

DSG-NPS R&D Meeting

Date: October 6, 2020

Time: 11:00 – 12:00

Attendees: Mary Ann Antonioli, Peter Bonneau, Aaron Brown, Pablo Campero, Brian Eng, George Jacobs, Tyler Lemon, Marc McMullen, Amrit Yegneswaran

1. CSS screen development status

- 1.1. Completed 194 of 1080 PMT voltage and current limit settings screens
- 1.2. Uploaded [PV Channel Assignments](#) spreadsheet to DSG NPS technical documentation webpage

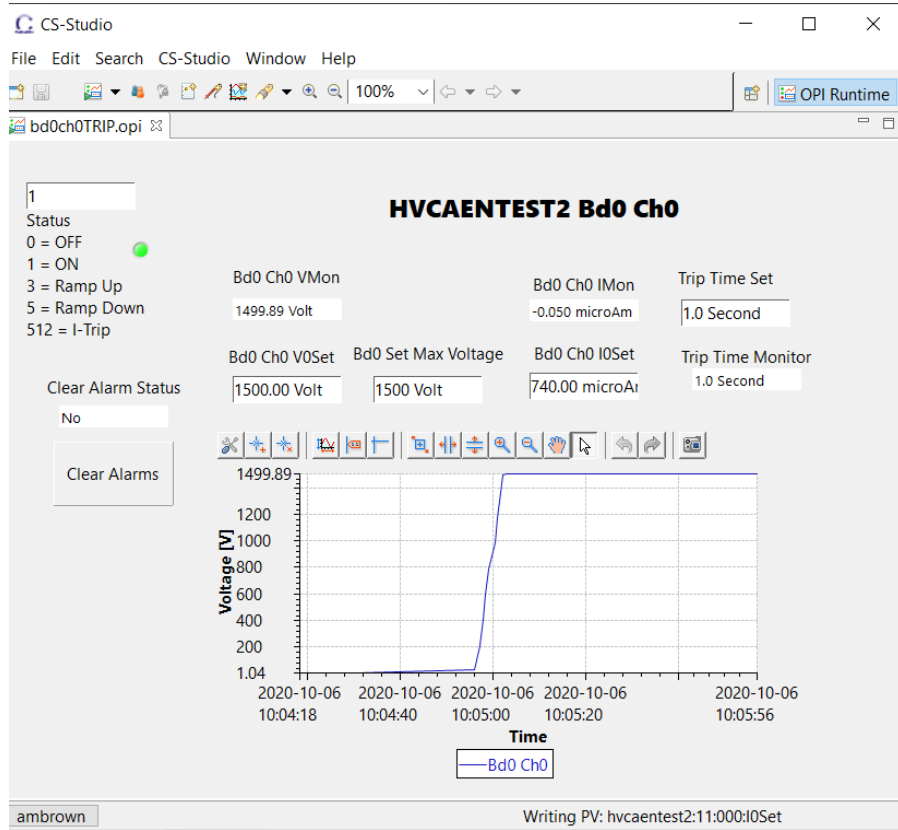
2. CAEN testing and data analysis

- 2.1. George will analyze remaining twelve modules for current stability, using Excel
- 2.2. Software for over current trip testing has been completed; debugging in progress
- 2.3. Discussed scrapping over voltage trip testing
 - 2.3.1. Internal mechanism seems to prevent placing channel in “Over Voltage” state; see appendix
- 2.4. Discussed time zone issue for trip test plot
 - 2.4.1. Will continue to look for solutions for XY Plot time being set to UTC
 - 2.4.2. Will use data logger to plot trip test data
- 2.5. Mary Ann will be running Python package for trip test data analysis
 - 2.5.1. Package will automatically produce 6x6 matrix of plots (one page per module)

