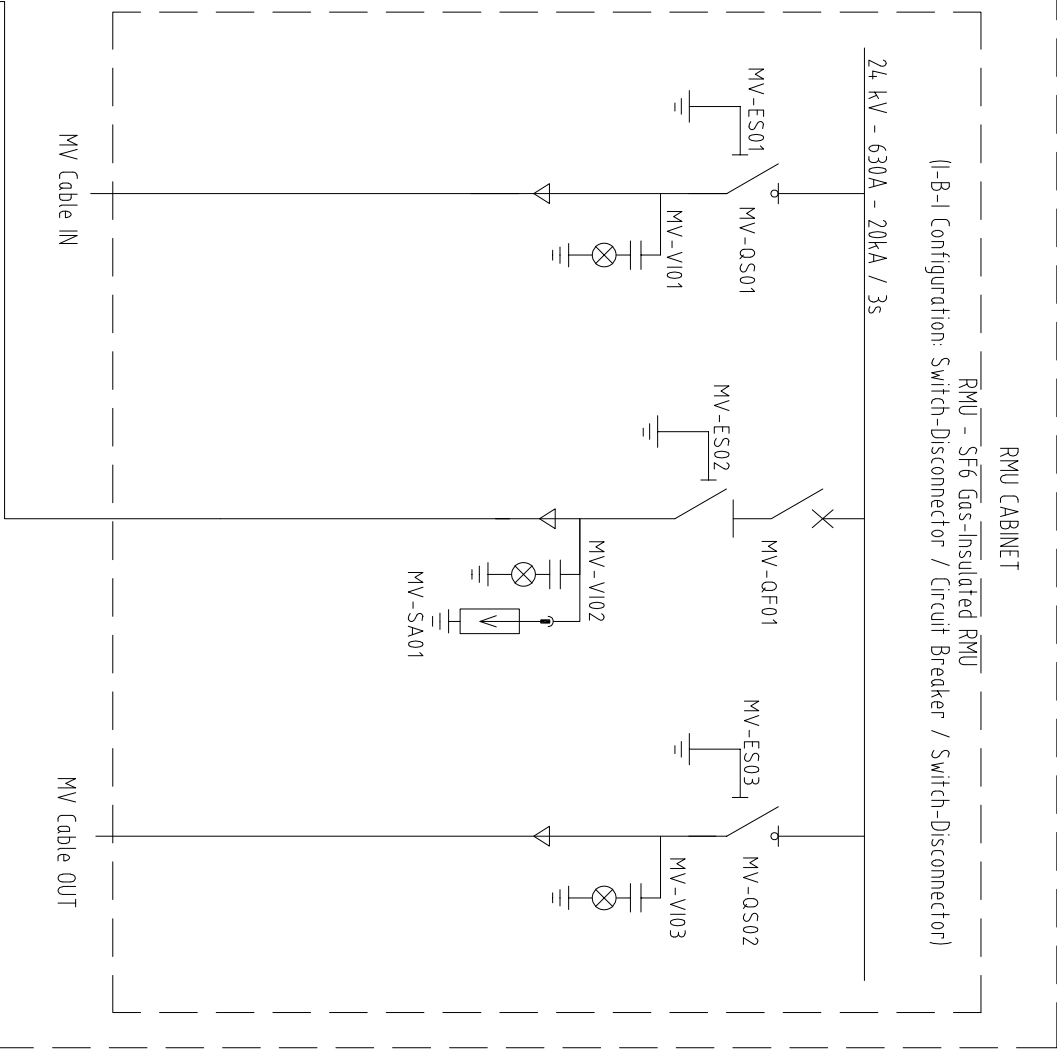


COMPACT SUBSTATION

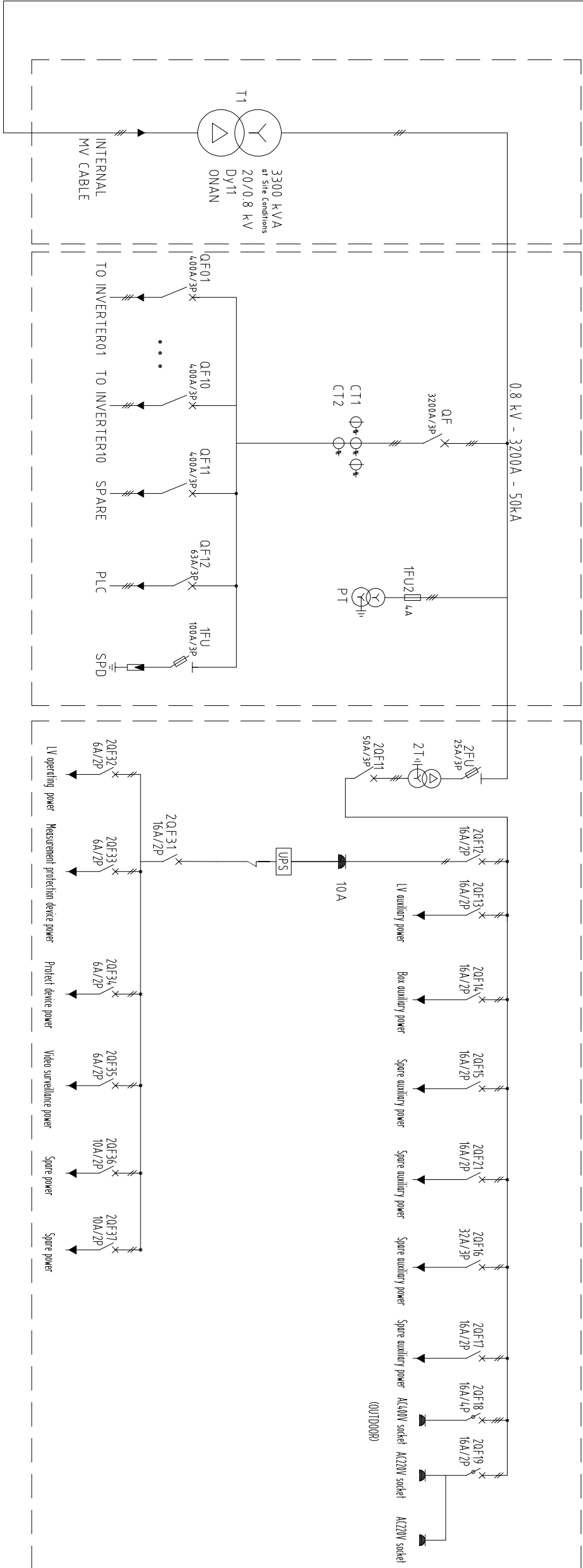


TAG NO.	NAME	SPECIFICATION	QTY
MV-QS01, MV-QS02	Load Break Switch	24 kV; 630 A	2
MV-QF01	Circuit Breaker	24 kV; 630 A	1
MV-ES01-MV-ES03	Earthling Switch	24 kV	3
MV-VI01-MV-VI03	Voltage Presence Indicator	24 kV	3
MV-SA01	MV Surge Arrester	System voltage: 20 kV	1 Set
T1	Power Transformer	3300 kVA at Site Conditions; 20/0.8 kV; +2x2.5%; 50 Hz; Dy11; Z=7%; ONAN; AI/AI	1
QF	Air Circuit Breaker (ACB)	In=3200 A; Frame=4000 A; Icu=85 kA; Ics=85 kA; Fixed type	1
QF01-QF11	MCCB	In=400 A; Icu=50 kA; Ics=50 kA	11
QF12	MCCB	In=63 A; 3P	1
SPD	LV Surge Protective Device (SPD)	Type I+II; 3P+1P; Fault indicator; System voltage: 0.8 kV	1
1FU	Fuse Switch	800 V; 100 A; 3P	1
CT1	Current Transformer	3000/1 A; Class 0.2; 15 VA	3
CT2	Current Transformer	3000/1 A; Class 0.5; 10 VA	1
PT	Voltage Transformer	0.8/√3 / 0.1/√3 kV; Class 0.2	3
1FU2	PT Fuse	In=4 A	6
2FU	Fuse Switch	800 V; 25 A; 3P	1
2T	Auxiliary Transformer	20 kVA; 0.8/0.4 kV; 50 Hz; Dry type	1
UPS	UPS	Capacity & backup time: To be determined by Vendor based on critical load calculation	1
2QF11	MCB	3P; In=50 A	1
2QF16	MCB	3P; In=32 A	1
2QF18	RCBO	4P; C16 A; Residual operating current=30 mA	1
