Flowdown Requirements
Minutes
(Action Items due: June 10, 2009)

During discussions of the preliminary flowdown parameters summary and corresponding draft flowdown budgets, the following actions were taken:

The parameter "non-common path wavefront calibration (line 14 of the NGAO_Flowdown_Budget_Summary_v08.xls file) shall be eliminated from the flowdown summary. The corresponding wavefront error (WFE) allocation, however, remains a requirement on the NGAO system. **(Dekany)**

Budgets for the uncorrectable optical aberrations (which are being collated from the overall WFE budgets per subsystem) will be specified both on-axis and at the maximum field point relevant for each subsystem (e.g. 60" off-axis for the patrolling LOWFS) **(Velur, Neyman, Adkins for the overall error; Kupke for the uncorrectable summary)**

A Truth WFS (TWFS) flowdown budget will be added to the summary list. (This was already in the PD plan to develop, but this will help us not lose track of it.) **(Dekany)**

Heat Dissipation into the AO Enclosure and Heat Dissipation into the Dome budgets will be added to the flowdown parameter summary. Although this is really a 2nd-order flowdown budget (needing to be rooted in either a non-common-path aberrations flowdown, uncorrectable aberrations flowdown, or something similar), we will include this parameter here for completeness. (This was already in the PD plan to develop.) **(Velur, with help from Bell)**

An additional requirement on local hot sources (that may generate local instrument turbulence) should also be developed. This is a requirement, not a flowdown **(Dekany)**

A Non-Common-Path (NCP) Vibrations budget is needed. We discussed the existence already of a quasi-static NCP motion budget, but it was thought important to consider dynamic NCP issues. It was not clear how this relates to the flowdown budget on Input Telescope Vibrations, which is needed to resolve the Tip-Tilt Bandwidth Error **(Wizinowich).**

As a sanity check, we should cross-check the flowdown summary with the original SD phase requirements Rainbow Chart for any missing items **(Dekany.)**

Dekany's original allocation of Go-To errors are, well, in error. The positional uncertainty of an absolute (unsensed) move of 1 micron is estimated at about 20 nm (per Gavel), whereas hysteresis (the ability to return to the same (but perhaps not absolutely known) position is better than 1 nm. **(Dekany)**

Additional Go-To error flowdown terms may be available from Ammons (graduating soon). **(Dekany).**

A way to reduce the complexity of all the pupil registration requirements is to first think through the actual alignment procedure. If for example all pupils will be aligned to the telescope axis (or a first pupil aligned to this), then subsequent pupils could all be aligned to only one fiducial. **(Velur)**