำนวนเงิน 2,400 บาท

รายละเอียดดังนี้

ลำดับ	รายการ	จำนวนเงิน (บาท)	เดือน	บาท	เดือน	บาท
1	ค่าเก็บและขนมูลฝอย	2,400	ค.ค.	300	เม.ย.	300
2	ค่ากำจัดมูลฝอย	0	พ.ย.	300	พ.ค.	300
3			ธ.ค.	300	มี.ย.	-
			ม.ก.	300	ก.ค.	-
			ก.พ.	300	ส.ค.	-
			มี.ก.	300	ก.ย.	-
	รวมทั้งสิ้น (บาท)	2,400				

จำนวนเงินทั้งสิ้น สองพันสี่ร้อยบาทถ้วน

กรุณาชำระค่าธรรมเนียมภายในวันที่ 7 มิถุนายน 2567

ชำระผ่านธนาคารกรุงไทย Corp Code 98566

099400016044502 501621016700027851 080667155060112460 240000

QR Code ชำระค่าบริการผ่าน Mobile Banking

**ใบแจ้งหนี้** เลขที่ 6700025954 วันที่ 25 เมษายน 2567

สำนักงานเขต ธนบุรี โทร 0 2465 5662, 0 2465 5699  
ที่อยู่สำนักงานเขต 160 ถนนตอไทย แขวงบางเขิน เขตธนบุรี กรุงเทพมหานคร 10600

ชื่อผู้ชำระค่าธรรมเนียม BTS คลาดพลู บ.ชีพกฐิ จำกัด 32/2 หมู่ 3 ต.คูคด อ.เขตลาดกระบัง จ.ปทุมธานี  
ที่อยู่ [REDACTED]

ปริมาณมูลฝอย ทั่วไป 160.00 ลิตร/วัน  
มีค่าธรรมเนียมจัดการมูลฝอยประจำเดือน น.ค. 67-มี.ค. 67 เป็นจำนวนเงิน 960 บาท

รายละเอียดดังนี้

ลำดับ	รายการ	จำนวนเงิน (บาท)	เดือน	บาท	เดือน	บาท
1	ค่าเก็บและขนมูลฝอย	960	ค.ค.	-	เม.ย.	-
2	ค่ากำจัดมูลฝอย	0	พ.ย.	-	พ.ค.	-
3			ธ.ค.	-	มี.ย.	-
			ม.ก.	320	ก.ค.	-
			ก.พ.	320	ส.ค.	-
			มี.ก.	320	ก.ย.	-
	รวมทั้งสิ้น (บาท)	960				

จำนวนเงินทั้งสิ้น ๙๖๐ บาทถ้วน

กรุณาชำระค่าธรรมเนียมภายในวันที่ 19 พฤษภาคม 2567

ชำระผ่านธนาคารกรุงไทย Corp Code 98566

099400016044502 501621016700025954 200567155060111199 96000

QR Code ชำระค่าบริการผ่าน Mobile Banking





# ใบแจ้งหนี้

สำนักงานเขต  
ที่อยู่สำนักงานเขต

ธนบุรี  
160 ถนนตอกไทย แขวงบางยี่เรือ เขตธนบุรี กรุงเทพมหานคร 10600

เลขที่ 6700025953  
วันที่ 25 เมษายน 2567

ชื่อผู้ชำระค่าธรรมเนียม BTS วัฒนา ค.บ. ธิปไตย จำกัด 32/2 หมู่ 3 คลอด อำเภอลำลูกกา จ.ปทุมธานี  
ที่อยู่ [REDACTED]

ปริมาณมูลฝอยทั่วไป 160.00 ลิตร/วัน  
มีค่าธรรมเนียมจัดการมูลฝอยประจำเดือน ม.ค. 67-มี.ค. 67 เป็นจำนวนเงิน 960 บาท

รายละเอียดดังนี้

ลำดับ	รายการ	จำนวนเงิน (บาท)
1	ค่าเก็บและขนมูลฝอย	960
2	ค่ากำจัดมูลฝอย	0
3		
รวมทั้งสิ้น (บาท)		960

จำนวนเงินทั้งสิ้น ๙๖๐ บาท


กรุณาชำระค่าธรรมเนียมภายในวันที่ 19 พฤษภาคม 2567

ชำระผ่านธนาคารกรุงไทย Comp. Code 98566

099400016044502 501621016700025953 200567155060111200 96000



QR Code ชำระค่าบริการผ่าน Mobile Banking



ที่ กท ๖๐๐๖/

สำนักงานเขตภาษีเจริญ  
๔๖ ซอยเพชรเกษม ๕๔ ถนน ๑๐๓๖๐

เรื่อง แจ้งให้ชำระค่าธรรมเนียมเก็บและขนสิ่งปฏิกูลหรือมูลฝอย

เรียน บริษัท ซีอีฟ จำกัด เจ้าของหรือผู้ครอบครองอาคารเลขที่ วิภาวดี ๒๑ ถนน เพชรเกษม แขวง บางหว้า เขตภาษีเจริญ กรุงเทพมหานคร

ตามข้อบัญญัติกรุงเทพมหานคร เรื่อง ค่าธรรมเนียมการเก็บและขนสิ่งปฏิกูลหรือมูลฝอยตามกฎหมายว่าด้วยการสาธารณสุข พ.ศ. ๒๕๕๖ และข้อบัญญัติกรุงเทพมหานคร เรื่อง ค่าธรรมเนียมการเก็บและขนสิ่งปฏิกูลหรือมูลฝอยตามกฎหมายว่าด้วยการสาธารณสุข พ.ศ. ๒๕๕๔ (ฉบับที่ ๒) กำหนดให้ผู้มีหน้าที่เสียค่าธรรมเนียมเก็บและขนสิ่งปฏิกูลหรือมูลฝอย ชำระค่าธรรมเนียมตามที่กำหนดในบัญชีอัตราค่าธรรมเนียมท้ายข้อบัญญัติดังกล่าว ซึ่งสำนักงานเขตภาษีเจริญ กรุงเทพมหานคร ได้ประเมินปริมาณการทิ้งมูลฝอยจากบ้าน/อาคารเลขที่ดังกล่าวข้างต้น มีมูลฝอยไม่เกิน ..... ลิตร/วัน คิดเป็นค่าธรรมเนียมเก็บขนมูลฝอย อัตราเดือนละ ..... บาท ตั้งแต่เดือน พฤษภาคม ๒๕๖๖ ถึง กันยายน ๒๕๖๖ รวม ..... เดือน รวมเป็นเงินทั้งสิ้น ..... บาท (.....)

ดังนั้น จึงขอความร่วมมือจากท่าน ชำระค่าธรรมเนียมตามรายการดังกล่าว ภายใน ๑๕ วัน นับตั้งแต่วันที่ได้รับใบแจ้งหนี้ฉบับนี้ โดยนำไปชำระได้โดยตรงที่ฝ่ายรักษาความสะอาดและสวนสาธารณะ สำนักงานเขตภาษีเจริญ ถ้าชำระเป็นเช็คโปรดขีดพร้อมชื่อผู้ถือสั่งจ่าย "กรุงเทพมหานคร" หรือชำระโดยทางธนาคารสั่งจ่าย ไปธนาคาร ถึงหัวหน้าฝ่ายรักษาความสะอาดและสวนสาธารณะ สำนักงานเขตภาษีเจริญ เลขที่ ๔๖ ซอยเพชรเกษม ๕๔ แขวงบางหว้า เขตภาษีเจริญ กรุงเทพมหานคร รหัสไปรษณีย์ ๑๐๓๖๐ (รูปแบบของจกตมาแบบลำดับติดแสดงพร้อมจำนวนจำนำถึงตัวท่านเองมาด้วย เพื่อสำนักงานเขตภาษีเจริญได้ส่งใบเสร็จรับเงินให้ท่านทางไปรษณีย์)

หากประสงค์จะอุทธรณ์หรือโต้แย้งหนังสือฉบับนี้ ให้อุทธรณ์หรือโต้แย้งต่อผู้อำนวยการเขตภาษีเจริญภายใน ๑๕ วัน นับแต่วันที่ได้รับหนังสือฉบับนี้

จึงเรียนมาเพื่อโปรดทราบ และขอขอบคุณในความร่วมมือมา ณ โอกาสนี้

ขอแสดงความนับถือ

[REDACTED]

นางเนาวะสกุล ทองธัญวิรัตน์  
ผู้อำนวยการเขตภาษีเจริญ

ฝ่ายรักษาความสะอาดและสวนสาธารณะ

## ภาคผนวก ข-4

ตัวอย่างใบบันทึกการตรวจสอบสภาพรถไฟฟ้า  
ระบบห้ามล้อ และอื่นๆ





Effective Date: 01/09/2022



Funct.Location: GN-RST-083

EMU 83

RST:Y1



**Equipment:**

**Assembly:**

Priority: M Maintenance Activity

**Location:** EMU-083 Train # 83

Report by:

Serial No:

Person Resp.:

Order Finish Date: 05.02.2024

Mileage/Operating hours:	
--------------------------	--

Print Date-Time: 06.01.2024 15:24:03 ORIGINAL

**MAINTENANCE TASKS (รายละเอียดงานซ่อมบำรุง)**

Activity No.	Activity Description	Planned Start/Duration	ID Stamp
0080-0170	RMV-Yearly Maintenance Oil Gear Box	594149, 625029, 635551, 635557, 636066	667535
0080-0180	RMV-Yearly Maintenance Transmission coup	}	
0080-0190	RMV-Yearly Maintenance Air supply unit		664535
0080-0200	RMV-Yearly Maintenance Traction system		665592
0080-0210	RMV-Monthly Maintenance Gangway		666066
0080-0220	RMV-Monthly Maintenance Bogie Connection		667015
0080-0230	RMV-Monthly Maintenance Semipermanent co		667321
0080-0240	RMV-Monthly Maintenance Traction system		
0080-0250	RMV-6 Monthly Maintenance Air supply uni	}	
0080-0260	**Group3 Electrical System		
0080-0270	RMV-6 Monthly Maintenance ACM system		668029
0080-0280	RMV-6 Monthly Maintenance Battery and ba	}	668551
0080-0290	RMV-6 Monthly Maintenance Inter-Car Elec		668438
0080-0300	**Group4 Roof & Log data		
0080-0310	RMV-Weekly Maintenance TCMS and TDS logs	}	669697
0080-0320	RMV-3 Monthly Maintenance Air Condition		669556, 669679

EXCHANGED EQUIPMENT / REPLACEABLE UNITS (รายละเอียดการเปลี่ยนอุปกรณ์)

Material Description	SAP Material-No.	Qty	Serial No. of unit installed	Serial No. of unit removed	W*	O*	S*
Copper Gas ket 30x3/4x2		2					
Copper Ring 3/2x2 7/8x2		16					
Distilled water		12					
Oil shell Coreann		7					
HVC system-Air filter		16					
sticker Ener.Dar Pelose		30					

\*W=Repair in Workshop, O=Repair Outside, S=Scrap (Filled in by Shift Supervisor/Section Manager)  
FM-MTD-M18100-Z-006 Rev.04

Effective Date: 01/11/2022

Page 2 / 2



## Back Side Scheduled Work Order Form (PM work)

NOTES (บันทึกเพิ่มเติม)


**CONFIRMATION OF TIMES (ยืนยันเวลาการทำงาน)**

CONFIRMATION OF TIMES (เซ็นยืนยันเวลาการทำงาน)	Date	Time	Confirmed by	Signature / ID
Start of Productive Time / Access Time	26/02/2024	08:00		594149
End of Productive Time / Fit for Operations	27/02/2024	04:00		635556
Duration of Productive Time		1050 min		
Confirmation of Waiting Time		min		

MAINTENANCE ACTIVITY TYPE (ผู้รับผิดชอบค่าซ่อมฯ): ☐ BTS Cost (110) ☐ OTHER (Please specify) (\_\_\_\_\_)

## TIME PER ACTIVITY (บันทึกเวลาการทำงาน) (Table 1 of \_\_\_\_\_)

[illegible]

Owner verified by:

Tappitok P.

Date:

28/02/2024

MCCS Sign:

656525

Date:

ate: 1 1 0 3 2 4

FM-MTD-M18110-Z-003 Rev.02

Effective Date: 01/09/2022





# EMU B3 Handover Checklist

EMU..... ๕๓

Work Order No..... 600593219

Shift..... E05

Work Description..... 1 Year (G2 + G3)

EMU B3.	Wo.	Track/Location			
Description		Status			
1. Make sure no worker working under bogie in the pit.* ตรวจสอบให้มั่นใจว่าไม่มีการทำงานด้านล่างของรถ*		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
2. Both Mechanical Automatic couplers are closed position. หัวคัปพ่วงทางกลทั้งสองอยู่ในตำแหน่งปกติ		✓	✓	✓	✓
		Mc2	Mc1		
3. Traction safety switch is turned on position for T1 car and T2 car.* สวิตช์ Traction safety อยู่ในตำแหน่ง ON สำหรับตู้ T1 และ T2 *		✓	✓	✓	✓
		T2	T1		
4. Main power switch, stinger cover are in normal position.* สวิตช์สับไฟ และ ฟาปัดสตริงเจอร์ ทั้งหมดยกอยู่ในตำแหน่งปกติ*		✓	✓	✓	✓
		Mc2	Mc1		
5. All cover of cabinet under frame are in stalled and locked.* ฝาครอบตู้ทั้งหมดด้านล่างขบวนรถ ได้ถูกติดตั้งและล็อกอย่างเรียบร้อยแล้ว*		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
6. Check Compressor start (Start both unit)/Main air reservoir and Battery volt meter. ตรวจสอบการทำงานของปั๊มลม (สามารถทำงานพร้อมกัน 2 ตัวได้) /แรงดัน ถังลมหลัก และแรงเคลื่อนแบตเตอรี่	Compressor	Main Air		Battery	
	Start both units	(Bar)		(Volt)	
	T1 T2	T1 T2	T1 T2	T1 T2	
		✓	✓	60 10	120 120
7. Isolation cock B09 are in open position, (Check status Brake Cutout lamp No.48 must not be illuminated.) Isolation cock B09 ต้องอยู่ในตำแหน่งเปิด ( ตรวจสอบไฟแสดงสถานะ Brake Cutout หมายเลข 48 ต้องไม่ติดสว่าง )		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
8. Wind shield wiper, Wind shield washer (water) as working. ใบปัดน้ำฝน น้ำฉีดล้างกระจกทำงานปกติ		✓	✓	✓	✓
		Mc2	Mc1		
9. All bypass switch in both driving cab not bypass and sealed. Bypass switch ทั้งหมด ในห้องขับทั้งคู่ จะต้องไม่ถูก Bypass และถูก Sealed		✓	✓	✓	✓
		Mc2	Mc1		
10. Logging TDS Data (TCMS System). เก็บบันทึกข้อมูลจาก TDS Data		✓	✓	✓	✓
		Read out	Not read out		
11. Used access key opening cab side door both side and check rail door are moving smoothly. เปิดประตูคนขับด้วย access key ทั้งสองด้าน และตรวจสอบการเลื่อนของประตูว่าติดขัดหรือไม่		✓	✓	✓	✓
		Mc2	Mc1		
12. Opening cab to saloon door both side and check door are moving smoothly. เปิดประตูทางเข้าห้องผู้โดยสารทั้งสองด้าน และตรวจสอบการเปิด-ปิดของประตูว่าติดขัดหรือไม่		✓	✓	✓	✓
		Mc2	Mc1		
13. Turn on driver cab light and driver desk light and saloon light. เปิดระบบไฟส่องสว่างในห้องคนขับและไฟส่องสว่างที่โต๊ะคนขับ รวมทั้งในห้องผู้โดยสาร		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
14. Inspection driver desk equipments and attendant side shut as PB Switch, selector switch, head/tail light are illuminated. ตรวจสอบปุ่มกด และสวิตช์ต่างๆ อยู่ในสภาพปกติ		✓	✓	✓	✓
		Mc2	Mc1		

EMU B3.	Wo.	Track/Location			
Description		Status			
15. Press function lamp test No.17 control panel for checking illuminate of lamp. กดปุ่ม Lamp Test หมายเลข 17 บริเวณ control panel เพื่อตรวจสอบระบบไฟว่าติดหรือไม่		✓	✓	✓	✓
		Mc2	Mc1		
16. Check Air conditioning and Ventilation system. ตรวจสอบระบบทำความเย็น และระบบระบายอากาศ		✓	✓	✓	✓
		Mc2	Mc1		
17. Function test Train radio equipment PA, PIS System, Microphone, loud speaker. ทดสอบการทำงานของอุปกรณ์ติดต่อสื่อสาร เช่น ลำโพง และ ไมโครโฟนทำงานปกติหรือไม่		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
18. Dynamic route map is working corrected. ระบบแสดงเส้นทางเดินรถทำงานปกติ ถูกต้องตามการประกาศชื้อสถานี		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
19. Make function of brake self test. (No fault) ทำการ Brake self test แล้ว ไม่พบความผิดปกติ		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
20. Check fire Extinguisher, Wheelchair and safety belt are fitted at locker. ตรวจสอบเครื่องดับเพลิง, รถเข็นสำหรับคนพิการ และเข็มขัดนิรภัยอยู่ในตำแหน่งล็อกสนิท และอยู่ ครบตามจำนวน		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
21. Check the passenger door's function that can open and close normally. ตรวจสอบการเปิดและปิดประตูว่าทำงานเป็นปกติ		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
22. Check PER normal position (sticker not cut). PER ประคูดอยู่ในตำแหน่งปกติ สติกเกอร์ไม่ฉีกขาด		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
23. Inspection the cabinet locker are fixed not loosed. ตรวจสอบชุดล็อกของตู้ในห้องผู้โดยสารยึดแน่นทุกตัว		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
24. Destination sign is working. ระบบแจ้งทิศทางการเดินทางรถอัตโนมัติทำงานปกติ		✓	✓	✓	✓
		Mc2	Mc1		
25. Signal lamp (red and orange) are not illuminated. ไฟสัญญาณด้านข้าง (สีแดงและเหลือง) ไม่ติด		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
26. Check tighten of complement in the passenger saloon. ตรวจสอบความแน่นหนาของส่วนอุปกรณ์ภายในห้องโดยสาร		✓	✓	✓	✓
		Mc2	T2	T1	Mc1
Mileage..... 460054					
625029		668555			
Technician or Engineer		Shift Leader		QC & QA Engineer	
Date 22/02/2024		Date 22/2/24		Date 01/03/24	
Time: 15:00		16:00		11:00	

\*Note:Item 1,3,4,5 are not applicable when the train is stabled at Stabling Area

\*Note:หัวข้อที่ 1,3,4,5 ไม่ต้องปฏิบัติ เมื่อรถไฟจอดที่ Stabling Area

EMU B3





# EMU B3 Handover Checklist

EMU.....83

Work Order No. 600597219

Shift E-05

Work Description.....1 Year (Maintenance Oil Gear Box)

EMU B3.		Wo.		Track/Location			
Description				Status			
1. Make sure no worker working under bogie in the pit.* ตรวจสอบให้มั่นใจว่าไม่มีการทำงานด้านล่างของรถ*				Mc2	T2	T1	Mc1
2. Both Mechanical Automatic couplers are closed position. หัวคัปพ่วงทางกลทั้งสองอยู่ในตำแหน่งปกติ				Mc2		Mc1	
3. Traction safety switch are turned on position for T1 car and T2 car.* สวิตช์ Traction safety อยู่ในตำแหน่ง ON สำหรับตู้ T1 และ T2 *				T2		T1	
4. Main power switch, stinger cover are in normal postion.* สวิตช์สับไฟ และ ฝาปิดสติงเจอร์ ทั้งหมดอยู่ในตำแหน่งปกติ*				Mc2		Mc1	
5. All cover of cabinet under frame are in stalled and locked.* ฝาครอบตู้ทั้งหมดด้านล่างขบวนรถ ได้ถูกติดตั้งและล็อกอย่างเรียบร้อยแล้ว*				Mc2	T2	T1	Mc1
6. Check Compressor start (Start both unit)/Main air reservoir and Battery volt meter.  ตรวจการทำงานของปั้มลม (สามารถทำงานพร้อมกัน 2 ตัวได้)  /แรงดัน ถังลมหลัก และแรงเคลื่อนแบตเตอรี่		Compressor	Main Air		Battery		
		Start both units	(Bar)		(Volt)		
		T1	T2	T1	T2	T1	T2
				9.9	9.4	120	120
7. Isolation cock B09 are in open position.  (Check status Brake Cutout lamp No.48 must not be illuminated. )  Isolation cock B09 ต้องอยู่ในตำแหน่งเปิด  ( ตรวจสอบไฟแสดงสถานะ Brake Cutout หมายเลข 48 ต้องไม่ติดสว่าง )				Mc2	T2	T1	Mc1
8. Wind shield wiper, Wind shield washer (water) as working.  ใบปัดน้ำฝน น้ำฉีดล้างกระจกทำงานปกติ				Mc2		Mc1	
9. All bypass switch in both driving cab not bypass and sealed.  Bypass switch ทั้งหมด ในห้องขับทั้งคู่ จะต้องไม่ถูก Bypass และถูก Sealed				Mc2		Mc1	
10. Logging TDS Data (TCMS System).  เก็บบันทึกข้อมูลจาก TDS Data				Read out		Not read out	
11. Used access key opening cab side door both side and check rail door are moving smoothly.  เปิดประตูคนขับด้วย access key ทั้งสองด้าน และตรวจสอบการเลื่อนของประตูว่าติดขัดหรือไม่				Mc2		Mc1	
12. Opening cab to saloon door both side and check door are moving smoothly.  เปิดประตูทางเข้าห้องผู้โดยสารทั้งสองด้าน และตรวจสอบการเปิด-ปิดของประตูว่าติดขัดหรือไม่				Mc2		Mc1	
13. Tum on driver cab light and driver desk light and saloon light.  เปิดระบบไฟส่องสว่างในห้องคนขับและไฟส่องสว่างที่โต๊ะคนขับ รวมทั้งในห้องผู้โดยสาร				Mc2	T2	T1	Mc1
14. Inspection driver desk equipments and attendant side shut as PB Switch, selector switch, head/tail light are illuminated.  ตรวจสอบปุ่มกด และสวิตช์ต่างๆ อยู่ในสภาพปกติ				Mc2		Mc1	

EMU B3. Wo.		Track/Location			
Description		Status			
15. Press function lamp test No.17 control panel for checking illuminate of lamp. กดปุ่ม Lamp Test หมายเลข 17 บริเวณ control panel เพื่อตรวจสอบระบบไฟว่าติดหรือไม่		<div><div></div></div> Mc2		<div><div></div></div> Mc1	
16.Check Air conditioning and Ventilation system. ตรวจสอบระบบทำความเย็น และระบบระบายอากาศ		<div><div></div></div> Mc2		<div><div></div></div> Mc1	
17. Function test Train radio equipment PA, PIS System, Microphone, loud speaker. ทดสอบการทำงานของอุปกรณ์ติดต่อสื่อสาร เช่น ลำโพง และ ไมโครโฟนทำงานปกติหรือไม่		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
18. Dynamic route map is working corrected. ระบบแสดงเส้นทางเดินรถทำงานปกติ ถูกต้องตามการประกาศชื่อสถานี		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
19. Make function of brake self test. (No fault) ทำการ Brake self test แล้ว ไม่พบความผิดปกติ		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
20. Check fire Extinguisher, Wheelchair and safety belt are fitted at locker. ตรวจสอบเครื่องดับเพลิง, รถเข็นสำหรับคนพิการ และเข็มขัดนิรภัยอยู่ในตำแหน่งล็อกสนิท และอยู่ ครบตามจำนวน		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
21. Check the passenger door's function that can open and close normally. ตรวจสอบการเปิดและปิดประตูว่าทำงานเป็นปกติ		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
22. Check PER normal position (sticker not cut). PER ประตูอยู่ในตำแหน่งปกติ สติกเกอร์ไม่ฉีกขาด		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
23. Inspection the cabinet locker are fixed not loosed. ตรวจสอบชุดล็อกของตู้ในห้องผู้โดยสารยึดแน่นทุกตัว		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
24. Destination sign is working. ระบบแจ้งทิศทางการเดินรถอัตโนมัติทำงานปกติ		<div><div></div></div> Mc2		<div><div></div></div> Mc1	
25. Signal lamp (red and orange) are not illuminated. ไฟสัญญาณด้านข้าง (สีแดงและเหลือง) ไม่ติด		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
26. Check tighten of complement in the passenger saloon. ตรวจสอบความแน่นหนาของส่วนอุปกรณ์ภายในห้องโดยสาร		<div><div></div></div> Mc2	<div><div></div></div> T2	<div><div></div></div> T1	<div><div></div></div> Mc1
Mileage.....410049					
625029		668506		<div></div>	
Technician or Engineer		Shift Leader		QC & QA Engineer	
Date 26 / 02 / 24		Date 26 / 02 / 24		Date 07 / 03 / 24	
Time: 14:00		15:30		11:31	
EMU B3					

\*Note:Item 1,3,4,5 are not applicable when the train is stabled at Stabling Area

\*Note:หัวข้อที่ 1,3,4,5 ไม่ต้องปฏิบัติ เมื่อรถไฟฟ้าจอดที่ Stabling Area





# EMU B3 Handover Checklist

EMU.....83.....

Work Order No.....600597219.....

Shift.....E17.....

Work Description.....1 Yearly Inspection (G1+G4).....

