The VLA Upgrade Project
Memorandum #1

Organization and Goals of the Project

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27 December, 1995

1. Introduction

In a memo issued by Paul Vanden Bout in August of this year, the VLA Upgrade was formally organized as a project, with Rick Perley as the project scientist. His responsibilities are to prepare a project design study by mid-1997 and to generally promote the project. In the same announcement, Dick Sramek was placed in charge of the technical work required for the design study, a position which will be referred to as the project manager.

The purposes of this memorandum are to define the scope of the design study, and to describe the project organization.

2. Purpose and Goals of the Design Study

The design study will culminate in a document describing the technical improvements the Observatory wishes to implement on the VLA. The report must be sufficiently detailed to demonstrate that the NRAO has both a good plan for the upgrade, and that it is feasible to carry out the plan within the budget contained in the Design Study.

The purpose of the design study is to put the Observatory in a good position to compete for any special funding opportunities that may arise and to have a well-defined project to present to the next decadal astronomy review committee.

The VLA Upgrade Project design study must:

- Specify the electronics and mechnical systems necessary to implement the Upgrade to the level of a design concept. When several approaches are possible, explore the possible alternatives.
- Initiate any necessary hardware prototyping and/or evaluations.
- Make cost and manpower estimates to an accuracy of about 25%.
- Prepare a plan for implementing the VLA Upgrade Project.
- Complete its report by July 1, 1997.

Preparation of this report will require considerable effort by many individuals. The project scientist and project manager's roles are described below. They will be assisted, on an executive level, by an Advisory Panel, whose responsibilities are also described below. The design itself will be accomplished by a number of working groups, each consisting of a chairperson and a small number of assistants.

3. Advisory Panel and Technical Working Groups

To assist the project manager and project scientist in the execution of the design study, an advisory panel will be established. The charge of this panel is: to review the progress of the design study, to suggest changes and priorities for the design study, and to suggest new directions or limits to the scope of the project when necessary. The panel is appointed and chaired by the project scientist, and will meet approximately bi-monthly.

To effect detailed planning of the Upgrade, there will be established approximately nine working groups. One of these, the scientific definitions group, will be selected by the project scientist. The others, all dealing with technical design, will be defined and selected by the project manager.

The detailed definition and responsibilities of these working groups will be the subject of a later memorandum.

4. Responsibilities of the Project Scientist and Project Manager

The upgrade project will be organized by two individuals, the project scientist and the project manager.

The responsibilities of the project scientist are:

- to establish and direct the Scientific Definition working group,
- to review the match of the scintific goals to the evolving design concept,
- to prepare the final report of the Design Study by July 1, 1997,
- to chair the Advisory Panel,
- to generally promote the project,
- to coordinate the Memo series.

The project scientist reports to Paul Vanden Bout, through Miller Goss.

The project manager's responsibilities are:

- to establish tasks, milestones and time lines for the technical working groups,
- to prepare the specifications for the VLA Upgrade Project,
- to prepare the cost and manpower estimates,
- to develop the implementation plan.

5. Budget and Manpower Resources

The VLA Upgrade must operate within current budgets. There is no dedicated funding available for these studies at this time, nor in the near future. There are no individuals fully dedicated to the project, and little likelihood of such manpower for the foreseeable future. The only monies available for the necessary studies are those already contained with the Research Equipment budgets. It is a goal of the Design Study to produce a document which will justify significant funding of the Project. To reach this goal, we must make use of existing resources. The VLA Upgrade Project must therefore flourish with volunteer efforts for some time. However, the project scientist and project manager are convinced that an overwhelming case for the Upgrade can be made, and that with a good effort from all the staff, the