

เอกสารยืนยันการกำหนด/ ออกแบบเครื่องจักรให้มีระดับเสียงไม่เกิน 85 dB(A)
และการติดป้ายเตือนให้สวมใส่อุปกรณ์ลดเสียงในพื้นที่เสียงดัง

 CTCI		
	<u>ELECTRICAL TEST PACKAGE</u>	
PROJECT NAME : PTTAC AN AND MMA PROJECT		Page : 1 of 1 PACKAGE NO.: P-UT-018-U-AN-27-UP-212I
SYSTEM NO.: P-UT-018		DATE: 08/05/10
SYS DESCRIPTION: (WC) COOLING WATER SYSTEM		SUBCONT.NAME: EIE

Item	Description	Acceptable			Remark
		Yes	No	N/A	
A	Package Information				
1	Single Line Diagram	✓			
2	Power Layout and Grounding Layout Drawing	✓			
3	P&ID Diagram	✓			
4	Vender Motor Data Sheet	✓			
5	Cable Connection List	✓			
B	Test and Inspection Report				
1	MCC/Switchgear Function test report	✓			
2	Cable test report				
2.1	Check List for Cable Installation	✓			
2.2	Insulation Resistance and Continuity Test Record	✓			
2.3	High Voltage Test Report	✓			
2.4	Check List for Cable Termination	✓			
3	Check List for Motor	✓			
4	Motor Test report	✓			
5	Punch A completed	✓			

Note: - SEE GENERAL PUNCH LIST ON THE P.K. UP- 212, A.

COMPLETED BY	Sub Contractor	CTCIT	Acceptable By FW/PTTAC
COMPANY	EIE	CTCIT	AN & MMA PROJECT
SIGNATURE			
NAME			
DATE			



MV MOTOR TEST REPORT

Page 2 of 4

Project Name : PTTAC AN AND MMA PROJECT

Motor Device No. : UP-212I-LN-807001

3. Motor no-load running test

CAUTION : Test and record the following item as below should be done in **UNCOUPLED** condition.

3.1 Current and Temperature Rise

Time Record		Current (Amp.)					Temperature (° C)			Ambient Temp. (° C)
Hr:min	Min.	A	B	C			Frame	DE = T7	NDE = T8	
10.05	Start	459.6	459.6	460.4			34.5	33.5	35	31
10.15	10	25.0	24.8	24.7			29.5	30.5	N/A	31
10.25	20	25.0	26.1	24.9			30	32.5	N/A	31
10.35	30	24.7	25.7	25.1			30	32	N/A	31
10.50	45	25.0	26.4	26.2			31.5	37.5	N/A	31
11.05	60	24.8	24.9	24.9			32	40.5	N/A	32
11.20	75	25.4	25.4	25.2			32.5	43.5	N/A	32
11.35	90	25.0	25.1	25.0			33	45.5	N/A	31
11.50	105	24.4	25.5	24.6			33	46	N/A	32
12.05	120	24.8	25.3	24.7			32.5	43	N/A	32
12.20	135	24.8	25.5	24.8			33.5	43	N/A	31
12.35	150	25.4	25.3	25.3			34.5	43.5	N/A	31
12.50	165	24.7	25.1	24.3			33.5	43	N/A	32
13.05	180	24.9	25.2	24.6			36	45.5	N/A	32
13.20	195	24.9	24.8	24.6			35.5	48	N/A	34
13.35	210	25.0	25.4	24.1			35	48.5	N/A	33
13.50	225	25.0	25.3	24.5			34.5	48.5	N/A	33
14.05	240	25.8	26.3	25.4			36.5	50	N/A	33

3.2 Speed and noise limit $L_{eff} =$ Background noise 69.2 dB. $L_{on} = 80.7$ dB $L_{on} - L_{off} = 11.5$ dB
 $L = 80.7$ dB

Time (Min.)	10	20	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240				
Speed (rpm.)	999.5	999.4	999.2	1000	999.3	999.7	999.8	999.7	1000	999.8	999.5	999.1	999.8	999.6	999.4	1000	999.4				
Noise (dB.)	80.4	80.4	80.1	80.5	80.7	80	80.3	80.4	80.7	80.6	79	80.6	79.6	79.1	80	80.5	80.5				
COMPLETED BY	SUB-CONTRACTOR					WITNESS BY (CTCI)								APPROVED BY (PTTAC / FW)							
						CTCI Sup.				CTCI QC.											
COMPANY	<div>NI</div>																				
SIGNATURE																					
NAME																					
DATE																					



MV MOTOR TEST REPORT

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Project Name : PTTAC AN AND MMA PROJECT

