Security Level: SL 2 | Export Controlled Technology: ECT | Applicable ECN/A

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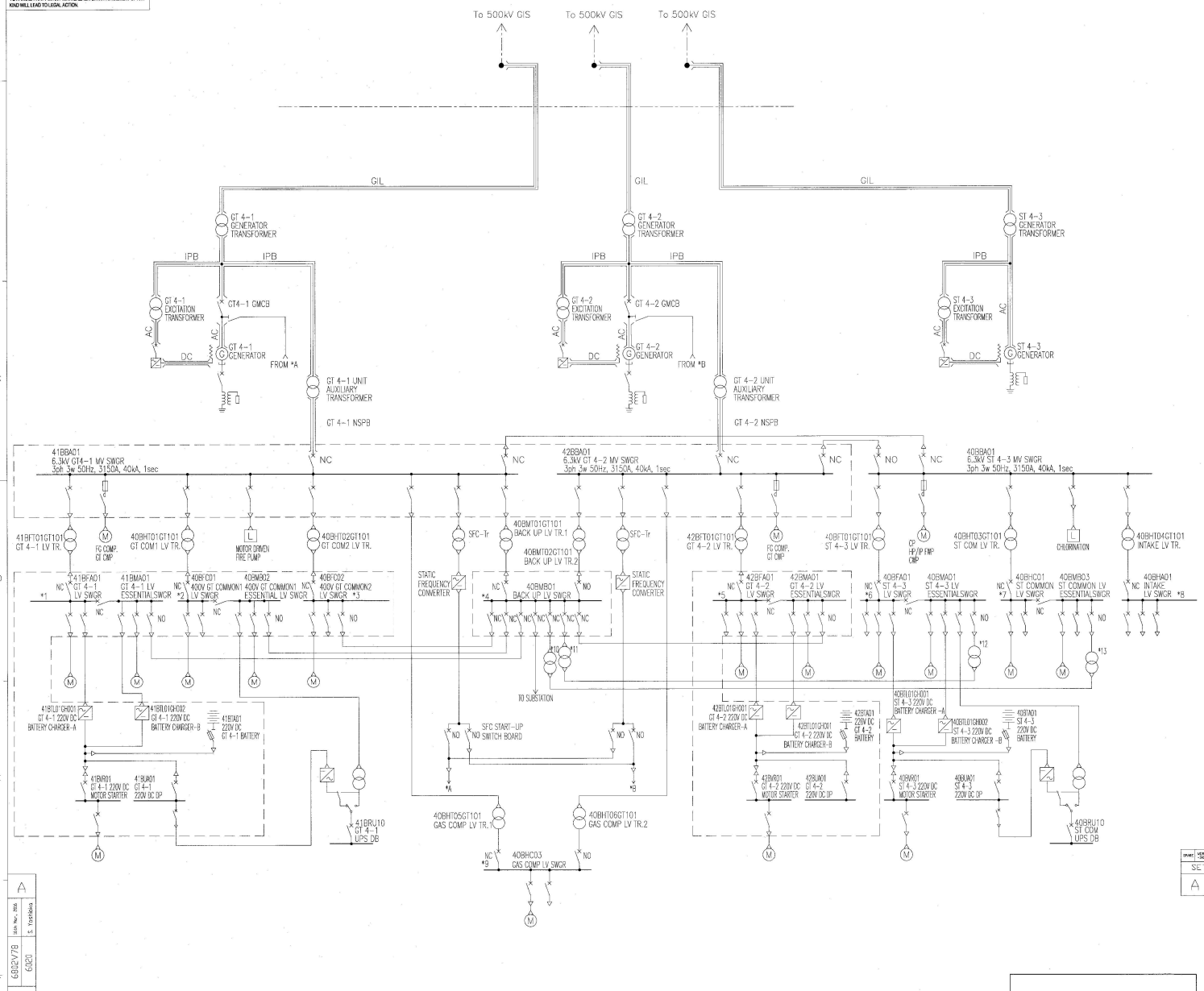
CAD (AC) | Surface Roughness | 3rd ANGLE PROJECTION | ISOM SCREW THREADS