EMU B3.	Wo.	Track/Location			
Description		Status			
1. Make sure no worker working under bogie in the pit.* ตรวจสอบให้มั่นใจว่าไม่มีการทำงานด้านล่างของรถ*		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
2. Both Mechanical Automatic couplers are closed position. หัวต่อทางกลทั้งสองอยู่ในตำแหน่งปกติ		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
3. Traction safety switch are turned on position for T1 car and T2 car.* สวิตช์ Traction safety อยู่ในตำแหน่ง ON สำหรับตู้ T1 และ T2 *		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		T2	T1		
4. Main power switch, stinger cover are in normal position.* สวิตช์สับไฟ และ ฟาปัสติงเจอร์ ทั้งหมดอยู่ในตำแหน่งปกติ*		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
5. All cover of cabinet under frame are in stalled and locked.* ฝาครอบตู้ทั้งหมดด้านล่างขบวนรถ ได้ถูกติดตั้งและล็อกอย่างเรียบร้อยแล้ว*		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
6. Check Compressor start (Start both unit)/Main air reservoir and Battery volt meter. ตรวจสอบการทำงานของปั๊มลม (สามารถทำงานพร้อมกัน 2 ตัวได้) /แรงดัน ถังลมหลัก และแรงเคลื่อนแบตเตอรี่	Compressor	Main Air		Battery	
	Start both units	(Bar)		(Volt)	
	T1 T2	T1	T2	T1	T2
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	10	10 120 120
7. Isolation cock B09 are in open position, (Check status Brake Cutout lamp No.48 must not be illuminated, ) Isolation cock B09 ต้องอยู่ในตำแหน่งเปิด ( ตรวจสอบไฟแสดงสถานะ Brake Cutout หมายเลข 48 ต้องไม่ติดสว่าง )		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
8. Wind shield wiper, Wind shield washer (water) as working. ใบปัดน้ำฝน น้ำฉีดล้างกระจกทำงานปกติ		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
9. All bypass switch in both driving cab not bypass and sealed. Bypass switch ทั้งหมด ในห้องขับทั้งคู่ จะต้องไม่ถูก Bypass และถูก Sealed		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
10. Logging TDS Data (TCMS System). เก็บบันทึกข้อมูลจาก TDS Data		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Read out	Not read out		
11. Used access key opening cab side door both side and check rail door are moving smoothly. เปิดประตูคนขับด้วย access key ทั้งสองด้าน และตรวจสอบการเลื่อนของประตูว่าติดขัดหรือไม่		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
12. Opening cab to saloon door both side and check door are moving smoothly. เปิดประตูทางเข้าห้องผู้โดยสารทั้งสองด้าน และตรวจสอบการเปิด-ปิดของประตูว่าติดขัดหรือไม่		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
13. Turn on driver cab light and driver desk light and saloon light. เปิดระบบไฟส่องสว่างในห้องคนขับและไฟส่องสว่างที่โต๊ะคนขับ รวมทั้งในห้องผู้โดยสาร		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
14. Inspection driver desk equipments and attendant side shut as PB Switch, selector switch, head/tail light are illuminated. ตรวจสอบปุ่มกด และสวิตช์ต่างๆ อยู่ในสภาพปกติ		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		

EMU B3.	Wo.	Track/Location			
Description		Status			
15. Press function lamp test No.17 control panel for checking illuminate of lamp. กดปุ่ม Lamp Test หมายเลข 17 บริเวณ control panel เพื่อตรวจสอบระบบไฟว่าติดหรือไม่		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
16. Check Air conditioning and Ventilation system. ตรวจสอบระบบทำความเย็น และระบบระบายอากาศ		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
17. Function test Train radio equipment PA, PIS System, Microphone, loud speaker. ทดสอบการทำงานของอุปกรณ์ติดต่อสื่อสาร เช่น ลำโพง และ ไมโครโฟนทำงานปกติหรือไม่		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
18. Dynamic route map is working corrected. ระบบแสดงเส้นทางเดินรถทำงานปกติ ถูกต้องตามการประกาศชื่อก่อน		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
19. Make function of brake self test. (No fault) ทำการ Brake self test แล้ว ไม่พบความผิดปกติ		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
20. Check fire Extinguisher, Wheelchair and safety belt are fitted at locker. ตรวจสอบถังดับเพลิง, รถเข็นสำหรับคนพิการ และเข็มขัดนิรภัยอยู่ในตำแหน่งล็อกสนิท และอยู่ ครบตามจำนวน		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
21. Check the passenger door's function that can open and close normally. ตรวจสอบการเปิดและปิดประตูผู้โดยสารเป็นปกติ		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
22. Check PER normal position (sticker not cut). PER ประคูดอยู่ในตำแหน่งปกติ สติกเกอร์ไม่ฉีกขาด		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
23. Inspection the cabinet locker are fixed not loosed. ตรวจสอบชุดล็อกของตู้ในห้องผู้โดยสารยึดแน่นทุกตัว		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
24. Destination sign is working. ระบบแจ้งทิศทางการเดินทางรถอัตโนมัติทำงานปกติ		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	Mc1		
25. Signal lamp (red and orange) are not illuminated. ไฟสัญญาณด้านข้าง (สีแดงและเหลือง) ไม่ติด		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
26. Check tighten of complement in the passenger saloon. ตรวจสอบความแน่นหนาของส่วนอุปกรณ์ภายในห้องโดยสาร		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
		Mc2	T2	T1	Mc1
Mileage.....460260.....					
696067		65933			
Technician or Engineer		Shift Leader		QC & QA Engineer	
Date 29/02/24		Date 29/02/24		Date 01/03/24	
Time: 05:00		05:00		11:31	

\*Note:Item 1,3,4,5 are not applicable when the train is stabled at Stabling Area

\*Note:หัวข้อที่ 1,3,4,5 ไม่ต้องปฏิบัติ เมื่อรถไฟฟ้าจอดที่ Stabling Area

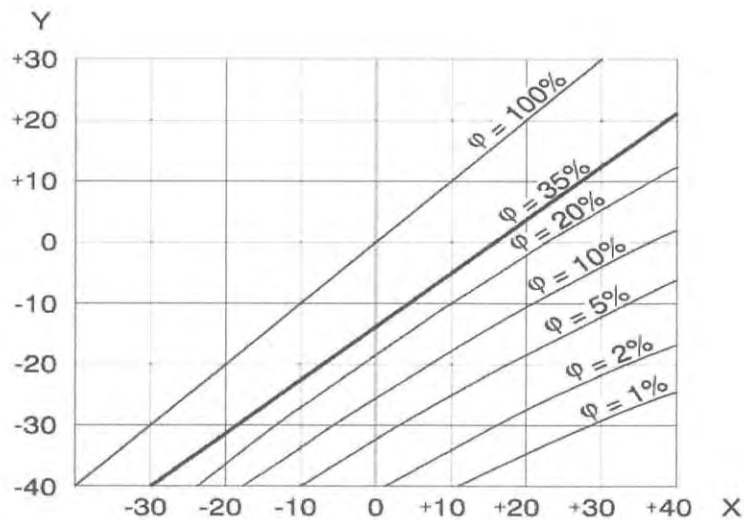
EMU B3

# RMV-Checking the dew point of air supply EMU-B

EMU 83

Wo. 60597219

Date 26 / 02 / 2024



C 13381/7

X Ambient temperature (°C)

φ Relative humidity (%)

Y Pressure dew point (°C)

ตารางแสดงความสัมพันธ์ ระหว่าง Pressure dew point, อุณหภูมิ และความชื้น

Location (CAR No)	Serial No. (Air dryer)	Ambient Temperature	Measured pressure dew-	Function G/NG	ID Stamp
2883	0151547871	31°	-35.0	0.7	635551
2983	0151514671	31°	-35.8	0.65	667535



# RMV-Visual Check Brake Disc EMU-B

EMU: 83

Date: 24/02/04

Mileage: 460054

18_BG1	Disc 1	Disc 2	Remark
Axle 1	O	O	
Axle 2	O	O	

18_BG2	Disc 1	Disc 2	Remark
Axle 3	O	O	
Axle 4	O	O	

28_BG1	Disc 1	Disc 2	Remark
Axle 5	O	O	
Axle 6	O	O	

28_BG2	Disc 1	Disc 2	Remark
Axle 7	O	O	
Axle 8	O	O	

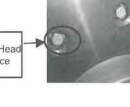
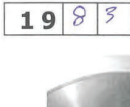
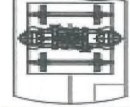
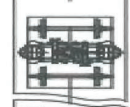
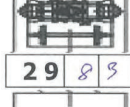
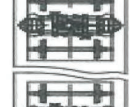
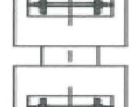
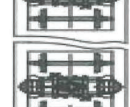
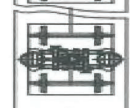
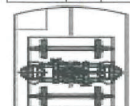
29_BG2	Disc 1	Disc 2	Remark
Axle 9	O	O	
Axle 10	O	O	

29_BG1	Disc 1	Disc 2	Remark
Axle 11	O	O	
Axle 12	O	O	

3_BG2	Disc 1	Disc 2	Remark
Axle 13	O	O	
Axle 14	O	O	

19_BG1	Disc 1	Disc 2	Remark
Axle 15	O	O	
Axle 16	O	O	

1 8 8 3



Check by: 522321

18_BG1	Disc 1	Disc 2	Remark
Axle 1	O	O	
Axle 2	O	O	

18_BG2	Disc 1	Disc 2	Remark
Axle 3	O	O	
Axle 4	O	O	

28_BG1	Disc 1	Disc 2	Remark
Axle 5	O	O	
Axle 6	O	O	

28_BG2	Disc 1	Disc 2	Remark
Axle 7	O	O	
Axle 8	O	O	

29_BG2	Disc 1	Disc 2	Remark
Axle 9	O	O	
Axle 10	O	O	

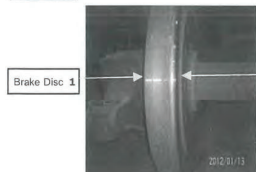
29_BG1	Disc 1	Disc 2	Remark
Axle 11	O	O	
Axle 12	O	O	

19_BG2	Disc 1	Disc 2	Remark
Axle 13	O	O	
Axle 14	O	O	

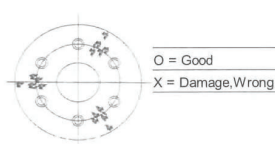
19_BG1	Disc 1	Disc 2	Remark
Axle 15	O	O	
Axle 16	O	O	

1 9 8 3

Remark



Brake Disc 2  
Check the fastening Hex Head Bolt and crack of surface



FM-MTD-M91500-E-011 Rev.01  
Effective Date : 01/11/2022

# RMV-Visual Check Wheel Profile EMU-B

EMU: 83

Date: 27/12/2024

Milage: 460054

18_BG1	Wheel	Remark
Axle 1	O	
Axle 2	O	

18_BG2	Wheel	Remark
Axle 3	O	
Axle 4	O	

28_BG1	Wheel	Remark
Axle 5	O	
Axle 6	O	

28_BG2	Wheel	Remark
Axle 7	O	
Axle 8	O	

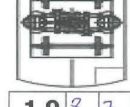
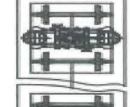
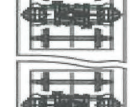
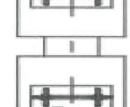
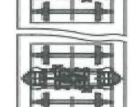
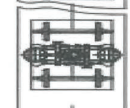
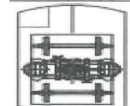
29_BG2	Wheel	Remark
Axle 9	O	
Axle 10	O	

29_BG1	Wheel	Remark
Axle 11	O	
Axle 12	O	

19_BG2	Wheel	Remark
Axle 13	O	
Axle 14	O	

19_BG1	Wheel	Remark
Axle 15	O	
Axle 16	O	

1 8 8 3



Check by: 667535

18_BG1	Wheel	Remark
Axle 1	O	
Axle 2	O	

18_BG2	Wheel	Remark
Axle 3	O	
Axle 4	O	

28_BG1	Wheel	Remark
Axle 5	O	
Axle 6	O	

28_BG2	Wheel	Remark
Axle 7	O	
Axle 8	O	

29_BG2	Wheel	Remark
Axle 9	O	
Axle 10	O	

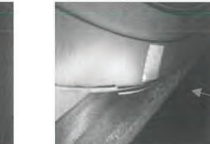
29_BG1	Wheel	Remark
Axle 11	O	
Axle 12	O	

19_BG2	Wheel	Remark
Axle 13	O	
Axle 14	O	

19_BG1	Wheel	Remark
Axle 15	O	
Axle 16	O	

1 9 8 3

Remark



O = Good  
X = Damage,Wrong

Damage

FM-MTD-M91500-E-014 Rev.01  
Effective date : 01/11/2022

# RMV-Visual Check Brake Pad EMU-B

EMU: 83

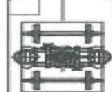
Date: 27/12/2014

Mileage: 46054

18 8 3

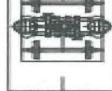
Check by: 669535

18 BG1	OUT	IN	Remark
Axle 1	0	0	
Axle 2	0	0	



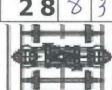
Remark	IN	OUT	18 BG1
	0	0	Axle 1
	0	0	Axle 2

18 BG2	OUT	IN	Remark
Axle 3	0	0	
Axle 4	0	0	



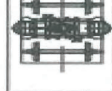
Remark	IN	OUT	18 BG2
	0	0	Axle 3
	0	0	Axle 4

28 BG1	OUT	IN	Remark
Axle 5	0	0	
Axle 6	0	0	



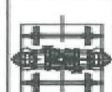
Remark	IN	OUT	28 BG1
	0	0	Axle 5
	0	0	Axle 6

28 BG2	OUT	IN	Remark
Axle 7	0	0	
Axle 8	0	0	



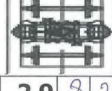
Remark	IN	OUT	28 BG2
	0	0	Axle 7
	0	0	Axle 8

29 BG2	OUT	IN	Remark
Axle 9	0	0	
Axle 10	0	0	



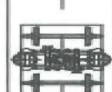
Remark	IN	OUT	29 BG2
	0	0	Axle 9
	0	0	Axle 10

29 BG1	OUT	IN	Remark
Axle 11	0	0	
Axle 12	0	0	



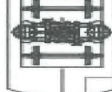
Remark	IN	OUT	29 BG1
	0	0	Axle 11
	0	0	Axle 12

19 BG2	OUT	IN	Remark
Axle 13	0	0	
Axle 14	0	0	



Remark	IN	OUT	19 BG2
	0	0	Axle 13
	0	0	Axle 14

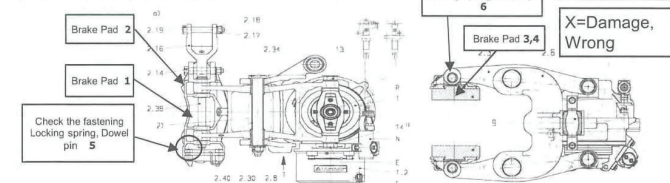
19 BG1	OUT	IN	Remark
Axle 15	0	0	
Axle 16	0	0	



Remark	IN	OUT	19 BG1
	0	0	Axle 15
	0	0	Axle 16

Remark

Check Brake Pad follow the figure



FM-MTD-M91500-E-012 Rev.01 Effective date : 01/11/2022

# RMV-Visual Check Piping System EMU-B

EMU: 83

Date: 27/02/14

Mileage: 460054

18 8 3

Check by: 656739



Pipe to Brake Cylinder



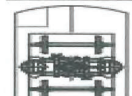
Pipe to Current Collector Shoe



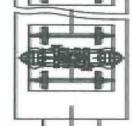
Pipe of Body to Bogie



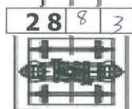
Pipe Car to Car



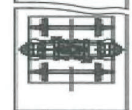
Pipe to Brake Cylinder	0	18 BG1
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Other		



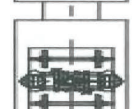
Pipe to Brake Cylinder	0	18 BG2
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Pipe Car to Car	0	
Other		



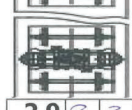
Pipe to Brake Cylinder	0	28 BG1
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Other		



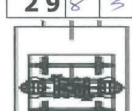
Pipe to Brake Cylinder	0	28 BG2
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Pipe Car to Car	0	
Other		



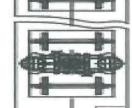
Pipe to Brake Cylinder	0	29 BG2
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Other		



Pipe to Brake Cylinder	0	29 BG1
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Pipe Car to Car	0	
Other		



Pipe to Brake Cylinder	0	19 BG2
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Other		

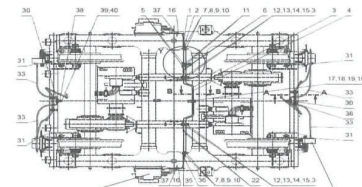


Pipe to Brake Cylinder	0	19 BG1
Pipe to Current Collector Shoe	0	Remark
Pipe of Body to Bogie	0	
Other		

Remark

O = Good

X = Leakage, Wrong



FM-MTD-M91500-E-013 Rev.01

Effective date : 01/11/2022





# RMV-Measuring Brake Disc Depth Of Wear EMUB3

EMU: 83

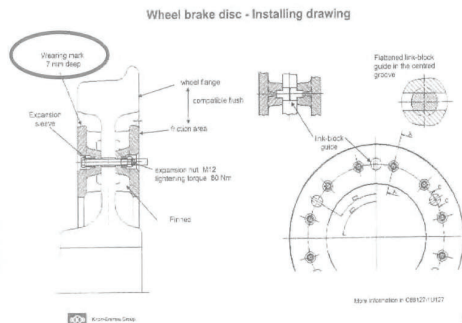
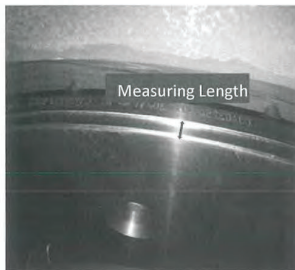
Date: 26/2/24

Mileage: 460054

Check by: 665535 522321

Axle No.	Outside(mm.)	Inside (mm.)	Car No.	Inside(mm.)	Outside (mm.)	Axle No.
Axle16	7.0	7.0	19	6.9	6.9	Axle16
Axle15	6.9	6.9		7.0	7.0	Axle15
Axle14	6.8	6.7		7.0	7.0	Axle14
Axle13	6.9	6.9		7.0	7.0	Axle13
Axle12	7.0	7.0	29	7.0	7.0	Axle12
Axle11	7.0	7.0		7.0	7.0	Axle11
Axle10	7.0	7.0		7.0	7.0	Axle10
Axle9	7.0	7.0		7.0	7.0	Axle9
Axle8	7.0	7.0	28	7.0	7.0	Axle8
Axle7	7.0	7.0		6.8	6.9	Axle7
Axle6	7.0	7.0		7.0	7.0	Axle6
Axle5	7.0	7.0		7.0	7.0	Axle5
Axle4	7.0	7.0	18	7.0	7.0	Axle4
Axle3	6.9	6.9		6.9	6.9	Axle3
Axle2	7.0	7.0		6.9	6.9	Axle2
Axle1	6.9	6.9		6.9	6.9	Axle1

Attention!  
Please measure brake disc depth as following the arrow in the picture below. Furthermore the maximum brake disc thick is 7 mm.



EMU: 83

Mileage: 460054

# RMV-Measuring Brake Pad EMU-B

Date: 28/2/24

Measuring by: 665535 522321

18_BG1	1	2	3	4	B-Side
Dimension	3480	3477	3458	3429	mm.
Dimension	3480	3485	3480	3458	mm.

18_BG2	1	2	3	4	B-Side
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

28_BG1	1	2	3	4	B-Side
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

28_BG2	1	2	3	4	B-Side
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

29_BG2	1	2	3	4	A-Side
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

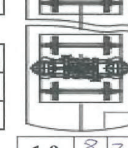
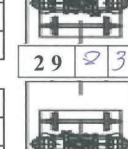
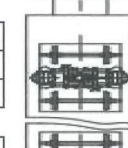
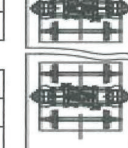
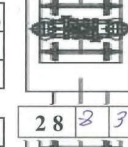
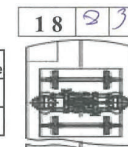
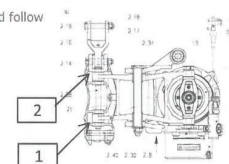
29_BG1	1	2	3	4	A-Side
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

19_BG2	1	2	3	4	A-Side
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

19_BG1	1	2	3	4	A-Side
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

## Remark

Measuring Brake Pad follow the figure



A-Side	1	2	3	4	18_BG1
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

A-Side	1	2	3	4	18_BG2
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

A-Side	1	2	3	4	28_BG1
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

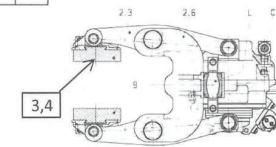
A-Side	1	2	3	4	28_BG2
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

B-Side	1	2	3	4	29_BG2
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

B-Side	1	2	3	4	29_BG1
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

B-Side	1	2	3	4	19_BG2
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.

B-Side	1	2	3	4	19_BG1
Dimension	3480	3485	3480	3458	mm.
Dimension	3480	3485	3480	3458	mm.



## RMV-Measuring Ground Brush EMU-B

Purpose to : Measuring wearing out of Ground brush

EMU: 83

Date: 22/02/2024

Milage: 460054

18\_\_ BG1 B-Side  
Distance (r) 51.1 mm.  
Replace ☐

18\_\_ BG2 B-Side  
Distance (r) 51.6 mm.  
Replace ☐

28\_\_ BG1 B-Side  
Distance (r) 51.8 mm.  
Replace ☐

28\_\_ BG2 B-Side  
Distance (r) \_\_\_\_\_ mm.  
Replace ☐

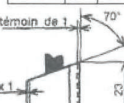
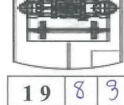
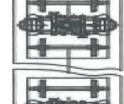
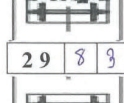
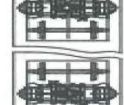
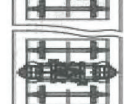
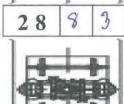
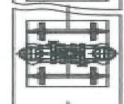
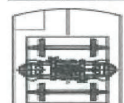
29\_\_ BG2 A-Side  
Distance (r) 51.6 mm.  
Replace ☐

29\_\_ BG1 A-Side  
Distance (r) \_\_\_\_\_ mm.  
Replace ☐

19\_\_ BG2 A-Side  
Distance (r) 51.8 mm.  
Replace ☐

19\_\_ BG1 A-Side  
Distance (r) 51.9 mm.  
Replace ☐

1 8 3



Measuring by: 36066, 666582

18\_\_ BG1 A-Side  
Distance (r) 50.7 mm.  
Replace ☐

18\_\_ BG2 A-Side  
Distance (r) 51.9 mm.  
Replace ☐

28\_\_ BG1 A-Side  
Distance (r) \_\_\_\_\_ mm.  
Replace ☐

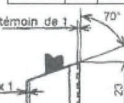
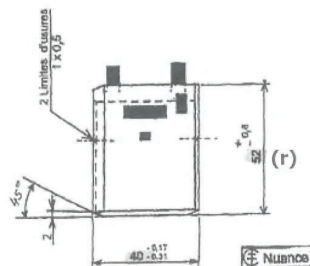
28\_\_ BG2 A-Side  
Distance (r) 52 mm.  
Replace ☐

29\_\_ BG2 B-Side  
Distance (r) \_\_\_\_\_ mm.  
Replace ☐

29\_\_ BG1 B-Side  
Distance (r) 51.5 mm.  
Replace ☐

19\_\_ BG2 B-Side  
Distance (r) 51.6 mm.  
Replace ☐

19\_\_ BG1 B-Side  
Distance (r) 51.5 mm.  
Replace ☐



### Remark

1. Distance (r) ≤ 23 mm. Replace Ground Brush
2. Cover nut with torque 10 Nm.

FM-MTD-M91500-E-009 Rev.01  
Effective Date : 01/11/2022



## RMV-Primary Suspension Gap Distance Check List EMU-B3

EMU: 83

WO: 600594219

Date: 22/02/2024

Milage: 460054

BG1	Gap Distance (mm.)	B-Side
Axle 1	<u>79</u>	
Axle 2	<u>79</u>	

BG2	Gap Distance (mm.)	B-Side
Axle 3	<u>82</u>	
Axle 4	<u>82</u>	

BG1	Gap Distance (mm.)	B-Side
Axle 5	<u>86</u>	
Axle 6	<u>84</u>	

BG2	Gap Distance (mm.)	B-Side
Axle 7	<u>87</u>	
Axle 8	<u>85</u>	

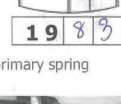
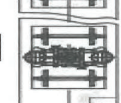
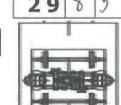
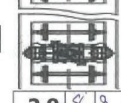
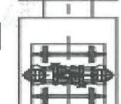
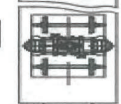
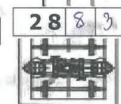
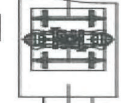
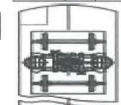
BG2	Gap Distance (mm.)	A-Side
Axle 9	<u>85</u>	
Axle 10	<u>85</u>	

BG1	Gap Distance (mm.)	A-Side
Axle 11	<u>84.5</u>	
Axle 12	<u>84.5</u>	

BG2	Gap Distance (mm.)	A-Side
Axle 13	<u>82</u>	
Axle 14	<u>79</u>	

BG1	Gap Distance (mm.)	A-Side
Axle 15	<u>81</u>	
Axle 16	<u>80.5</u>	

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Measure by: 36066, 666582

A-Side	Gap Distance (mm.)	BG1
	<u>79</u>	Axle 1
	<u>81</u>	Axle 2

A-Side	Gap Distance (mm.)	BG2
	<u>82</u>	Axle 3
	<u>82</u>	Axle 4

A-Side	Gap Distance (mm.)	BG1
	<u>85</u>	Axle 5
	<u>85</u>	Axle 6

A-Side	Gap Distance (mm.)	BG2
	<u>83</u>	Axle 7
	<u>87</u>	Axle 8

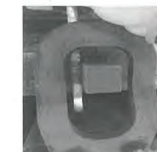
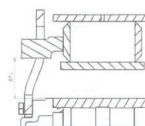
B-Side	Gap Distance (mm.)	BG2
	<u>86</u>	Axle 9
	<u>84</u>	Axle 10

B-Side	Gap Distance (mm.)	BG1
	<u>84</u>	Axle 11
	<u>86</u>	Axle 12

B-Side	Gap Distance (mm.)	BG2
	<u>81</u>	Axle 13
	<u>81</u>	Axle 14

B-Side	Gap Distance (mm.)	BG1
	<u>80</u>	Axle 15
	<u>79</u>	Axle 16

Top of front cover to bottom of bogie frame (primary spring element after settlement) = 80-93 mm.

