## EACC Meeting on April 6, 2001 in Tokyo

## **Draft Summary of Conclusions**

This meeting was held at 8.30 on April 6, 2001, at the Keio Plaza Hotel.

Participants:

For Europe:

C. Cesarsky (Chairperson)\*

(\*members of EACC)

I. Corbett\*
G. Debouzy\*
A. Freytag\*
R. Booth
S. Guilloteau
N. König
R. Kurz
R. Sirey
R. Wade

For North America:

R. Eisenstein (Vice-Chairperson)\*

R. Dickman\* R. Giacconi\* S. Lilly\*

W. Van Citters\*
P. Vanden Bout\*
W. A. Blanpied
P. Donahoe
M. Rafal
K. Shinohara
A. Wootten

For Japan:

M. Shibata T. Hasegawa M. Ishiguro N. Kaifu\* R. Kawabe T. Godai\* S. Ikeuchi\* S. Miyama Y. Nemoto H. Okuda\* S. Sakamoto Y. Tanaka\* Y. Chikada T. Sasaki Y. Fukui M. Tsujita

T. Haga

For Chile:

L. Bronfman

Chairman, ASAC:

J. Welch

**Minutes Secretary:** 

J. Eskdale

## Opening of Meeting and Adoption of the Draft Agenda

C. Cesarsky welcomed all members and guests to the meeting. The Draft Agenda was adopted.

#### 1.1 Letter from President of Chile

Copies of a letter addressed to the ACC Chair, from the President of Chile, Ricardo Lagos were circulated for information (Attachment 1).

## 2. Welcome to the Japanese Delegation and Signing of the Resolution

C. Cesarsky extended a particular welcome to the Japanese delegation attending as members of the Expanded ALMA Coordination Committee (EACC).

It was reported that the ACC had decided on the terms of transition to an expanded ACC (Attachment 2).

C. Cesarsky, R. Eisenstein and N. Kaifu signed a Resolution between the ACC and the NAOJ (Attachment 3).

## 3. Minutes of ACC Meeting of October 13, 2000

The Minutes of the last ACC meeting held on October 13, 2000 in Paris were approved.

#### 4. Joint Phase 1 Project: Progress Report

M. Rafal circulated and presented a written report entitled, Phase 1: Status for Baseline Project: 6 April 2001.

The Chairperson raised several points for discussion. These were resolved as follows:

### 4.1 Operation of ALMA



It was agreed that the draft plan defining the operation of ALMA should be discussed at the next EACC meeting.

## 4.2 Japanese Participation in Phase 1

M. Ishiguro circulated and presented a written report entitled, Japanese Phase-1 Activities.

M. Ishiguro advised that NAOJ would submit their budget proposal for 2002 to MEXT in July 2001.

The report outlined suggestions concerning tasks that could be allocated to the Japanese side. C. Cesarsky welcomed the suggestions and noted that the division of tasks remained as an important topic for discussion amongst the three partners.

#### 4.3 Towards an Extended, Three-Way Phase 1 ALMA

As it had become clear that the North American partners would not be in a position to commence construction before FY 2003, it was agreed that ALMA Phase 1 should be extended by a period of nine months, until October 1, 2002.

N. Kaifu advised that the Japanese were in agreement with this approach and would make their best efforts to integrate into an extended Phase 1. The revised

plan of work would be a topic for discussion at the next EACC meeting. It was estimated that this extension would delay the total project by no more than six months.

The expanded AEC, including Japanese project management, would work together to draft a revised plan of work. This plan would define the goals for the extended Phase 1, and include the anticipated impact on Phase 2 schedule and costs.

# 4.4 Working Towards a Common Design for the Final Antennae

Following reports from M. Rafal and R. Kurz on delays and some technical challenges, C. Cesarsky noted that under the bipartite MoU, two prototype antennae were being developed with the intention to amalgamate the best features of each into one common design for 64 identical antennae. She expressed strong preference to maintain this procedure in the three-way agreement. M. Ishiguro advised that the prototype development in Japan would be a product of joint research between NAOJ and industry. A single antenna design could, therefore, be problematic. N. Kaifu undertook to investigate a solution to this problem.

