

DSG-NPS R&D Meeting Minutes

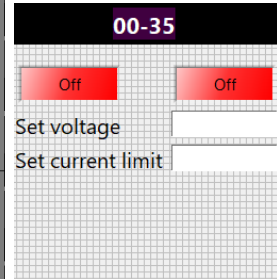
Date: November 10, 2020
Time: 11:00AM – 12:15PM

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

1. CSS screen development status

1.1. Mary Ann Antonioli completed 343 PMT Settings blocks on the main NPS screen

| | | | | | | | | | | |
|---------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Row 35 | 00-35 Off | 01-35 Off | 02-35 Off | 03-35 Off | 04-35 Off | 05-35 Off | 06-35 Off | 07-35 Off | 08-35 Off | 09-35 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 34 | 00-34 Off | 01-34 Off | 02-34 Off | 03-34 Off | 04-34 Off | 05-34 Off | 06-34 Off | 07-34 Off | 08-34 Off | 09-34 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 33 | 00-33 Off | 01-33 Off | 02-33 Off | 03-33 Off | 04-33 Off | 05-33 Off | 06-33 Off | 07-33 Off | 08-33 Off | 09-33 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 32 | 00-32 Off | 01-32 Off | 02-32 Off | 03-32 Off | 04-32 Off | 05-32 Off | 06-32 Off | 07-32 Off | 08-32 Off | 09-32 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 31 | 00-31 Off | 01-31 Off | 02-31 Off | 03-31 Off | 04-31 Off | 05-31 Off | 06-31 Off | 07-31 Off | 08-31 Off | 09-31 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 30 | 00-30 Off | 01-30 Off | 02-30 Off | 03-30 Off | 04-30 Off | 05-30 Off | 06-30 Off | 07-30 Off | 08-30 Off | 09-30 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 29 | 00-29 Off | 01-29 Off | 02-29 Off | 03-29 Off | 04-29 Off | 05-29 Off | 06-29 Off | 07-29 Off | 08-29 Off | 09-29 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 28 | 00-28 Off | 01-28 Off | 02-28 Off | 03-28 Off | 04-28 Off | 05-28 Off | 06-28 Off | 07-28 Off | 08-28 Off | 09-28 Off |
| Voltage | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Current | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### | ##### |
| Row 27 | 00-27 | 01-27 | 02-27 | 03-27 | 04-27 | 05-27 | 06-27 | 07-27 | 08-27 | 09-27 |



PMT Setting blocks on main NPS screen (left) and PMT Settings pop-up screen (right)

1.2. Aaron Brown is revising *NPS CAEN Overview* screen so that LED will blink yellow if the channel has a fault

2. CAEN testing and data analysis

2.1. Discussed fabricating additional SHV Load Box designed by DSG

2.1.1. Marc McMullen contacted Bogdan Wojtsekhowski for additional RG59 cables; awaiting reply

2.2. George Jacobs completed ramp tests for 16 of 34 modules

2.2.1. There were numerous EPICS communication issues during testing

2.2.2. Brian Eng noted that CSS scripts create background processes every time an EPICS command is sent, which may be the cause of communication issues

2.2.3. Brian Eng, Tyler Lemon, and Aaron Brown will discuss options to address communications issues

2.3. Brad Sawatzky took possession of the Primary Power Supply and Booster Power Supply from crate #2 (*hvcaentest2*) to use in a crate in the ESB

2.4. To test the old Primary and Booster Power supplies that Brad Sawatzky dropped off back in September, George Jacobs performed ramp tests in crate #2

2.4.1. No channel's voltage rose above ~740 V despite having the voltage set for 1500 V

- 2.5. George Jacobs will swap the Primary and Booster power supplies from crate #3 to crate #2 and conduct ramp tests to determine if network reconfiguration resolves EPICS communications issues
- 2.6. Developing Python analysis package for data analysis of trip tests
 - 2.6.1. Code being rewritten to remove unwanted leading and trailing zeros
 - 2.6.2. Aaron Brown downloaded Python and all needed packages to Mary Ann Antonioli's computer so that she can run plotting package

3. Hardware Interlock System development

- 3.1. Aaron Brown spoke about procurement of spare Keysight model 34980A mainframe and model 34921A multiplexer with Brad Sawatzky
 - 3.1.1. Brad Sawatzky will contact Carlos Munoz to facilitate procurement
 - 3.1.2. Discussed number of spare multiplexers needed, possibly two
 - 3.1.3. DSG will generate detailed list of items needed for interlock system
- 3.2. Aaron Brown will contact Carlos Munoz for updated photos and step files of the NPS detector frame

4. Cable fabrication

- 4.1. Mindy Leffel has fabricated 980 of 1100 HV divider cables