FORM NO.A1



LEGEND

SYMBOL	DESCRIPTION
	DISCONNECTING SWITCH
	CIRCUIT BREAKER
	EUSDUCT, IPB, GIL, NSPB
	NEUTRAL GROUNDING TRANSFORMER
	POWER TRANSFORMER
	MV MOTOR STARTER
	CABLE SEALING END
M	MOTOR
	EARTH
	DC BATTERY CHARGER
	DC BATTERY
	UPS INVERTER
	STATIC SWITCH
	MAINTENANCE SWITCH
NO	NORMALLY OPEN
NC	NORMALLY CLOSE

NOTE :

The equipments marked with [- - -] will be enclosed in the package container.

*1: 400V GT 4-1 LV SWGR/ESSENTIAL LV SWGR: 400V-230V, 3p 4W, 50Hz, 2000A, 50kA, 1sec
*2: 400V GT COMMON1 LV SWGR/ESSENTIAL LV SWGR: 400-230V, 3p 4W, 50Hz, 2000A, 50kA, 1sec
*3: 400V GT COMMON2 LV SWGR/ESSENTIAL LV SWGR: 400-230V, 3p 4W, 50Hz, 2000A, 50kA, 1sec
*4: BACKUP LV SWGR: 400-230V, 3p 4W, 50Hz, 4000A, 50kA, 1sec
*5: 400V GT 4-2 LV SWGR/ESSENTIAL LV SWGR: 400-230V, 3p 4W, 50Hz, 2000A, 50kA, 1sec
*6: 400V ST 4-3 LV SWGR/ESSENTIAL LV SWGR: 400-230V, 3p 4W, 50Hz, 3150A, 50kA, 1sec
*7: 400V ST 4-3 COMMON LV SWGR: 400-230V, 3p 4W, 50Hz, 4000A, 50Hz, 1sec
*8: 400V INTAKE LV SWGR: 400-230V, 3p 4W, 50Hz, 1000A, 1sec
*9: GAS COMP. LV SWGR: 400-230V, 3p 4W, 50Hz, 2000A, 1sec
*10: 40BMT03GT101 400V/6.3kV ST COMMON BACKUP STEPUP TRANSFORMER
*11: 40BMT04ST101 400V/6.3kV ST 4-3 BACKUP STEPUP TRANSFORMER
*12: 40BHT05GT101 6.3kV/400V ST 4-3 BACKUP STEPDOWN TRANSFORMER
*13: 40BHT06ST101 6.3kV/400V ST COMMON BACKUP STEPDOWN TRANSFORMER

JAWA-2 COMBINED CYCLE POWER PLANT CONTRACTOR DOCUMENT REVIEW		REVIEW	
LOG	DATE :		CIVIL
IN	COMM NO :		MECH
			ELECT
A	APPROVED		I&C
B	APPROVED AS NOTED		SUPPORT
C	NOT APPROVED		
I	INFORMATION		
APPROVED DOES NOT RELIEVE CONTRACTOR FROM RESPONSIBILITY FOR ERROR OR DEVIATIONS FROM CONTRACT REQUIREMENTS		DISTRIBUTION	CONTRACTOR
BY :	DATE :		RECORD
LOG	DATE :		PLN SITE
OUT	COMM NO :		GM UIP

PLAN RECORD

R-0 16 March '16
First issue for approval.

R-1 5 Aug. 2016
S. Yoshioka, P. Chudgar, S. Tada 吉田
Revised according to Owner's comment as attached.
Following points were updated.
- Delete GIS description.
- Indicate GIL connection to GIS.
- Indicate status open/close CB at the SFC start up switch board.
- Indicate the general rating for each SWGR on *1 to *9.
- Update the legend.
- Indicate both GT 4-1 and 4-2 MV BUSDUCT.
- Add GT 4-1 UPS System and 6.3kV/400V Step Up/Down Transformer.