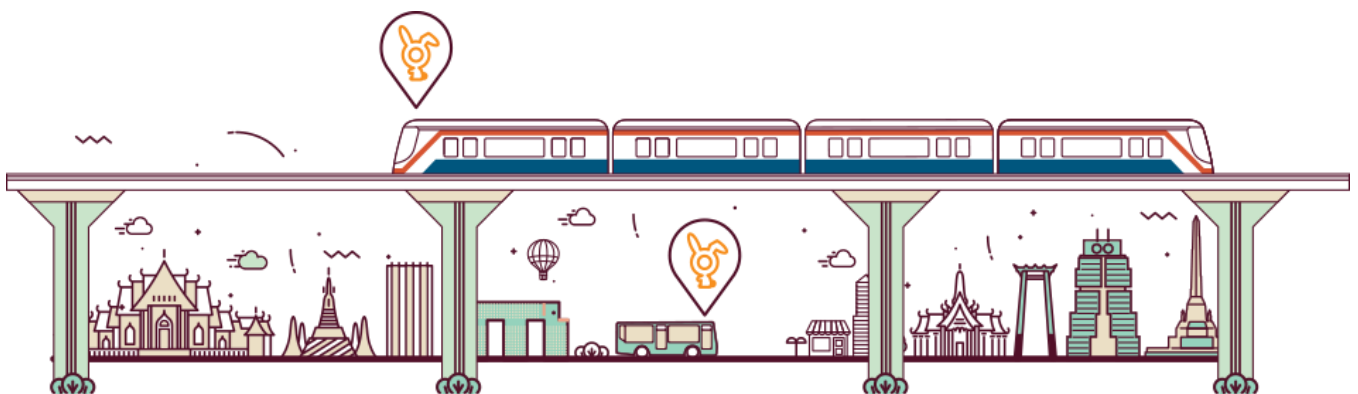


Remark : Measuring The Primary Suspension Gap

FM-MTD-M91500-E-022 Rev.00 Effective Date: 22/09/2023

## ภาคผนวก ข-5

### ข้อปฏิบัติและแนะนำการใช้บริการรถไฟฟ้า







## คำแนะนำการใช้บริการรถไฟฟ้าบีทีเอสจากเว็บไซต์



🏠 / ข้อเสนอแนะเพื่อความปลอดภัยในการใช้ระบบรถไฟฟ้าบีทีเอส / ข้อเสนอแนะในการใช้ประตูอัตโนมัติ

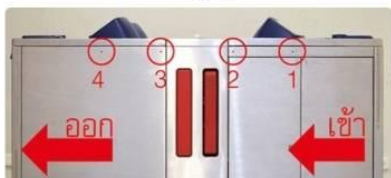
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### โครงสร้างของประตูอัตโนมัติประกอบด้วย

- สัญญาณตรวจจับ (SENSORS) ก่อนบานประตู 2 จุด
- สัญญาณตรวจจับ (SENSORS) หลังบานประตู 2 จุด
- เครื่องอ่านบัตรโดยสาร
- บานประตูอัตโนมัติ (Barrier)
- ช่องสอดตัว

### การทำงานของสัญญาณตรวจจับก่อนและหลังบานประตู



- ประตูอัตโนมัติมีสัญญาณตรวจจับ (Sensors) จำนวน 4 จุด เพื่อทำหน้าที่สั่งการให้บานประตูปิดลงเมื่อมีวัตถุผ่านสัญญาณตรวจจับ (Sensors) จุดที่ 2 และ 3



- กรณีที่บานประตูอัตโนมัติปิดลงก่อนที่ผู้โดยสารจะเดินผ่าน เกิดจากสัญญาณของผู้โดยสารไปยังสัญญาณตรวจจับ (Sensors) จุดที่ 3 ทำให้สัญญาณตรวจจับ (Sensors) จุดที่ 3 รับรู้ว่าผู้โดยสารเดินผ่านบานประตูอัตโนมัติไปแล้ว ทำให้บานประตูจึงปิดลง



โปรดถือสัมภาระแบบชิดลำตัว หรือยกสัมภาระขึ้นเหนือประตูอัตโนมัติขณะเดินผ่าน



ไม่หยุดหรือเดินถอยหลังกลับขณะเดินผ่านประตูอัตโนมัติ



เด็กที่มีส่วนสูงไม่เกิน 90 เซนติเมตร ผู้ปกครองควรอุ้มขณะเดินผ่านประตูอัตโนมัติ



สตรีมีครรภ์ หรือผู้ที่จำเป็นต้องใช้ประตูเข้า-ออกพิเศษ กรุณาติดต่อพนักงาน





☛ / ข้อเสนอแนะเพื่อความปลอดภัยในการใช้ระบบรถไฟฟ้าบีทีเอส / ข้อเสนอแนะในการใช้  
บันได บันไดเลื่อนและลิฟต์

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ข้อเสนอแนะในการใช้บันได และบันไดเลื่อน  
บันไดเลื่อนในระบบรถไฟฟ้าบีทีเอสมีความเร็วสูงกว่า  
บันไดเลื่อนทั่วไป ผู้โดยสารควรใช้ด้วยความระมัดระวัง

- โปรดยืน หรือเดินชิดทางด้านขวา และจับราวของ  
บันไดหรือบันไดเลื่อน ขณะขึ้น - ลงทุกครั้ง
- ห้ามยืนพิงด้านข้าง นั่งบนราวจับของบันไดเลื่อน
- ห้ามยืนกีดขวางบริเวณทางขึ้น - ลงของบันได
- ห้ามยื่นศีรษะออกนอกราวจับของบันไดเลื่อน
- ห้ามยื่นเท้า ไปชิดขอบด้านข้างของบันไดเลื่อน
- ห้ามวางปลายเท้าชิดขอบขึ้นของบันไดเลื่อน
- ห้ามวิ่ง เล่น ผลัก หรือหยอกล้อกันขณะใช้บันได หรือ  
บันไดเลื่อน
- เมื่อเกิดเหตุฉุกเฉิน กรุณาคดปุ่มหยุดฉุกเฉินที่ตัวบันได  
เลื่อน และรีบแจ้งพนักงานทันที



ข้อเสนอแนะในการใช้ลิฟต์



ผู้ที่ประสงค์จะใช้บริการลิฟต์โปรดปฏิบัติ ดังนี้

- กดปุ่ม 📞 เพื่อติดต่อพนักงาน (เฉพาะสถานีหมอชิต สยาม อโศก อ่อนนุช และช่อง  
นนทรี) หรือกดปุ่มที่มีสัญลักษณ์ลูกศรขึ้นหรือลง ⬆️ ⬇️ (เฉพาะสถานีกรุงธนบุรี วง  
เวียนใหญ่ โพธิ์นิมิตร ตลาดพลู วัฒนาภาศ บางหว้า บางจาก ปุณณวิถี อุดสมุข  
บางนา และสำโรง)
- โปรดดูแลเด็กเล็ก ผู้พิการ และผู้สูงอายุขณะใช้ลิฟต์
- ไม่ควรใช้ลิฟต์เกินกว่าน้ำหนักที่กำหนดไว้
- เมื่อลิฟต์ขัดข้อง หรือต้องการความช่วยเหลือ โปรดกดปุ่มรูปกระดิ่งสีเหลือง 🚨  
เพื่อแจ้งพนักงานทันที
- ห้ามใช้ลิฟต์ขณะเกิดเพลิงไหม้







🚫 / ข้อเสนอแนะเพื่อความปลอดภัยในการใช้ระบบรถไฟฟ้าบีทีเอส / ข้อเสนอแนะในการนำจักรยานเข้าระบบรถไฟฟ้าบีทีเอส

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### การนำจักรยานเข้าระบบรถไฟฟ้าบีทีเอส

ปัจจุบัน รถไฟฟ้าบีทีเอส ได้รับความนิยมจากประชาชนทั่วไป และได้ขยายเส้นทางเพิ่มขึ้น ซึ่งเห็นได้จากมีผู้ใช้บริการเป็นจำนวนมาก โดยเฉพาะช่วงเวลาเร่งด่วนและ เพื่อความสะดวกต่อการเดินทาง บริษัทฯ จึงพิจารณาเปลี่ยนแปลงการนำจักรยานเข้าใช้บริการ โดยกำหนดช่วงเวลาในการนำจักรยานแบบพับไม่ได้ และจักรยานแบบพับได้ เข้ามาใช้บริการ ดังนี้



#### จักรยานแบบพับไม่ได้

วันจันทร์ – ศุกร์

เวลา 06:00 – 06:30 น. และ 22:00 น. – ปิดให้บริการ

วันเสาร์ – อาทิตย์ และวันหยุดชดเชย

เวลา 06:00 – 09:00 น. และ 22:00 น. – ปิดให้บริการ

#### จักรยานแบบพับได้

สามารถนำจักรยานเข้าระบบรถไฟฟ้าบีทีเอสได้ตลอดเวลาให้บริการ

### ข้อปฏิบัติเมื่อนำจักรยานเข้าระบบรถไฟฟ้าบีทีเอส



#### ก่อนเข้าระบบ

- ดูแลความสะอาดของจักรยาน
- สัญญาณตรวงจบบ (SENSORS) หลังบานประตู 2 จุด



#### การขึ้น – ลง บันได

- เดินชิดขวา จักรยานและจักรยานขณะนำจักรยาน ขึ้น – ลงบันได



#### การเข้าหรือออกประตูอัตโนมัติ

- นำจักรยานวางไว้หน้าประตูพิเศษข้างห้องตัวโดยสาร
- สอดหรือแตะบัตรที่ประตูอัตโนมัติ
- ผ่านเข้าระบบ
- ติดต่อเจ้าหน้าที่ ที่ห้องตัวโดยสาร หรือ รปภ.
- นำจักรยานเข้าระบบ



- ให้ผู้โดยสารออกจากขบวนรถไฟฟ้าก่อน แล้วจึงเดินเข้าด้านในพร้อมจักรยาน ไปยังบริเวณรอยต่อของขบวนรถ
- เมื่อเข้าขบวนรถแล้ว ไม่ควรวางจักรยานกีดขวางผู้อื่น และจับยึดจักรยานตลอดเวลา



#### การโดยสารขบวนรถไฟฟ้า

- ยืนหลังเส้นเหลืองในบริเวณประตูใกล้รอยต่อระหว่าง ตู้ขบวนรถไฟฟ้าและจับยึดจักรยานตลอดเวลา



### ความปลอดภัยต้องมาก่อน

- ห้ามขี่จักรยานขณะอยู่ในระบบ
- ระมัดระวังจักรยาน เกียว เขียว ขน กระแทกผู้โดยสารท่านอื่น อุปกรณ์ และ โครงสร้างสถานี รวมถึงขบวนรถไฟฟ้า
- ไม่วางจักรยานกีดขวางการใช้บริการของผู้โดยสารท่านอื่น
- ไม่กอด พับ ประกอบจักรยานขณะอยู่ในระบบ



🏠 / ข้อเสนอแนะเพื่อความปลอดภัยในการใช้ระบบรถไฟฟ้าบีทีเอส / ข้อปฏิบัติและ ข้อห้ามเมื่ออยู่ในระบบรถไฟฟ้าบีทีเอส

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เมื่ออยู่บนสถานี

เมื่ออยู่บนชั้นชานชาลา

ขณะโดยสารรถไฟฟ้าบีทีเอส



### ข้อปฏิบัติ

- โปรดอ่าน หรือฟังประกาศ และปฏิบัติตามอย่างเคร่งครัด
- โปรดรักษาความสะอาด และทิ้งขยะลงในถังที่จัดเตรียมไว้
- เมื่อรู้สึกไม่สบายหรือต้องการความช่วยเหลือ กรุณาติดต่อพนักงาน
- เมื่อทำทรัพย์สินสูญหาย หรือพบ หรือเก็บได้ โปรดแจ้งพนักงาน
- เมื่อพบเห็นการกระทำของบุคคลที่ไม่น่าไว้วางใจหรือวัตถุต้องสงสัย โปรดแจ้งพนักงานทันที



### ข้อห้าม

- ห้ามสูบบุหรี่ และนำวัตถุไวไฟ หรือวัตถุอันตรายเข้ามาในระบบรถไฟฟ้าบีทีเอส
- ห้ามนำสัตว์ทุกประเภทเข้ามาในระบบรถไฟฟ้าบีทีเอส
- ห้ามรับประทานอาหารและเครื่องดื่มในระบบรถไฟฟ้าบีทีเอส
- ห้ามทิ้งสิ่งของออกนอกสถานี
- ห้ามนำสัมภาระขนาดใหญ่ หรือสัมภาระที่มีน้ำหนักมากเข้ามาในระบบรถไฟฟ้าบีทีเอส
- ห้ามขีดเขียน หรือทำความเสียหายแก่อุปกรณ์ต่างๆ ในระบบรถไฟฟ้าบีทีเอส
- ห้ามสวมรองเท้าส้นสูง หรือรองเท้าที่มีล้อ และห้ามเล่นสเก็ตบอร์ด หรือขี่จักรยานในระบบรถไฟฟ้าบีทีเอส
- ห้ามส่งเสียงดัง หรือแสดงพฤติกรรมที่ก่อความรำคาญ หรือก่อความไม่สะดวกในการใช้บริการของผู้โดยสารท่านอื่น





🏠 / ข้อเสนอแนะเพื่อความปลอดภัยในการใช้ระบบรถไฟฟ้าบีทีเอส / ข้อปฏิบัติและข้อห้ามเมื่ออยู่ในระบบรถไฟฟ้าบีทีเอส

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เมื่ออยู่บนสถานี

เมื่ออยู่บนชั้นชานชาลา

ขณะโดยสารรถไฟฟ้าบีทีเอส



#### ข้อปฏิบัติ

- โปรดยืนเข้าแถวรอขบวนรถ และวางสัมภาระหลังเส้นเหลือง
- ควบคุมดูแลเด็กเล็กขณะขึ้นรถ และเข้า-ออกขบวนรถ
- โปรดหลีกเลี่ยงให้ผู้โดยสารในขบวนรถออกก่อน
- ระวังช่องว่างระหว่างพื้นชานชาลากับขบวนรถ
- เมื่อได้ยินเสียงสัญญาณปิดประตู ควรหยุดเพื่อรอรถไฟฟ้าขบวนถัดไป
- เมื่อสิ่งของตกลงราง โปรดแจ้งพนักงานทันที

#### ข้อห้าม

- ห้ามวิ่ง เล่น ผลัก หรือหยอกสื่อกันบริเวณชานชาลา
- ห้ามลงรางโดยเด็ดขาด เพราะจะได้รับอันตรายจากขบวนรถและไฟฟ้าแรงสูง
- ห้ามเข้าไปในเขตหวงห้ามบริเวณปลายชานชาลา





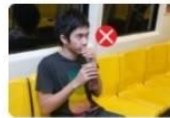
🏠 / ข้อเสนอแนะเพื่อความปลอดภัยในการใช้ระบบรถไฟฟ้าบีทีเอส / ข้อปฏิบัติและ ข้อห้ามเมื่ออยู่ในระบบรถไฟฟ้าบีทีเอส

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เมื่ออยู่บนสถานี

เมื่ออยู่บนชั้นชานชาลา

ขณะโดยสารรถไฟฟ้าบีทีเอส



#### ข้อปฏิบัติ

- ควรจับห่วง เสา หรือราวขณะเดินทาง
- โปรดเอื้อเฟื้อที่นั่งแก่เด็ก สตรีมีครรภ์ ผู้สูงอายุ และผู้พิการ
- โปรดคืนที่นั่งสำรองแต่ภิกษุสามเณร
- โปรดดูแลสัมภาระและสิ่งของมีค่าขณะเดินทางในระบบรถไฟฟ้าบีทีเอส
- เมื่อมีเหตุฉุกเฉิน กรุณาแจ้งพนักงานควบคุมรถไฟฟ้าทันที
- กรุณาใช้อุปกรณ์ฉุกเฉิน เมื่อมีเหตุจำเป็น

#### ข้อห้าม

- ห้ามยืนพิงประตู หรือเสา หรือยืนกีดขวางบริเวณประตูรถไฟฟ้า
- ห้ามยึด หรือจับบริเวณย่างที่เป็นรอยต่อระหว่างขบวนรถไฟฟ้า เพราะอาจเกิดอันตรายได้
- ห้ามวางมือบริเวณประตูรถไฟฟ้า
- ห้ามวางสัมภาระกีดขวางทางเดินในขบวนรถ
- ห้ามรับประทานอาหารและเครื่องดื่มในขบวนรถไฟฟ้าบีทีเอส

อุปกรณ์ฉุกเฉินใช้ในกรณีที่มีเหตุจำเป็นเท่านั้น และผู้ใช้ต้องปฏิบัติตามคำแนะนำที่ระบุไว้บนอุปกรณ์ฉุกเฉิน บริษัทมีสิทธิดำเนินการกับผู้ฝ่าฝืนตามที่กำหนดไว้ในข้อบังคับฯ







🏠 / ข้อเสนอแนะเพื่อความปลอดภัยในการใช้ระบบรถไฟฟ้าบีทีเอส / ข้อเสนอแนะเมื่อเกิดเพลิงไหม้หรือเหตุฉุกเฉิน

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## กรณีเกิดเหตุในขบวนรถไฟฟ้า



- ให้ผู้โดยสารแจ้งเหตุฉุกเฉินแก่พนักงานควบคุมรถไฟฟ้าทันที โดยการกดปุ่มรูปกระดิ่งสีเหลือง 📞 บริเวณด้านข้างของประตูแล้วปล่อย และรอการตอบรับจากพนักงานควบคุมรถไฟฟ้า
- เมื่อเกิดเหตุฉุกเฉินจะต้องเปิดประตูรถไฟฟ้า ให้ตั้งคันโยกสีแดงบริเวณด้านข้างของประตูแล้วเลื่อน เพื่อเปิดประตู ใช้ในกรณีขบวนรถไฟฟ้าจอดอยู่ที่สถานีเท่านั้น และควรปฏิบัติตามคำแนะนำของพนักงานควบคุมรถไฟฟ้า



- ประตูฉุกเฉินสำหรับอพยพ อยู่บริเวณส่วนหัวและส่วนท้ายของขบวนรถไฟฟ้า ผู้โดยสารสามารถเดินออกจากขบวนรถได้ด้วยสะพานเชื่อม และปฏิบัติตามคำแนะนำของพนักงานอย่างเคร่งครัด
- เมื่อเกิดเหตุฉุกเฉินจะต้องเปิดหน้าต่างในขบวนรถไฟฟ้า ให้ปฏิบัติตามคำแนะนำที่ติดไว้
- เมื่อเกิดเพลิงไหม้ ผู้โดยสารสามารถนำถังดับเพลิงที่เก็บไว้ในช่องเก็บที่มีสัญลักษณ์ 🔥 มาใช้ และให้ปฏิบัติตามคำแนะนำข้างล่าง



## ภาคผนวก ข-6

ตัวอย่างเอกสารตรวจสอบอุปกรณ์ดับเพลิงที่อยู่ภายในแต่ละสถานี





PM inspection sheet for portable fire extinguishers at Station SS8

ใบตรวจซ่อมบำรุงแบบพกพาถังดับเพลิงชนิดเคลื่อนย้ายที่สถานี SS8

Refer to Work order No. : 60065 6088

Date: 7/ 4/24 Time 17.40 to 18.00

Scheduled Maintenance Task: ☒ M1 ☐ M6

งานซ่อมบำรุงประจำ:

Station: 58

Inspection symbol :

Check OK ☐ or Check ☒ if problem found and recorded on work order

Item	Description	Task	Area / Zone		Location	ID No.	Task																							
			Ground level	Concourse level			Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room
1	Visual check portable fire extinguisher tank for damage	M1	✓	✓	Relieve room	ABC-01	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Visual check lock pin and seal condition of portable fire extinguisher	M1	✓	✓	Relieve room	ABC-02	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Visual check handle, hose and nozzle condition of PFE	M1	✓	✓	Relieve room	ABC-03	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	Visual check portable fire extinguisher that indicator is in the green area on the gauge (ABC type only)	M1	✓	✓	Relieve room	ABC-04	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	Turn over the portable fire extinguisher and listen the flow of dry chemical for proper physical condition (ABC type only)	M1	✓	✓	Relieve room	ABC-05	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	Clean portable fire extinguisher, if required	M1	✓	✓	Relieve room	ABC-06	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	Sign or stamp on tag to confirm the inspection	M1	✓	✓	Relieve room	ABC-07	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	Weight the CO2 fire extinguisher for correct weight (~12 kg.)	M6	✓	✓	Relieve room	ABC-08	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Inspected by : Nattaphong W. ID-Stamp : 6282

Note: All defects, problems or reading are to be recorded on the work order / Defect form and returned to the section supervisor.

หมายเหตุ: กรณีพบข้อบกพร่องหรือพบข้อบกพร่องให้รายงานความเสียหายลงในส่วนนี้ให้หัวหน้างาน

E&M Maintenance Services	IC MOL CS BTS	Refer to	G00.BES.M78063.VBZ.0308.B	2
Scheduled Maintenance			G00.BES.M78063.CPZ.0002.*	of
PM inspection sheet			SAP Group / Counter : BES / 96	3

PM inspection sheet for portable fire extinguishers at Station SS8

ใบตรวจซ่อมบำรุงแบบพกพาถังดับเพลิงชนิดเคลื่อนย้ายที่สถานี SS8

Refer to Work order No. : 60065 6088

Date: 7/ 4/24 Time 17.40 to 18.00

Scheduled Maintenance Task: ☒ M1 ☐ M6

งานซ่อมบำรุงประจำ:

Station: 58

Inspection symbol :

Check OK ☐ or Check ☒ if problem found and recorded on work order

Item	Description	Task	Area / Zone		Location	ID No.	Task																							
			Ground level	Concourse level			Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room	Relieve room
1	Visual check portable fire extinguisher tank for damage	M1	✓	✓	Relieve room	ABC-01	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2	Visual check lock pin and seal condition of portable fire extinguisher	M1	✓	✓	Relieve room	ABC-02	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3	Visual check handle, hose and nozzle condition of PFE	M1	✓	✓	Relieve room	ABC-03	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4	Visual check portable fire extinguisher that indicator is in the green area on the gauge (ABC type only)	M1	✓	✓	Relieve room	ABC-04	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5	Turn over the portable fire extinguisher and listen the flow of dry chemical for proper physical condition (ABC type only)	M1	✓	✓	Relieve room	ABC-05	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6	Clean portable fire extinguisher, if required	M1	✓	✓	Relieve room	ABC-06	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7	Sign or stamp on tag to confirm the inspection	M1	✓	✓	Relieve room	ABC-07	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8	Weight the CO2 fire extinguisher for correct weight (~12 kg.)	M6	✓	✓	Relieve room	ABC-08	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Inspected by : Nattaphong W. ID-Stamp : 6282

Note: All defects, problems or reading are to be recorded on the work order / Defect form and returned to the section supervisor.