3. Fabricated 860 of 1100 HV divider cables

4. Still awaiting information about timeline for testing the HV divider cables being made by DSG at JLab

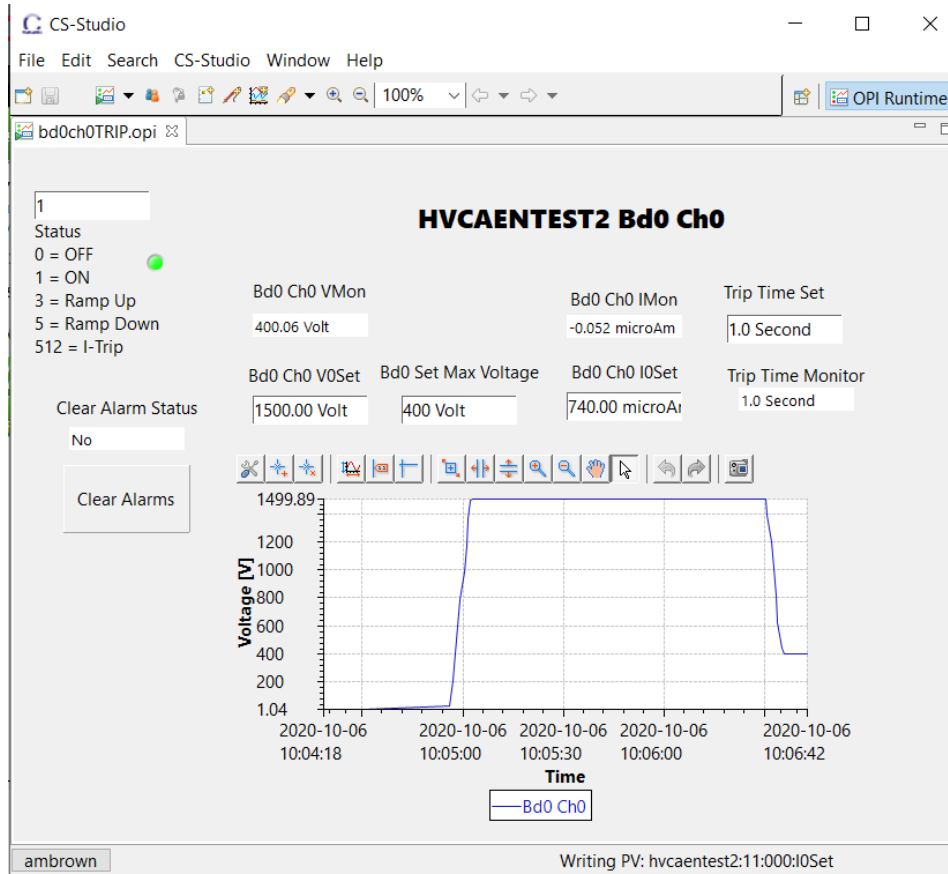
APPENDIX



Screenshot of trip test CSS-BOY screen. Plot shows that voltage was set to 1500 V and ramped up to 1499.89 V. The maximum voltage for this channel (Bd0 Set Max Voltage) is also 1500 V.

hvcaentest2															
Custom	Name	I0Set	V0Set	IMon	VMon	Pw	Status	RUp	RDWn	Trip	V1Set	I1Set	SVMMax		
00.000	CHANNEL00	740.00 uA	1500.00 V	0.632 uA	1169.24 V	On	Up	250 Vps	250 Vps	1.0 sec	0.00 V	101.00 uA	1500 V		
00.001	CHANNEL01	740.00 uA	0.00 V	-0.020 uA	1.53 V	Off		250 Vps	250 Vps	1.0 sec	0.00 V	101.00 uA	1500 V		
00.002	CHANNEL02	740.00 uA	0.00 V	-0.134 uA	0.38 V	Off		250 Vps	250 Vps	1.0 sec	0.00 V	101.00 uA	1500 V		

Screenshot of CAEN GECO 2020 showing parameter settings for Bd0 Ch0. Here you can also see that SVMMax and V0Set (maximum voltage and set voltage respectively) are both set to 1500 V.



Screenshot of trip test CSS-BOY screen showing that maximum voltage (SVMax) has been reduced to 400 V. The readback voltage has been reduced to 400 V as well.

Custom	Name	I0Set	V0Set	IMon	VMon	Pw	Status	RUp	RDWn	Trip	V1Set	I1Set	SVMax
00.000	CHANNEL00	740.00 uA	400.00 V	-0.060 uA	400.05 V	On		250 Vps	250 Vps	1.0 sec	0.00 V	101.00 uA	400 V
00.001	CHANNEL01	740.00 uA	0.00 V	-0.026 uA	1.51 V	Off		250 Vps	250 Vps	1.0 sec	0.00 V	101.00 uA	1500 V
00.002	CHANNEL02	740.00 uA	0.00 V	-0.140 uA	0.35 V	Off		250 Vps	250 Vps	1.0 sec	0.00 V	101.00 uA	1500 V

Screenshot of CAEN GEKO 2020 showing parameter settings for Bd0 Ch0. Here you can see that SVMax has been reduced to 400 V and that the set voltage (V0Set) has been automatically reduced to match.