The expanded AEC was charged to define criteria for selection of a common antenna design for production.

## 5. Draft ALMA Agreement: Status

R. Dickman outlined the essential features of the present bilateral and trilateral drafts (March 29, 2001) which had been developed in a series of joint meetings. He highlighted, in particular, the provisions relating to guiding principles (Art. 2) and operating terms (Art. 5). The main task for the future would be the establishment of the Annexes to the Agreement.

## 6. Report of the ASAC

J. Welch presented a written document entitled, Report of the Florence ASAC Meeting, February 2001, Overall Summary. He reported that the Japanese were now fully integrated into the Committee. He further reported that ASAC had set itself the goal of achieving up to one percent accuracy for calibration using ALMA. The EACC welcomed this initiative.

It was agreed that the ASAC Chairperson, as well as the three project scientists, S. Guilloteau, A. Wootten and T. Hasegawa, would serve as an important link for communication between ASAC and EACC, to ensure that ASAC received a clear sense of direction from the EACC.

It was noted that the role of ASAC would probably alter with the commencement of the construction phase. At that point, this issue would require further discussion.

## 7. <u>Japan</u>

On behalf of the recently created Ministry, M. Shibata, Director of the Science Policy Division at MEXT, expressed support for ALMA. As to the necessary financial resources, MEXT would present a budget request to the Ministry of Finance by August 2001. A Cabinet approval could be expected by December 2001 and a decision by the Japanese parliament by March 2002.

### 7.1 Report of the ALMA Liaison Group

M. Ishiguro circulated and presented a written report entitled, ALMA Liaison Group (ALG) Meeting 15-16 January 2001, Tokyo.

### 7.2 Steps Towards a Three-Way Project

R. Kurz circulated and presented a document entitled, Steps Towards a 3-Way Project.

## 7.2.1 Guidelines for the Definition of a Three-Way ALMA Project

M. Rafal and R. Kurz circulated and presented a document entitled, Guidelines for the Definition of a Three-Way ALMA. It was agreed that the statement 'operability and maintainability are to be optimized' should be added to this document (attachment 4).

N. Kaifu expressed concern with regard to point 1.b) i) of the document, which stated that '..a single antenna design will be selected based on prototypes procured by each partner as part of Phase 1'. In a discussion, the importance of choosing the most cost-effective methods for the realization of the initial project was emphasized. Additional expenses arising from specific requests would have to be borne by the parties concerned.

It was agreed that possible solutions for the question related to a common antenna design would be examined by the parties in the framework of discussions concerning the division of tasks for the trilateral project.

### 7.2.2 <u>Budgetary Guidelines for a Three-Way Project</u>

Each partner outlined the following approximate dateline for the approval of the construction and operation:

Europe:	Dec 2001 Oct 2002	Funding approval by ESO Council Ready to begin construction	
North America:	Feb 2002	Announcement of the President's budget for 2003	
America.	Oct 2002	Ready to begin construction	
Japan:	April 2002	Fiscal year in Japan begins	

The North American budget request was expected to be 220M USD (at FY 2000 prices). The European side is still retaining the assumption of 50 % of the bipartite project (276 MUSD/EURO) until the tripartite project was better defined. The Japanese request (including Phase 1 activities) was estimated at 276M USD/EURO.

The EACC agreed that the bilateral option should be retained in case the trilateral arrangement did not succeed. The two options would be developed in parallel.

The expanded AEC was charged to prepare a draft recommendation on the definition of a three-way ALMA, for discussion at the next EACC meeting in June 2001. The recommendation should define a three-way project with a value per partner for Phase 2 of 220M USD (FY 2000). The recommendation should also consider what could be accomplished with an additional 10 percent funding.

