

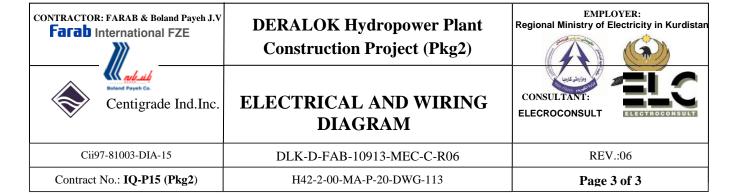
ELECTRICAL AND WIRING DIAGRAM

	FAB Rev.							Employer Rev.						
06	03/12/2022	For Approval	S.Ebrahimi	E.Beygi	D.Dehghani									
05	09/20/2021	For Approval	S.Ebrahimi	E.Beygi	D.Dehghani									
04	05/09/2021	For Approval	S.Ebrahimi	E.Beygi	D.Dehghani									
03	04/13/2021	For Approval	S.Ebrahimi	E.Beygi	D.Dehghani									
02	01/24/2021	For Approval	S.Ebrahimi	E.Beygi	D.Dehghani									
01	01/10/2021	For Approval	S.Ebrahimi	E.Beygi	D.Dehghani									
00	11/07/2020	For Approval	S.Ebrahimi	E.Beygi	D.Dehghani									
REV.	DATE	DESCRIPTION	DISIGN	CHKD	APP'D	REV.	DATE	DESCRIPTION	DISIGN	CHKD	APP'D			

CONTRACTOR: FARAB & Boland Payeh J.V Farab International FZE Construction Project (Pkg2) EMPLOYER: Regional Ministry of Electricity in Kurdistan Construction Project (Pkg2) Centigrade Ind.Inc. ELECTRICAL AND WIRING DIAGRAM Cii97-81003-DIA-15 DLK-D-FAB-10913-MEC-C-R06 REV.:06 Contract No.: IQ-P15 (Pkg2) H42-2-00-MA-P-20-DWG-113 Page 2 of 3