Motor Device No. : UP-212I-LN-807-001

3.3 RTD Measurement

PT100	RTD Measurement ($^{\circ}\Omega$)							
	Winding Temp.						DE Temp.	NDE Temp.
	T1	T2	T3	T4	T5	T6	T7	T8
	112	112.4	111.6	111.2	112	111.6	111.6	111.6

3.4 Temperature Record

Temp. Rised Limit starter 80°C

Time Record		Temperature reading ($^{\circ}\text{C}$)							
		Winding Temp.						DE Temp.	NDE Temp.
Hr:min	Min.	T1	T2	T3	T4	T5	T6	T7	T8
10.05	Start	31	32	30	29	31	30	30	30
10.15	10	34	34	33	32	34	33	32	31
10.25	20	35	36	35	34	35	35	35	32
10.35	30	36	37	36	35	36	36	37	33
10.50	45	38	39	38	37	38	38	40	38
11.05	60	40	41	39	39	39	40	45	39
11.20	75	41	42	40	40	41	41	49	40
11.35	90	42	43	41	41	42	43	51	40
11.50	105	43	44	42	42	43	43	51	39
12.05	120	44	45	43	43	43	44	50	39
12.20	135	44	45	43	43	44	45	49	39
12.35	150	45	46	44	44	45	45	48	39
12.50	165	46	46	45	45	45	46	48	38
13.05	180	46	47	45	45	45	47	49	38
13.20	195	46	47	46	45	46	47	50	39
13.35	210	47	48	47	47	47	48	49	39
13.50	225	48	49	47	47	47	48	50	40
14.05	240	48	49	48	47	48	49	50	40

Stale 30
After stale 1h

COMPLETED BY

SUB-CONTRACTOR

WITNESS BY (CTCI)

CTCI Sup.

CTCI QC.

APPROVED BY (PTTAC / FW)

COMPANY

SIGNATURE

NAME

DATE



MV MOTOR TEST REPORT

Page 4 of 4

Project Name : PTTAC AN AND MMA PROJECT

Motor Device No. : UP-212I-LN-807-001

3.5 Vibration

NEMA NG1

Motor Position:

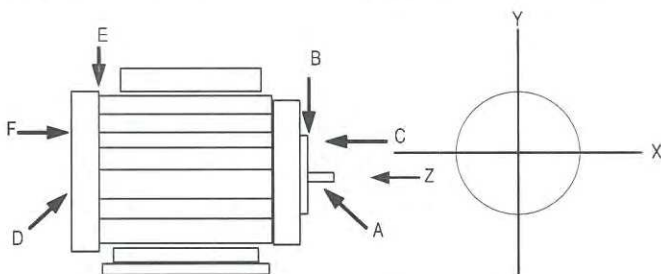
H: ☒

V: ☐

Below 3.00mm/s

VEL Cm/s

Time (Hr:min)	10:15	10:25	10:35	10:50	11:05	11:20	11:35	11:50	12:05	12:20	12:35	12:50	13:05	13:20	13:35	13:50	14:05
Time (Min.)	10	20	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240
DE A-X	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03
B-Y	0.05	0.04	0.04	0.03	0.02	0.02	0.03	0.03	0.03	0.02	0.02	0.02	0.02	0.04	0.02	0.03	0.03
C-Z	0.06	0.12	0.12	0.09	0.07	0.06	0.06	0.05	0.06	0.06	0.06	0.06	0.05	0.04	0.03	0.04	0.04
NDE D-X	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02
E-Y	0.04	0.04	0.04	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.04	0.03	0.03	0.04	0.02	0.02	0.02
F-Z	0.04	0.04	0.06	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.04	0.03	0.05	0.04	0.02	0.03	0.03



3.6 Test Instrument

<input checked="" type="checkbox"/>	Megger	KYORITSU	Model:	3125	Serial No.:	0227916
<input checked="" type="checkbox"/>	Multi-meter	FLUKE	Model:	337	Serial No.:	13350436
<input checked="" type="checkbox"/>	Clamp-on meter	FLUKE	Model:	337	Serial No.:	13350436
<input checked="" type="checkbox"/>	Vibration meter	DIGICON	Model:	TV110	Serial No.:	11501120
<input checked="" type="checkbox"/>	Temp. meter	DIGICON	Model:	DP-88	Serial No.:	080421533
<input checked="" type="checkbox"/>	rpm. meter	DIGICON	Model:	DT-246L	Serial No.:	AD.53709
<input checked="" type="checkbox"/>	Sound level	DIGICON	Model:	DS-40	Serial No.:	G.33878