หมายเหตุ: กรณีพบข้อบกพร่องหรือพบข้อบกพร่องให้รายงานความเสียหายลงในส่วนนี้ให้หัวหน้างาน

E&M Maintenance Services	IC MOL CS BTS	Refer to	G00.BES.M78063.VBZ.0308.B	3
Scheduled Maintenance			G00.BES.M78063.CPZ.0002.*	of
PM inspection sheet			SAP Group / Counter : BES / 96	3



600648328  
Maint. Plan: 12048

**Funct.Location:** GN-BES-FAF-PFE-SKE-E10  
Port Fire Ext, ES10 Bang Chak

**BES:M1**



**Equipment:**

**Assembly:**

**Location:** BTS-E10 Bang Chak

**Serial No:**

**Order Finish Date:** 28.03.2024

**Priority:** M Maintenance Activity

Report by:

Person Resp.:

Mileage/Operating hours:

Print Date-Time: 29.02.2024 07:36:29 ORIGINAL

**MAINTENANCE TASKS (รายละเอียดงานซ่อมบำรุง)**[illegible]

**EXCHANGED EQUIPMENT / REPLACEABLE UNITS (รายละเอียดการเปลี่ยนอุปกรณ์)**

[illegible]

3. SAFETY TOOL BOX TALK: ☒ PPE required for this work ☐ Electrical Safety and/or electrical 5 safety rules

☐ Work safely at height ☐ Work safely in confine space ☐ Work safely with chemical

☐ Work safely with hot work ☐ Work safely with crane ☐ Work safely with forklift driving

☐ Other \_\_\_\_\_

4. ADDITIONAL TASK / ACTIVITY (if necessary)


## 5. CONFIRMATION OF TIMES

5. CONFIRMATION OF TIMES	Date	Time	Confirmed by	Signature / ID
Start of Productive Time / Access Time	24.03.24	14:20	[Redacted Signature]	J073
End of Productive Time / Fit for Operations	24.03.24	14:50		
Duration of Productive Time		30 min		
Confirmation of Waiting Time		— min		

6. MAINTENANCE SERVICE: ☐ Additional (004) ☒ General (005) ☐ Warranty (006) ☐ Free service (007)

7. EFFECT ON OPERATION: ☒ No failure (1) ☐ Minor failure (2) ☐ Major failure (3)

8. CUSTOMER SURVEY: ☐ Satisfied ☐ Unsatisfied ☐ Not applicable

9. TIME PER ACTIVITY (Table 1 of 1)

Act. No	Start Activity		Time (Minute)			End Activity		Staff ID Stamp					
	Date	Time	SL		ST	SW	Date	Time	ID1	ID2	ID3	ID4	ID5
			PR	PT									
0010	24 / 03 / 24	13 : 00	40	30	40	-	24 / 03 / 29	14 : 50	(3073)	0312			
	_/_/_/ _	:					_/_/_/ _	:					
	_/_/_/ _	:					_/_/_/ _	:					
	_/_/_/ _	:					_/_/_/ _	:		Poramati K			
	_/_/_/ _	:					_/_/_/ _	:		27 MAR 2024			
	_/_/_/ _	:					_/_/_/ _	:					
	_/_/_/ _	:					_/_/_/ _	:					
	_/_/_/ _	:					_/_/_/ _	:					
	_/_/_/ _	:					_/_/_/ _	:					

SL = Working time according definition, ST = Travelling time for one Work Order only starting from the actual location to destination, SW = Waiting Time according definition, PR = Preparation Time and/or Completion time, PT = Duration of Productive Time

Section verified by:

MCC verified/closed by:

Date:

24, 02, 20

Date:

27 MAR 2024

### E&M Maintenance Services

MO RC-TH  
CS PME BTS  
19.03.2020

G00.MMM.M17000.VBE.0050.E

## Scheduled Maintenance Work Order Form

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G00.MMM.M17000.VBE.0050.E.doc

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PM inspection sheet for portable fire extinguishers at SSS Stations / ES10

Scheduled Maintenance Task: ☒ M1 ☐ M6

ใบตรวจสอบรายการบำรุงรักษาถังดับเพลิงชนิดมือถือภายใต้สถานีระบบ SSS / ES10

Refer to Work order No.: 600648328

Date: 24.03.24 Time: 14:20 to 14:50

Inspection symbol: Check OK ☐ or Check X ☐ if problem found and recorded on work order

Item	Description	Task	Area / Zone																					
			Location		Pump room		Refuse room		FHCCT NS		Unpaid area		Miscellaneous		Staff Lounge		Storage room		Commercial area		Unpaid area		Unpaid area	
			ID No.	ABC-01	ABC-02	ABC-03	ABC-04	ABC-05	ABC-06	ABC-07	ABC-08	ABC-09	ABC-10	ABC-11	ABC-12	ABC-13	ABC-14	ABC-15	ABC-16	ABC-17	ABC-18	ABC-19	ABC-20	ABC-21
1	Visual check portable fire extinguisher tank for damage	M1																						
2	Visual check lock pin and seal condition of portable fire extinguisher	M1																						
3	Visual check handle, hose and nozzle condition of PFE	M1																						
4	Visual check portable fire extinguisher that indicator is in the green area on the gauge (ABC type only)	M1																						
5	Turn over the portable fire extinguisher and listen the flow of dry chemical for proper physical condition (ABC type only)	M1																						
6	Clean portable fire extinguisher, if required	M1																						
7	Sign or stamp on tag to confirm the inspection	M1																						
8	Weight the CO2 fire extinguisher for correct weight (~12 kg.)	M6																						

Inspected by: ID-Stamp: 0072

Note: All defects, problems or readings are to be recorded on the work order / Defect form and returned to the section supervisor.

หมายเหตุ: กรณีพบข้อบกพร่องให้รายงานความเสียหายกลับส่งให้หัวหน้างาน

E&M Maintenance Services	IC MOL CS BTS	G00.BES.M78063.VBZ.0210.B	2
Scheduled Maintenance		Refer to G00.BES.M78063.CPZ.0002.*	of
PM inspection sheet	30.09.2014	SAP group / Counter BES-5/58	3

PM inspection sheet for portable fire extinguishers at SSS Stations / ES10

Scheduled Maintenance Task: ☒ M1 ☐ M6

ใบตรวจสอบรายการบำรุงรักษาถังดับเพลิงชนิดมือถือภายใต้สถานีระบบ SSS / ES10

Refer to Work order No.: 600648328

Date: 24.03.24 Time: 14:20 to 14:50

Inspection symbol: Check OK ☐ or Check X ☐ if problem found and recorded on work order

Item	Description	Task	Area / Zone																					
			Location		Pump room		Refuse room		FHCCT NS		Unpaid area		Miscellaneous		Staff Lounge		Storage room		Commercial area		Unpaid area		Unpaid area	
			ID No.	ABC-28	ABC-29	ABC-30	ABC-31	ABC-32	ABC-33	ABC-34	ABC-35	ABC-36	ABC-37	ABC-38	ABC-39	ABC-40	ABC-41	ABC-42	ABC-43	ABC-44	ABC-45	ABC-46	ABC-47	ABC-48
1	Visual check portable fire extinguisher tank for damage	M1																						
2	Visual check lock pin and seal condition of portable fire extinguisher	M1																						
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5	Turn over the portable fire extinguisher and listen the flow of dry chemical for proper physical condition (ABC type only)	M1																						
6	Clean portable fire extinguisher, if required	M1																						
7	Sign or stamp on tag to confirm the inspection	M1																						
8	Weight the CO2 fire extinguisher for correct weight (~12 kg.)	M6																						

Inspected by: ID-Stamp: 0072

Note: All defects, problems or readings are to be recorded on the work order / Defect form and returned to the section supervisor.

หมายเหตุ: กรณีพบข้อบกพร่องให้รายงานความเสียหายกลับส่งให้หัวหน้างาน

E&M Maintenance Services	IC MOL CS BTS	G00.BES.M78063.VBZ.0210.B	3
Scheduled Maintenance		Refer to G00.BES.M78063.CPZ.0002.*	of
PM inspection sheet	30.09.2014	SAP group / Counter BES-5/58	3

## ภาคผนวก ข-7

### แผนปฏิบัติการฉุกเฉินในกรณีต่างๆ









## Emergency Operations Plan

Doc. No.: 500E.PLN.004 Rev. F

ทบทวนเอกสาร (Document Review)		
Dept	คณะผู้ทบทวนเอกสาร (Review Committee)	อนุมัติโดย
FNDI	Finance Director	
LGDI	Legal Director	
MTDI	Maintenance Director	
OPDI	Operations Director	
SSDI	Safety and Security Director	
SPDI	Strategy and Planning Director	
ACD	Accounting Department Manager	
AED	Asset Management and Engineering Department Manager	
AMD	Administration Department Manager	
CCD	Corporate Communication Department Manager	
FND	Finance Department Manager	
HRD	Human Resources Department Manager	
IFD	Infrastructure Maintenance Department Manager	
ITD	Information Technology Department Manager	
MPLD	Maintenance Planning and Logistic Department Manager	
OCD	Operations Control Department Manager	
OSD	Operations Support Department Manager	
PMD	Services Planning and MIS Department Manager	
QUD	Quality Department Manager	
RSD	Rolling Stock Maintenance Department Manager	
SCD	Security Department Manager	
SSD	Station Services Department Manager	
SUD	System Utility Maintenance Department Manager	
TCD	Train Control and Communication Maintenance Department Manager	
TND	Training Department Manager	
TSD	Train Services Department Manager	

ผู้รับผิดชอบและผู้มีอำนาจ (Responsible & Authorized Persons' Signature)		
จัดทำโดย (Prepared by)	ทบทวนโดย (Reviewed by)	อนุมัติโดย (Approved by)
 (Group Operations Safety Section Manager)	 (Operations Safety Division Manager)	 (Safety Department Manager)
 (Group Operations Safety Section Manager)		
วันที่ 06/11/2023	วันที่ 06/11/2023	วันที่ 06/11/2023



## EMERGENCY OPERATIONS PLAN


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### ประวัติการเปลี่ยนแปลงเอกสาร

รายละเอียดการแก้ไข (Change Description)					DAR No.	วันประกาศใช้ (Eff. Date)
Rev.	หน้า (Page)	ก่อนแก้ไข (Before)	หน้า (Page)	หลังแก้ไข (After)		
F	-	All	-	All	DCC0123/23	22/11/2023
E	-	All	-	Revised all as per document review record and change of Safety and Security Director, Department, Position and responsibility refer to BTSC organization change on 01 April 2014 and change "4.2.5 Security control" page 47	DCC0001/19	15/01/2019
D	-	-	-	Revised all as per document review for reorganization and added "4.5.2 Security control" page 52	DCC0139/13	22/04/2013
C	-	-	-	Revised all as per document review for reorganization	QMR00047/05	31/03/2006
B	-	All	-	All	DCC047/03	01/08/2003
A	-	First Issue	-	First Issue	-	01/12/1999


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## 1. GENERAL

### 1.1. Preface

This Emergency Operations Plan is designed to provide an overview of the operational responses in the event of life threatening or potentially life-threatening incidents occurring. Precisely defined operational procedures are based on but are not the subject of this plan. The specific handling of the equipment and of the system is described in the equipment operating manuals and the Rules and Regulations for Operations.

The Emergency Operations Plan contains principles for the operations staff to adopt in case of an incident such as fire, storm, derailment, or any life-threatening situation. Even though not all incidents would lead to an emergency case, all train situations requiring train evacuation to the trackside are also dealt with in this document. The Emergency Operations Plan is part of the Operations Plans. Detailed emergency regulations and procedures are based on the Emergency Operations Plan.

The emergency regulations and procedures derived from the Emergency Operations Plan take account of

- accidents to passengers, staff or members of the public,
- train derailments and collisions,
- fire on trains and other railway installations,
- trespassing on the railway,
- obstructions to the working condition of the railway,
- adverse weather conditions,
- force majeure provisions,
- other negative influences e.g. gas, toxic material,
- external incidents affecting the BTS system e.g. risk of explosions.

### 1.2. Definitions

#### ➤ Normal Operations Plan:

The Normal Operations Plan considers the operation of the BTS when scheduled services are possible without impairment and without hazard to staff or passengers.

#### ➤ Degraded Operations Plan:


The Degraded Operations Plan considers all circumstances which affect normal service or require immediate unplanned maintenance action but which are not considered potentially life threatening to passengers or staff.

#### ➤ Emergency Operations Plan:

The Emergency Operations Plan considers potentially life threatening situations in which passengers or staff may have to be evacuated.


#### ➤ Operations Safety Plan:

The Operations Safety Plan considers the manner in which the safety of passengers, staff, Third Parties and infrastructure will be maximised and maintained in system design and procedures.


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DEFINITIONS	EXPLAIN
<b>Accident</b>	Adverse events that may be caused by unexpected, unplanned, or uncontrolled leading to injury, illness, work-related disability, death, loss or damage to the property, environment, public.
<b>Administrative Building Technician</b>	Responsible for all matters concerning the BTS Building. Has to be informed in case of fire or other incident in the BTS Building.
<b>Cab Saloon Door</b>	The door between Driver's cab and saloon, operable by passengers in emergency.
<b>Current Condition</b>	Actual state of technical equipment, component or system.
<b>Damage</b>	Damage is defined as any negative impact to rail vehicles and infrastructure. In addition there may be further costs for loss of revenue service etc.
<b>Evacuation Route</b>	A route provided to enable evacuation along the viaduct to a station.
<b>Escape Route</b>	An exit route from stations and buildings, to ground level or another suitable place of safety.
<b>Emergency</b>	Fatal accident, fire, explosion, or leakage of chemicals or hazardous substances that severely affect health, life, property, community, or environment, and in the event of a collision or derailment of rail transport vehicles or in any other case in which there were multiple fatalities or serious injuries or severe damage to rail transport vehicles rail transport system or rails for transportation or to infrastructure or the environment
<b>Emergency Services</b>	Rescue Teams for emergency support such as the police, fire department and ambulance.
<b>Emergency Team</b>	Consists of the Emergency Team Leader - together with a team of maintenance experts according to the specific requirements of the incident as established by the Emergency Team Leader.
<b>Crisis Management Committee (CMC)</b>	Consists of senior managers which is formed to assist CCR and emergency responders in situations that: <ul style="list-style-type: none"> <li>• Resources beyond BTSC's Capability are required;</li> <li>• The emergency is of long duration (over 2 hours);</li> <li>• Major policy decisions will be needed;</li> <li>• A local or national emergency is declared and;</li> <li>• Activation of the CMC will be advantageous to the management of the emergency</li> </ul>
<b>Crisis Management Committee Centre (CMCC)</b>	This centre is the base where the CMC (if activated) managers out of control situations beyond the capability of the Control Shift Section Manager (CSSM).




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DEFINITIONS	EXPLAIN
<b>Crisis Management Committee Centre (CMCC)</b>	This centre is the base where the CMC (if activated) manages out of control situations beyond the capability of the Control Shift Section Manager (CSSM).
<b>Emergency Vehicle</b>	The rail bound Service Vehicle with crane and trailer can operate as the Emergency Vehicle as part of the mobile equipment.
<b>Fault</b>	A deviation from normal conditions of a system or subsystem without effect on operations or service.
<b>Failure</b>	The inability of a component or system to fulfil its operational requirements.
<b>Front end door/ Rear end door</b>	The door designed to provide emergency egress from the front or rear ends of a unit. It is operable in "Sliding Plug Mode" and "Ramp Mode".
<b>General Public</b>	All persons not involved in an incident, but may have to be addressed and informed by the Public Relations Team, i.e potential passengers to be informed on delays or closing of stations.
<b>Incident</b>	An adverse event that has resulted in an accident or near miss.
<b>Emergency Team</b>	All internal and external services for emergency support.
<b>Emergency Team Leader</b>	Mobilises the Emergency Team from the Depot and co-ordinates the technical activities of this team in liaison with the Incident Manager on site.
<b>Irregularity</b>	A dangerous incident, which could cause injuries or damages.
<b>Legal Counsel</b>	Senior member of the Legal Department nominated to perform this function.
<b>Operations Control Centre (OCC)</b>	Is the nerve centre of the system for the overall system control and includes the CCR, equipment rooms and other operational staff areas.
<b>Operations Management</b>	The positions of Operations Director, all Operations Department Manager and the Safety and Security Director as relevant to this plan.
<b>Passenger</b>	A person entering the paid area with a valid ticket with the intention to use the BTS system.
<b>Reference Condition</b>	Is the required state to fulfil the functionality and performance of the equipment and system within tolerances and in accordance with safety and reliability standards.
<b>Revenue Service</b>	The operation of the system with passengers.

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DEFINITIONS	EXPLAIN
<b>Rules and Regulations</b>	The Rule Book, Operating Procedure Manuals and any other instructions issued on the authority of the Operations Management.
<b>Security Department Manager</b>	Is responsible for all security matters as there are among others cash transport, security of stations and buildings in close liaison with the Station Services Department Manager.
<b>Trespassers</b>	A person entering the system facilities without a valid ticket.
<b>Third Parties</b>	Agencies for technical support, e.g. cranes and other equipment, and others with direct interest in the incident, e.g. neighbouring fuel station etc.
<b>Telephone Call Center of BTSC</b>	Telephone calls routed through public exchanges to BTSC arrive at a designated operator's switch board for distribution. In case of incidents, further particulars will be given through that line by the Public Relations Team.
<b>Unscheduled Maintenance</b>	Measures to restore the reference condition caused following an fault incident or failure. It includes unscheduled corrective maintenance.
<b>Unscheduled Corrective Maintenance</b>	Is performed to restore the function when conditions occur in which components, equipment or system elements do not function as specified, designed or expected.

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### 1.3. Overview

The Emergency Operations Plan represents one of the Operations Plans for Normal, Degraded and Emergency Operations. The Emergency Operations Plan deals with life threatening or potentially life-threatening situations, whereas the Degraded Operations Plan covers deviations from normal operations without potential life-threatening risk.

Detraining (controlled) and evacuation (controlled and emergency) are dealt with in two different plans: Detraining is covered in the Degraded Operations Plan, and controlled and emergency evacuation is covered in the Emergency Operations Plan.

BTS is designed, built, and operated to the highest safety standards. However, there are situations when procedures based upon the Emergency Operations Plan must be implemented to minimise the effect of an incident on the overall system.

The continued development and refinement of the internal and external safety process will be undertaken by the Operations Control Department Manager, Train Services Department Manager, Station Services Department Manager and the Safety and Security Director.


Many incidents may not have a great impact on the overall system, e.g. fire breaking out in shops or offices near to the station. These will nevertheless be documented in BTSC statistics but may not require further emergency action. BTSC may however offer assistance to external emergency services if requested to do so. They are therefore not dealt with in the Emergency Operations Plan, but are covered in the Operations Safety Plan.

The vital signalling system in combination with operational procedures during failures is designed to provide a high level of safety but wherever human intervention is required, absolute safety cannot be guaranteed.

Fire protection is based on applicable international standards such as NFPA in combination with local requirements. BTSC aims to maintain the highest degree of system integrity. This plan deals only with operational incidents that require an emergency response.

The plan is structured as follows:

- The first section on the operating environment describes the staff available, their responsibilities and the facilities available for use in emergencies including senior management responsibilities to assist the Control Shift Section Manager (CSSM) in situations outside of his control.
- The second section deals with general procedures applied in emergency situations and liaison with Emergency Services.
- The third section includes detailed descriptions of the particular responses to specific emergency situations.
- The fourth section gives details of the evacuation procedures.
- The remaining sections cover the restoration of normal and degraded operations procedures, the termination of the incident management process and the investigation, record keeping and review activities necessary following each incident.

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## 2. OPERATING ENVIRONMENT

The Internal Emergency Response depends on the assurance that the appropriate staff are trained to react to incidents in a predictable manner, on the provision of the necessary facilities and on the availability of the necessary plans and procedures.


The Safety and Security Director is responsible for the preparation, updating and dissemination of emergency procedures, regulations, and other documents necessary to ensure that incidents covered by the Emergency Operations Plan are dealt with by staff with clearly defined responsibilities and who have received proper training. Other senior staff responsible for assisting with this task includes the Train Services Department Manager, Station Services Department Manager, Operations Control Department Manager, Training Department Manager and other nominated personnel.

### 2.1. Personnel


The following table shows the BTSC staff involved in incident management. The table indicates three distinct groups.

- the operations personnel including the senior management team (Crisis Management Committee -CMC if activated),
- the maintenance personnel and
- others involved for additional support.


The column “Title” identifies the functional role during incidents, while the column “Position” identifies the normal role of the person assuming this functional role. The column “Responsibilities” describes the main duties during incidents and the responsibilities for incident management for each functional role.

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Title	Position (Staffed by)	Responsibilities
<b>Crisis Management Committee (CMC)</b>	Chief Executive Officer, Chief Operating Officer, Chief Financial Officer, Chief Administrative Officer, Legal Director, Strategy and Planning Director, Operations Director, Maintenance Director, Safety and Security Director, Finance Director, Train Services Department Manager, Station Services Department Manager, Operations Control Department Manager, Corporate Communication Department Manager , Services Planning and MIS Department Manage	This group is formed (or in part) where there is a request for assistance by the Control Shift Section Manager (CSSM) for management support or it is deemed in the Company's best interest in the following areas: Legal, Financial, Operations, Asset Management and Engineering, Maintenance, Services Planning and MIS, Administration, Human Resources & Corporate Communication. This group informs BMA
<b>Depot Division Manager</b>	Nominally Depot Division Manager or his delegate	Ensures that All serious incidents occurring in the Depot is informed to OCC. Ensures that emergency procedures are promptly activated
<b>Incident Manager</b>	Operations Inspector ( or other member of staff as defined )	Has the authority on site to act for BTSC in all matters relating to or affected by an incident. Co-ordinates actions between Operations, Maintenance and Emergency Services.
<b>Control Shift Section Manager (CSSM)</b>	Control Shift Section Manager (CSSM)	Has the responsibility for overall system control. Addresses all incoming information and initiates the internal response. Ensures that the Incident Manager receives all necessary information and co-operation from Control Room staff for the performance of his functional responsibility.

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Title	Position (Staffed by)	Responsibilities
		Maintains the highest possible level of passenger carrying operations within the constraints imposed by the Incident Manager. Notifies the On-Call Manager Notifies the Maintenance Centre
<b>On Call Manager</b>	Operations Control Department Manager or Control Room Division Manager or nominated senior person	To inform senior management in the event of a serious incident including notification to the Corporate Communication Manager
<b>Engineering Controller</b>	Engineering Controller	Executes instructions from the Incident Manager in co-operation with the Control Shift Section Manager (CSSM).
<b>Line Controller</b>	Line Controller	Provides information to and carries out instructions from the Incident Manager in co-operation with the Control Shift Section Manager (CSSM). Assists the Control Shift Section Manager (CSSM) in all other matters concerning operations of lines. Interfaces all incoming calls via train radio and direct telephone as necessary.
<b>Depot Controller</b>	Depot Controller	Assists the Control Shift Section Manager (CSSM) in all questions of operations for the depot area. Interfaces all incoming calls regarding the depot area from the Emergency Team Leader.
<b>Information Controller</b>	Information Controller	Provides information to and carries out instructions from the Incident Manager in co-operation with the Control Shift Section Manager (CSSM). Information to parties concern internal (OCDM, SSDM, TSDM, CRVM, Call Center, and CMC) and external. Assists the Control Shift Section Manager (CSSM) in all questions of operations for the BTS system.

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Title	Position (Staffed by)	Responsibilities
		Interfaces third parties Hospital, Police, Rescue Service and other.
<b>Station Supervisor</b>	Station Supervisor	Supervises and initiates responses on site. Co-ordinates between Operations, Maintenance and Rescue Services as long as he is in the capacity of the Incident Manager. Maintains a service to the public as far as possible.
<b>Assistant Station Supervisor</b>	Assistant Station Supervisor	Execute orders of the Incident Manager and to be Assistant Incident Manager.
<b>Station Staff</b>	Station Persons etc.	Execute orders of the Incident Manager and the Station Supervisor and Assistant Station Supervisor in the station area.
<b>Train Crew Supervisor</b>	Train Crew Supervisor Acts as Incident Manager until and unless responsibility is assumed by a person of higher authority who has been appointed to take over the role of the Incident Manager and who has arrived on site.	The Train Crew Supervisor on duty in the Train Crew Manager's office is responsible for the welfare of a driver involved in an incident and will arrange a relief driver if necessary.
<b>Train Controller</b>	Train Controller	After any initial response to an incident, the Train Controller will execute orders from the Relevant Controller and, in co-operation with the Relevant Controller, from the Incident Manager.

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Title	Position (Staffed by)	Responsibilities
<b>Emergency Team Leader</b>	Nominated person from Maintenance Center.	Based in the Depot, he will advise the Emergency Team when informed by the Control Shift Section Manager (CSSM). Initiates and co-ordinates the work of the Emergency Team in liaison with the Incident Manager on site. Supervises the execution of technical works on site in co-operation with the Emergency Team Members under the general direction of the Incident Manager on site. Acts as Incident Manager for incidents directly affecting the depot or workshops until and unless responsibility is assumed by a person of higher authority who has been appointed to take over the role of the Incident Manager and who has arrived on site. Co-ordinates between Operations, Maintenance and Rescue Services as long as he is in the capacity of the Incident Manager.
<b>Emergency Response Team</b>	Multi disciplined and formed by well trained and experienced maintenance personnel	Executes works ordered by the Emergency Team Leader.
<b>Administrative Building Foreman</b>	Administrative Building Foreman	Liaises with the Control Shift Section Manager (CSSM) and acts as Incident Manager for incidents directly affecting the BTS Building until and unless responsibility is assumed by a person of higher authority who has been appointed to take over the role of the Incident Manager and who has arrived on site. Liaises with the Incident Manager and Emergency Services as caretaker of BTS Building. Co-ordinates between Operations, Maintenance and Emergency Response Team as long as he is in the capacity of the Incident Manager.

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Title	Position (Staffed by)	Responsibilities
<b>Corporate Communication Department Manager</b>	Corporate Communication Manager	Assists the Incident Manager and the Control Shift Section Manager (CSSM) (and CMC if formed) by informing the General Public according to information prepared by the Operations Management liaising with the Legal Counsel.
<b>Security Department Manager</b>	Security Manager	Assigns security staff to assist the Incident Manager on site when requested by the Incident Manager.
<b>Security Staff</b>	Appointed by the Security Manager	Support the Incident Manager and Station Supervisor according to their instructions.
<b>Legal Counsel</b>	Lawyer of BTSC / Legal Director	Gives legal advice to the Incident Manager and to the Corporate Communication Department Manager with respect to release of information. Participates in incident investigation where appropriate.


