Setting for grid operator of Chile

SolaX Power Network Technology (Zhe jiang) Co. , Ltd.
hereby confir ms that the following inverters fulfill RE_12438:

X1-Hybrid-3.0-N-C	**X1-Hybrid-3.7-N-C**	**X1-Hybrid-4.6-N-C**	**X1-Hybrid-5.0-N-C**
X1-Hybrid-3.0-D-C	**X1-Hybrid-3.7-D-C**	**X1-Hybrid-4.6-D-C**	**X1-Hybrid-5.0-D-C**
X1-Hybrid-3.0-N-E	**X1-Hybrid-3.7-N-E**	**X1-Hybrid-4.6-N-E**	**X1-Hybrid-5.0-N-E**
X1-Hybrid-3.0-D-E	**X1-Hybrid-3.7-D-E**	**X1-Hybrid-4.6-D-E**	**X1-Hybrid-5.0-D-E**
X1-Fit-3.7C	**X1-Fit-3.7E**		
X1-Fit-4.6C	**X1-Fit-4.6E**		
X1-Fit-5.0C	**X1-Fit-5.0E**		

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2019.11.15

1、over/under frequency and over/under voltage

Protection. Frequency tests						
Function	Limit		Setting		Trip test	
	Frequency	Time	Frequency	Time	Frequency	Time
U/F stage 1	47.5Hz	0.1s	47.5Hz	0.08s	47.5Hz	0.078s
O/F stage 1	51.5Hz	0.1s	51.5Hz	0.08s	51.5Hz	0.074s

Protection. Voltage tests		
	Under Voltage	
Parameter	Voltage	Time
Protection limit	176.0V	0.1s
Actual Setting	176.0V	0.08s
Trip value(test result)		
L1	175.7V	0.089s

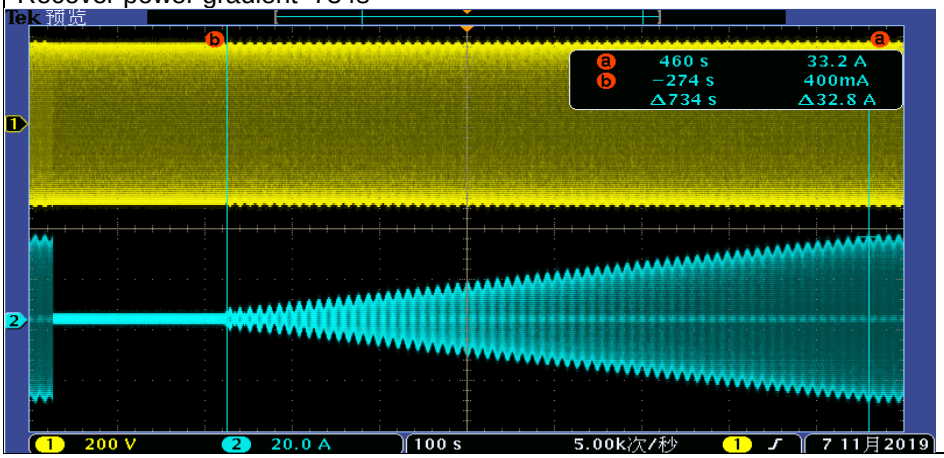
Protection. Voltage tests				
	Over Voltage			
Parameter	Voltage	Time	Voltage	Time
Protection limit	242.0V	600s(0.1s)	253.0V	0.1s
Actual Setting	242.0V	600s(0.1s)	253.0V	0.08s
Trip value(test result)				
L1	242.5V	594s	253.5V	0.093s

2、Reconnection

Reconnection generate electrical power		**P**
Setting value	Min.voltage for connected to grid.....:	187.0V
	Max.voltage for connected to grid.....:	242.0 V
	Min.Frequency for connected to grid.....:	47.5Hz
	Max.Frequency for connected to grid..... .....:	51.2Hz
	Observation time(180s).....:	60s

Test:				
	Voltage conditions			
In voltage range after voltage failture	85%U_n for twice of setting observation time		110%U_n for twice of setting observation time	
Reconnection time[s]	188.6V	77s	240.7V	76s
Limit:	Reconnection after setting observation time(60s)			
	Frequency conditions			
In frequency range after frequency failture	47.5Hz for twice of setting observation time		51.2Hz for twice of setting observation time	
Reconnection time[s]	47.55Hz	77s	51.15Hz	78s
Limit:	Reconnection after setting observation time(60s)			

