

The Organizational and Functional Structure of ALMA in Chile

Note by I F Corbett, 21 June 2001.
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Summary

1. A revised model for the organizational and functional structure of ALMA in Chile is presented. It builds on the extensive common ground of earlier approaches, drawing on their strengths and adhering to the fundamental principle of ALMA as a single joint project. The proposed model ensures the Parties to maintain visibility in Chile and to retain the right to own capital assets contributed to ALMA, and it allows the Executives of the Parties to contribute staff and involve their communities in the operational ALMA Observatory. It is directly adapted from the organizational approach proposed for Phase 2 (construction) of the ALMA Project that incorporates a strong central Project Office to manage the work of the Executives. By adapting this model there is but a single organizational and functional structure for ALMA that applies equally inside and outside Chile, and applies in construction and operation.

Background

2. The ALMA partners expect to sign the ALMA Agreement for the Construction and Operation of ALMA by the end of 2001. Japan is expected to be a Party to this Agreement. The major Parties to the Agreement intend to contribute to ALMA in Chile. In the case of the European Southern Observatory (ESO), this requires the agreement of the Chilean government, probably in the form of an amendment to the treaty under which ESO operates in Chile. In the case of Associated Universities, Inc. (AUI), this requires AUI's current agreement with the University of Chile under law 15172 to be changed, with the agreement of the Chilean Foreign Ministry, to cover ALMA and in the case of the National Astronomical Observatory of Japan (NAOJ) Law 15172 can also be used.

THE ALMA AGREEMENT

3. The ALMA Agreement is the key ALMA document. It will specify, in main text or Annexes, the role, responsibilities and authority:
 - of the ALMA Board;
 - of the ALMA Director and his/her accountability/reporting line;
 - of the Executives and their reporting line;
 - of the Executives in Chile;

It will also address the need for and scope of activities for one or more entities under Chilean law.

4. It will also specify:

- The legal relationship of the staff, assets, or liabilities of one Executive to those of the others;
- The explicit agreement of the Executives that they will assign to management by the ALMA Director those resources (staff and materials) necessary to carry out their tasks, and that they will provide the resources needed to support the work of the Director's Office;
- The explicit agreement of the Executives to share resources and coordinate working conditions.

ALMA Structure

5. The ultimate management authority for the project resides with the ALMA Board, whose authority comes from the ALMA Agreement. The ALMA Board is not a legal entity. The Parties each appoint an Executive Agency to conduct their assigned ALMA responsibilities. The Executives are legal entities. Their job, in simplistic terms, is to turn money from the partners into deliverables to the project under the control of the joint ALMA Project Office (APO). The authority and responsibilities of the Board and the ALMA Director are extremely important in ensuring the powerful and effective management approach needed to deliver such a complex project to cost and schedule.
6. There is a consensus on the structure during construction: there will be a single integrated APO with a single ALMA Director (AD) who will 'contract' with the Executives on behalf of ALMA to deliver the components of ALMA. The APO will need to be hosted by an organization that can provide the necessary infrastructure to enable it to function efficiently. The details have yet to be fully explored. The Executives will have to maintain close contact with the APO.
7. There is an emerging consensus on the structure in Chile, in that during construction there will be a branch of the APO in Chile. As construction moves into commissioning and then operations, the center of gravity of ALMA, the APO, and the ALMA Director move to Chile. The APO in Chile would then be analogous to the APO during construction.
8. The role of the Executives can be extended into Chile, where each can operate under the terms of their agreement with Chile (i.e. ESO Treaty or Law 15172). That means that each maintains its own separate identity in Chile, can import and own the capital equipment that it contributes to ALMA, and can accredit staff to live and work in Chile. This meets a major requirement of the Parties. The Executive presence in Chile to be set up for ALMA will be established separately by each Executive based on the tasks assigned to that Executive by the ALMA Director (with the concurrence of the ALMA Board) and on the implementation plan developed by the Executive for those tasks.
9. The APO in Chile (and the branch office during construction) will carry out its tasks by making use of the permissions secured by the Executives.