## 2.2. CRISIS MANAGEMENT COMMITTEE CENTRE

BTSC's CRISIS MANAGEMENT COMMITTEE CENTRE (CMCC) and Central Control Centre are located at the BTSC Headquarters (exact locations not stated for security purposes). Members of the Crisis Management Committee (CMC) at the Command Post are designated as CEO, COO, CFO, CAO, LGDI, SPDI, SSDI, MTDI, OPDI, FNDI, OCDDM, SSDM, TSDM, CCDDM and PMDM. A senior representative from Siemens Maintenance may be called upon to assist the CMC. Gathering of all CMC members is dependant on the severity of the threat or incident.

The CMCC is equipped with or have immediate access to Status Display Boards, CCTV, computers, a television, extra telephone lines, dedicated and line to CCR, portable radios and other equipment such as rest areas.

The CMCC will be used to coordinate, manage and provide mitigation planning where:

- requested by the Control Shift Section Manager (CSSM), Incident Manager or On Call Manager,
- resources beyond BTSC's Capability are required,
- the emergency is of long duration (over 2 hours),
- major policy decisions will be needed,
- a local or national emergency is declared and,
- Activation of the CMC will be advantageous to the management of the emergency.

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### 2.2.1. ACTIVATION OF THE Crisis Management Committee (CMC)

The Chief Operating Officer (COO) (on behalf of the Chief Executive Officer, CEO) or senior officials from Bangkok Metropolitan Police Department may activate the CMC:

On notification of an incident, the Control Shift Section Manager (CSSM) must notify the emergency service **DIAL 191 (if required)** and on call designated senior manager. It is the responsibility of this senior manager to notify the Group (CMC), which will be partially or wholly activated as directed by the CMC.

Immediately following the activation of the CMC, the COO as CMC or his designated representative MUST notify the CEO and ensure the Corporate Communication Manager (CCDM) is informed. The CMC will now maintain overall strategic management of the emergency. The CCR will continue its operations as directed by the Crisis Management Committee (CMC). CCR under the direction of the the Control Shift Section Manager (CSSM) shall control all on scene incident activities and interfaces and continue with its normal operations. BTSC Security will assure security of the CMCC at the direction of the CMC. Responsibility for ensuring notification to the insurer (if relevant) shall be undertaken by the Safety and Security Director.


After activation of the CMCC, the CMC staff shall notify and coordinate with the following services, as applicable:

- Bangkok Metropolitan Administration
- All Media Contacts
- National Security Council
- Government Officials
- BTSC Senior Executives, Board Members etc.
- Other third parties, which are or may become affected from events or actions undertaken by BTSC.

### 2.2.2. CONCLUSION OF EMERGENCY AND CMCC DEACTIVATION

The CMCC will remain in operation until a centralized form of management is no longer necessary to affect a united response. The CMC will determine the "end of the response period" and notify all Sections (in writing or verbal) of the closure of the CMCC.

At the time of deactivation, it shall be the responsibility of each CMC member to ensure each division has cleaned and secured his or her workstation. An inventory of supplies will be completed by each BTSC Department / Division active at the CMCC and a replenishment summary shall be submitted to the AMM to ensure the CMCC ability to function at full capacity at all times.

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### 2.2.3. AFTER ACTION REPORT

Every disaster has unique components and demands. To facilitate the maintenance of an accurate and effective CMCC operation, a review of what transpired during the response period is mandatory. Those divisions involved in the response will be required to participate in interviews and submit in writing their encounters associated with the disaster. The CMC will coordinate and publish a preliminary After Action Report within 120 days of the closure of the CMCC.

### 2.2.4. DEBRIEFING

There are no personality traits that have immunity to the impact of exposure to traumatic events such as disasters. Early intervention following a critical incident has proven to significantly reduce the intensity and duration of traumatic stress symptoms. Therefore, on advice from our insurers, BTSC will utilize critical incident stress-debriefing models that are the most suitable to minimize negative affects on employees.

All BTSC personnel directly involved in the response effort to a major disaster will participate in an educational debriefing conducted by trained professionals or peers. Any other employees wishing to participate in this support process may volunteer to do so. This service shall be coordinated through Human Resources.

## 2.3. Equipment and Facilities


The equipment and facilities are categorised and listed separately for prevention & warning, detection & response and recording equipment, and include:

#### 1) Facilities for prevention and warning:

- hazard warning signs
- vital signalling system
- deadman control on train
- security system of the BTS Building
- back up power supply system
- security key locking system
- fault warning system on passenger vehicles for the Driver's information
- short circuiting device

#### 2) Facilities for detection and response:

- CCTV system
- PA system
- LED
- Smoke / Heat detectors
- fire alarm system
- fire alarm control panel
- Fire hose cabinet system
- water reserves

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- sprinkler systems
- portable fire extinguishers
- emergency stop of escalators and lifts
- emergency opening of AFC gates linked to fire alarm system
- overall station hold by CTC
- emergency stop plungers located on station platforms
- conductor rail earthing devices located on each platform
- Passenger Emergency Release of passenger vehicle doors with automatic intercom link to Train Controller
- manually operated intercom link to the Driver's cab
- Service Vehicle equipped with rescue and emergency repair device
- First Aid rooms on stations, equipped with stretchers and First Aid kits, Automated External Defibrillator (AED)
- Fire fighting equipment on board of passenger vehicles
- flush gate automatic opening during emergency evacuation
- staff telephone on platform
- PSD (Half Height Platform Screen Doors)

#### 3) Recording and logging facilities

- voice recorder for communications to / from the CCR at the OCC
- signalling system record playback station in the OCC
- system event logs of the CTC and SCADA
- system event logs of the train
- data logging by other equipment, e.g. the TCU on board passenger vehicles
- records created by OCC and other staff
- CCTV station and on board

Communication with failed trains on the line and with the Emergency Team is established by the train radio system and portable radio as appropriate. These calls are stored by the voice recorder.

In cases of failures of the radio system, any of the telephone systems may be used.


In cases of failures of the direct line telephone system, the PABX (Private Automatic Branch Exchange) system or the public telephone system is used for communication provided such systems remain operational.

Safety related messages and commands must be by radio or direct line to be recorded by the voice recorder and also in written form where appropriate.

The Line Controller, Information Controller, Train Controller and / or the Station Supervisor are able to address passengers by the PA system or, on stations in the event of failure or partial failure of the PA system, with the assistance of megaphones or other equipments. The train-borne cab to cab intercom link may be used in certain circumstances as a method of communication between staff involved in emergency procedures.

In the CCR at the OCC the reserve console may be used as an alternative position for communication with the incident site in order to co-ordinate the Control Room action



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with the activities on site and to give proper and immediate information to other operations staff, who are concerned by the incident e.g. information of Train Controller etc.

The Control Shift Section Manager (CSSM)'s console has to be equipped with an up-to-date listing of all liaising personnel and services including name, telephone numbers and contact arrangements outside operational hours etc. At least once every three months the list shall be reviewed and tested.

The BTS telephone Call Center manned 24 hours day. Any urgent manager will be relayed to the Control Shift Section Manager (CSSM) During major incidents, the Call Center operator will be assisted by the Corporate Communication Team liaising with the Control Shift Section Manager (CSSM). The Control Shift Section Manager (CSSM) will provide appropriate information to the Operations Management and / or the Legal Counsel.

#### 2.4. Signage

Clear and unambiguous signage mitigates the effects of an emergency. Such signage includes the following:

- hazard and warning signs,
- locations of emergency exits,
- instructions for action to be taken in emergency (including a checklist of items to be noted),
- location of vital equipment, such as fire alarms, emergency stop plungers at platforms and First Aid equipment,
- instructions not to use elevators in case of fire etc.,
- lists of telephone numbers for emergency calls (Station Supervisor, Control Shift Section Manager (CSSM), etc.).

First Aid rooms are equipped with instructions explaining the use of equipment provided and vital immediate actions.


#### 2.5. Evacuation Plans and Emergency Procedures

Evacuation plans specific to stations, the depots and the BTS Building are provided. These plans are subject to regular review.

These plans are issued by the Safety and Security Director to all interested staff and to the relevant Emergency Services and Third Parties, as defined in the Operations Safety Plan. The Safety and Security Director is responsible to ensure that these plans are kept up to date and available to all concerned.

➤ A typical evacuation plan comprises:

- 1) distribution list
- 2) contact list with the telephone numbers of the persons and staff to be informed.
- 3) evacuation plan for internal use
  - 3.1) information on the specific location e.g. station, BTS Building, depots,
  - 3.2) site plan (access, location of other facilities etc.),
  - 3.3) dangerous locations (power supply, etc.),

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- 3.4) emergency exits,
- 3.5) evacuation and escape routes,
- 3.6) signage and pictograms (prohibition of smoking, emergency exits, alarm stations, emergency telephones etc.),
- 3.7) alarm stations (smoke detection, fire extinguishing equipment, telephones for emergency calls, staff equipment for emergency cases etc.),
- 3.8) assembly areas, as appropriate e.g. for Admin Building,
- 3.9) provisions for station closure.

#### 4) plan for the Rescue Teams


- 4.1) plan of the station or part of the line including adjacent buildings,
- 4.2) known locations of potential hazards near the line, e.g. petrol stations or pipelines,
- 4.3) location of the station in the system,
- 4.4) access locations for Emergency Services,
- 4.5) plan of maintenance buildings,
- 4.6) potentially dangerous equipment and equipment possibly affected by fire fighting water,
- 4.7) available access points from adjacent buildings or structures,
- 4.8) fire alarm equipment e.g. fire alarm control panel,
- 4.9) sprinkler system and stand pipe system,
- 4.10) location of water supply (hydrants, open water resources etc.),
- 4.11) known locations of dangerous goods (diesel storage for generator, dangerous goods in the depots),
- 4.12) type of dangerous goods and labelling.

➤ The following types of incidents are covered by emergency procedures:

- 1) fire or a smoke condition on a train or any other part of the system,
- 2) fire or smoke condition from an adjoining or adjacent structure to the system that threatens the system or disrupts service,
- 3) collision or derailment involving one or more vehicles,
- 4) loss of electrical power resulting in (a) stalled train(s) at or between stations or loss of illumination,
- 5) uncontrolled (emergency) evacuation of passengers from (a) train (s),
- 6) serious environmental conditions e.g. due to heavy rain, storm, lightning or ineffective drainage,
- 7) structural collapse or imminent collapse that threatens the system,
- 8) toxic, asphyxiating or irritating substances affecting the system or parts of the system,
- 9) serious vandalism or other criminal acts e.g. bomb threat, explosion,
- 10) person hit by a train.

➤ The emergency procedures include:

- 1) location to which the plan applies,

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- 2) date of issue, review and revision,
- 3) purpose, scope, definitions,
- 4) participating officials, Emergency Services, Third Parties and management,
- 5) safety measures during emergency operations,
- 6) duty of persons involved,
- 7) fire or smoke detection, extinguishing, protection, ventilation requirements and responses,
- 8) emergency exits,
- 9) incorporation of evacuation and rescue plans,
- 10) access for Emergency Services.

General procedures for emergencies must be followed by all staff. Responsibilities and co-operation with internal and external services or authorities are established in all procedures. Additional data and information are listed in the working documents provided which includes data on local medical services, specialist hospitals and local transportation agencies as appropriate.

The staff are regularly trained in their emergency duties. Evacuation Plans and Emergency Procedures are subject to validation by the Safety and Security Director through regular exercises.

### 3. GENERAL PROCEDURES FOR EMERGENCY CASES

#### 3.1. Reporting of Incident


The Rule Book specifies the manner under which employees will conduct their duties in the event of an incident. With the exception of information which staff are legally obliged to give, all information disseminated to external authorities or the media is given by the BTSC Corporate Communication Team or specifically delegated personnel only.

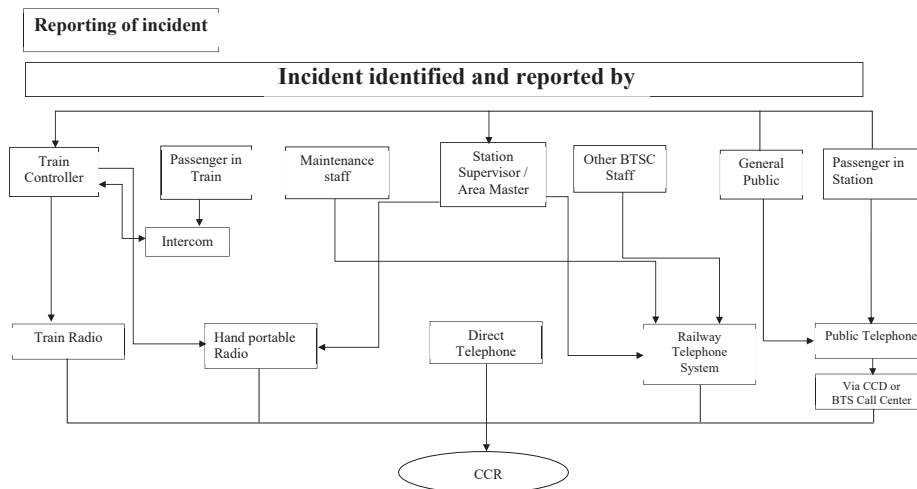
Emergencies are reported immediately to the Control Shift Section Manager (CSSM) via defined reporting lines as indicated in the following table. This may be done directly or via another employee, e.g. Train Controller via Line Controller to the Control Shift Section Manager (CSSM). An emergency call directly to the Emergency Services should normally be made by the Information Controller, who is the person with the delegated authority to contact Emergency Services and Third Parties. (CMC if formed would assume the duties of contacting third parties as outlined in: ACTIVATION OF THE CRISIS MANAGEMENT COMMITTEE (CMC))


The information must be as clear and concise as possible and should ideally contain the following:

- name and location of the reporting person,
- location of the incident,
- time of the incident,
- description of the incident,
- idea of number of persons involved,
- additional information of relevance.

In addition reports may be received from the public via the Telephone Call Center.

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### 3.2. Initial Emergency Response

Priority is given to preventative measures in order to limit the effects of any incident. This goal is achieved by precise procedures.

Principle actions during emergencies are intended to achieve the following:


- maintain the safety of passengers and staff,
- limit damage to the BTS,
- facilitate immediate repair of damage or removal of obstacles blocking the line,
- facilitate the return to normal operations as soon as possible.

Should a member of the public on the platform see a situation where a person is in danger from trains approaching stations or just leaving stations, these trains can be stopped by the use of one of the emergency stop plungers located at intervals along each platform. The trains will be stopped by emergency brake. The Station Supervisor concerned will recognise the activation of the plunger(s) on the station control panel and will be responsible to determine the reason for this action. After clarification of the situation he will inform the Line Controller who will recognise the activation of the plunger(s) on his MMI or by direct line or hand portable.

The SCADA system monitors equipment and system facilities on the BTS. In case of irregularities, alarms will be initiated on the Engineering Controller's console, who will respond according to defined procedures and inform the Control Shift Section Manager (CSSM). The Supervisor will then give further instructions to the operations staff and initiate internal and external responses, if required. One of the main duties of the Engineering Controller is the monitoring of traction power. Different responses and system reconfiguration will guarantee an almost permanent traction power supply during failures such that evacuation of trains can be avoided. The Engineering Controller will inform the Control Shift Section Manager (CSSM) immediately and extensively about the possibility of restoration of traction power in order to enable the Control Shift Section Manager (CSSM) to decide properly in a short time if an evacuation will be necessary or not. The Supervisor will then brief the Line Controller(s) to inform the Train Controller and Station Supervisors accordingly.

The AFC equipment incorporates an internal emergency response in connection with the fire detection system. Alarms will be transmitted via the SCADA system to the Engineering Controller and the Station Supervisor's control panel who will respond accordingly.

The fire detection and extinguishing systems at stations, the depots, BOCC, OCC and BTS Building will warn the staff concerned by the various control panels. Defined procedures ensure that immediate information will be available to the CCR if the system operation could be affected. The BTSC staff will fight any fire immediately by the use of locally available equipment in order to control the spread of fire and limit the extent of any additional external response.

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Should passengers activate the Passenger Emergency Release on board of a train moving at less than 3 km / hr., the train will be stopped immediately by application of the emergency brake. If passengers then open doors outside the limits of a station, the Train Controller has to respond in accordance with the section on emergency evacuation between stations. He will carry out an emergency call to the Line Controller in the CCR to arrange for other trains to be stopped. Above that speed the train will not be automatically braked but the intercom link to the Train Controller will be automatically connected to the call point adjacent to the Passenger Emergency Release that has been activated. The Train Controller will ask the passenger about the situation and respond according to defined procedures. In principle, the Train Controller's first priority will be to take the train to the next station in order to resolve the situation. The Train Controller will inform the Line Controller accordingly to requirements and immediate support from the Station Supervisor will be arranged if appropriate. When the train has arrived in the station the Station Supervisor will take responsibility for further action if required, supported by other station staff.


If Train Controller notice irregularities whilst the train is in motion, the initial response will be to take whatever action is necessary to protect the life of persons threatened. As the speed of response to an incident is crucial to the ability to reduce the severity of an incident, a separate emergency stop button is mounted in a prominent position in the Driver's cab. The Train Controller must report the incident to the Line Controller immediately to allow other Train Controller to be warned and to receive further instructions.

Station Supervisors may observe an incident during a regular tour through the station, receive an alarm by means of the station facilities or be informed of a potential or actual incident by passengers. Action will be taken to limit damage or to reduce consequential danger arising from the incident. Other station staff will be advised, if necessary. If possible, such as minor fire, the incident will be handled locally by BTSC staff without the need to call in Emergency Services.

Line Controllers have the facility to stop all trains in the event of a report from any source of imminent danger to persons on the line.

Immediately following the initial response from staff on the system or in parallel with such responses, status monitoring updates and alarms are reported back to the OCC for some of the equipment. This in addition to reports from the outside staff enable an appropriate response to be initiated. The table in section 3.3 details the manner in which the initiation and co-ordination of this response is undertaken through the Control Shift Section Manager (CSSM). As an example, he will instruct the Engineering Controller to arrange for traction power to be removed or the Line or Depot Controller to 'block a line' to other trains.

Trained personnel can also reduce the effect of an incident by appropriate actions such as administering First Aid correctly. The Safety and Security Director in liaison with the Training Department Manager is responsible for this training and further education.

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### 3.3. Internal Emergency Response


Staff is required to do everything possible to limit injuries and/or damage and to secure the area affected by an incident. The highest level of safety in the system will be achieved by the Line Controller or Depot Controller in liaison with the Engineering Controller from the CCR. Internal or external safety has also to be ensured by the operational staff on the system and the security staff in liaison with external Emergency Services. The safety of the location of the incident is vital for a person in need of help and for the Rescue Teams as well. For access to site, internal or external response teams must obtain an assurance that protection is in place.

BTSC staff must follow the Control Shift Section Manager (CSSM)'s instructions immediately after receiving the relevant information. Information has to be relayed according to Normal and Degraded Operations Plan via the Line Controller/Information Controller or directly to the Control Shift Section Manager (CSSM) in case the Line Controller himself recognises the incident. All other staff except Train Controller in service have to support the rescue actions as far as possible. Train Controller have to ensure that the train comes to a safe stop and that other trains are warned, passengers are informed and taken care of and that the train is under no risk. There will be some exceptional situations when Train Controller have to support the emergency action of other Train Controller, after they have taken care of their own passengers and trains.

According to the internal information received, First Aid equipment has to be taken to the location of the incident and administered as necessary. Fire has to be extinguished or contained by available facilities. Please refer to section 4.2.2 for further details. Unauthorised persons not involved in rescue actions or further activities have to be kept away from the location concerned.

Depending on the severity of the incident, various reactions will be possible. Incidents involving persons not caused by BTS operations (heart attack of passenger etc.) and other similar incidents may not require the attention of the Incident Manager but can be handled to conclusion by Station Supervisors. However all incidents have to be reported as soon as practicable via the Control Shift Section Manager (CSSM) to the Operations Control Department Manager, Train Services Department Manager, Station Services Department Manager verbally and / or by an internal written report.

Serious incidents have to be reported immediately to the Control Shift Section Manager (CSSM) who initiates further action (see section reporting of incidents). The clearer the report to the CCR is, the better the Control Shift Section Manager (CSSM) can respond. The BTSC staff are trained on which information is important to be reported for the initial response and which information can be deferred to subsequent reporting procedures. The extent of the incident and the impact to the system will be assessed by the Control Shift Section Manager (CSSM). For incidents with significant impact on operations, he then informs the person on call to assume the role of Incident Manager to report to the site of the incident and take responsibility for actions at this site. For defined incidents the CCR is supplied with response plans. The Incident Manager decides upon the need for any assistance from outside of the system.


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The Control Shift Section Manager (CSSM) is responsible for taking the decision on whether or not to call on the Incident Manager, however the Control Shift Section Manager (CSSM) must inform the On Call Manager of every serious incident. The On Call Manager will assist the Control Shift Section Manager (CSSM) by establishing contact with Senior Management. The presence of the Incident Manager on site is necessary to deal with Emergency Services and Third Parties with the appropriate level of authority.

Some incidents may require the support of the Emergency Team. The mobile equipment can be equipped with additional devices for immediate repair or emergency repair, but there is no standby function. In case the line is blocked and it is not possible to clear the line for the Emergency Vehicle the road vehicle with lifting platform is used initially. Other road vehicles such as pick ups, motor cycles etc. may provide further support.





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### 3.3.2. Classification of Incidents

This document delivers a general classification of incidents. Further detailed information is included in the Operations Safety Plan and Hazard List.

The following criteria will be checked to establish the response required to an incident and to provide the basis for preparing the detailed emergency procedures and regulations:

- kind of emergency
  - persons involved or affected
  - affects on the environment or external institutions (buildings)
  - extent of damage
- 1) In case of casualties, severe damage to property and/or serious affects to the environment, a senior person will be appointed as the Incident Manager and emergency services, On Call Manager Maintenance Centre will be informed by the Control Shift Section Manager (CSSM). The On Call Manager will initiate a call to senior management. Depending on the situation the Incident Manager through the Control Shift Section Manager (CSSM) will initiate closing of lines, initiate the interruption of power supply to the Third Rail, advise Emergency Services and Third Parties, request further support and take responsibility for the resumption of normal operations in liaison with the Control Shift Section Manager (CSSM) as soon as possible. The facts of the incident have to be documented. In case of suspected suicide the documentation of facts is extremely important in view of BTSC liabilities. The Maintenance Centre shall inform the Emergency Team Leader.
  - 2) In case of severe damage to property, or a dangerous irregularity, a senior person will be appointed as the Incident Manager to take charge of the response on site. He may, as appropriate request activation of the CMC, initiate through the Control Shift Section Manager (CSSM) the closing of the concerned line section, initiate alternative program in liaison with the Control Shift Section Manager (CSSM). The Control Shift Section Manager (CSSM) will inform emergency services and may request further support from, for example, the Service Vehicle. The facts of the incident have to be documented. The impacts to the timetable must be limited as far as possible and revenue service shall be resumed as soon as possible. It is therefore important to take all necessary action in the shortest possible time.
  - 3) In case of irregularities or disturbances of operations the Incident Manager already on site will liaise with the Control Shift Section Manager (CSSM) to take the appropriate action and the On Call Manager will be informed by the Control Shift Section Manager (CSSM).

Internal actions following the initial response are initiated and co-ordinated by the Control Shift Section Manager (CSSM). He will constantly receive the required information from the location of the incident as a permanent information exchange. The Control Shift Section Manager (CSSM) is responsible for advising the On Call Manager, emergency services and Maintenance Centre who are required to assist in the response to the incident. He stays in contact with the

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Incident Manager on site. The On Call Manager is responsible for staying in contact with senior management.

### 3.3.3. Incident Manager

The Incident Manager carries the authority of BTSC at the site of the incident. Initially a defined person at the locality of the incident, e.g. a Station Supervisor, will be in charge but will hand over authority at the arrival of the Operations Inspector should the incident be of a more serious nature. Where Police take control of the incident, the Incident Manager shall act as liaison between BTS and emergency services.

If Emergency Services and / or Third Parties work with equipment in or at the track or conductor rail, access authority will be obtained from the Incident Manager. The Incident Manager is responsible to contact CCR to ensure that power at the conductor rail is switched off and the Third Rail connected to earth before work is commenced.


In case external help is necessary the Emergency Services have to be guided to the site of the incident. The Incident Manager is in charge of giving further particulars regarding the incident and actions taken by BTSC staff.

If Emergency Services are involved in any incident at or in the stations or on the line, the Station Supervisor will be in charge at the incident site and co-ordinates all measures of Emergency Services and Third Parties with the BTSC authorities until a person of higher authority arrives to assume the role of Incident Manager. In the BTS Building the Admin Building foreman is in charge at the site of the incident until the Incident Manager arrives in the workshop the in co-operation with the Depot Engineer is in charge at the site of the incident until the Incident Manager arrives and takes appropriate action.

The Incident Manager co-ordinates all internal and external activities in close co-operation with other BTSC staff depending on the incident classification.