Issued for Approval.

R-2 7 Nov. 2016
Attached comment reply sheet.
Issued for Approval.

DRAWING NO. N1-03045

R. NO. R-2

ELECTRICAL DEPARTMENT TAKASAGO ELECTRICAL ENGINEERING SECTION

PT PLN (PERSERO)
JAWA-2 COMBINED CYCLE POWER PLANT (1 X 800MW)

PT PLN (PERSERO) PUSAT ENJINIRING KETENAGALISTRIKAN

DWG. No. 1 2 0 4 0 B - 0 0 - E - 5 1 - B - 0 0 1 - 0 0 - 1 REV.

SPECIFICATION VOLUME AND FILE NUMBER

CONTRACTOR: CONSORTIUM OF MITSUBISHI CORPORATION AND

SET	MARK	DESCRIPTION	MATERIAL	TOTAL MASS (kg)	REMARKS
A	TYPE	SYMBOL / QC CODE			

Drawn: S.Yoshioka
Checked: P.Chudgar, S.Tada
Approved: 吉田 康雄
Date: '6th Mar., 2016
Department: ELECTRICAL DEPARTMENT TAKASAGO ELECTRICAL ENGINEERING SECTION

Title: KEY SINGLE LINE DIAGRAM

Scale: A1 | DWG. No. N1-03045 | Rev. 2 | Sheet No.

MITSUBISHI HITACHI POWER SYSTEMS

FOR APPROVAL

DRAWN 2016/03/15 | PA CODE F-61600B | C.CODE

A | 6B2V78 | 6B20 | JAWA-2 | Date Nov. 2016 | S. Yoshioka

Drawn | Checked | Approved

計5枚 1

PLN Letter No : 0388/KON.01.04/PUSENLIS/2016 Dated : 9 June 2016
Contractor Letter No : JAWA2-TGO PLN-TE-16-0001 Dated : 25 May 2016

REVIEW FOR APPROVAL DRAWING/ DOCUMENT						CCR OUT
DRAWING/ DOCUMENT NUMBER						DRAWING/ DOCUMENT TITLE
No.	PLN	REV.	CONTRACTOR	REV.	STATUS	
1.	12040B-00-E-51-B-001-00-0	0	N1-03045	0	C	KEY SINGLE LINE DIAGRAM
2.	12040B-00-E-51-BB-001-00-0	0	N4-01911	0	C	SINGLE LINE DIAGRAM FOR MV SWITCHGEAR FOR S/C PORTION
3.	12040B-00-E-51-BF-001-00-0	0	N4-01912	0	C	SINGLE LINE DIAGRAM FOR LV SWITCHGEAR FOR S/C PORTION
4.	12040B-00-E-51-BJ-001-00-0	0	N4-01913	0	C	SINGLE LINE DIAGRAM FOR AC DB FOR S/C PORTION
5.	12040B-00-E-51-BU-001-00-0	0	N4-01906	0	C	SINGLE LINE DIAGRAM FOR DC SYSTEM FOR S/C PORTION
6.	12040B-00-E-02-B-001-00-0	0	N4-01884	0	C	STUDY OF VOLTAGE DROP
7.	12040B-00-E-02-B-002-00-0	0	N4-01885	0	C	STUDY OF SHORT CIRCUIT CURRENT
8.	12040B-00-E-02-BBT-001-00-0	0	N4-01891	0	C	STUDY OF UAT CAPACITY
9.	12040B-00-E-02-BFT-001-00-0	0	N4-01890	0	C	STUDY OF PDC TRANSFORMER CAPACITY
10.	12040B-00-E-02-UZD-001-00-0	0	N4-01888	0	C	STUDY OF UPS SYSTEM
11.	12040B-00-E-02-BU-001-00-0	0	N4-01887	0	C	STUDY OF DC SYSTEM
12.	12040B-00-E-02-BBX-001-00-0	0	N4-01896	0	C	STUDY OF MV BUSDUCT CAPACITY