Page	REV -0	REV -1	REV -2	REV -3	REV -4	REV -5	REV -6	Page	REV -	REV -	REV -	RE\	-	
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2	X	X	X	X		X		2						
3	X	X	X	X		X		3						
4	Х	Х	Х	Х		Х	Х	4						
5	Х	Х	Х	Х		Х	Х	5						
6	Х	Х	Х	Х		Х		6						
7	Х	Х	Х	Х		Х		7						
8	Х	Х	Х	Х		Х	X	8						
9	Х	Х	Х	Х		Х		9						
10	Х	Х	Х	Х		Х		10						
11	Х	Х	Х	Х		Х	Χ	11						
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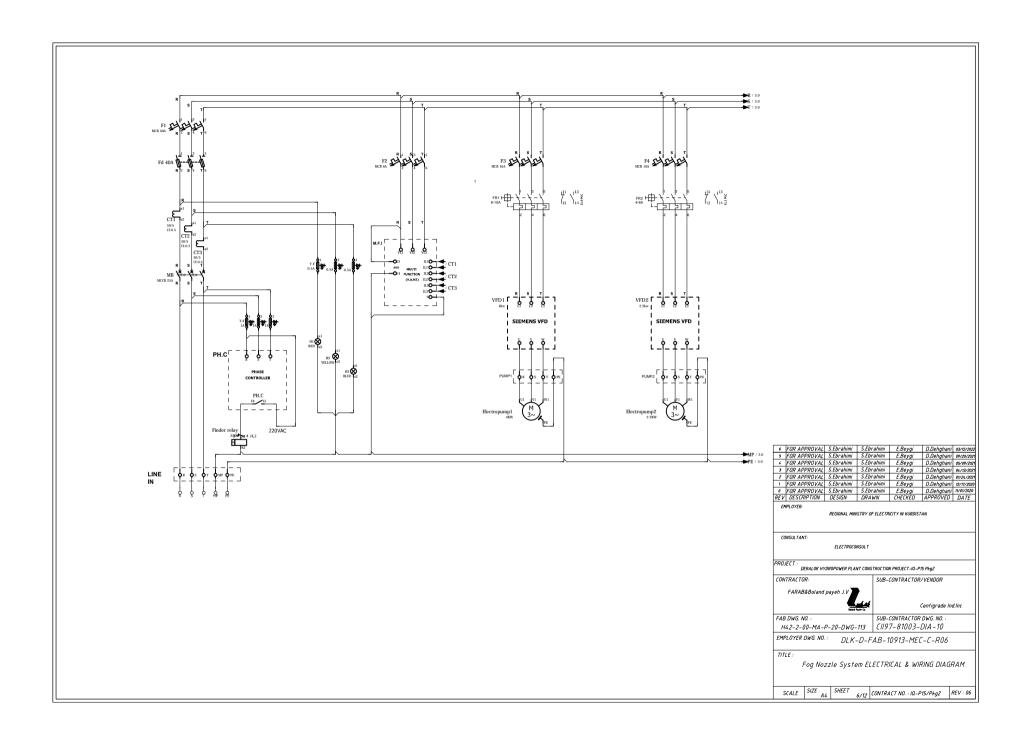
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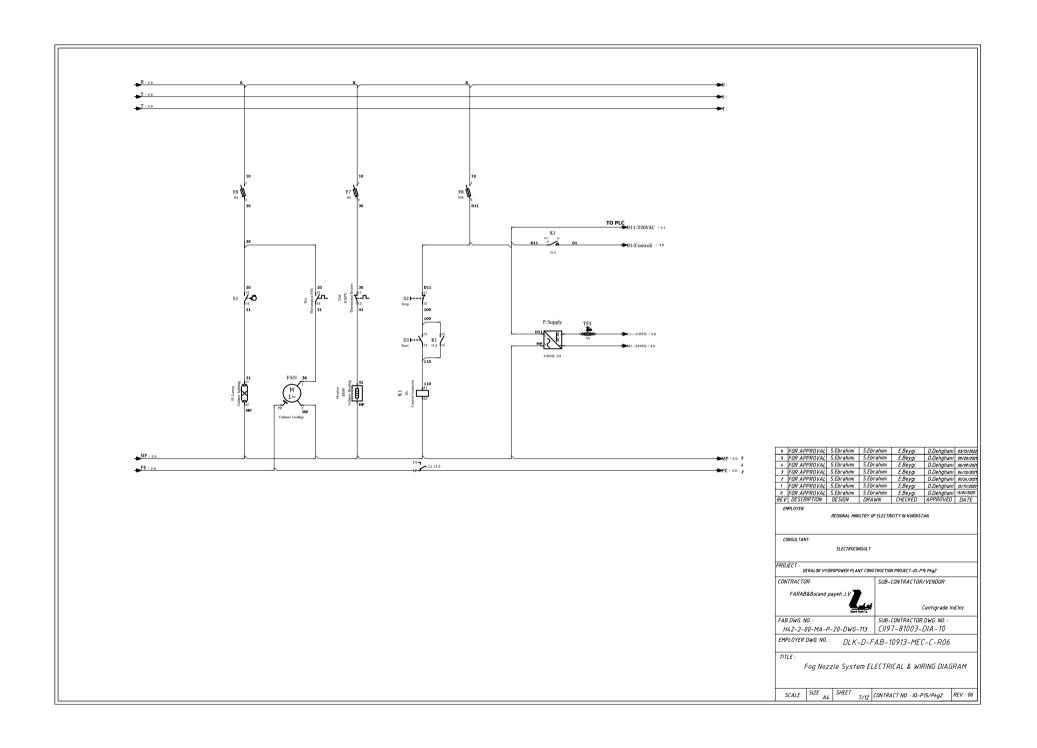
	Part Name	Piece Symbol	Estandard		Part Name	Piece Symbol	Estandard
1	power circuit breaker	MB + + + + + + + + + + + + + + + + + + +	IEC	15	Start Push button	▶ √ 1 ¹⁻¹	IEC
2	fuse switch 3-pale	DA'DA'	IEC	16	NO Contact	113 114	IEC
3	Tereninal fused	ģ ₩	IEC	17	Power Supply	N	IEC
4	fuse switch single-pole	F 🕌	IEC	18	LED signal	$\bigotimes_{\rm lx2}^{\rm lx1}$	IEC
5	fluorecent lamp	Q	IEC	19	Thermal actuation NO contact	፟፟፟፝ዾ	IEC
6	Cabinet fan(ac motor)	M T	IEC	20	Power NO contact	²/ à	IEC
7	AC mater 3Phase	ET MY JUT	IEC	21	Thermal actuation NC contact	4,12°	IEC
8	Heater	車	IEC	22	Stop Push button	F 111	IEC
9	Motor overload switch	EST 2 5 5 5 5 5 5 5 5 5	IEC	23	PT-100	₩	IEC
10	σ	ст Д	IEC	24	Shield	(===)	IEC
11	Limit switchfusi	o-√	IEC	25	Solenoid Valve		IEC
12	Relay Coll general	I _{A2}	IEC	26	Switch NO Contact	F→\\	IEC
13	Emergency Push button	S (1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-	IEC	27	Fuse disconnector	Fd 40A	IEC
14	LIGHTING ALARM	- 3 -	IEC				

