May 20, 2018

1. Strength and Radioactivity testing
    a. Low radioactivity 10-inch PMTs have no history of strength testing or long-term testing in Gd-water.
    b. Long term soaking of **1 PMT** in Gd-Water (1% gadolinium sulfate) at UC Davis with testing of the water and visual inspection of PMT. Test to crush failure after testing.
    c. Crush batch **2 PMTs** for radiological counting to ensure they meet expectations
    d. Pressure test **5 Non-Op PMTs** to failure in order to compare with non-LRI tests. To be done at LLNL or Hawaii (who has facilities?)
    e. Measure strength parameters of the LRI glass for use in the DYNA Software. Need **batch 1 PMT (crushed?)**. Need a System Engineering Analysis.
    f. Mechanical testing to be done in PSL mounting shell
2. Verification of Electronic performance
    a. Measure magnetic performance of **1 PMT** at UC Davis – not high priority
    b. Measure precision timing and detailed QE testing of **10 PMTs** at Penn
    c. Large-scale measurement of **100 PMTs** at Boulby, to include operating voltage at a standard (TBD) gain, dark noise (after settling), and full-face illumination – P/V, relative QE. This should be the system we ultimately use for production testing.
    d. **1 PMT** to Penn State for electronics testing
    e. **1 PMT** to Hawaii for electronics testing
3. Design and construction of PMT transport vehicle
    a. Design and build one transport cart capable of safely and cleanly taking PMTs from the surface to the site. How many per cart is possible/desirable? Will PMTs change characteristics after transport? Need an institution to design and build.