- The Incident Manager is responsible for
  - safety of passengers, staff and other persons involved,
  - detection of existing and consequential hazards and initiating appropriate precautions,
  - safety of Rescue Teams working in close co-operation with the Chief of the Emergency Team Leader, Emergency Services and Third Parties,
  - immediately identifying the relevant facts, and preservation of evidence
  - site co-ordination of activities of BTSC staff and Emergency Services,
  - initiating and supervising all necessary measures to limit damages,
  - enabling resumption of normal operations as soon as possible,
  - limiting any negative influence to the reputation of BTSC by proper, reliable and immediate information,
  - preparation of incident documentation,
  - initiating a site investigation of the incident for future analysis by the Safety and Security Director,
  - suggesting measures for preventing similar accidents.

The Incident Manager will co-operate with the Corporate Communication Team for informing the General Public. He may instruct the Corporate Communication

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Team to relay information including data to the Legal Counsel for approval before releasing to the General Public.

### 3.3.4. Emergency Team

The Emergency Team is part of the maintenance organisation, which responds to emergencies. The response is co-ordinated on site by the Emergency Team Leader. In case of an emergency, the Control Shift Section Manager (CSSM) in liaison with the Maintenance Centre activates the appropriate members of the Emergency Team according to defined call-out procedures. Depending on the traffic in Bangkok and the tools and equipment to be brought to the incident site, the Maintenance Centre in conjunction with the Control Shift Section Manager (CSSM) decides the most suitable mode of transport. Staff as well as small tools and equipment may be transported by motorcycles and/or pick ups if e.g. the situation does not allow the use of the system itself.

The Emergency Team is multi-disciplined and consists of well trained and experienced personnel from the following maintenance sections:

- rolling stock,
- trackwork and conductor rail system,
- power supply system,
- telecommunication and SCADA system,
- signalling system,
- building engineering services,
- civil structures.

Depending on the situation the On Duty RST Shift Leader acts as the Emergency Team Leader and will, in co-operation with the Incident Manager call upon additional and specialised maintenance personnel.


The Emergency Team Leader in conjunction with the Control Shift Section Manager (CSSM) may set up an Emergency Team in the depot as additional support. He informs the shift leader and that he is required to take charge of the Emergency Team at the site of the incident.

The Emergency Team will access the incident site with the permission of the Incident Manager.

### 3.3.5. Service Vehicle Functioning as an Emergency Vehicle

The Service Vehicle is equipped with a Speed limiting device. It will be detected by the vital signalling and supervised by the ATP system. Movements during revenue hours to the incident site will therefore be subject to special operational procedures.

The Service Vehicle can be utilised as a rail based “Emergency Vehicle”. The Service Vehicle is not on permanent standby to be used as an Emergency Vehicle. In case the Emergency may be used for urgent repair or for transport purposes. Road vehicles are not equipped with BTS mobile radios and other arrangements are used to ensure that contact with these vehicles can be maintained. The Emergency Team Leader in liaison with the Control Shift Section Manager (CSSM) will decide on the type of vehicle to be used.

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The Emergency Vehicle transports the Emergency Team and the necessary equipment and tools to site.

### 3.3.6. Movements of the Service / Emergency Vehicle during Revenue Hours

Two movements of the Service / Emergency Vehicle are possible.

Within the **depots area** movements will be executed as shunting movements under the control of the relevant Controller but the maximum permitted speed is not supervised as the Service / Emergency Vehicle is not equipped with ATP. The Driver of the Service / Emergency Vehicle must ensure that the vehicle does not exceed the speed limit in the depot area.

On the Main Lines, movements with the Service / Emergency Vehicle will be executed for unscheduled maintenance or emergencies under special operating conditions, during service hours.

The Service / Emergency Vehicle may be operated.


- during normal operations: for unscheduled maintenance, for repairs without impact to normal operations or for the supply of spares. degraded operations for example to cut out or repair Third Rails, or
- during emergency operations as an “Emergency Vehicle train run” for immediate repair or emergency support such as to repair a rail fracture on the main line or signalling replacements.

Service / Emergency Vehicle runs are restricted to a predetermined speed and executed in accordance to RM2 mode operating rules. Movements of the Service / Emergency Vehicle have to be executed under the supervision of the Line Controller, under caution, on sight and under speed restriction during operations on the line. The maximum possible speed of the Service / Emergency Vehicle guarantees that the speed limit of RM2 mode will not be exceeded. The Line Controller can insert a special train number to enable monitoring of the movement.

### 3.3.7. Maintaining of System Operation

The Control Shift Section Manager (CSSM) will instruct the Line Controllers on the continued use of the system operation currently in place or on alternative programmes according to the Degraded Operations Plan.

Localised closing of sections may be required by the Incident Manager who is in charge of operations in the vicinity of the incident and the Control Shift Section Manager (CSSM) will ensure that these requirements are implemented and will then be responsible for maintaining operations on other sections as far as possible. The Control Shift Section Manager (CSSM) has the overall responsibility for the system operation and will contact Third Parties as appropriate.

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### 3.4. Liaison with Emergency Services

The Control Shift Section Manager (CSSM) or Information Controller has to be contacted by the staff in case of emergencies. They will inform the 'external' Emergency Services by telephone, resulting in an external emergency response. He co-ordinates all activities on behalf of BTS and must therefore be made aware of all relevant facts.

Emergency Services will be advised in accordance with predetermined plans and procedures provided at the CCR and at stations. The Control Shift Section Manager (CSSM) and the Station Supervisors are provided with a regularly updated list of the following agencies with jurisdiction for each station:

- police stations,
- hospitals,
- specialist hospitals,
- ambulance, Paramedics
- fire department.

The fire departments and hospitals are normally alerted by the police. Ambulances will be called upon by the hospitals in charge. The Control Shift Section Manager (CSSM) will give appropriate advice and support in a case where a Station Supervisor has called a hospital before he reports to the Control Shift Section Manager (CSSM) or in the case where a specialist hospital should be involved. The Supervisor will also inform the person appointed to assume the role of Incident Manager of the actions taken.

An Incident Manager will always be appointed when liaison with Emergency Services and Third Parties is required on site. He is equipped with a hand portable radio or mobile telephone to maintain contact with the Control Shift Section Manager (CSSM).

As time is of the essence, the Station Supervisor or the staff first on site should ensure that the site is protected and that the Third Rail is made safe in accordance with Rules and Regulations. Access to the site by Emergency Services or Third Parties should be subject to an assurance that this protection is in place.


No unauthorised persons shall have access to the site of the incident. Recovery of bodies will be done by Rescue Team in liaison with the Incident Manager and the police.

If the Incident Manager recognises any lack of safety with respect to the Third Rail, he will act immediately to provide appropriate protection to the Emergency Services. In principle when Emergency Services are already in place, the Incident Manager will liaise with the Chief of the Emergency Service and advise him regarding protective measures. The activities of the Emergency Services must be performed with the Incident Manager's knowledge and approval.

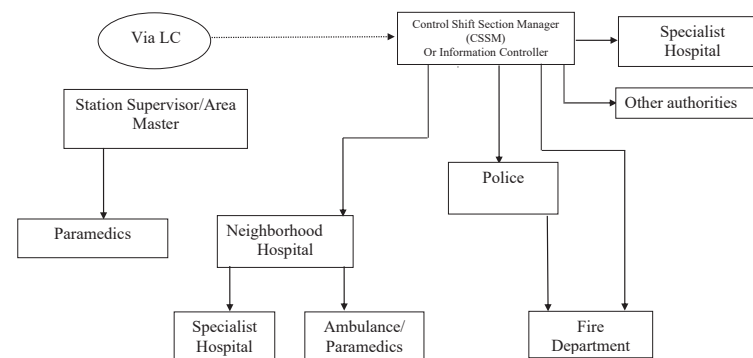
BTSC Operations Management will ensure that the Emergency Services have up-to-date information concerning the BTS and will encourage exercises or offer training on how to work on the system. Action plans are adopted, existing devices are checked and protective measures agreed with the Emergency Services. These activities are based on a constant exchange of information in accordance with the Operations Safety Plan.

The overall aim is to return the BTS to operating condition as soon as it is possible.


When the operation of the BTS is disrupted as a result of external factors such as an incident in a building or a highway near the line, the Control Shift Section Manager (CSSM) will request the necessary details directly from the Third Party. The Control Shift Section Manager (CSSM) should liaise with the responsible agency and takes the initial action. An Incident Manager may be appointed.

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Emergency Call to Emergency Services





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### 3.5. Liaison with the General Public and Relevant Agencies

The Incident Manager is authorised by BTSC as the only person to give particulars to the police and others on site. He will provide the necessary information to the insurer and to the Public Relations Team. The PR team will prepare the information for effective dissemination with the Legal Counsel's approval. The information will then be issued as an official statement or for the information of persons directly concerned. During a major incident a representative of the PR Team, most likely the Corporate Communication Department Manager, may be present on site. He will work in close co-operation with the Incident Manager.

Any negative image of the BTS shall be avoided and information as detailed as possible should be released. When the cause of the incident is absolutely clear, the Incident Manager may issue details to the police and the Corporate Communication Team. Where further investigation will be required or the liability and / or prestige of BTSC could be impaired, the Incident Manager will contact the Legal Counsel and make no statement.

The Legal Counsel will advise the Incident Manager during serious incidents, particularly when there are casualties and liability could arise.

The main duty of the Corporate Communication Team during and after incidents is to inform the General Public about delays and selective closure of the system by appropriate established means, and to assist the Control Shift Section Manager (CSSM) in providing the best passenger service possible in the circumstances.

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## 4. IMPLEMENTATION OF EMERGENCY RESPONSE

### 4.1. Assessment of Incident

Not all incidents are classified as emergencies. The correct response must be carried out depending on the effects on persons and / or the system. Impairment of the system has to be limited as much as possible. A reduction or curtailment of operations may be required. The Control Shift Section Manager (CSSM) is responsible for the level of response in close liaison with the Incident Manager on site and On Call Manager.


Some incidents may be solved by immediate and proper action of staff on site, e.g. person injured at a platform but not in contact with trains, as well as lesser injuries or limited fires. In such cases only local emergency action has to be initiated. There may also be incidents which require immediate help but do not lead to emergency operations, such as a person suffering a heart attack on the concourse level of a station or a worker suffering an accident with workshop equipment.

In general, a number of incidents require a similar response by BTSC staff due to the configuration and features of the system. Activities in or near the clearance gauge always require a defined procedure to be followed. In a similar manner to procedures for protection of staff during maintenance works, Emergency Services personnel and staff must be protected during any emergency response. Further Third Parties who may not be aware of the dangers arising from railway operations must be protected. The prevention of harm will be the most important duty of the Incident Management response.

As a principle access of Emergency Services and Third Parties to the track has to be allowed only when protection arrangements against moving trains and electrocution, have been put in place.

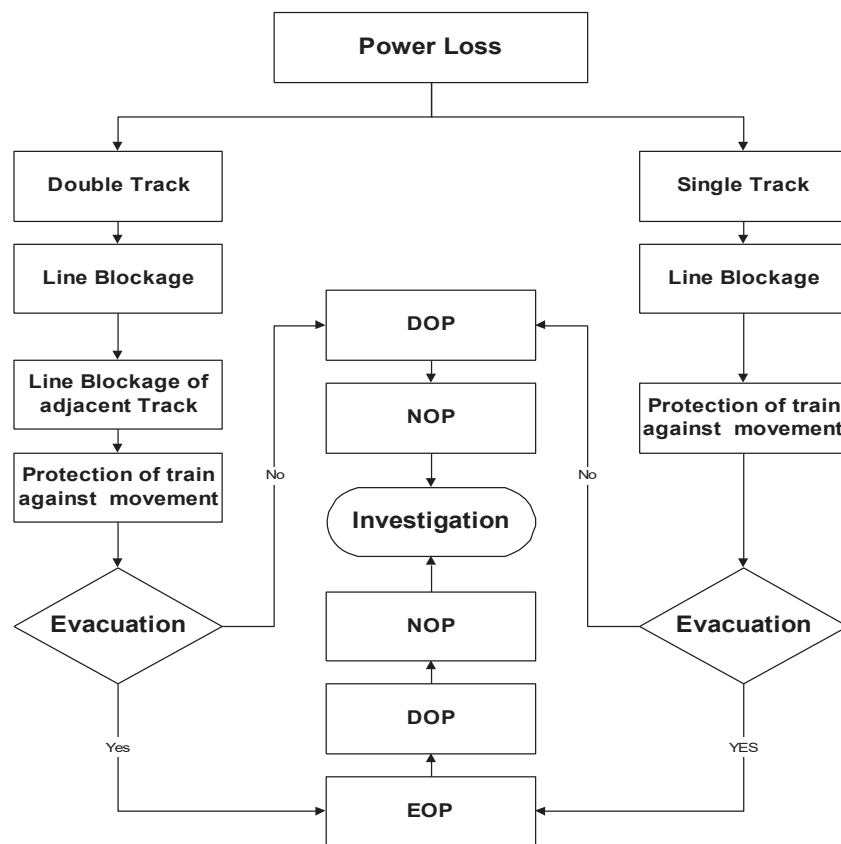
The Line Controller is able to give protection against train movements. Isolation of the Third Rail is undertaken by the Engineering Controller on the request of the Incident Manager in accordance with the defined procedures.


Even when passengers have activated emergency equipment such as an emergency stop plunger, BTSC staff must ensure sufficient protection is put in place prior to initiating any rescue operations.

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## 4.2. Decision on Type of Response

### 4.2.1. Power Loss



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The Emergency Operations Plan is applied to a total traction power loss situation. The application of the Rules and Regulations in such an incident is an extension of the application referred to in the Degraded Operations Plan for partial power loss and is specifically adapted to a potentially life threatening situation.

Power supply interruption will not immediately impair the vital signalling system owing to provision of the UPS system. The train Controller will attempt to coast to the next station for passenger evacuation there. Other trains which stop on the line shall be protected against movements by use of the driving/braking lever in case the power is restored again and the Train Controller and/or the passengers have left the train. Train ventilation will be maintained for at least 30 minutes and emergency lighting for 60 minutes. An immediate emergency evacuation situation will be avoided for these reasons.


All operational possibilities have to be considered before the Control Shift Section Manager (CSSM) decides to evacuate a train stopped between stations. An evacuation must only be undertaken under the conditions laid down in the sections on controlled and emergency evacuation.

In case of a total traction power loss, Train Controller are instructed to coast to the next station if possible as described in more detail in the Degraded Operations Plan. Passengers have to be detrained only when the situation shows that power cannot be restored in a short time.

If the traction power supply is likely to be off for an unknown period or in excess of 30 minutes then the decision to evacuate must be made within the first 10 minutes. This decision is taken by the Control Shift Section Manager (CSSM). The Engineering Controller advises the Control Shift Section Manager (CSSM) in liaison with the MEA regarding the possibility of restoration of traction current.

If a controlled evacuation has been ordered by the Control Shift Section Manager (CSSM), safety measures have to be installed to prevent additional danger to passengers or staff.

Low voltage power loss in stations does not lead to an emergency as essential loads will be supplied by a diesel generator. Emergency escape routes are identified and lit by battery backed emergency lighting units. Uninterrupted lighting, even at reduced intensity will prevent panic and the automatic opening of gates in case of power loss will ensure that escape routes are not closed. Refer to the Degraded Operations Plan for further details.

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#### 4.2.2.1. Fire on Board Trains, in Stations and the Depots

Fire causes a hazardous situation which may lead to an emergency. However not every small fire has to be seen as an emergency especially if personnel are able to limit or extinguish the fire quickly. The Operations Safety Plan deals with prevention measures. If fires are noticed within a short period and extinguished they do not lead to an emergency situation.


Depending on the location and the particular requirements, such facilities as hose reels, stand pipes, fire hydrants or gas flooding systems are installed. Gas flooding systems are generally provided for rooms containing electrical equipment. Additionally various types of portable fire extinguishers are provided. The staff concerned are trained in the use of the available fire fighting equipment and participate in exercises at defined intervals. All employees must be able to initiate the correct response to fire fighting. Immediate and well thought-out action can stop fire at its origin.

The reserve water storage facilities of stations are designed to guarantee a minimum of 30 minutes water supply in accordance with NFPA requirements. This is envisaged as being sufficient to deal with the situations until further assistance becomes available. Only if no water will be supplied from the Metropolitan Waterworks Authority (MWWA) water supply system will the water reserve not be replenished. However the fire department will be expected to arrive within this available time and has a connection at the ground floor pump room to feed the stand pipes. Integrated water resources of the trucks will bridge the time needed for connection to the stand pipe system and external water resources.

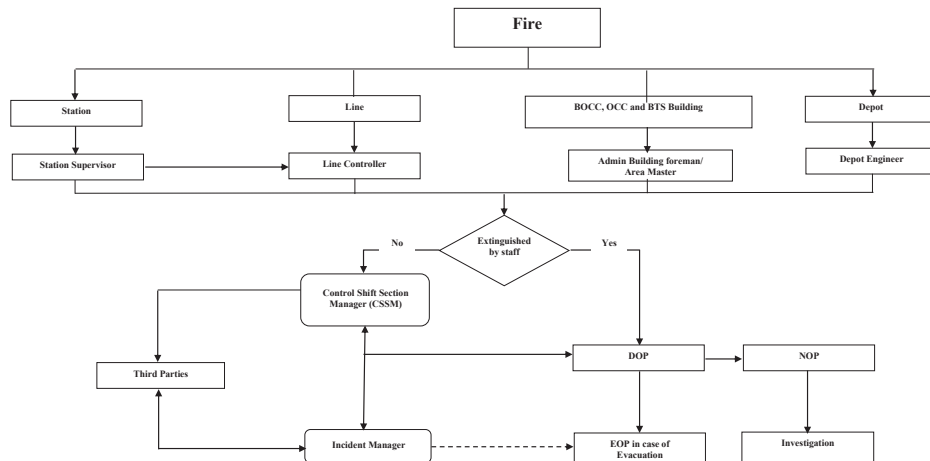
Trains are equipped with fire extinguishers both in the driving cab and in passenger saloons. In the stabling area, the workshop and the BOCC, OCC and BTS Building a sprinkler system is installed.


Additional to the above mentioned fire fighting facilities, stations are equipped with comprehensive fire detection systems. During emergencies, the possibility of panic has to be recognised. If fire or smoke has activated the fire detection and fire alarm system, an interface to the AFC system will open the gates automatically. Beside the automatic response, AFC gates can be opened manually by a push button after acknowledging an alarm on the fire detection control panel in the Station Supervisor's room. Activated either by manual intervention or during low voltage power supply failures, all gates will automatically open. The station staff make announcements using the PA system and / or megaphones requesting passengers to leave the station immediately. Please refer to the section on station evacuation for further details.

The Depots is classified as a factory therefore; the supply of water for the fire-fighting systems is designed to comply with the requirements for extended emergency control purposes. The fire fighting equipment room (pump room) and underground water storage tank are located in the basement of the stabling area.

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#### 4.2.2. Fire



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If a fire is detected on board a moving train, the Train Controller should endeavour to reach the next station in order to achieve a controlled evacuation and to use the available fire equipment located at the station. Passengers can either communicate via the intercom link with the Train Controller Should a train already be burning intensely, the following station and passengers waiting on the platform may be seriously endangered. There may be a decision to stop the train outside the station limits and secure the train against unintended movements by activating the driving / braking lever. This action will be an exception and taken only in liaison with the Control Shift Section Manager (CSSM). Train Controller of nearby trains have to stop their trains, inform the passengers and give any possible support. For evacuation of passengers please refer to the section concerned.

After an evacuation of a train at the platform, the Line Controller will, in liaison with the Train Controller and the Station Supervisor, decide either to retain the train at the platform for fire fighting or to bring the train to a location outside the station in order to avoid danger to the station.

In addition to the fire alarm system, a fire in the stabling area is to be reported to the Depot Controller by depot staff or the Train Controller. He will then inform the Control Shift Section Manager (CSSM), who will decide on further actions and will arrange access to the site for Emergency Services. When a train unit has caught fire in the stabling yard all possible actions must be taken to prevent other trains from being affected. The Control Shift Section Manager (CSSM) may either decide to leave the train in the roofed stabling area or to fight the fire outside. Most likely a fire on board of a train stabled in the depot will not spread to any major extent. Such fires should be handled within the roofed area where possible because of the fire fighting facilities in place, such as the sprinkler system, hose reels and portable fire extinguishers.

Only in case the fire has already reached such an extent that the structure of the building or other trains could be affected the removal of the affected train will be considered. The ability to remove other trains will be limited by their location in relation to the burning train and the availability of Train Controller. If possible, the burning train should be taken to a position where a safe access for the Fire Department can be provided. The Control Shift Section Manager (CSSM) will arrange for access by the Emergency Services to the stabling yard and give further instructions. The Depot Controller ensures that the access route for Emergency Services is protected against other train movements.

In all cases of fire the staff shall take the actions laid down in the respective rules, regulations and manuals. For movement and evacuation, the defined routes within and from the respective buildings or work sites to a point of safety shall be used.

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Fire in adjacent buildings can have an effect on the system due to smoke, heat, flame or toxic fumes. The Station Supervisor and / or the Train Controller will report such an incident to the CCR. Passengers safety has the highest priority. Controlled evacuation or closure of the affected area may be considered. The Control Shift Section Manager (CSSM) will review carefully all circumstances and may assign staff to inspect the site. Revenue interest will not govern the decision on possible closure of a station or section of the line. The safety of passengers and infrastructure have first priority.

Station staff should be made aware of such a situation. If found necessary, fire fighting equipment will be prepared in order to avoid the spread of fire to the BTS premises.

If the smoke or fire could endanger persons or affect train movements, it may be necessary to stop trains or to close station(s). If a station has to be closed, the Line Controller will set a "Skip" command, to prevent operating trains from stopping.


#### 4.2.2.2. Fire in the BOCC, OCC and BTS Building

The OCC is designed and constructed in compliance with NFPA requirements with a fire rating of at least for four hours. In case of fire in the BOCC, OCC and BTS Building, the fire alarm and smoke detection system will provide an immediate alarm. In case of fire on a certain floor, the floor(s) above and underneath may have to be evacuated. The **Depot Technician (BOCC, OCC) / Administrative Building Technician (BTS Building)** will receive the alarm at the control panel which will indicate the location of the fire and investigate its cause and extent. Then he will decide on the extent of evacuation required. The Admin Building foreman / Area Master will advise the Control Shift Section Manager (CSSM) accordingly.

The Control Shift Section Manager (CSSM) has to assess the situation in co-operation with the Admin Building foreman / Area Master who is located adjacent to the CCR. The access to the Admin Building foreman / Area Master's office is constructed with a fire rating of at least two hours.

The OCC is provided with a 4 hours fire rating so as to enable the control functions of the railway to continue whilst there may be a fire elsewhere in the building. However if the fire is such that there is a risk to the OCC fabric or persons therein the Control Shift Section Manager (CSSM) shall instruct the Line Controllers to initiate an orderly closure of the lines, and evacuate the building.



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#### 4.2.2.3. Fire in the Workshop Area

Fire in the workshop area does not directly affect the system operation. The required internal responses are dealt with by the maintenance department. Liaison will be maintained with the Control Shift Section Manager (CSSM), to advise him on the situation, especially in cases where stabled trains are affected.

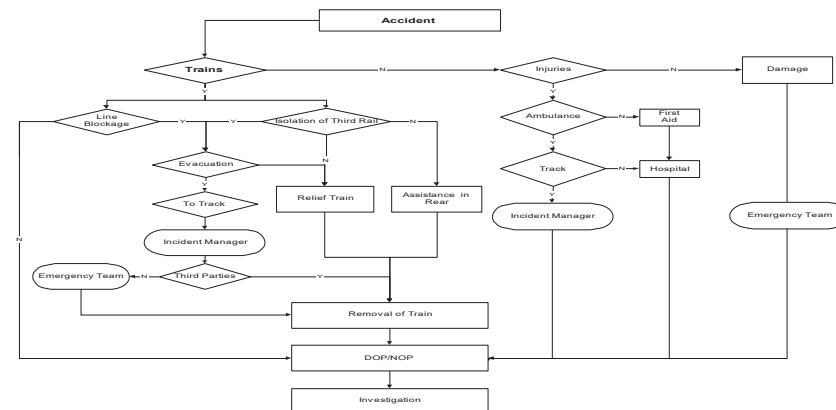
In case of fire in the workshop, the Emergency Team and the Rescue Services may have to deal with dangerous goods. Special care will be taken in the storage and labelling of such substances as grease, oil, used oil, welding, paints, other chemicals etc. The Depot Division Manager is responsible for fire safety. Information meetings and control checks are held in liaison with the Safety and Security Director at defined intervals. In addition, staff must pay particular attention to the waste storage area, as well as to machines and equipment. The Control Shift Section Manager (CSSM) and the Depot Division Manager maintain a list of all dangerous goods based on actual data, especially for the storage room for hazardous goods. Immediate information will be given to the Control Shift Section Manager (CSSM) via the Incident Manager (Depot) in case of a fire. Unimpeded access will be provided for the fire department.


#### 4.2.2.4. Notification of Fire in adjacent buildings

Notification of a fire in the adjacent buildings to the BTS and the response is subject to agreement between the two parties. In principle, the concern of BTSC is to be given early advice of a potential hazard.