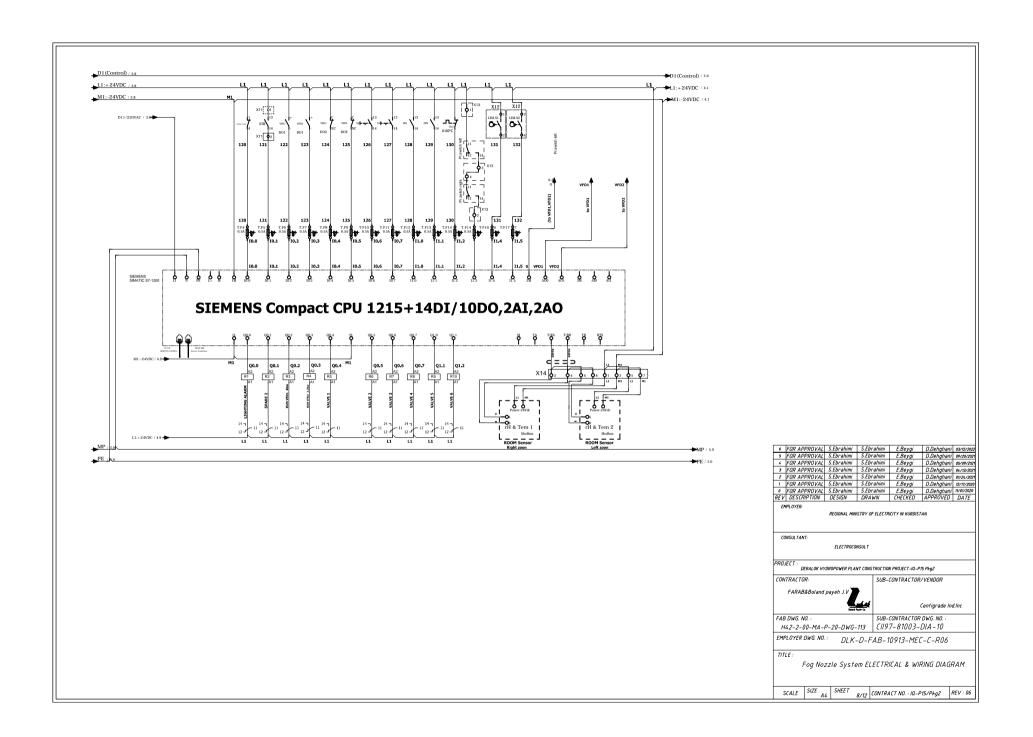
6		PROVAL	S.Ebrahimi	S.Eb	ahimi	E.Beygi	D.Dehghani	03/12/2022			
5	FOR AF	PROVAL	S.Ebrahimi	S.Eb.	ahimi	E.Beygi	D.Dehghani	09/20/202			
4	FOR AF	PROVAL	S.Ebrahimi	S.Eb.	ahimi	E.Beygi	D.Dehghani	05/09/202			
3	FOR AP	PROVAL	S.Ebrahimi	S.Eb.	ahimi	E.Beygi	D.Dehghani	04/13/202			
2	FOR AF	PROVAL	S.Ebrahimi	S.Eb.	ahimi	E.Beygi	D.Dehghani	01/24/202			
1	FOR AF	PROVAL	S.Ebrahimi		ahimi	E.Beygi	D.Dehghani	12/17/202			
0		PROVAL	S.Ebrahimi		ahimi	E.Beygi	D.Dehghani	11/01/2020			
REV	DESCR	PIPTION	DESIGN	DRA	WN	CHECKED	APPROVED	DATE			
			REGIONAL MINI	ISTRY O	ELECTR	ICITY IN KURDIS	TAN				
co PRO	CONSULTANT: ELECTROCONSULT										
ran	DERALOK HYDROPOWER PLANT CONSTRUCTION PROJECT-IQ-P15 Pkg2 CONTRACTOR: SUB-CONTRACTOR/VENDOR										
	FARAB&Boland payeh J.V Centigrade Ind.Inc										
EAG	DWG. N	10 .		_	CUD	CONTRACTOR	DWG NO .				
						7-81003-					
Н	42-2-1	JU-MA-F	2-20-DWG-	113	CIIS	1-01003-	DIA-IU				
EMF	EMPLOYER DWG. NO.: DLK-D-FAB-10913-MEC-C-R06										
TIT	TITLE :										
	,	Fog Noz	zzle Syste	em EL	ECTR	ICAL & WII	RING DIAGI	RAM			
5	CALE	SIZE	SHEET	4/12	CONTRA	ACT NO. : IQ-F	215/Pkg2	REV : 06			