Recover power gradient 734s



3、Active anti-islanding protection

Active anti-islanding protection									P
Disconnection limit:				2s					
No.	P_{EUT} (% of rated)	Reactive power (Q_L)	P_{AC} (% of rated)	Q_{AC} (% of rated)	Run time (ms)	P_{EUT} (W)	Actual Qf	Vdc	Remarks
1	100	100	0	0	373	4947	0,96	560,5	Test A at BL
2	100	100	-10	-10	482	4943	0,92	562,7	Test A at BL
3	100	100	-10	-5	441	4943	0,9	565,3	Test A at BL
4	100	100	-10	0	572	4939	0,9	564,4	Test A at BL
5	100	100	-10	+5	168	4957	0,88	563,6	Test A at BL
6	100	100	-10	+10	130	4940	0,86	563,4	Test A at BL
7	100	100	-5	-10	518	4917	0,97	564,4	Test A at BL
8	100	100	-5	-5	408	4942	0,96	563,7	Test A at IB
9	100	100	-5	0	342	4943	0,94	562.5	Test A at IB
10	100	100	-5	+5	202	4934	0,92	564,4	Test A at IB
11	100	100	-5	+10	151	4932	0,90	564,7	Test A at BL
12	100	100	0	-10	151	4943	0,94	564,0	Test A at BL
13	100	100	0	-5	550	4937	1,02	564,0	Test A at IB
14	100	100	0	+5	166	4933	0,97	563,1	Test A at IB
15	100	100	0	+10	139	4937	0,95	562,1	Test A at BL
16	100	100	+5	-10	137	4937	0,97	562,2	Test A at IB
17	100	100	+5	-5	392	4939	1,07	563.5	Test A at BL
18	100	100	+5	0	700	4946	1,04	562,8	Test A at IB
19	100	100	+5	+5	176	4946	1,02	563,0	Test A at BL
20	100	100	+5	+10	184	4933	0,99	560,2	Test A at IB
21	100	100	+10	-10	142	4937	1,04	563,5	Test A at BL
22	100	100	+10	-5	363	4938	1,11	562,8	Test A at IB
23	100	100	+10	0	283	4937	1,09	563,9	Test A at BL
24	100	100	+10	+5	182	4947	1,06	563,2	Test A at IB
25	100	100	+10	+10	162	4940	1,03	562,3	Test A at BL
12	66	66	0	-5	382	3307	1,04	342,3	Test B at IB
13	66	66	0	-4	374	3306	1,03	347,1	Test B at IB
14	66	66	0	-3	399	3305	1,02	349,2	Test B at IB
15	66	66	0	-2	331	3305	1,01	348,4	Test B at IB
16	66	66	0	-1	480	3305	1	347,6	Test B at IB
17	66	66	0	0	428	3305	1	272,7	Test B at BL
18	66	66	0	1	325	3306	1	345,7	Test B at IB
19	66	66	0	2	380	3306	0,99	346,6	Test B at IB
20	66	66	0	3	253	3304	0,98	348,2	Test B at IB

21	66	66	0	4	216	3305	0,98	347,8	Test B at IB
22	66	66	0	5	196	3305	0,97	340,1	Test B at IB
23	33	33	0	-5	122	1650	1,04	137,2	Test C at IB
24	33	33	0	-4	362	1649	1,03	135,9	Test C at IB
25	33	33	0	-3	302	1648	1,02	136,8	Test C at IB
26	33	33	0	-2	371	1649	1,01	135,6	Test C at IB
27	33	33	0	-1	496	1649	0,99	136,4	Test C at IB
28	33	33	0	0	250	1650	0,98	136,8	Test C at BL
29	33	33	0	1	305	1649	0,98	135,5	Test C at IB
30	33	33	0	2	172	1649	0,97	135,0	Test C at IB
31	33	33	0	3	126.2	1650	0,95	137,8	Test C at IB
33	33	33	0	4	165	1649	0,94	137,6	Test C at IB
34	33	33	0	5	173	1650	0,93	136,4	Test C at IB

Note:

P_{EUT}: EUT output power.
P_{AC}: Active power flow at S1 in Figure 1. Positive means power from EUT to utility. Nominal is the 0 % test condition value.
Q_{AC}: Reactive power flow at S1 in Figure 1. Positive means power from EUT to utility. Nominal is the 0 % test condition value.
BL: balance condition, IB: imbalance condition.