10. Each of the Parties has its own 'permission' to participate in the single joint project, ALMA, and to establish its own identity in Chile, but these permissions are not free standing and are linked to the existence of the single joint project.
11. In negotiating permissions to participate in the joint project, each of the parties will seek to secure:
 - Unhindered import of materials for ALMA;
 - Ability to accredit personnel from abroad to work on ALMA;
 - Authority to enter into contracts on behalf of ALMA;
 - Authority to provide legal representation for ALMA on behalf of all the parties by means of suitable Power of Attorney.
12. The ALMA Board, with concurrence by the Republic of Chile, will select one of the Executives to provide the initial legal representation for ALMA for a fixed period of time. Acting on behalf of ALMA and under the control of the ALMA Director, the Executive chosen would provide the framework which would enable the ALMA Director to deal with all common legal and related matters regarding ALMA in Chile (issues specific to individual Executives would be dealt with by them).
13. ALMA assets in common in Chile, including permission to use the site, will be entered into, and held, jointly by the parties as specified in the ALMA Agreement.

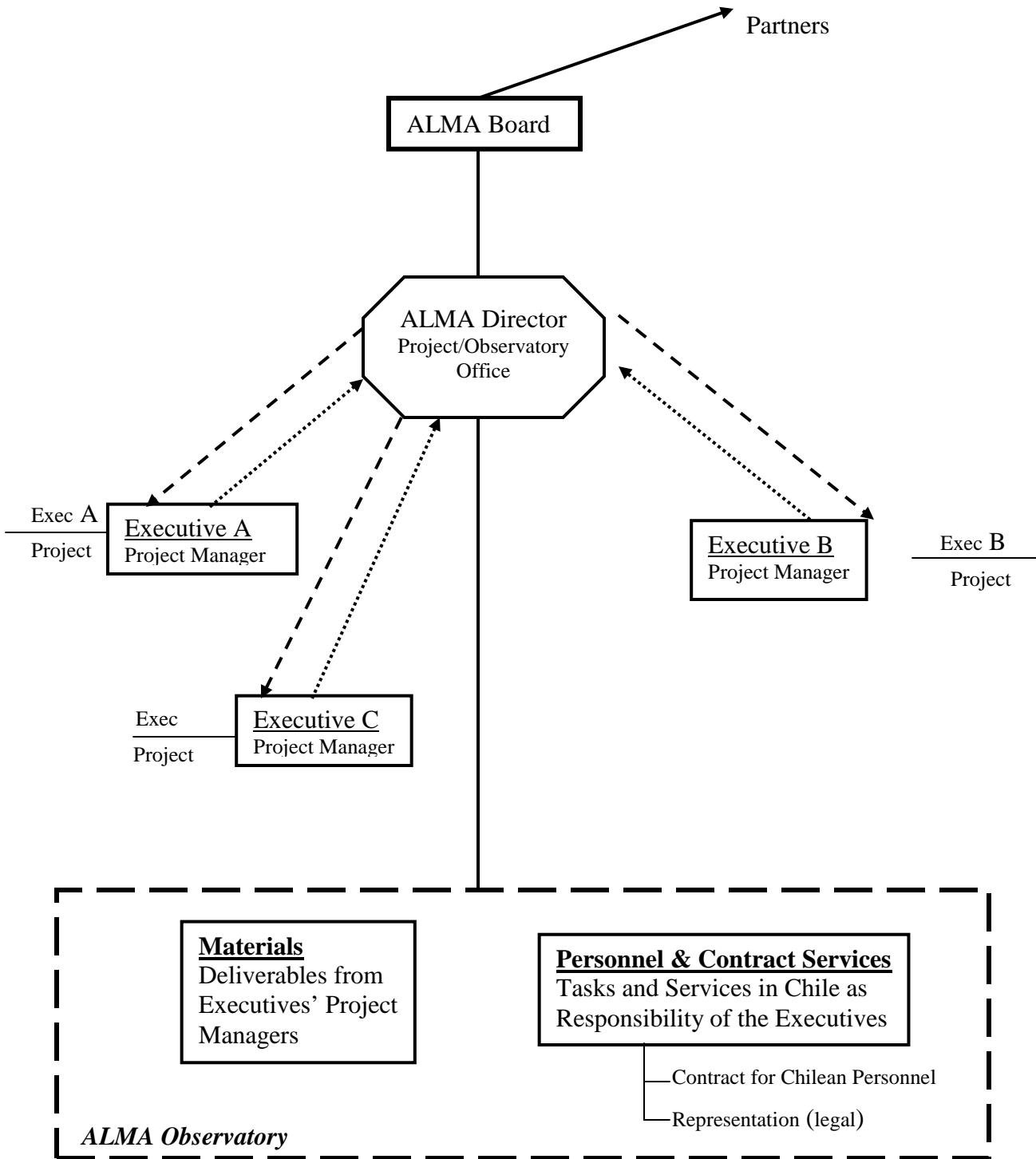
FUNCTIONAL STRUCTURE

11. The functional structure proposed for ALMA during construction and operation is illustrated in Figure 1 (this diagram is meant to be illustrative, and too much should not be read into details like the relative size or positioning of boxes, etc.). The key features are:
 - ALMA is a single joint project of the Parties to the ALMA Agreement;
 - ALMA is constructed and operated by the three Executives, AUI, ESO and NAOJ (for simplicity referred to as A, B and C in the diagram) acting under the ALMA Agreement, the authority of the Parties, and appropriate permissions from Chile;
 - The Executives act under the managerial control of the ALMA Director, who is responsible to the ALMA Board;
 - The ALMA Director represents ALMA worldwide, including Chile;
 - The Executives are responsible for construction and operational tasks both in Chile and abroad;
 - Each Executive is responsible for importing the materials it builds for ALMA, and for maintaining ownership and accountability of those materials in Chile;
 - Each Executive is responsible for assigning to ALMA the staff necessary to carry out the tasks for which they are responsible.