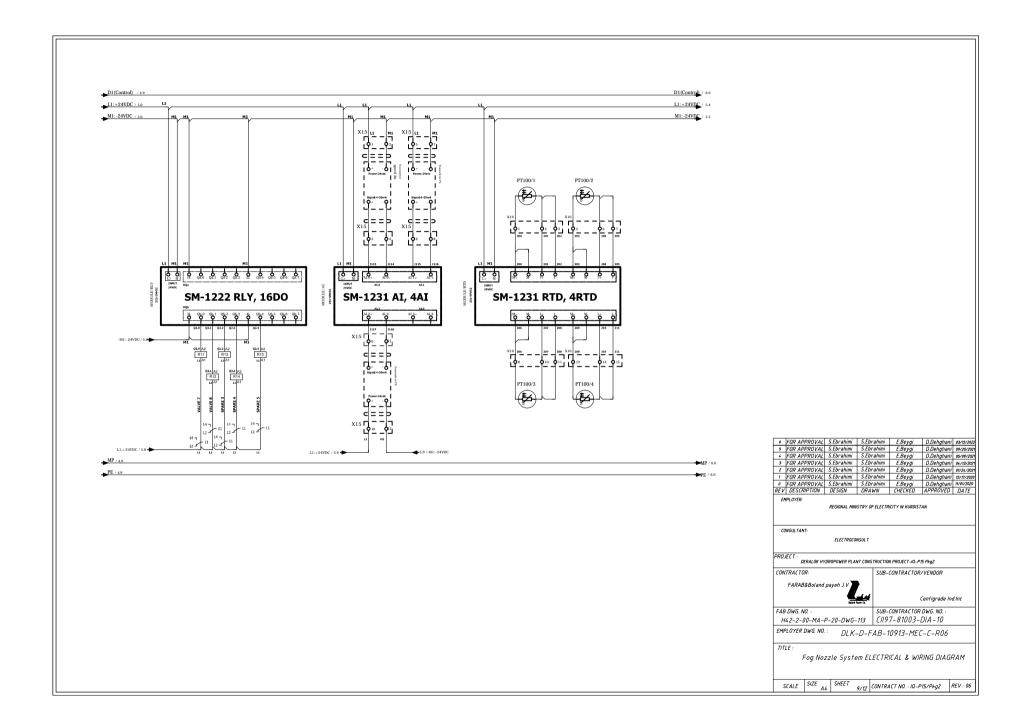
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	aty	Part Name	Description	Order NO	UNIT	BRAND	ORIGIN
1	1	VFD 1	4 KW	SINAMICS V20	PCS	SIEMENS	GERMANY
2	1	VFD 2	2.2 KW	SINAMICS V20	PCS	SIEMENS	GERMANY
3	1	PLC	Campact CPU 1215	6ES7 215-1BG40-0XB0	PCS	SIEMENS	GERMANY
4	1	PLC module	SM-1222 RLY, 1600 222-1HH32	6ES7 222-1HH32-0XB0	PCS	SIEMENS	GERMANY
5	1	PLC module	SM-1231 AI,4AI 2314HD32	6ES7 231-4HD32-0XB0	PCS	SIEMENS	GERMANY
6	1	PLC module	SM-1231 RTD,4CH 231-5PD32	6ES7 231-5PD32-0XB0	PCS	SIEMENS	GERMANY
7	1	HMI 8.5"	XP50-TTA/OC	LSS-XP50TTA-01	PCS	LS	KOREA
8	1	PHASE CONTROLLER	PH.C	RM17TE00	PCS	SCHNEIDER	FRANCE
9	15	PLC RELAY	PLC-BSC-24DC/21	2966016	PCS	PHOENIX	GERMANY
10	1	MULTI-Function	M.F.I	Ziegler Delta-3L-EA-Z	PCS	ZIEGLER	GERMANY
n	1	MAIN MCCB	25A	LV429556	PCS	SCHNEIDER	FRANCE
12	1	мсв	40A 3Phase	24354	PCS	SCHNEIDER	FRANCE
13	1	мсв	16 A 3Phase	24350	PCS	SCHNEIDER	FRANCE
14	1	мсв	10 A 3Phase	24349	PCS	SCHNEIDER	FRANCE
15	1	MCB	6A 3Phase	24348	PCS	SCHNEIDER	FRANCE
16	1	мсв	10A 1Phase	24401	PCS	SCHNEIDER	FRANCE
17	2	мсв	6A 1Phase	24399	PCS	SCHNEIDER	FRANCE
18	1	Power Supply	24 VDC/5A	S8VK-C12024	PCS	OMRON	JAPAN
19	20	Terminal Fused	110-220V/DC-AC	RFT5	PCS	RAAD	IRAN
20	2	Selector command swicht	Dual mode	XB4-8033	PCS	SCHNEIDER	FRANCE
21	2	Signal LED LAMP green	24 VDC	X87-NW33B1	PCS	SCHNEIDER	FRANCE
22	2	Signal LED LAMP yellow	24 VDC	X87-NW3881	PCS	SCHNEIDER	FRANCE
23	1	Emergency push button	Lock Up	XB7NS8445	PCS	SCHNEIDER	FRANCE
24	1	Heater	220VAC/500W	GTK-500	PCS	Koomesh	IRAN