COMPLETED BY	SUB-CONTRACTOR	WITNESS BY (CTCI)		APPROVED BY (PTTAC / FW) <div></div>
		CTCI Sup.	CTCI QC.	
COMPANY	N/A			
SIGNATURE				
NAME				
DATE				

 CTCI		
	<u>ELECTRICAL TEST PACKAGE</u>	
PROJECT NAME : PTTAC AN AND MMA PROJECT		Page : 1 of 1 PACKAGE NO.: P-UT-018-U-AN-27-UP-212J
SYSTEM NO.: P-UT-018		DATE: 08/05/10
SYS DESCRIPTION: (WC) COOLING WATER SYSTEM		SUBCONT.NAME: EIE

Item	Description	Acceptable			Remark
		Yes	No	N/A	
A	Package Information				
1	Single Line Diagram	✓			
2	Power Layout and Grounding Layout Drawing	✓			
3	P&ID Diagram	✓			
4	Vender Motor Data Sheet	✓			
5	Cable Connection List	✓			
B	Test and Inspection Report				
1	MCC/Switchgear Function test report	✓			
2	Cable test report				
2.1	Check List for Cable Installation	✓			
2.2	Insulation Resistance and Continuity Test Record	✓			
2.3	High Voltage Test Report	✓			
2.4	Check List for Cable Termination	✓			
3	Check List for Motor	✓			
4	Motor Test report	✓			
5	Punch A completed				

Note: - SEE GENERAL PUNCH ON THE PK. UP-212 A

COMPLETED BY	Sub Contractor	CTCIT	Acceptable By FW / PTTAC
COMPANY			
SIGNATURE			
NAME			
DATE			



MV MOTOR TEST REPORT

Page 2 of 4

Project Name : PTTAC AN AND MMA PROJECT

Motor Device No. : UP-212J-LN-807001

3. Motor no-load running test

CAUTION: Test and record the following item as below should be done in **UNCOUPLED** condition.

3.1 Current and Temperature Rise

Time Record		Current (Amp.)				Temperature (° C)			Ambient Temp. (° C)
Hr:min	Min.	A	B	C		Frame	DE = T7	NDE = T8	
13.40	Start	455.5	442.5	454.7		31	31.5	31	31
13.50	10	24.3	25.2	24.6		30.5	35	N/A	33
14.00	20	24.8	24.8	25.0		33	40	N/A	33
14.10	30	24.8	25.1	24.9		32	39.5	N/A	33
14.25	45	24.6	25.1	24.0		32.5	41	N/A	33
14.40	60	24.7	25.0	24.7		31.5	40	N/A	34
14.55	75	24.8	24.5	24.8		33.5	43	N/A	33
15.10	90	24.2	24.6	25.2		34	43	N/A	33
15.25	105	24.3	24.7	24.2		32.5	41.5	N/A	30
15.40	120	24.7	24.7	24.7		34.5	43	N/A	32
15.55	135	24.8	25.2	24.3		34	42.5	N/A	32
16.10	150	24.9	24.8	24.8		34.5	43	N/A	33
16.25	165	24.8	25.0	24.7		33.5	42.5	N/A	32
16.40	180	24.5	25.2	24.3		35.5	44	N/A	32
16.55	195	24.8	24.2	24.5		35	44	N/A	32
	210								
	225								
	240								

3.2 Speed and noise limit

l_{off} = Background noise 76 dB. L_{on} = 80.3 dB L_{on} - L_{off} = 4.3 dB
L = 80.3 - 3 = 77.3 dB

Time (Min.)	10	20	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240
Speed (rpm.)	1000	1000	1000	1000	1000	1000	999.8	1000	999.6	999.5	1000	1000	999.6	999.7			
Noise (dB.)	80.1	80.8	80.4	80	79.9	80	80.5	80	80.3	80	80.1	80	79.3	79.5			
COMPLETED BY	SUB-CONTRACTOR				WITNESS BY (CTCI)										APPROVED BY (PTTAC / FW)		
					CTCI Sup.					CTCI QC.							
COMPANY	N/A																
SIGNATURE																	
NAME																	
DATE																	



MV MOTOR TEST REPORT

Page 3 of 4

Project Name : PTTAC AN AND MMA PROJECT

Motor Device No. : UP-212J-LN-807-001

3.3 RTD Measurement

PT100	RTD Measurement ($^{\circ}\Omega$)							
	Winding Temp.						DE Temp.	NDE Temp.
	T1	T2	T3	T4	T5	T6	T7	T8
	113.9	113.2	113.6	113.9	113.6	113.6	113.6	113.2