### 8. Perspectives on ALMA in Chile

Following discussions held in an informal meeting on Thursday, 5 April 2001 the North American partners had agreed to draft a new document outlining their recommendation concerning the representation of ALMA in Chile. This would be discussed at the next meeting of the EACC.

# 9. Other Business

Nil.

# 10. Next ACC Meeting

The next meeting of the EACC was tentatively scheduled for 11-12 June 2001, in Garching, Germany. R. Eisenstein would commence his term as Chairperson of the EACC as of June 1, 2001.

The meeting closed at 15.15 hours.

# ACTION SHEET ACC 8.30 April 6, 2000

	Item No.	Item Title	Action	Officer	
$\Rightarrow$	4.1	Operational Plan for ALMA	Prepare preliminary document, for discussion at next EACC mtg – June	Kurz	
			2001.	Rafal	
	4.3	Three-Way Phase 1 ALMA	Develop joint work plan for trilateral Phase 1 ALMA. Deadline: Oct 2001.	Expanded AEC	
	4.4	Working Towards a Common Design for the Final Antennae	Investigate possibilities for joint antenna design.	Kaifu	t1. ?
			Define selection criteria for common design of production antenna.	Expanded AEC	Car o
	7.2	Steps Towards a Three-Way ALMA Project	Prepare draft recommendation for three-way ALMA project, for discussion at next EACC meeting. Deadline: prior to June 2001 meeting of EACC.	Expanded AEC	Paris
	8.	Perspectives on ALMA in Chile	Draft and distribute new document outlining North American position on representation of ALMA in Chile. Deadline: prior to June 2001 meeting of EACC.	North American partners	

## Guidelines for the Definition of a Three-Way ALMA

- 1. The principals agreed to by the original partners in the baseline project shall be preserved, including:
  - a. Tasks shall be divided between the partners to achieve:
    - i. an equal allocation of value as defined by the costing model developed for the baseline project
    - ii. an approximately equal allocation of risk as measured by the assigned contingency in the costing model
    - iii. broadly equal benefits in terms of scientific, technical and industrial return
  - b. Where common components are to be provided by more than one partner, they shall be completed to a common design, meeting common specifications and subject to the same criteria.
    - i. in the case of the antenna, the consequences of a single design throughout the life cycle should be seriously considered.
  - c. Contingency funds allocated in the cost model will be held by each Partner. Contingency funds remaining after retiring project risk can be used to increase scientific capabilities.
- 2. The organisation of work among the partners should maximise the science capabilities obtained for the funds expended by:
  - a. minimising the duplication of facilities, resources and efforts
  - b. allocating project resources based on the scientific priorities developed by the ASAC
  - c. recognising existing special institutional expertise in the allocation of tasks
  - d. minimising interfaces between partners
- 3. Operability and maintainability are important considerations.
- 4. Planning for extended Phase 1 and Phase 2 shall assume that extended Phase 1 ends and Phase 2 starts on 1 October 2002.
- 5. Phase 2 shall be defined such that the total value per partner is 220M (FY 2000, USD). What could be done for an extra 10 percent should be considered.

Revised as agreed at EACC meeting held on 6 April, 2001 in Tokyo. 24.04.01

#### ACC - decision

## Recognising

the important progress made in defining a trilateral partnership in the construction and operation of ALMA.

## Recognising

the necessity to adapt the work of the ALMA Co-ordination Committee (ACC), its Terms of Reference and its Rules of Procedure to the participation of Japan in this project.

#### Resolves

- To create an expanded ACC (EACC) which is composed of the members of the ACC and six members designated by the Japanese side.
- The EACC shall meet regularly during Phase 1 of the ALMA Project.
- Unless required otherwise, the meetings of the ACC and the EACC shall be combined. The Rules of Procedure for the ACC shall be applied to the EACC in analogous manner.
- The EACC will resolve at a given time the questions related to selection of the Chair of the EACC. Until then the Chair of the ACC shall chair the EACC also.

Tokyo, April 6, 2001