25	-	Control Panel Lighting	Fluorescent Lamp/220VAC/10W	EDC-15	PCS	Lighting	China
26	,	Control Panel Cooling FAN	220VAC/20W		PCS	Sammit	China
27	33	Terminal	250VAC/2.5mm²	DRTP2.5	PCS	RAAD	IRAN
28	1	Contactor	coil 220VAC/9A	3RT2023-1AP00	PCS	SIEMENS	GERMANY
29	1	Manual Motor Starter	4-6.3 A	GV2ME10	PCS	SCHNFIDER	FRANCE
30	1	Manual Motor Starter	6-10 A	GV2ME14	PCS	SCHNEIDER	FRANCE
31	60	WIRE	1×1mm²		m	shirkooh	IRAN
32	15	WIRE	1×2.5mm²		m	shirkooh	IRAN
			50/5 CL:0.5FS5		PCS		IRAN
33	3	CT (Current trans Core ballance)		XB7NA3133		MAG ELECTRIC	
34	1	Start push button	Monolithic push button		PCS	SCHNEIDER SCHNEIDER	FRANCE
35	1	Stop push button	Monolithic push button	XB7NA45	PCS		FRANCE
36	9	Gland		PG13.5	PCS	RAAD	IRAN
37	2	Gland		PG16	PCS	RAAD	IRAN
38	1	Gland		PG21	PCS	RAAD	IRAN
39	4	Blue Terminal	500VAC/4mm²	RTP4	PCS	RAAD	IRAN
40	5	Yellow Terminal	500VAC/4mm²	RTP4	PCS	RAAD	IRAN
41	3	BlackTerminal	500VAC/4mm²	RTP4	PCS	RAAD	IRAN
42	9	GrayTerminal	600VAC/10mm 2	RTP10	PCS	RAAD	IRAN
43	3	EarthTerminal	600VAC/10mm 2	RETN10	PCS	RAAD	IRAN
44	1	Thermostat FAN	250V/10A	3668042	PCS	Koomesh	IRAN
45	2	Thermostat Heater	250V/10A	3668075	PCS	Koomesh	IRAN
46	1	RED Signal LED LAMP	220 VAC	XB7-EV04MP	PCS	SCHNEIDER	FRANCE
	1	YELLOW Signal LED LAMP	220 VAC	XB7-EV05MP	PCS	SCHNEIDER	FRANCE
47	1	BLUE Signal LED LAMP	220 VAC	XB7-EV06MP	PCS	SCHNEIDER	FRANCE
47		Finder Relay	230 VAC/10A	60.12.8.230.0040	PCS	Finder	EU
	1	I mucer netay					
48	1	Limit Switch	250 VAC/15A	CM-1306	PCS	WINNER	FRANCE
48				CM-1306 VLC 14	PCS PCS	WINNER ETI	FRANCE Slovenia
48 49 50	1	Limit Switch	250 VAC/15A				