12. As is apparent in this diagram, the ALMA Observatory consists of materials provided by the Executives and tasks performed by the Executives. All of this work and effort is managed by the Project/Observatory Director in one of two ways depending on

whether the task involves what is called “Materials” in the figure above, or whether the task involves what is called “Personnel and Contract Services.

13. **Materials.** Materials are the deliverables that result from the “high level” tasks contracted for by the Project Director from the Executives. In the construction phase they include all the observatory equipment built by the Executives and imported to Chile; in the operations phase they include the new instrument designs, new software systems, and all the high-level science operations support. The Project Director sets specifications and acceptance standards; the Executives provide the deliverables in the manner they choose. This is a contract arrangement between the Project Director and the Project Managers of the Executives. The employees of the Executives doing the work report to their Project Manager, not to the Observatory Director.
14. **Personnel and Contract Services.** Execution of these tasks is the responsibility of the Observatory Director. He or she accomplishes them using resources—personnel and equipment—provided by the Executives. The personnel work directly for the Observatory Director. They are paid by their Executives at a rate established by the Observatory Director. For tasks assigned to the Executives that require contract services, the Executives are responsible for executing those contracts with the approval of the Observatory Director. Two specific tasks are highlighted here that have received much attention: Contracting for Chilean personnel and the legal representation of ALMA.
15. *What is the role of an ALMA Corporation for Chilean Affairs?* The Executives may find it advantageous to contract with a corporation to provide the Chilean labor force. Such a corporation may be formed for this purpose by the Executives. The purpose would be to assure that all Chilean staff are hired, paid and reviewed under identical conditions. The formation, or employ, of this corporation is a *task* for one of the Executives as illustrated in the figure.
16. *What is the legal representation of ALMA in Chile?* The legal representation of ALMA in Chile is one of the tasks to be assigned, as agreed by the ALMA Board, to one of the Executives. In this sense it is no different than any of the other tasks that are the responsibility of the Executives under management by the Observatory Director.

ALMA Functional Organization



Task Specifications - - - - -

Deliverables ·······