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#### 4.2.3. Accident



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A train accident can seriously affect persons and facilities. An immediate report to the CCR should be made reflecting the sequence of events. The relevant Controller will ensure that the site of the accident is protected from train movements. Depending on the severity of the accident, the Third Rail may have to be switched off immediately, particularly if there is a risk of electrocution. If other trains could be affected to the extent that evacuation may be required, an orderly stopping of trains has to be aimed for. In case of accidents to trains, the Incident Manager and the Emergency Team have to be mobilised immediately. Depending on the reported situation the Emergency Team has to remain in standby function or report to the site. Immediate technical support will be given by all available staff, including the maintenance staff normally working at the stations. The need of external technical help such as provision of heavy cranes shall be reviewed. Advice to Third Parties shall not be delayed. Defined procedures have to be followed for immediate application of First Aid and other help. The location of First Aid facilities is defined in the Operations Safety Plan. Nearby hospitals shall be informed on injured persons according to specific alarm plans by the Station Supervisor or the Control Shift Section Manager (CSSM).


In stations, First Aid rooms are available which are equipped with a limited range of equipment. Access to the BTS system is allowed for official Emergency Services only. The Station Supervisor will organise Emergency Services in such a way that station operation is affected as little as possible. For further details please refer to the section on person in clearance gauge.

The area around the accident shall be off limits for unauthorised persons, including reporters. Appropriate information has to be given to the police by authorised personnel only. For the evacuation procedure please refer to the relevant section.

In the event of accidents in the Depot area, a special First Aid room is provided which is equipped with all necessary facilities. This room is shown on the depot layout at the ground floor, centrally located near the lift and the stairway to the mezzanine floor. Ambulance access is available via the staff entrance of the workshop.

Additional First Aid facilities such as eye wash stations in the workshop area are strategically positioned.

Accidents involving road vehicles (maintenance) are not the subject of this document.

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#### 4.2.4. Persons in Clearance Gauge

Persons present on the line are considered an emergency as their presence is an unauthorised violation of the clearance gauge. The following situations are possible:

- unauthorised access by staff,
- unauthorised access by passengers or members of the General Public,
- person attempting suicide,
- unintentional violation or disobedience of regulations after an accident has occurred.

Unauthorised access to tracks by passengers and trespassers is discouraged, as the design of the system restricts the access. Amongst others, platform ends are fenced. In case a person violates the clearance gauge in the platform area or drops onto the track, a refuge space underneath the platform edge is provided. An immediate accident prevention measure from moving trains is provided by the prominently indicated emergency stop plungers at platforms, which can be activated by BTSC staff or passengers. Generally power supply of the Third Rail does not have to be switched off in such situations.


In case the automatic switch protecting against the electrocution from excessive step voltage from the running rails fails, the Engineering Controller will receive an alarm via SCADA system. He will then respond immediately.

In the depot, defined regulations do not allow unauthorised access by staff. Restricted access is allowed for specified maintenance reasons only.

Clear details are given in the manuals for access of staff for maintenance reasons or to carry out their normal duties, e.g. Train Controller walking from stabled trains in pocket tracks or terminal stations. In case any staff do not obey these procedures, a certain level of safety can be provided by the Train Controller's duty to observe the track during train runs. If a Driver should observe a person moving to or in the clearance gauge the Train Controller shall bring his train to a stand so as to avoid an accident and shall then make an emergency call to the relevant Controller to enable warning to be given to other Train Controller. All persons within the clearance gauge must be removed by the most appropriate means.

The relevant Controller takes appropriate action, such as blocking the line in both directions and informing the adjacent Station Supervisor(s).

Unauthorised access to the clearance gauge by staff will require the staff to be subjected to disciplinary procedures and to be retrained on this subject.

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#### ➤ Recovery of seriously injured person


The recovery of a seriously injured person will be done under the responsibility of the Incident Manager.

As BTSC staff is not able to legally declare a person or persons dead, it has been agreed with Police that the area of impact be clearly marked including the final position/s of the injured person. Once this is completed, the person or persons injured in the incident be moved from the track area to allow service to continue. CCR shall be notified immediately in order to contact the Police in accordance with procedures. CCR shall also ensure the retrieving of the CCTV records. The injured person will be brought to the First Aid room to protect from public scrutiny and wait for the Paramedic.

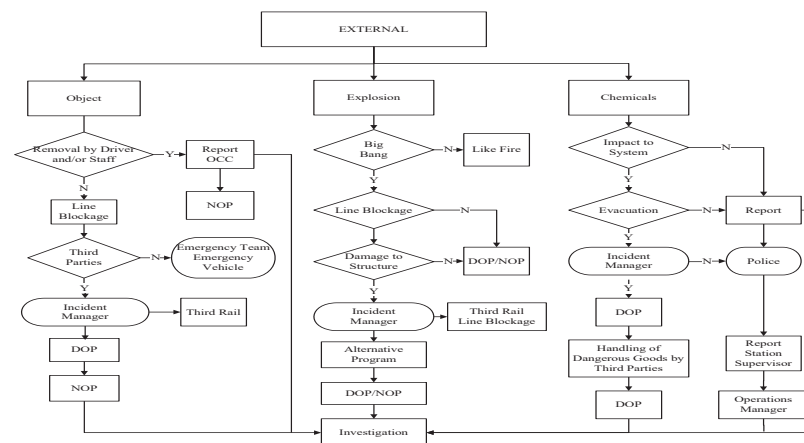
The Station Supervisor shall close the station until blood on the track and platform has been properly covered with sand and cleaned up.


The Incident Manager is responsible to ensure that the system is cleared for normal operation to resume as soon as possible.

Passengers shall be informed immediately about delays. Further information may have to be released by the Public Relations Team.

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#### ➤ External Events



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Various external events can affect the system. Minor incidents, e.g. person slipped or tripped on platform or concourse level, do not affect the functioning of the system and are dealt with in the respective procedures. They still have to be logged and reported to the Operations Control Department Manager, Station Services Department Manager and Safety Department Manager.

This section deals with events that can have serious impact, such as

- objects fallen onto the viaduct or stations,
- vandalism or sabotage,
- explosion,
- release of chemicals.


As the effects of earthquakes on adjacent structures cannot be predicted, these are not specifically considered within this plan. The BTS structures themselves are designed to withstand the maximum predicted acceleration which may be experienced during an earthquake affecting Bangkok.

Objects may fall onto the viaduct or stations from neighbouring buildings (scaffolds, frames) unintentionally e.g. by storm or disobedience of safety regulations. Further critical sections in the system may be crossings of highways, roads and other railway systems. In some cases an indication for an object on the track may be given in the CCR as the result of an out of sequence track circuit occupation or by a loss of traction power. In these cases trains may be stopped automatically. All staff working on site have to report such incidents to the Control Shift Section Manager (CSSM) who initiates immediate response, as there may be a request for the Emergency Vehicle with crane or cranes of Third Parties to assist at the site of the incident.

Regular surveys of the system are undertaken by Operations to minimise possible impact or damage to the system.

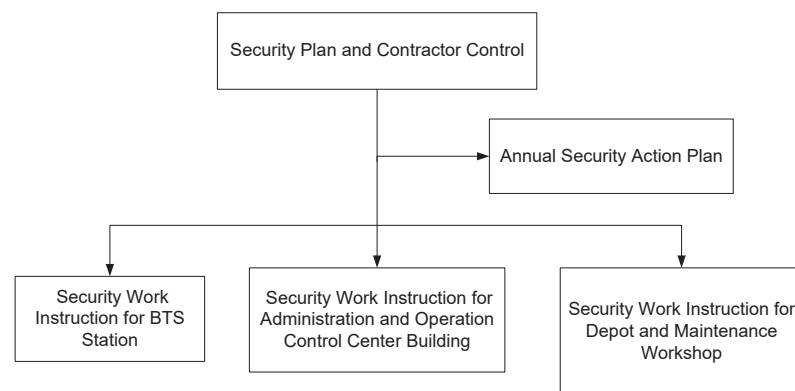
#### ➤ Objects fallen onto the Viaduct

Objects within or close to the clearance gauge may be detected by observation of the track by Train Controller during train runs. If Train Controller recognise obstacles in the adjacent track, they have to report this to the Line Controller immediately. If possible the Train Controller of trains in the opposite direction should also be warned. If the obstacle affects their own clearance gauge, the Train Controller has to attempt to stop the train in front of the obstruction. Passengers have to be informed accordingly. If possible the Train Controller has to remove the obstacle from the line to a place of safety and report the removal to the Line Controller. Before the Train Controller leaves the cab, the train has to be protected against movements by moving the Driving/Braking lever to the braking position. Before Train Controller(s) access the adjacent track, the Line Controller has to ensure line safety. The Train Controller (s) have to receive permission for access.

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In order to ascertain any Third Party liability, an investigation should be instigated. Site visits should be carried out preferably during the night-break when there is no revenue service. The Incident Manager has to be advised and will co-ordinate further action and investigation in liaison with the police. The Incident Manager has to aim for clearance of the line and restoration of normal operations as soon as possible, if a clearance of the line by Train Controller and / or Station Supervisors was not possible. The Incident Manager is in charge of the removal of the object. No other authority has the right of access to the line for recovery.

#### 4.2.5. Security Control




#### ➤ Vandalism and Sabotage

The BTS system is a self-contained system. During the night-break, the paid areas of stations are normally closed and secured by roller shutters.

#### ➤ Bomb Threat / Explosions

Explosion may arise from various reasons. Response follows defined procedures depending on the different situations. Explosions may lead to heavy damage to civil works. The staff have to give detailed information to the CCR immediately. The Station Supervisor or other BTS staff (maintenance) will assess the extent of the damage, secure the affected area and evacuate persons if necessary. The Incident Manager has to be advised immediately. Emergency Services will be informed according to defined procedures and alarm plans.



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Bomb or terrorist threats are generally intended to create fear and to interrupt business operations. The majority of terrorist acts where people have been injured or killed usually occur without any warning or threat. Experts generally agree that if a terrorist organization or disturbed person wishes to cause damage and loss of life, they can usually do so without warning and it is very difficult to stop. This means that policies and procedures are required to treat threats seriously, while at the same time do not permit the perpetrators to completely ruin the company's business. The key to minimizing the major impact of an attack is training and preparation. The Police or Military can provide specialists for disposal of a suspicious object or actual piece of explosive ordinance.

#### ➤ Chemicals

Accidents involving hazardous chemical release underneath or adjacent to the viaduct may affect the system. Transport of hazardous chemicals in trains is prohibited. The storage of chemicals for BTSC use near the workshop does not impair the system operation, since only less dangerous goods are stored and safety provisions are in place. A chemical release must be reported to the Control Shift Section Manager (CSSM). He will then decide on the level of response to be taken and will advise the Incident Manager to check the situation on site. If dangerous fluids have been spread, damage to the structure shall be checked. The Incident Manager shall initiate the appropriate response.


To minimize the effect of possible explosion, sabotage or chemical exposure, BTS employees full time security at stations. Further to this from time to time request Police assistance from the Patrol and Special Operations Division of the National Police to patrol the system. Regular inspections of the right of way, petrol and gas facilities are undertaken by BTS.

#### ➤ Serious Crime / Hostage Taking

BTS staff are not expected to put themselves in danger or to jeopardize the safety of others, when responding to such situations. If weapons are involved, they must report them to the CCR, who will advise the Police. Staff must remain at a safe distance and prevent customers from approaching the affected area. They must not attempt to contact the hostage taker or to aggravate him in anyway. They must not prevent him from leaving the premises if he wishes to do so.

#### ➤ Riots

A Railway is a very convenient spot for provoking any kind of riot. Riots may also be caused simply by the occurrence of big crowds that develop their own mentality and become unpredictable. Stampedes can result that may cause injuries or fatalities. Riots may be started outside of BTS property and eventually move into one or more Public Station areas. When any kind of riot has started that is likely to affect the operation of the railway and / or damage the properties of BTS, ensure all staff are executing their emergency response procedure and confirm:

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#### ➤ Summary of External Events

External events stated above, such as lightning strike, accidents involving a truck loaded with dangerous goods beneath the viaduct or by smoke from a fire in adjacent buildings may affect the BTS system directly. The complexity of all possible incidents in respect to general principles is discussed herein.

Incidents which impair the system indirectly will be responded to accordingly. These incidents can be serious and life threatening. The staff are well trained and receives refresher courses involving competent institutions (fire department, international experience etc.).

Potential Hazards adjacent to the BTS premises will be monitored by BTSC staff and potential hazards reported. The Control Shift Section Manager (CSSM) in liaison with the other CCR staff and the Incident Manager will decide on the most appropriate response, such as

- informing passengers,
- reducing service,
- closing and evacuating station(s) and other facilities such as workshop, BTS Building, etc.,
- closing line sections,
- closing line(s),
- implementing alternative operating programs,
- stopping service for enabling Emergency Services to reach the site,
- evacuating disabled trains.

### 5. EVACUATION PROCEDURES


Two distinct kinds of evacuation procedures are covered by the Emergency Operations Plan: The Controlled Evacuation, which refers to situations where the safety of passengers is not at immediate risk, and the Emergency Evacuation when passengers have to be immediately evacuated.

For each of the above the following evacuation scenarios have been considered

- from trains between stations
- from trains at stations
- from stations

#### 5.1 Controlled Evacuation

If a train stalls between stations detrainment to another train as described in the Degraded Operations Plan and evacuation of passengers to the track should be avoided if possible. Train Controller shall coast to the next station or approach it as closely as possible.

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Should the efforts to do so fail and an evacuation of passengers is unavoidable, the following constraints have to be taken into account:

- The worst case assumed for a controlled passenger evacuation shall be with the crush peak load. The constraints of the infrastructure will influence the manner under which evacuation can take place.
- Equipment between the rails such as Belise, return current cable feeding points etc. is covered to allow passengers to walk safely.
- Passengers travelling in wheelchairs need to be carried, because there is no exit route from a train that would allow the passenger to remain in the wheelchair.
- The system consists of double tracks with side platforms in the stations. In the Central Station area there are single line track sections are used. The Central Station itself comprises two island platforms at different levels.
- The ends of the platforms are balustraded a gate leading to steps from track level. These steps may be used by passengers evacuated from a train to access the platform.

#### 5.1.1 From Trains between Stations


This section deals exclusively with evacuation to the track when the preferred response of detraining to another train is not possible.

The time needed for evacuating passengers from trains between stations is longer than that required for the evacuation of passengers from stations or from trains standing at the platform. Therefore the situation of a train immobilised between stations is used in order to ascertain that the evacuation of passengers can be undertaken safely within the time capacity of the battery backup vital systems on the passenger vehicles and on stations under any circumstances.

Before ordering an evacuation the Control Shift Section Manager (CSSM) has to consider the following criteria:

- type of emergency,
- location of train,
- shortest distance to the next station,
- single track or double track,
- weather conditions,
- time of day and available light,
- personnel available to assist,
- passenger load of a train,
- location of other trains on the same and adjacent track.

The Control Shift Section Manager (CSSM) gives the necessary instructions to the Line Controller to block the line against train movements and to the Engineering Controller to remove power from the Third Rail before instructing other staff to evacuate the train.

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The Line Controller prevents further train movements to ensure the safety of the passengers. The Train Controller of other trains are informed of the situation and are instructed to stay with their trains at station platforms. The traction current in this section shall be switched off in accordance with the relevant procedures.

Upon the decision of the Control Shift Section Manager (CSSM) or, the Line Controller informs the Train Controller on the decision to evacuate, and the assigned Controller instructs the Station Supervisors of the stations behind and in front of the disabled train to install the earthing devices. After the Station Supervisors have given their reports to the CCR that the Third Rail is connected to earth one or both will be instructed to proceed directly to the stalled train to assist the Train Controller during the evacuation. The relevant Controller will inform the Train Controller that the line is secured. After all safety provisions are carried out, the Train Controller informs the passengers via the PA system of the intention to evacuate. The passengers shall be advised by the Train Controller to follow the instructions of the authorised personnel.

If instructed by the Control Shift Section Manager (CSSM), evacuations will be executed through both front end door and rear end door. Evacuations from 3 car trains normally will take place through the front or rear end door only.


The Train Controller ensures that the train is correctly secured according to defined procedures. He then opens the relevant end door, lowers the ramp to the track and installs the additional ramp section to reach the slab level. The Train Controller makes the necessary passenger announcements, opens the cab saloon door and assists the passengers to walk to the slab level.

Meanwhile, the Station Supervisors instructed to support the evacuation by the Line Controller will have arrived at the train. The Station Supervisor of the station to which the will be made arrives at the train and assists the evacuation. Additionally where evacuation has to be additionally be made from the other end, the other Station Supervisor enters the cab at the other end of the train via the side door. This Station Supervisor lowers the end ramp as above but before he opens the cab saloon door he contacts the Train Controller in the other cab via cab to cab intercom to make announcements that the passengers can now leave the train via the rear end door. The passengers leave the train under the assistance of the Station Supervisors to the next station. Use of the way out of the rear end door and back along to the front of the train on a parallel track is to be discouraged.

Wheelchair passengers will need to be carried off the train to the station with the assistance of accompanying BTS staff.

When arriving at the station the passengers will use the stairs from the deck to the platform with the assistance of station staff. After arriving at the station platform the station staff give all necessary help and information to the passengers and ensures that no person returns to the track. The Train Controller checks the train that all passengers have left the train. Then he reports to the CCR.

On the way back to the station the Station Supervisor checks that all persons have left the track, closes the platform gate and reports to the CCR.

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In the event of a longer traction power failure affecting part of the line only with no way of reconfiguring the power distribution to restore power, the Control Shift Section Manager (CSSM) gives the order to run an alternative program over the unaffected sections. Depending on the situation the Control Shift Section Manager (CSSM) may give the order to commence running this program during the evacuation when the area is not affected by the evacuation.

The disabled train will be removed from the line as soon as possible. If evacuation is a result of loss of traction power only, restoration of the traction power may allow the train to proceed under its own power to the next station. These movements are initiated and carried out according to defined procedures under the supervision of the relevant Controller.

### 5.1.2 From Trains at Stations


Evacuation of trains at stations for operational reasons is covered in the Degraded Operations Plan.

A train may have to be evacuated for security reasons as a result of information given to either the Train Controller or the CCR. The Train Controller may receive information on a possible security threat directly as a result of information given by a passenger in the train over the emergency intercom system which he will immediately pass on to the Line Controller. Otherwise, the information will be given to the Train Controller by the Line Controller.

However the Train Controller is advised of the security threat, the instruction will be to proceed where possible to the next station from where an orderly evacuation will take place. The Train Controller informs the passengers via the PA that they will be required to leave the train at the next station. This information is given to the passengers as soon as possible such that panic will be avoided. The Train Controller keeps the Line Controller advised of the situation and stops the train at the next platform where the doors are kept open to permit all passengers to leave the train. The Station Supervisor and the Train Controller make sure that all passengers are detained.

After the Line Controller has received information on a security threat from the Train Controller, he advises the relevant Station Supervisor and directly reports to the Sr. Control Shift Section Manager (CSSM) / Control Shift Section Manager (CSSM) who mobilises the Incident Manager. The Station Supervisor receives instructions from the Line Controller to clear the platform at which the affected train is due to arrive and if necessary to evacuate the station.

Passengers in wheelchairs will need the assistance of accompanying BTS staff.

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The Control Shift Section Manager (CSSM) and / or Incident Manager decide on further actions in close co-operation with the Police and the Security Manager. Further action depends on the nature of the incident. In cases of bomb threats, for example, the train has to be thoroughly checked to verify whether or not the threat is real. This check is performed by specially qualified persons who will report the results of their search to the Incident Manager. The Incident Manager in co-operation with the Control Shift Section Manager (CSSM) then decides whether the train has to be taken out of service and where or whether it can resume service and consequently if the system will need to be operated according to the Degraded Operations Plan.

### 5.1.3 From Stations

In case a station has to be closed owing to a security alert either on the station or on an approaching train or for other exceptional reasons, the Station Supervisor is responsible for the controlled evacuation from the station. This evacuation will be ordered by the Control Shift Section Manager (CSSM) via the Line Controller. For through stations the Line Controller will set a "Set Non-Stop" command and inform the Train Controller concerned accordingly. The Line Controller will address the passengers via PA either directly or through messages relayed by Train Controller to advise that no passengers should alight the train at this station. At terminal stations alternative arrangements will apply.

After the Station Supervisor has received the evacuation order, he makes PA announcements to the passengers to leave the station via the normal exit routes. These announcements are made such that no panic will be provoked. The passengers will leave the station via the staircases to the street level. From the paid area to the unpaid area passengers will use the exit gates. Ticket and fare matter shall be dealt with in accordance with defined procedures.


Passengers in wheelchairs will need the assistance of accompanying BTS staff.

All locally available security staff support the Station Supervisor by closing the station and preventing the passengers from re-entering the station.

## 5.2 Emergency Evacuation

Emergency Evacuations apply where the safety of passengers is at immediate risk and a rapid evacuation is necessary. Emergency evacuations expose passengers to some risk of injury and are allowed for only as an escape from a situation of greater risk.

To avoid an emergency evacuation from a train between stations, which exposes passengers to the greatest risk, Train Controller must proceed whenever possible to the station ahead where passengers can be evacuated directly to a station platform.

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Generally, an emergency evacuation will occur only when the situation has already escalated to a point where the staff will not be able to achieve an orderly evacuation. The initial staff response will therefore be to mitigate the effects by attempting to control the situation which the passengers put themselves into. The first priority is for the Train Controller or Station Supervisor to advise the Line Controller concerned that there is an uncontrolled movement of passengers so that the Line Controller can make the area as safe as possible as quickly as possible. He or the Train Controller or the Station Supervisor will address the passengers by the PA system and give instructions on how to move away from the situation of greater risk to a place of relative safety.

#### 5.2.1 From trains between stations


In case an emergency evacuation between stations becomes necessary and communication with the CCR is possible, the Train Controller has to make an emergency call to inform the Line Controller of the situation. The Line Controller ensures that the line is secured against moving trains by setting an overall station hold by CTC, requests immediate removal of traction power in the area from the Engineering Controller and informs the Control Shift Section Manager (CSSM). This is one of the few cases when the Line Controller sets an overall station hold by CTC because of the required immediate response. All trains on the line will be stopped and operation disrupted but the emergency evacuation will be safer. The Engineering Controller switches off the traction power using the fastest procedure available to him.

Given the possible scenarios for emergency evacuation, it is likely that the passengers will panic and operate the emergency door releases and open the doors as soon as they are released when the speed of the train approaches zero speed. The Train Controller informs the passengers attempting to leave the train of the preferred side.

On single tracks the space between the train and the noise barrier is not sufficient to evacuate passengers quickly through the side doors and the Train Controller informs the passengers to leave the train through the end doors as well. After the train has come to a standstill the Train Controller opens the front end door. If necessary, passengers have the facility to break a glass panel in the cab saloon door at the rear end, enter the rear cab and open the rear end door so that the passengers can leave the train at both ends. Passengers are not expected to install the additional ramp Section this emergency evacuation situation and will be required to jump to the viaduct from the end of the door ramp.

After the Train Controller has secured the train and removed the Master Key, he leaves his cab to help the passengers. If possible he nominates other passengers to assist the less mobile during the evacuation. The Train Controller directs the passengers to the nearest station and gives all necessary information to the Line Controller by train radio.

Passengers in wheelchairs will need the assistance of accompanying BTS staff.

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If Emergency Services are requested, the Control Shift Section Manager (CSSM) has to take the necessary action and advise the Station Supervisors of adjacent stations to be prepared to co-operate and assist.

In the event that the Train Controller is not able to communicate with the Line Controller, the vital signalling system protects the affected train from other trains on the same track but no other protection is immediately available. The Line Controller must recognise an irregularity of a train stopping by means of the MMI. In the case where no communication with the train is possible the Line Controller has to try and contact the train in accordance with laid down procedures. In the event that the Line Controller cannot make contact with the stopped train, then he instructs the Station Supervisors concerned to check the situation and to report to the CCR.

#### 5.2.2 From trains at stations

When an alarm is raised on a train the Train Controller must endeavour to run the train to the next station for further actions. The Train Controller informs the Line Controller about the situation as quickly as possible by an emergency call. Thereafter the Line Controller informs the Station Supervisor to assist the Train Controller at the platform during the evacuation of passengers.


The Train Controller announces to the passengers via the train PA System that they must not attempt to leave the train before arriving at the next station and that doors are not to be opened before the train comes to a standstill.

However, it is possible for a passenger to open a door by force against the instruction of the Train Controller and the emergency brake will be applied. In this case, the train may stop short of the station (please refer to the section 5.2.1) or partially within the station limits. Similarly, it is possible that the Station Supervisor has not had time to clear the platform from other passengers and make arrangements for the forthcoming evacuation. If the train has reached the station platform but has not reached the correct stopping point, it is possible that some doors will be outside the station and will exit to the viaduct away from the adjacent track where space is limited and there is a risk of falling from the viaduct. The Train Controller therefore does not open the train doors but will use the PA to instruct passengers to operate the emergency door release at doors which exit to the platform only so that the passengers can leave the train in relative safety. During these critical moments the Station Supervisor has to assess the situation quickly, advise waiting passengers to clear the platform and give his full support to the passengers escaping from the affected train.

A train may be stopped by the use of an emergency stop plunger on the platform by, for example, a passenger who sees signs of a fire on board an approaching train. After the train has been stopped if the passengers on board are aware of the fire they may initiate an emergency evacuation for example, by forcing the doors open. If possible, the Train Controller will advise passengers that there is no immediate danger to them and will proceed in Restricted Mode to the platform.

The Incident Manager (Station Supervisor) in co-operation with the Line Controller and the Train Controller has to decide whether the train will stay at the station or be moved to another location.