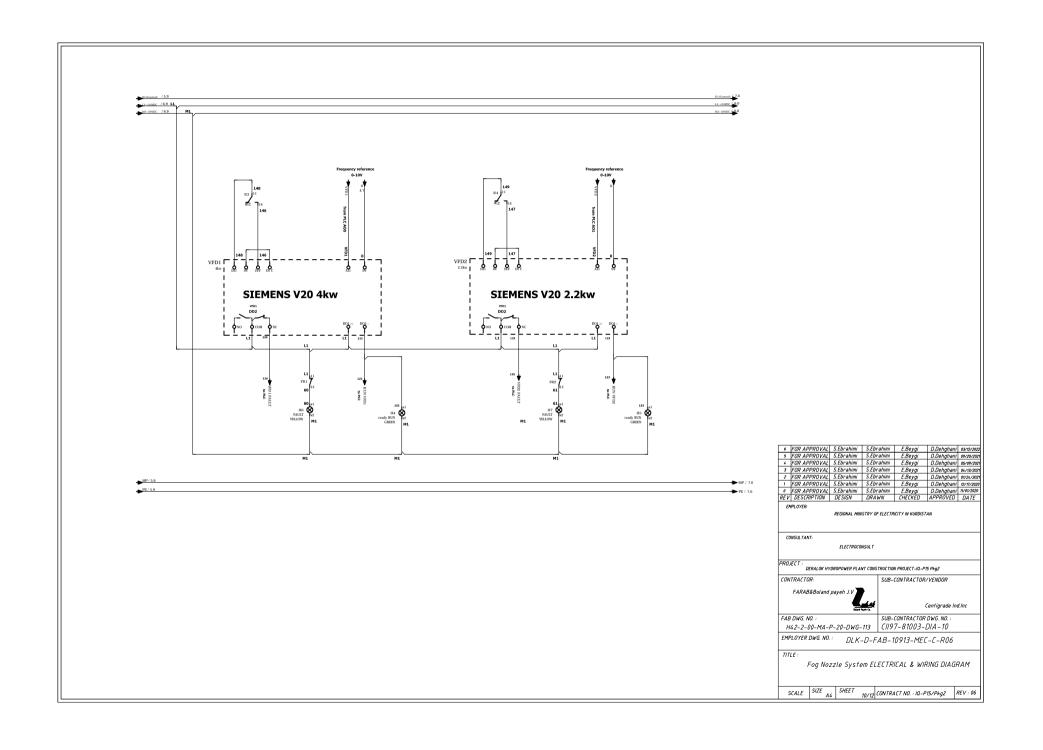
6	FOR APPROVAL	S.Ebrahimi	S.Ebr	ahimi	E.Beygi	D.Dehghar	i 03/12/202				
5	FOR APPROVAL	S.Ebrahimi	S.Ebr	ahimi	E.Beygi	D.Dehghan	i 09/20/20				
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2	FOR APPROVAL	S.Ebrahimi	S.Ebr	ahimi	E.Beygi	D.Dehghan	i 01/24/20.				
1	FOR APPROVAL	S.Ebrahimi	S.Ebr	ahimi	E.Beygi	D.Dehghan	i 12/17/202				
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		REGIONAL MINI	ISTRY OF	ELECTR	ICITY IN KURDIS	TAN					
a	CONSULTANT: ELECTROCONSULT										
PROJECT : DERALOK HYDROPOWER PLANT CONSTRUCTION PROJECT-IQ-P15 Pkg2											
	DERALOK HY	DROPOWER PLAI	NT CONS								
		DROPOWER PLAI	NT CONS		N PROJECT-IQ-F CONTRACTOR						
	DERALOK HY		NT CONS				nd.Inc				
CON	DERALOK HY ITRACTOR:		NT CONS	SUB-		R/VENDOR Centigrade li	nd.Inc				
CON	DERALOK HY ITRACTOR: FARAB&Boland	payeh J.V		SUB-	CONTRACTOR	R/VENDOR Centigrade la	nd.Inc				
FAE H	DERALOK HY ITRACTOR: FARAB&Boland B DWG. NO. :	payeh J.V	.113	SUB- SUB- CII9	CONTRACTOR	R/VENDOR Centigrade la R DWG. NO.: DIA – 10	nd.Inc				
CON FAE H	DERALOK HY ITRACTOR: FARAB&Boland B DWG. NO.: 142-2-00-MA-1	payeh J.V	.113	SUB- SUB- CII9	CONTRACTOR CONTRACTOR 7-81003-	R/VENDOR Centigrade la R DWG. NO.: DIA – 10	nd.Inc				
CON FAE H	DERALOK HY ITRACTOR: FARAB&Boland B DWG. NO.: 142-2-00-MA-1 PLOYER DWG. NO. ILE:	payeh J.V	-113 -D-F	SUB- SUB- CII9 AB-1	CONTRACTOR CONTRACTOR 7-81003- 10913-ME	Centigrade II R DWG. NO.: DIA – 10 C – C – R 06					