2QF32-2QF35	RCBO	2P; C16 A; Residual operating current=30 mA	1
2QF36-2QF37	MCB	2P; In=6 A	4
2QF12-2QF15, 2QF17, 2QF21, 2QF31	MCB	2P; In=10 A	2
	MCB	2P; In=16 A	7

TRANSFORMER CABINET

LV CABINET

LV POWER CABINET



LEGEND

	LOAD BREAK SWITCH (LBS)
	CIRCUIT BREAKER (CB)
	EARTHING SWITCH (ES)
	VOLTAGE PRESENCE INDICATOR (VI)
	MV SURGE ARRESTER
	POWER TRANSFORMER
	ACB / MCB / MCB
	CURRENT TRANSFORMER (CT)
	VOLTAGE TRANSFORMER (PT)
	LV SURGE PROTECTIVE DEVICE (SPD)
	UNINTERRUPTIBLE POWER SUPPLY (UPS)
	SOCKET OUTLET

NOTE

Reference Documents

- Compact Substation Technical Specification
ATO-D-DEH-E-DS-007; Rev A1
- Compact Substation Material Requisition
ATO-D-DEH-E-MR-004; Rev A3

42	08/6/2026	D. Afshekan	N. Aghamohammadi	N. Afshekan
A1	07/19/2026	D. Afshekan	N. Aghamohammadi	N. Afshekan
A0	05/31/2026	D. Afshekan	N. Aghamohammadi	N. Afshekan
REV.	DATE	PREPARED	CONTROLLED	APPROVED

CLIENT:

ATIEH SAZAN
OMID TEHRAN



MANAGEMENT CONSULTANT:

AFAGH ENERGY
PARS



CONSULTANT:

KAJHEH WISMAN
INDUSTRIES



PROJECT:

DEHAGHAN 10MW Solar PV Power Plant

DOCUMENT TITLE:

Compact Substation Single Line Diagram

DOCUMENT NUMBER: ATO-D-DEH-E-SL-001

SCALE:	SIZE:	SHEET No.:	REV.:
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