

WODC 00-08

WIYN Project Oversight Process

1. Purpose & Scope

This document describes the processes that can be employed to provide oversight of major instrumentation projects on WIYN. The level of oversight necessary depends upon the WIYN resources and financial commitment required to carry out the project. The need for such oversight will be determined by the Science Advisory Committee(SAC). Large project oversight should include regular review of project status with respect to schedule, budget and technical problems. As such, responsibility for oversight will in general lie external to the project management.

2. General Description

The following is an outline of the processes that can be employed to provide oversight of major instrumentation or improvement projects on WIYN. Each project plan submitted to the SAC by the project manager should include a management plan for approval by the SAC. Depending on the nature and scope of the project, the management plan should include some or all of the elements discussed below.

3. Oversight of Major Approved Projects:

3.1 The Project Overseer

(1) A WIYN designee external to the project should be assigned by the SAC to provide resident oversight. This may be the Operations Manager, the Director, a WIYN or NOAO Scientist or Engineer. For the purpose of further discussion the designee will be referred to as the Project Overseer (PO). Preferably the PO will be resident at the institution where the majority of the project effort will take place. If it is not possible for the PO to be resident, frequent visits will be made as needed. In most cases the PO will be the Operations Manager, or possibly a WIYN staff member or University staff member and would not charge time to the project. When this is not the case compensation will be negotiated with the SAC.

(2) It is the responsibility of the Project Manager to provide the leadership and management of an approved WIYN project. It is the responsibility of the PO to view the implementation of that project from outside in order to insure that it is consistent with overall WIYN objectives, remains within the framework of the approved program and is compatible with WIYN architecture. The project management plan should include the documentation and procedures necessary to provide the PO with this oversight. In particular a means to monitor compatibility, a metric to establish acceptance criteria and a definition of commissioning.

(3) The PO and/or the Project Manager or Project Scientist will report on a regular basis on the status of the project to the SAC invoking the tools described below. The frequency and timing of such reports will be established by the SAC Chair.

(4) Regular meetings between the project personnel and the PO should continue throughout the duration of the project. The PO may bring to the attention of the Project Manager any significant problems or departures from the original goals and report those issues that the PO deems major to the SAC.

(5) The PO should assure that design considerations are consistent with WIYN specifications and policies. He should work with the project and other appropriate WIYN and NOAO personnel to develop the necessary Interface Specifications to assure compatibility with WIYN architecture and establish acceptance procedures as specified in section 3.2.4.

3.2 Reports and Reviews

The following procedures, reporting techniques and reviews may be employed to provide project oversight. The extent to which these tools will be used will depend upon the scope of the project and the judgment of the Director, Operations Manager and SAC. The objective, however, is to expedite not impede progress in the development of WIYN instrumentation and improvement projects.

(1) The project management will use typical management tools such as Project Management software. These tools utilizing scheduling, budgeting and reporting techniques such as Work Breakdown Structures (WBS), Gantt Charts, Program Evaluation and Reporting Technique (PERT) etc. will be available to give the PO an overview of the status and the milestones met and pending.

(2) Generally the initial phase of a project will involve design and the identification of procurements required (particularly long lead time items) and the in-house and contracted work as well as the development of a realistic budget projection. This activity focuses on meeting the Preliminary Design Review (PDR) milestone. Approval for procurements prior to PDR will be made by the SAC or a designee.

(3) PDR- The Preliminary Design Review should include a presentation of methods of Interface Control, Budget Control and procedures by which subcontracts are to be implemented and how bids are to be solicited and reviewed. The PDR represents the point at which a decision on whether to proceed with the project as defined by the design and by the budget and schedule is made by the SAC. Several outside reviewers typically participate and present a written report on the merits and short comings of the project. The report also contains recommendations and suggestions to WIYN. Usually a response to the report is prepared by the project.

(4) Following the PDR the detailed acceptance procedure will be developed by the PO and project team. It should define the deliverables, documentation, spares and test procedures required for final acceptance. The PDR should have demonstrated that there is sufficient resources and budget for this acceptance process. Final acceptance of major projects may be presented in an Operation Readiness Review (ORR). The following items are to be included in an ORR and should be included in the acceptance plan.

-Definition of deliverables including spares, level and format of documentation, maintenance procedures, etc.

Test procedures for final acceptance (defined by the project team and reviewed at CDR). The tests should demonstrate that the performance meets the specifications.

A plan for hand-over/training should detail how operations staff will be trained to operate/maintain any new equipment. The plan will also specify the extent of involvement of WIYN support staff during the training and hand-over phase.

Safety review process. What safety considerations will be reviewed during the acceptance process? (e.g. are voltage terminals covered, are there any sharp edges, headbangers, pressurized containers, etc?)

Does the equipment meet WIYN standards, such as interface requirements, control system compatibility and serviceability?

What is the site impact? This should include impact on use of other WIYN equipment, on observing time, shutdown needs, heat generation, electrical requirements, interference and other impacts. Any manpower needs beyond the project team should be identified.

(5) Prior to the Critical Design Review the Project Scientist will develop a commissioning plan. This plan will be reviewed as a part of the CDR. The commissioning plan will identify the steps necessary to bring the project to operational status and should include the timeline of on-site activities, needed resources, and implementation of the training/hand-over plan. The acceptance procedure described in 3.2.4 above will be conducted as part of the commissioning effort, with the final acceptance (possibly an ORR) marking the end of commissioning. The PO will be primarily responsible for specifying the acceptance process with input from the project team, whereas the Project Scientist is primarily responsible for defining the commissioning process with input from the PO (and other WIYN staff).

(6) CDR- The Critical Design Review presents the final design. It will have incorporated any changes and accepted recommendations from the PDR as well as the results of further design tests and studies. The CDR is to occur before major contracts, procurements and construction commence. If outside contractors are to be used the contractors may be asked to participate in the CDR.

(7) Following CDR status reporting and oversight is maintained as outlined above and an action list is maintained for visibility of on-going activity.

(8) The final stage for the project is the implementation of the acceptance procedures as outlined in section 3.2.4 above. If for some reason the project can not meet any acceptance criteria the Project Manager is required to submit a detailed report of why the criteria could not be met, the impact on the project and the project manager's recommendation. The SAC must approve the acceptance of any deviations from specifications or remedial action prior to final acceptance. The final acceptance defines the end of commissioning and the start of normal operation.