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Subject: [mmadivhd] ALMA Cost Estimate (part 1)
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A series of .pdf files and on line references summarize the current cost estimate for ALMA. This material will be discussed at the joint Division Head / Team Manager teleconference on Monday, 2000-Mar-27. The cost for ALMA has been derived from the official ALMA cost data sheets. These documents, along with the complete set of ALMA Cost Data Sheets which detail the costs for each specific task, are available on line at the locations listed below. Please regard this material as confidential, and do not disseminate it outside the project.

An email immediately following this one will include the brief summary material, as attached .pdf files (4 pages total).

Highlights:
- The initial compilation of ALMA costs yielded a total cost of $714M.
- After adjustments and deferrals, the current projected cost of ALMA is $552M.
- The $552M cost includes a budget of $466M plus a contingency of 18.4%, or $86M.
- 6 receiver bands and one transporter were deferred.
- Costs for the remaining higher frequency receiver bands were adjusted to reflect a lower cost approach.
- Spares were adjusted to be about 5% (3 out of 64) in most areas.
- The budget for site development was reduced by $15M.
- In some areas budgets for test equipment and facilities were reduced, due to the smaller number of receiver cartridges being produced.

Documents:

(1) ALMA Cost Summary Table (3 pages)

This document presents in compact form the cost estimate derived for each estimated task. A number of tasks show zero cost; these are tasks which are presently deferred. This document is available at http://www.cv.nrao.edu/almaplan/costing/almacostsummarytable2000mar26.pdf

(2) ALMA Cost Adjustments (1 page)
This document summarizes the adjustments which were made to the initial compilation of ALMA tasks to decrease to overall cost of ALMA. The net effect of these adjustments was to reduce the projected cost of ALMA from $714M to $552M. This document is available at http://www.cv.nrao.edu/almaplan/costing/almacostadjustments2000mar26.pdf

(3) ALMA Cost Data Sheets (217 pages)
This document includes all of the ALMA cost data sheets. This version includes both planned and deferred tasks, and is intended for internal project use. It will be available as soon as possible from http://www.cv.nrao.edu/almaplan/costing/almacostdatasheets2000mar26.pdf

(4) Note regarding ALMA instrumental parameters:
During the process of compiling the costs for ALMA, an effort was made to consistently adopt the following parameters for ALMA:

Number of Antennas: 64, no spares
Number of Antennas with Nutators: 10, plus two spares
Number of Antenna Transporters: 3 (reduced from 4)
Project Duration: 9 years (2002 through 2010)
Number of Sub arrays: 4
Number of receiver spares: 3 (thus, 67 receivers total)

Some of the above parameters may have changed as a result of the recent scientific advisory committee meeting and the recent Joint Receiver Design Group meeting. In particular, the number of required antenna nutators may be reduced from the above. Plans for the Dewar and the location of the WVR may also have changed, which could make modest changes in the projected receiver cost.

A consistent approach was used for costing labor, travel, and overhead. In the end, the average labor cost for ALMA, fully burdened with overhead, is $91.76K/staff person/year. Contingency was also estimated for each task, and then moved into an overall pool of contingency.

The cost estimate is currently not sensitive to other instrumental parameters.

Regards,

Richard Simon