NGAO Architecture Retreat Action Items

- □ Products and/or Actions
  - □ Sean Adkins
    - □ Review proposed K1Upgrade plan and cost estimate developed by (Peter W.) by 8/7 - **Status Unknown**
    - □ Convene the Instrument Working Group to provide initial volume estimates for d-NIRI (first priority) and all instruments (2nd priority) under zeroth order assumptions of being lenslet-based or slicer-based. As much detail delivered as possible by 8/15 will inform the baseline architecture selection. - **Not Complete**
    - □ Review tolerable allocation of WFE (on-axis and across FoV), for current instrument suite. Rich D. is carrying 30 nm rms WFE over a edge of 10" diameter field for all narrow-field instruments by 8/22 - **Not Complete**
    - □ A short report describing the potential benefit to MOSFIRE science to be gained by an adaptive secondary mirror architecture (assume a GLAO implementation can provide 0.2" FWHM for K-band, 0.35" FWHM for J-band, over 6 arcmin FoV) by 8/22 to influence this process - **Not Complete; no longer relevant**
  - □ Brian Bauman
    - □ A feasible optical layout of CascadedRelay architecture by 7/27 - **Complete**
  - □ Rich Dekany
    - □ Edit the system architecture process documentation started by Anna and Liz (final product by 8/22) - **Complete KAON #499**
    - □ Work with Antonin to ensure completion of transmission/emissivity trade study by 7/20 - **Complete KAON #501**
    - □ Determine and document minimum TFoR for LOWFS to meet sky coverage requirements by 8/3 - **Complete KAON #504**
    - □ Document rationale for selecting 30" unvignetted FoV for narrow-field instruments (w/ Claire M.) by 8/3 - **Incorporated into SRD v2 task**
    - □ Extrapolate performance vs. sky coverage for different TFoV between 120" diam. and 180" diam. by 8/10 - **Complete KAON #504**
    - □ Upgrade WFE budget tool to handle the following models
      - □ Variable inner v. outer asterism (for on-axis precision tomography and lower-precision LOWFS star sharpening) by 8/30 - **Not complete**
      - □ "Point-and-shoot" model for one or more parallel LOWFS-sharpening AO systems (incl. Rayleigh beacon analysis) by 9/30 - **Not complete**
      - □ Model how well single bright NGS can determine null-modes (refer to KAON 470) by 10/30 - **Not complete**
  - □ Don Gavel
    - □ A short report confirming that SplitRelay can achieves LOWFS performance requirements at the Instruments (consider TTM's, Rotators, ADC, etc. in a TT error budget to show plausibility of satisfying TT requirements (15mas or 3mas rms over 30% sky)) by 7/27 - **Complete**
    - □ ROM estimate of DM cost for LargeRelay based on vendor discussion by 7/27 - **Complete from one vendor**
    - □ ROM estimate confirmation for 64x64 and 32x32 MEMS DM's based on new vendor discussion by 7/27 - **Complete**
    - □ Help Peter W. with K1Upgrade plan cost estimate - send to Sean A. by 8/6 - **Status unknown**
  - □ Claire Max
    - □ Document rationale for selecting 30" unvignetted FoV for narrow-field instruments (w/ Rich D.) by 8/3 - **Not complete (incorporated into SRD v2 task)**
    - □ Revised the 'rainbow' requirements chart, incorporate mods (and complete) into SRD tables and complete release 2.0 of the ScRD by 8/10 - **Status unknown**
    - □ Document performance requirements (and basis) vs. differing sky coverage based on Rich D.'s performance estimates (e.g. start with the estimate that NGAO can deliver 140 nm over 1% sky, 170 nm over 30% sky, and XXX over 80% sky) by 8/10 - **Not complete**
    - □ Add polarimetry requirements to the summary requirements spreadsheet by 8/10 - **Status unknown**
  - □ Liz McGrath
    - □ Respond to questions from the engineering team pertinent to FRD development (thru FRD release 2.0) - **Ongoing**
  - □ Anna Moore
    - □ Complete OSM pickoff trade study according to original schedule (7/27) - **Not complete**
  - □ Chris Neyman
    - □ FRD v1.0 draft (w/ Viswa V.) by 8/30 - **Under active revision**
    - □ A report describing the feasibility for LargeRelay and CascadedRelay meeting the optical needs of KI (IF split off after 1st relay for CascadedRelay) by 7/27 - **Complete**
  - □ Viswa Velur
    - □ Documented surface counts for each of the 5 architectures by 7/20 - **Complete (part of KAON #501)**
    - □ An illustrative SolidWorks model for packaging of SplitRelay architecture by 7/27 - **Complete KAON #506**
    - □ Generate schematic, if not raytrace, layouts of LargeRelay 8/13 - **Not complete; was part of architecture downselect; no longer relevant**
    - □ FRD v1.0 draft (w/ Chris N.) by 8/30 - **Under active revision**
  - □ Peter Wizinowich
    - □ A convincing, specific K1Upgrade plan by 8/6 - **Complete KAON #500**
    - □ More careful analysis of reengineering costs (with Don G.) - get Keck AO team review; get Sean A. review by 8/10 - **Not complete**
    - □ Organize initial pass at RankedImplementationOptions.doc (vs. funding level) by 8/15 - **Complete**
    - □ Convene the AOWG to discuss our tentative NGAO program in the context of larger strategic AO issues by 8/16 - **Complete**
    - □ Initial outline of SDM by 8/30 - **Complete**