PLN Letter No : 0388/KON.01.04/PUSENLIS/2016 Dated : 9 June 2016
Contractor Letter No : JAWA2-TGO PLN-TE-16-0001 Dated : 25 May 2016

No.	PLN COMMENTS	No	CONTRACTOR RESPONSES
	N1-03045		
1	Delete 500 kV GIS drawing from key single line diagram , since this drawing is for Power Plant Block		Contractor deleted.
2	Indicate the GIL connection from Generator Transformer to 500 kV GIS.		Contractor indicated the GIL connection from Generator Transformer to 500 kV GIS.
3	Indicate CB status (open/close) at the SFC start up switch board		Contractor indicated CB status at the SFC start up switch board
4	Indicate the general rating for each busbar. ex : Voltage, Current& Frequency		Contractor indicated the general rating for each busbar.
5	Add the feeder motor driven fire pump at GT 4-2 MV SWGR		Feeder for motor driven fire pump is not required to add at GT 4-2 MV SWGR because 1 (one) number of motor driven fire pump is provided for the power plant and fed from GT4-1 MV SWGR.
6	Please update the legend of key SLD drawing		Contractor updated the legend.
7	Indicate NSPB for UAT#1 and UAT#2		Contractor indicated NSPB on the legend.

PLN Letter No : 0867/KON.01.04/PUSENLIS/2016
Contractor Letter No : JAWA2-TGO PLN-TE-16-0007

Dated : 12 October 2016
Dated : 10 August 2016

REVIEW FOR APPROVAL DRAWING/ DOCUMENT						CCR OUT 000047
DRAWING/ DOCUMENT NUMBER						DRAWING/ DOCUMENT TITLE
No.	PLN	REV.	CONTRACTOR	REV.	STATUS	
1.	12040B-00-E-51-B-001-00-1	1	N1-03045	1	C	KEY SINGLE LINE DIAGRAM
2.	12040B-00-E-02-BBT-001-00-1	1	N4-01891	1	C	STUDY OF UAT CAPACITY
3.	12040B-00-E-02-BFT-001-00-1	1	N4-01890	1	C	STUDY OF PDC TRANSFORMER CAPACITY
4.	12040B-00-E-02-BBX-001-00-1	1	N4-01896	1	A	STUDY OF MV BUSDUCT CAPACITY

PLN Letter No : 0867/KON.01.04/PUSENLIS/2016 Dated : 12 October 2016
Contractor Letter No : JAWA2-TGO PLN-TE-16-0007 Dated : 10 August 2016

No.	PLN COMMENTS	No	CONTRACTOR RESPONSES
	N1-03045 – KEY SINGLE LINE DIAGRAM		
1	Please clarify, what is the main consideration of adding these transformer: *10: 400V/6.3 kV ST Common Backup StepUp Transformer-1 *11: 400V/6.3 kV ST 4-3 Backup StepUp Transformer-2 *12: 400V/6.3 kV ST Backup StepDown Transformer-1 *13: 400V/6.3 kV ST Common Backup StepDown Transformer-2 Since, these transformer are connected between LV switchgear (400 V BackUp LV Switchgear to ST 4-3 LV Essential Switchgear and ST Common LV Essential Switchgear. Please revise the SLD.		Given the cable routing including size and length between Backup LV SWGR to ST 4-3 LV Essential Switchgear and ST Common LV Essential Switchgear, Contractor considered that proper voltage for their connection is 6.3kV. Contractor studied step-up and step down transformer between Backup LV SWGR to ST 4-3 LV Essential Switchgear and ST Common LV Essential Switchgear. Therefore, Contractor will not revise SLD.

2-4/E