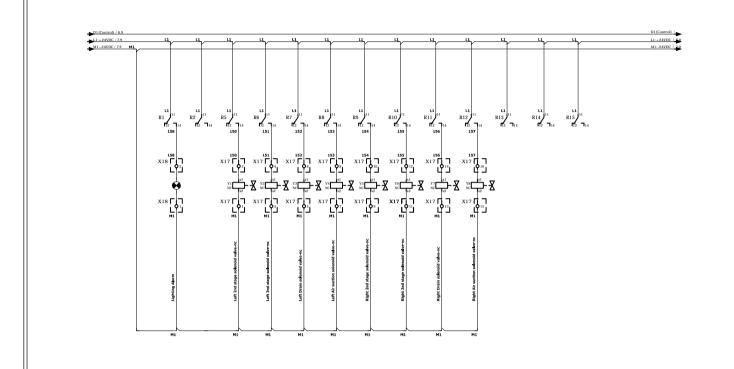












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5	FOR APPROVAL	S.Ebrahimi	S.Ebrahimi	E.Beygi	D.Dehghani	09/20/20					
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2	FOR APPROVAL	S.Ebrahimi	S.Ebrahimi	E.Beygi	D.Dehghani	01/24/20					
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0	FOR APPROVAL	S.Ebrahimi	S.Ebrahimi	E.Beygi	D.Dehghani	11/01/202					
REV	DESCRIPTION	DESIGN	DRAWN	CHECKED	APPROVED	DATE					
EM	IPLOYER:										
REGIONAL MINISTRY OF ELECTRICITY IN KURDISTAN											

CONSULTANT:

ELECTROCONSULT

PROJECT:

DERALOK HYDROPOWER PLANT CONSTRUCTION PROJECT-IQ-P15 Pkg2

CONTRACTOR: FARAB&Boland payeh J.V SUB-CONTRACTOR/VENDOR

Centigrade Ind.Inc

H42-2-00-MA-P-20-DWG-113 CII97-81003-DIA-10

EMPLOYER DWG. NO.: DLK-D-FAB-10913-MEC-C-R06

TITLE :

Fog Nozzle System ELECTRICAL & WIRING DIAGRAM

SCALE SIZE A4 SHEET 11/12 CONTRACT NO.: IQ-P15/Pkg2 REV: 06