3.4 Temperature Record

Temp. Rised Limit starter 80°C

Time Record		Temperature reading ($^{\circ}\text{C}$)							
		Winding Temp.						DE Temp.	NDE Temp.
Hr:min	Min.	T1	T2	T3	T4	T5	T6	T7	T8
13.40	Start	36	34	35	36	35	35	35	34
13.50	10	39	37	38	39	37	38	38	36
14.00	20	40	39	39	40	39	39	41	37
14.10	30	41	40	40	42	41	40	43	40
14.25	45	43	42	42	43	42	42	45	42
14.40	60	45	44	44	45	44	44	47	43
14.55	75	46	45	46	46	45	45	48	43
15.10	90	47	46	46	47	46	46	49	42
15.25	105	47	47	48	48	47	47	48	42
15.40	120	47	47	48	48	47	47	48	42
15.55	135	49	48	48	49	48	47	49	41
16.10	150	49	49	49	50	48	48	49	41
16.25	165	49	49	50	50	49	49	49	41
16.40	180	50	49	50	50	49	49	49	41
16.55	195	51	50	50	51	50	49	49	41
	210								
	225								
	240								

COMPLETED BY	SUB-CONTRACTOR	WITNESS BY (CTCI)		APPROVED BY (PTTAC / FW)
		CTCI Sup.	CTCI QC.	
COMPANY	N/A			
SIGNATURE				
NAME				
DATE				



MV MOTOR TEST REPORT

Page 4 of 4

Project Name : PTTAC AN AND MMA PROJECT

Motor Device No. : UP-212J-LN-807-001

3.5 Vibration

N/A M91

Motor Position:

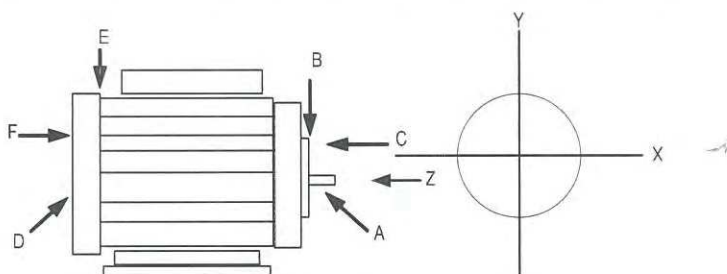
H: ☒

V: ☐

Below 3.00 mm/s

VEL Cm/s

Time (Hr:min)	13:50	14:00	14:10	14:25	14:40	14:55	15:10	15:25	15:40	15:55	16:10	16:25	16:40	16:55	-	-	-
Time (Min.)	10	20	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240
DE A-X	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.04	0.03			
B-Y	0.03	0.02	0.02	0.02	0.03	0.02	0.02	0.02	0.02	0.02	0.01	0.02	0.03	0.02			
C-Z	0.21	0.18	0.19	0.17	0.16	0.15	0.15	0.13	0.13	0.10	0.10	0.11	0.12	0.12			
NDE D-X	0.03	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.04	0.03	0.04	0.03	0.03			
E-Y	0.06	0.06	0.05	0.04	0.05	0.05	0.04	0.04	0.04	0.04	0.05	0.04	0.05	0.05			
F-Z	0.07	0.06	0.05	0.05	0.05	0.04	0.04	0.04	0.04	0.02	0.02	0.03	0.04	0.04			



3.6 Test Instrument

<input checked="" type="checkbox"/>	Megger	KYORITSU	Model:	3125	Serial No.:	0227916
<input checked="" type="checkbox"/>	Multi-meter	FLUKE	Model:	337	Serial No.:	13350436
<input checked="" type="checkbox"/>	Clamp-on meter	FLUKE	Model:	337	Serial No.:	13350436
<input checked="" type="checkbox"/>	Vibration meter	DIGICON	Model:	TV110	Serial No.:	11501120
<input checked="" type="checkbox"/>	Temp. meter	DIGICON	Model:	DP-88	Serial No.:	080421533
<input checked="" type="checkbox"/>	rpm. meter	DIGICON	Model:	DT-246L	Serial No.:	AD.53709
<input checked="" type="checkbox"/>	Sound level	DIGICON	Model:	DS-40	Serial No.:	G.33878

COMPLETED BY	SUB-CONTRACTOR	WITNESS BY (CTCI)		APPROVED BY (PTTAC / FW)
		CTCI Sup.	CTCI QC.	
COMPANY	N/A			
SIGNATURE				
NAME				
DATE				

การติดป้ายเตือนการสวมใส่อุปกรณ์ป้องกันเสียงในบริเวณพื้นที่ที่ระดับเสียงดัง ตั้งแต่ 85 เดซิเบลเอ และความคมใพพนักงานสวมใส่อุปกรณ์ป้องกันเสียงดัง เมื่อต้องเข้าไปในพื้นที่ที่มีเสียงดัง