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### 5.2.3 From stations

Sufficient stairs are provided between platforms and the concourse and between the concourse and the street to evacuate a full station load of passengers including the passengers from a crush loaded train evacuated to a platform. Platforms and passages are designed without fixed obstructions to the escape routes for evacuation of passengers and must be kept clear of temporary obstructions at all times. But essential maintenance will be allowed.

All gates are designed to open automatically in the event of power supply interruption or in response to a signal from the fire detection system. All gates may also be opened by a single command from the AFC gate “emergency open” switch in the Station Control Room and Ticket Offices. All barriers open in the escape direction.

Emergency evacuation from stations may be necessary as stated above. Escape routes are defined in the relevant procedure manuals.

If a panic situation arises, the Station Supervisor initially will open all gates and inform passengers regarding emergency exits and attempt to restore calm by use of the PA system. Escalators may be reversed to a downwards direction to speed up evacuation.


Passengers in wheelchairs with need the assistance of accompanying BTSC staff.

The Station Supervisor then reports to the CCR and investigates the reason of the panic. The Line Controller immediately sets a “Set Non-Stop” command to the affected station. He informs the Train Controller(s) of approaching trains not to stop at this station and to advise the passengers on the train accordingly. When the Line Controller receives more detailed information, he will brief the Control Shift Section Manager (CSSM), who will decide on further measures.

The station staff themselves will evacuate according to defined procedures. The Station Supervisor reports the evacuation and closing of the station to the CCR. The entrance to the station concourse will be closed by means of the roller shutter blind. In addition, the station accesses may be closed at street level by the Temporary Closing Device provided.

In case of life threatening fire, the three different levels of the stations have to be considered.

In every case, information will be given to passengers at other stations to the effect that a station is closed to service and to adjust their journeys accordingly. Similarly, in every case if external help is required the Station Supervisor informs the CCR accordingly. The Incident Manager will be mobilised according to requirements.

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#### ➤ Street Level

Fire on street level may be caused by external or internal accidents and other incidents. In case of fire underneath the Concourse Level there is a possible danger of asphyxiation by smoke. Depending on the extent of the fire, the Station Supervisor may inform the passengers to leave the station calmly and direct them to street exits away from the source of the smoke. The Station Supervisor can check the situation under the station by CCTV and may nominate a member of station staff to check further and report the extent, the impact and the location of the fire. He then informs the CCR.

If the fire is still small, the station staff may fight the fire immediately with hand held extinguishers. The BTS refuse and pump rooms at street level are fitted with automatic fire fighting systems.

The station staff may need to block off the area and station accesses according to established procedures. If the fire is so serious that there is a danger to passengers in trains as well as on the station, the Station Supervisor informs the Line Controller who will stop trains before reaching the affected station or to ensure that trains pass through the station without stopping.

If an evacuation of the station to the street level is not possible, the Station Supervisor in close liaison with the Line Controller evacuates passengers from the station via trains. In this case the Line Controller informs the Train Controller to detain existing passengers at the station before to make room for passengers from the affected station.

#### ➤ Concourse Level


The emergency evacuation of the concourse level has to follow similar procedures. All gates are opened immediately. The Station Supervisor informs the passengers by use of the PA system on the available emergency exits and the possible evacuation via the platforms and passing trains. All station staff will give the appropriate support.

Passengers in wheelchairs will need the assistance of accompanying BTSC staff.

#### ➤ Platform Level

If fire breaks out on the platform level, the Station Supervisor closes all AFC entry gates to prevent entry of further passengers, makes an announcement through the PA system to the concourse level only and sends a member of the station staff to check the situation on the platform. Escalators will be stopped.

Depending on the severity of the fire reported to the Station Supervisor, all gates may be opened in the exit direction for evacuation of all passengers. Fire fighting will be performed by station staff if possible and in accordance with specified procedures.

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The Station Supervisor will advise the Line Controller of the situation and close the station or block off the access to the platform level with station staff. The Line Controller will ensure that trains will be stopped at the station before and any approaching trains will be instructed to pass by without stopping.

Another option to evacuate passengers from the platform level beside the evacuation to the street level may be to evacuate passengers to the viaduct either by trains or via the emergency exits at the platform ends. In case passengers should be evacuated to trains, the Line Controller will inform the Station Supervisor of the station before and the Train Controller concerned to request existing passengers to leave the trains.

If a platform to track evacuation is ordered, the Line Controller will secure the track section concerned in both directions in accordance with defined procedures and the Engineering Controller will be instructed to ensure that traction power is isolated from the area. The Line Controller will brief the Station Supervisor who will initiate appropriate action at the station.

#### ➤ Central Station

Central station is different from other stations in having centre platforms instead of side platforms and in having two platform levels.

The same principles apply as for other stations but the detailed procedures will take account of the extra level, the more complex stair arrangements and the longer travel distances which may be involved.

#### ➤ Walkway connections to concourse or platform


Detailed procedures take account of walkway connections to adjacent buildings and other transport systems and the need to close or maintain these connections.

### 6. RESTORATION OF NORMAL / DEGRADED OPERATIONS

The procedures for a quick restoration of service in the event of accidents and other related incidents have to be read in conjunction with the Normal Operations Plan, Degraded Plan and maintenance strategy. Safety related regulations are complimentary to the Operations Safety Plan and the maintenance strategy.

When operation may be restored after clearing the site and checking the integrity of system facilities, the Incident Manager reports to the Control Shift Section Manager (CSSM) that the Line is clear. This final check includes verification that no tools or spares have been left in the clearance gauge and all persons have left the Line and will not return.

Information will be given to passengers via the PA system according to defined procedures. The Public Relations department may also be required to give information to the general public through media channels that the BTS is restoring its service.

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### 7. FORMAL INVESTIGATION AND RECORD KEEPING

The goal of all investigation is the implementation of improvements into the system to reduce the chance of a recurrence or severity of the incident. In addition, time for the investigation of the incident will be required and shall be considered in the evaluation of incidents. This is important particularly for determining the costs where Emergency Services and Third Parties have been involved in the incident.

Improvement to both Rules and Regulations and the technology employed are aimed at.

In case of casualties BTSC will fully co-operate with the investigations of local authorities. Official statements will be given in co-operation with the Legal Counsel. The Incident Manager may be called upon to give evidence in any legal action as a result of the incidents.

Among others, facts for investigations will be provided by:


- voice recorders,
- data logged by the CTC system (Driver Number etc.),
- service interface with train borne signalling and rolling stock systems
- inspection of system facilities and equipment after the event,
- expert opinions (e.g. regarding speed, cause of damage etc.),
- CCTV recording system
- signalling record playback station.
- statements of staff concerned, other staff, passengers or others involved, which will be taken in writing,

One of the most important duties of the Incident Manager is to secure evidence at the scene of the incident from the moment of occurrence.

The Safety and Security Director will, in liaison with the Operations Control Department Manager, Train Services Department Manager, Station Services Department Manager, evaluate all data supplied by the parties and report to COO

Defined procedures are established for the documentation, investigation and analysis of data collected with respect to incidents. For technical advice, the Safety and Security Director will be supported by the Incident Manager at the depot and/or the Emergency Team Leader on site as necessary.


The technical staff will record technical information on the failure of equipment in accordance with standard corrective maintenance procedures. The Safety and Security Director will participate in technical investigations carried out by the various fields of the engineering department.

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Items to be recorded and investigated are:

- cause of the incident,
- technical failure, fault or damage,
- accumulation of certain failures and determination of common factors,
- statistics on
  - 1) time of day with the most accumulation of type of incident,
  - 2) arrival of Emergency Services before Incident Manager,
  - 3) arrival times of Incident Manager and Emergency Team after emergency call,
  - 4) time of advice to the Incident Manager,
  - 5) location,
  - 6) critical or safety critical action,
  - 7) need of interruption of power supply,
  - 8) need for Emergency Services and / or Third Parties,
  - 9) operational section which causes the incident,
  - 10) nature and scope of damage,
  - 11) impact to the system,
  - 12) costs of delays, damage etc.,
  - 13) costs for help of Third Parties,
  - 14) payment of liability etc.,
- any data recorded by SCADA or other electronic equipment,
- compliance with Rules and Regulations,
- completeness of regulations,
- compliance with BTSC regulations by passengers,
- sufficiency of maintenance,
- external influences.

The collected details will provide an overall picture for future planning and may indicate specific areas for future improvement of the system.

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## 8. REFERENCES

No.	Document No.	Description
1	500E.PLN.002	Normal Operations Plan
2	500E.PLN.003	Degraded Operations Plan
3	500E.PLN.005	Operations Safety Plan
4	500T.SAF.001	Operations Rulebook

## ภาคผนวก ข-8

เอกสารแสดงรายละเอียดการประกันภัย





บริษัท เมืองไทยประกันภัย จำกัด (มหาชน) MUANG THAI INSURANCE PCL.

เอกสารแสดงรายละเอียดการประกันภัย

เอกสารประกอบนี้ให้ถือเป็นส่วนหนึ่งของกรมธรรม์ประกันภัยฉบับนี้ เลขที่ [REDACTED]

ATTACHING TO AND FORMING A PART OF POLICY NO.

**POLICY NO.** [REDACTED]

**FOR**

**BANGKOK MASS TRANSIT SYSTEM  
PUBLIC COMPANY LIMITED**

**General Third Party Liability and  
Product Liability Insurance**

## ภาคผนวก ข-9

สารานุกรมศึกษาศาสตร์ คณะศึกษาศาสตร์  
มหาวิทยาลัยศรีนครินทรวิโรฒ ฉบับที่ 31 (2547)  
สาขาการวัดและประเมินผลการศึกษา เรื่อง มาตรวัดลิเคอร์ท



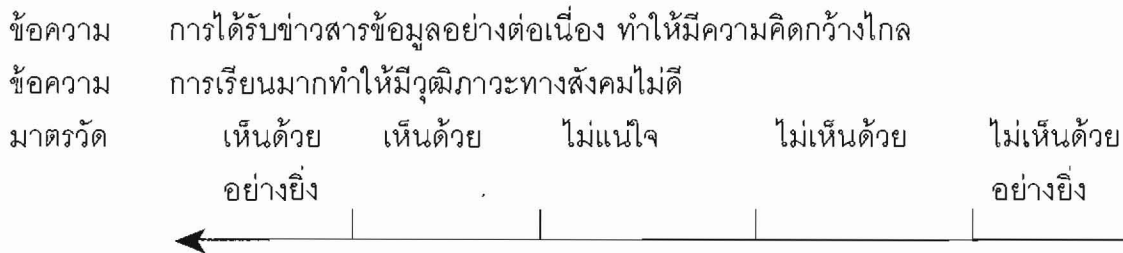
## มาตรวัดลิเคอร์ท

### ความหมาย

มาตรวัดลิเคอร์ท (Likert Type Scale หรือ Likert's Method of Summated Rating) หมายถึง วิธีการวัดเจตคติของบุคคลที่มีต่อสิ่งใด ๆ ซึ่งคิดค้นโดยเรนซิส ลิเคอร์ท (Rensis Likert) ในปี คริสตศักราช 1932

### ลักษณะของมาตรวัดลิเคอร์ท

เป็นการประเมินความรู้สึกของบุคคลที่มีต่อสิ่งใดสิ่งหนึ่ง โดยกำหนดช่วงการวัด



จากข้อความข้างต้น ข้อความแรกเป็นคำถามความรู้สึกทางบวก ส่วนข้อความที่สองเป็นคำถามความรู้สึกทางลบ และ (2) ให้ค่าของระดับผลการประเมินแต่ละข้อความ โดยข้อความทางบวก ให้ค่าของระดับ เห็นด้วยอย่างยิ่งเป็น 5 4 3 2 จนถึงถ้าตอบไม่เห็นด้วยอย่างยิ่งได้ค่าระดับเป็น 1 ถ้าเป็นข้อความทางลบตอบเห็นด้วยอย่างยิ่งให้ค่าระดับเป็น 1 2 3 4 จนถึงถ้าตอบไม่เห็นด้วยอย่างยิ่งให้ค่าระดับเป็น 5

ที่มีค่าต่อเนื่องกัน (attitude continuous) ว่า มีทิศทางใด และมีปริมาณความเข้มระดับใด โดยมีลักษณะสำคัญ 2 ประการ คือ

(1) กำหนดข้อความที่เป็นรายการความคิดเห็นที่เกี่ยวข้องกับเจตคติที่ต้องการวัด ให้ผู้ตอบประเมินความรู้สึกของตนต่อนัยของข้อความความคิดเห็นนั้น ๆ บนมาตรวัดที่เป็นช่วงของความรู้สึกที่กำหนดไว้เป็น 5 ระดับ ดังตัวอย่าง

### การสร้างมาตรวัดลิเคอร์ท

ดำเนินการสร้างเป็นขั้นตอน ดังนี้

1. กำหนดตัวแปรเจตคติที่วัด แล้วเขียนนิยามปฏิบัติการของตัวแปรเจตคติให้ครอบคลุมโครงสร้างทางทฤษฎีและการกระทำที่เป็นข้อเท็จจริงตามสภาพแวดล้อมของกลุ่มเป้าหมายที่ต้องการวัด เช่น นักเรียนชั้นประถมศึกษา ทหาร ครู เป็นต้น
2. เขียนข้อความเกี่ยวกับความคิดเห็นตามนิยามปฏิบัติการตัวแปรเจตคติ โดยให้มีจำนวนข้อความครอบคลุมโครงสร้างของตัวแปรเจตคติ ดังนี้

2.1 เป็นข้อความวัดเจตคติ และไม่ควรเป็นข้อความที่เป็นข้อเท็จจริง เพราะหากเป็นข้อเท็จจริงบุคคลอาจใช้เกณฑ์ของสังคมหรือความถูกผิดมาตัดสิน ทำให้ได้เจตคติที่เป็นอคติหรือเป็นของสังคม ไม่ใช่เจตคติปัจจุบันของบุคคลที่ต้องการวัด

2.2 เขียนด้วยภาษาที่ชัดเจนให้เป็นที่เข้าใจตรงกันและสื่อความหมายเดียว ควรเขียนเป็นประโยคสั้นๆ ที่ใช้คำง่าย ๆ ไม่ควรเป็นข้อความปฏิเสธซ้อนปฏิเสธ

2.3 วัดความรู้สึกจากมากที่สุดไปน้อยที่สุดอย่างต่อเนื่องได้

2.4 ถ้ามีคำตอบให้เลือกตอบ คำตอบเหล่านั้นต้องวัดความรู้สึกจากมากที่สุดไปน้อยที่สุดได้

### 3. ตัวอย่างข้อความของมาตรวัดลิเคอร์ท

#### 3.1 แบบแบ่งช่วงระดับ

ข้อความ ถ้าไม่ถูกบังคับข้าพเจ้าจะไม่เรียนวิชาคณิตศาสตร์

ระดับความรู้สึก เห็นด้วยอย่างยิ่ง  
เห็นด้วย ไม่แน่ใจ ไม่เห็นด้วย ไม่เห็นด้วยอย่างยิ่ง

ค่าระดับ 1 2 3 4 5

ข้อความ ข้าพเจ้าชอบซักถามเมื่อเรียนวิชาคณิตศาสตร์ไม่เข้าใจระหว่างที่ครูสอน

ระดับความรู้สึก เห็นด้วยอย่างยิ่ง  
เห็นด้วย ไม่แน่ใจ ไม่เห็นด้วย ไม่เห็นด้วยอย่างยิ่ง

ค่าระดับ 5 4 3 2 1

#### 3.2 แบบเลือกตอบ

ข้อความ นักเรียนคนหนึ่งลุกขึ้นผลักเพื่อนที่นั่งเรียนอยู่ด้วยกันในห้องเรียนจนตกเก้าอี้ครูที่ทำการสอนอยู่ควรลงโทษนักเรียนคนนี้อย่างไร

ค่าระดับ

- 1 ก. ไล่ออกนอกห้องเรียนทันที
- 2 ข. ให้อยู่ในชั้นเรียนในห้องเรียน
- 3 ค. ตำหนิดูว่ากล่าว

4 ง. คาดโทษหากทำซ้ำอีก

5 ค. เตือนห้ามไม่ให้ทำซ้ำอีก

## การตรวจสอบคุณภาพของมาตรวัดลิเคอร์ท

1. การตรวจสอบความเที่ยงตรงเชิงโครงสร้าง เป็นการตรวจสอบว่าข้อความที่เขียนนั้นได้เขียนสอดคล้องกับโครงสร้างและตรวจสอบเจตคติที่ต้องการวัดหรือไม่ โดยให้ผู้เชี่ยวชาญประเมิน แล้ววิเคราะห์ความสอดคล้องของความเป็นผู้เชี่ยวชาญ

2. การตรวจสอบคุณภาพทางสถิติ เมื่อผู้เชี่ยวชาญได้ตรวจสอบและเห็นว่าเป็นข้อความที่ดีแล้วให้นำข้อความทั้งหมดนี้ไปทดลองวัดเจตคติของกลุ่มตัวอย่างเพื่อวิเคราะห์ข้อมูลทางสถิติที่เกี่ยวข้องกับอำนาจจำแนกของข้อความ โดยคำนวณค่าสหสัมพันธ์ระหว่างผลการตอบข้อความนั้นกับคะแนนรวมทั้งฉบับ หรือแบ่งกลุ่มผู้ตอบเป็น 2 กลุ่ม โดยกลุ่มแรกจำนวน 25 เปอร์เซนต์เป็นกลุ่มมีเจตคติสูง และกลุ่มที่สองมีเจตคติต่ำ จำนวน 25 เปอร์เซนต์ แล้วคำนวณค่าเฉลี่ยทั้งสองกลุ่มและใช้สถิติทดสอบที (t-test statistic) เพื่อวิเคราะห์ความแตกต่างของค่าเฉลี่ยเป็นรายข้อความ และค่าความเชื่อมั่น

3. อาจหาความเที่ยงตรงของมาตรวัดลิเคอร์ทโดยนำไปวัดกับกลุ่มที่ทราบว่ามีเจตคติดีกับกลุ่มที่ไม่ดีแล้วทดสอบความแตกต่างระหว่างสองกลุ่มนี้ (known group technique) หรือหาค่าสหสัมพันธ์ของการวัดจากมาตรวัดฉบับนี้กับเกณฑ์

## การตรวจให้คะแนนและการแปลความหมาย

กำหนดระดับความรู้สึกหรือความคิดเห็นต่อข้อความของผู้ตอบมากที่สุดไปน้อยที่สุด คือ เห็นด้วยอย่างยิ่ง เห็นด้วย ไม่แน่ใจ ไม่เห็นด้วย ไม่เห็นด้วยอย่างยิ่ง เป็นคะแนน 1 2 3 4 5 ตามลำดับ หากเป็นข้อความทางลบ หรือเป็น 5 4 3 2 1 ตาม



ลำดับหากเป็นข้อความทางบวก นำผลการตอบแต่ละข้อความมาตรวจให้คะแนน แล้วรวมคะแนนทุกข้อความเป็นคะแนนเจตคติของผู้ตอบคนนั้น โดยมีเกณฑ์การแปลความหมายคะแนนเป็นระดับเจตคติดังนี้

1. การแปลความหมายเจตคติจากคะแนนรวม นำผลการตอบแต่ละข้อความมารวมกันเป็นคะแนนรวม เช่น มาตราวัดลิเคอร์ท์มีข้อความความคิดเห็น จำนวน 20 ข้อความ คะแนนสูงสุดของแต่ละข้อความคือ 5 คะแนน ดังนั้นคะแนนรวมสูงสุดคือ 100 คะแนน ( $20 \times 5$ )

หากแบ่งระดับเจตคติเป็น 5 ระดับ จะได้ดังนี้

คะแนน 81-100

หมายถึง มีเจตคติระดับดีมาก/สูงมาก

คะแนน 61-80

หมายถึง มีเจตคติระดับดี/สูง

คะแนน 41-60

หมายถึง มีเจตคติระดับปานกลาง

คะแนน 21-40

หมายถึง มีเจตคติระดับไม่ดี/ต่ำ

คะแนน 1-20

หมายถึง มีเจตคติระดับไม่ดีอย่างยิ่ง/ต่ำมาก หากแบ่งระดับเจตคติเป็น 3 ระดับ จะได้ดังนี้

คะแนน 67-100

หมายถึง มีเจตคติระดับดี/สูง

คะแนน 34-66

หมายถึง มีเจตคติระดับปานกลาง

คะแนน 1-33

หมายถึง มีเจตคติระดับไม่ดี/ต่ำ

2. การแปลความหมายเจตคติจากค่าเฉลี่ยคะแนน หากนำผลการตอบแต่ละข้อความมารวมกันแล้วคำนวณค่าเฉลี่ยคะแนน ซึ่งจะได้ค่าเฉลี่ยคะแนนระหว่าง 1.00-5.00 แล้วแปลความหมายดังนี้

ค่าเฉลี่ย 4.51 ขึ้นไป

หมายถึง มีเจตคติระดับดีมาก/สูงมาก

ค่าเฉลี่ย 3.51-4.50

หมายถึง มีเจตคติระดับดี/สูง

ค่าเฉลี่ย 2.51-3.50

หมายถึง มีเจตคติระดับปานกลาง

ค่าเฉลี่ย 1.51-2.50

หมายถึง มีเจตคติระดับไม่ดี/ต่ำ

ค่าเฉลี่ย 1.50 และต่ำกว่า

หมายถึง มีเจตคติระดับไม่ดีอย่างยิ่ง/ต่ำมาก

### ประโยชน์ของมาตรวัดลิเคอร์ท์

1. ใช้วัดเจตคติที่มีต่อสิ่งต่างๆ ว่าบุคคลมีเจตคติที่ดีหรือไม่ดีต่อสิ่งนั้นๆ เพียงไร

2. สำหรับในโรงเรียน ใช้วัดเจตคติต่อการเรียนของนักเรียน ว่าการเรียนวิชาต่างๆ สอดคล้องกับเป้าหมายองค์ประกอบด้านจิตพิสัยอย่างไร ทำให้ทราบเจตคติต่อการเรียนวิชาต่างๆ ได้

3. ลิเคอร์ท์ได้คิดค้นมาตรวัดนี้ขึ้นมาเพื่อใช้วัดเจตคติแต่นักการศึกษาได้นำแนวทางของลิเคอร์ท์ไปใช้วัดความคิดเห็น ความเชื่อ และอื่นๆ อีกมาก เช่น การประเมินโปรแกรมการศึกษา ความเห็นของบุคคลต่อพฤติกรรมทางการเมือง เป็นต้น ในการวิจัยทางการศึกษา ได้มีการนำมาตรวัดลิเคอร์ท์ไปใช้ประโยชน์ในการรวบรวมข้อมูลวิจัย โดยมีงานวิจัยสำรวจเจตคติ และความสัมพันธ์ของเจตคติกับตัวแปรอื่นๆ อีกมากมาย

### ข้อคิดเห็นในการนำมาตรวัดลิเคอร์ท์ไปใช้

1. ข้อความที่นำมาให้ผู้ตอบประเมินความรู้สึกของตนเองนั้น จะต้องสามารถกระตุ้นผู้ตอบให้แสดงความรู้สึก ความเชื่อ ความคิด ความสนใจ ความกลัว ความพึงใจหรืออคติ การสนับสนุนหรือต่อต้านเรื่องใดๆ ของบุคคล วัตถุ หรือเหตุการณ์ได้

2. ลักษณะข้อความในมาตรวัดมีได้ทั้งที่เป็นทางบวกหรือทางลบ โดยทั่วไปมาตรวัดลิเคอร์ทที่ประกอบด้วยข้อความที่เป็นทิศทางเดียว (monotomous) จะมีความเชื่อมั่นสูงกว่ามาตรวัดลิเคอร์ทที่ประกอบด้วยข้อความทางบวกและทางลบผสมกัน อย่างไรก็ตามมีข้อเสนอแนะว่ามาตรวัดลิเคอร์ทแบบผสมจะมีประโยชน์ต่อการตรวจสอบความคงเส้นคงวา (consistence) ของการตอบ

3. จำนวนช่วงระดับที่ประเมินความรู้สึกของมาตรวัดลิเคอร์ทนั้น ลิเคอร์ทได้เสนอไว้เป็น 5 ช่วงระดับคือ ไม่เห็นด้วยอย่างยิ่ง ไม่เห็นด้วย ไม่แน่ใจ เห็นด้วย และ เห็นด้วยอย่างยิ่ง ตามลำดับ ได้มี

รายงานวิจัยหลายฉบับระบุว่า ความเชื่อมั่นของมาตรวัดมีแนวโน้มสูงขึ้นเมื่อเพิ่มจำนวนช่วงระดับแต่ได้มีการเสนอแนะให้เลิกใช้การระบุความรู้สึกที่เป็นกลาง คือ ไม่แน่ใจ เนื่องจากมีแนวโน้มผู้ตอบไม่แน่ใจเป็นจำนวนมาก อย่างไรก็ตามมีรายงานวิจัยหลายฉบับที่ระบุว่าไม่มีความแตกต่างระหว่างผลการวัดที่ระบุความรู้สึกที่เป็นกลางกับไม่ระบุความรู้สึกที่เป็นกลาง ยิ่งไปกว่านั้นยังมีข้อเสนอแนะว่าการจะกำหนดจำนวนช่วงระดับเป็นเท่าไรนั้นให้คำนึงถึงวุฒิภาวะของผู้ตอบด้วยว่าจะสามารถประเมินความรู้สึกต่อข้อความได้ละเอียดเพียงใด

**ไพฑูรย์ โพธิ์สาร**

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