NPS 2017 Action Items

- Finalize complete NPS detector frame mechanical design
    - Complete removal in design of last small interferences at small angles
    - Finalize light monitoring and curing systems concepts and integrate with design of NPS frame
    - Finalize integration of temperature-stabilization system at 18^{o} C.

- Finalize designs for fringe field mitigation including the beam dump line, for NPS at small angles, and the HMS snout, for both NPS and HMS at small angles.

- Finalize NPS magnet (steel, main coil, and corrector coil).
    - Determine magnet mapping needs and a plan to complete the required mapping data
    - Map NPS magnet to confirm fringe field estimates.

- Complete design of platform for NPS, both the cantilevered support at small angles, and the platform on the SHMS carriage for NPS at large angles.
    - Complete design of support of cantilevered platform for NPS at small angles
    - Complete design for cooling water and power lines for the magnet, and electrical power on the NPS detector platform
    - Complete integration of use of SOS detector rails for NPS longitudinal motion (magnet and detector)
    - Complete design of removable guard (personnel safety) rails as needed for NPS detector frame access at small angles during maintenance periods

- Finalize cabling concept, DAQ and electronics
    - Complete final cabling layout for high-voltage and signal cables
    - Complete layout of patch panels and DAQ/electronics racks in SHMS hut
    - Complete a full chain test of fADC readout with the NPS 3x3 prototype, including PMTs+HV dividers and readout system

- PbWO4 crystals
    - Finalize crystal testing facility setups at Orsay and CUA including chemical analysis methods at CUA
    - Define and document quality assurance methods, procedures, and specifications for crystals (both procedures required for each crystal and those required for a sample)
    - Test (some of) the PbWO4 crystals acquired, we expect to have at least 250 PbWO4 crystals from SICCAS this year

- PMT and HV bases
    - finalize concept for board layout and connectors for HV and signals – depends on final design of calorimeter temperature-controlled box and location of HV and signal patch panels
    - identify board vendors
    - procure 35 bases through OU

- Start software and simulation development – reconstruction

- Finalize design of an optimized High-Intensity Photon Source

- Future physics with NPS
    - Identify unique physics one can get out of polarized WACS taking advantage of an optimal compact photon source
    - For TCS, address two points: 1) does experiment with NPS and transverse target provide unique access to GPD E/orbital angular momentum, 2) is it competitive with other methods on the market, e.g., HDICE
    - Consider further high-quality unique science that could be considered with the NPS, with availability of intense electron and photon sources.