

Supplementary and Modifying Agreement Regarding the 1963 Convention Between The Government of Chile and The European Southern Observatory (ESO)

The delegations of the Government of Chile and of the International Organisation ESO report on the outcome of their discussions regarding the installation of the largest telescope in the world “The Very Large Telescope” and “Very Large Telescope Interferometer” (VLT/VLTI) at Cerro Paranal (in the Chilean region II – Antofagasta) and the clarification of the future relations between ESO and Chile. The object of these discussions was a closer cooperation between ESO and Chile to the mutual benefit of this country and the eight European member countries of ESO.

On October 5, 1962, a Convention was signed in Paris between Belgium, France, Germany, the Netherlands and Sweden in order to establish the European Organisation for Astronomical Research in the Southern Hemisphere (ESO). Subsequently, Denmark (1967), Switzerland and Italy (1982) joined the Organisation.

On November 6, 1963, Chile and ESO signed a Convention by means of which Chile granted facilities for the installation and operation of an astronomical observatory (La Silla) on the territory of Chile.

On November 11, 1991, the Government of Chile requested ESO to modify the Convention of 1963 in view of the construction of the Observatory on Cerro Paranal and because of the necessity of including important aspects for Chile, especially in the scientific and technological fields.

Initial negotiations took place in Santiago on April 18 and 19 of this year. Those participating included the Director General of ESO, Members of the ESO Council, a group of consultants and, for Chile, representatives of the

Ministries of Foreign Affairs, Education, Labour and the Office of the General Secretary of the President, together with legal and scientific consultants.

During further meetings held in the chancellery from June 18 to 22 of this year, the delegations of the Government of Chile and of ESO decided on the text of a Supplementary and Modifying Agreement regarding the Convention of 1963.

The following aspects were included in the Agreement:

- Construction and installation of the VLT: The Government of Chile confirmed to the ESO delegation its invariable support for the development of the VLT/VLTI project at Paranal which represents a capital investment of approximately 570 million DM.
- Legal aspects: A Supplementary and Modifying Agreement regarding the Convention of 1963.
- Labour aspects: It was agreed to modify the ESO Regulations for the local personnel hired in Chile by the incorporation of elements of Chilean labour law, specifically the right to associate and the right of collective bargaining. An ad-hoc tribunal will resolve collective conflicts.
- Scientific aspects: The Chilean delegation pointed out the necessity of regulating the access of the national scientific community by a fixed percentage of observation time at all ESO installations. For this purpose, it was agreed on 10 per cent of the observation time available to ESO for scientists affiliated to Chilean institutions, on the basis of the merit of the projects and at all of the telescopes already installed and to be installed at

La Silla and Paranal, with the exception of the VLT and VLTI (The Very Large Telescope).

- In addition, scientists affiliated to Chilean institutions shall be entitled to up to 5 per cent of the observation time at the VLT and VLTI. This percentage will be reached gradually within a period of five years, starting from the date of commissioning of the first unit telescope. Moreover, this percentage may be increased up to 8 per cent, provided a sufficient number of high-quality Chilean projects are available.
- Collaboration Chile-ESO: ESO will continue to support the development of astronomy in Chile with training programmes and by means of contributions submitted via a joint Chile/ESO Committee.
- The Government of Chile, on its part, will attach increasing importance to the financing of training and research activities in the field of astronomy and related disciplines and technologies with the aim of supporting the efficient use by Chilean scientists of the astronomical installations located in Chile.

The Supplementary and Modifying Agreement will establish a sound basis for scientific and technological collaboration between the European member countries of ESO and the Republic of Chile.

The “Mega-Project” in Northern Chile (the VLT/VLTI) will open up a giant eye towards the Universe which is unique in the world.

The Agreement will be submitted for ratification to the Congress of Chile and to the Council of the ESO.

(From ESO Press Release 06/93)

The VLT: Important Contracts Concluded

M. TARENGHI, ESO

VLT Enclosures

The manufacture of the VLT Telescope Enclosures has been awarded to the SEBIS Consortium in Italy. The leader is the Company SOIMI S.p.A., Milan, and the other members are EIE S.r.l., Mestre, BERENGO SpA, Marghera, IDROMACCHINE S.r.l., Marghera, and

SOIMI COSTRUTTORI S.p.A., Marghera.

EIE and SOIMI are also member of the AES Consortium, now in process of executing the Contract for the VLT Telescope Structures. The proposed technical solution offers substantial modifications as compared to the original ESO

design concept, with a simplification and optimization of the general architecture of the enclosures and of some subsystems (e.g. rotation system, cladding, roof cover, air conditioning and control system). Figure 1 shows the model which was submitted as part of the original SEBIS offer.

The Contract will include the complete engineering, the fabrication, the packing and transport to the VLT Observatory, the erection on-site in Chile, the start-up and the final acceptance.

The Contractor has demonstrated the necessary experience in engineering and construction of large steel structures overseas and in a desert environment. The beginning of the erection in Chile is foreseen in 1994.

M1 Mirror Cell and Tertiary Mirror

Two identical Contracts for the preliminary design, development and detailed design of the M1 Mirror Cell and Tertiary Mirror were awarded, the first to the Company GIAT INDUSTRIES (France) and the second to the Consortium CARL ZEISS/MAN GmbH (Germany).

The main functions of the M1 Unit are to support the Primary Mirror and to provide interfaces to the M3 Unit and the Cassegrain instruments.

The Primary Mirror requires 150 axial supports and 64 lateral supports located at the outer edge. The axial supports have a passive hydraulic stage

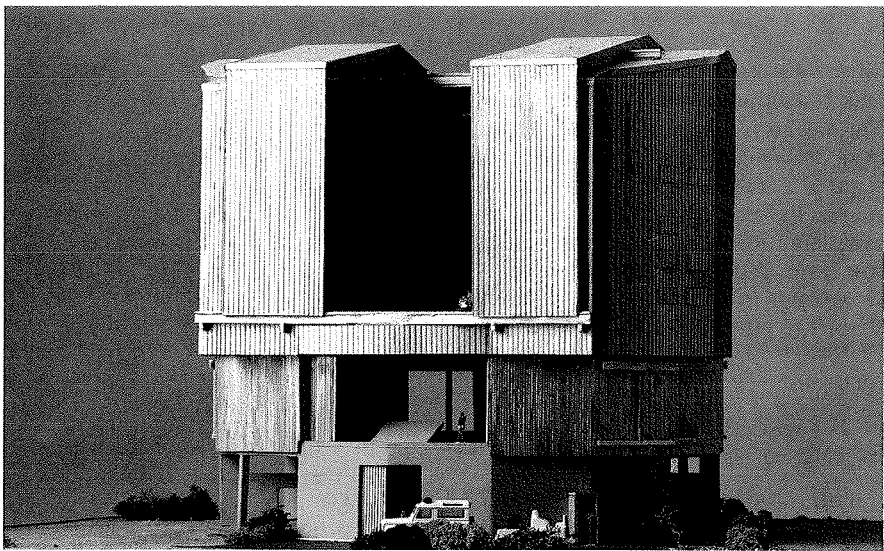


Figure 1

to take on the gravity load and a computer-controlled active force actuator to maintain the mirror figure. Each support has its own microprocessor-based control loop. All supports are controlled by a local control unit which serves as interface to the main computer. The lateral supports are passive and consist of

hydraulic pools connected together in order to equilibrate the loads.

These two Contracts include the final and detailed mechanical design of the cell, of the axial and lateral supports, the design of the local control unit, the construction and tests of a qualification prototype of the axial support.

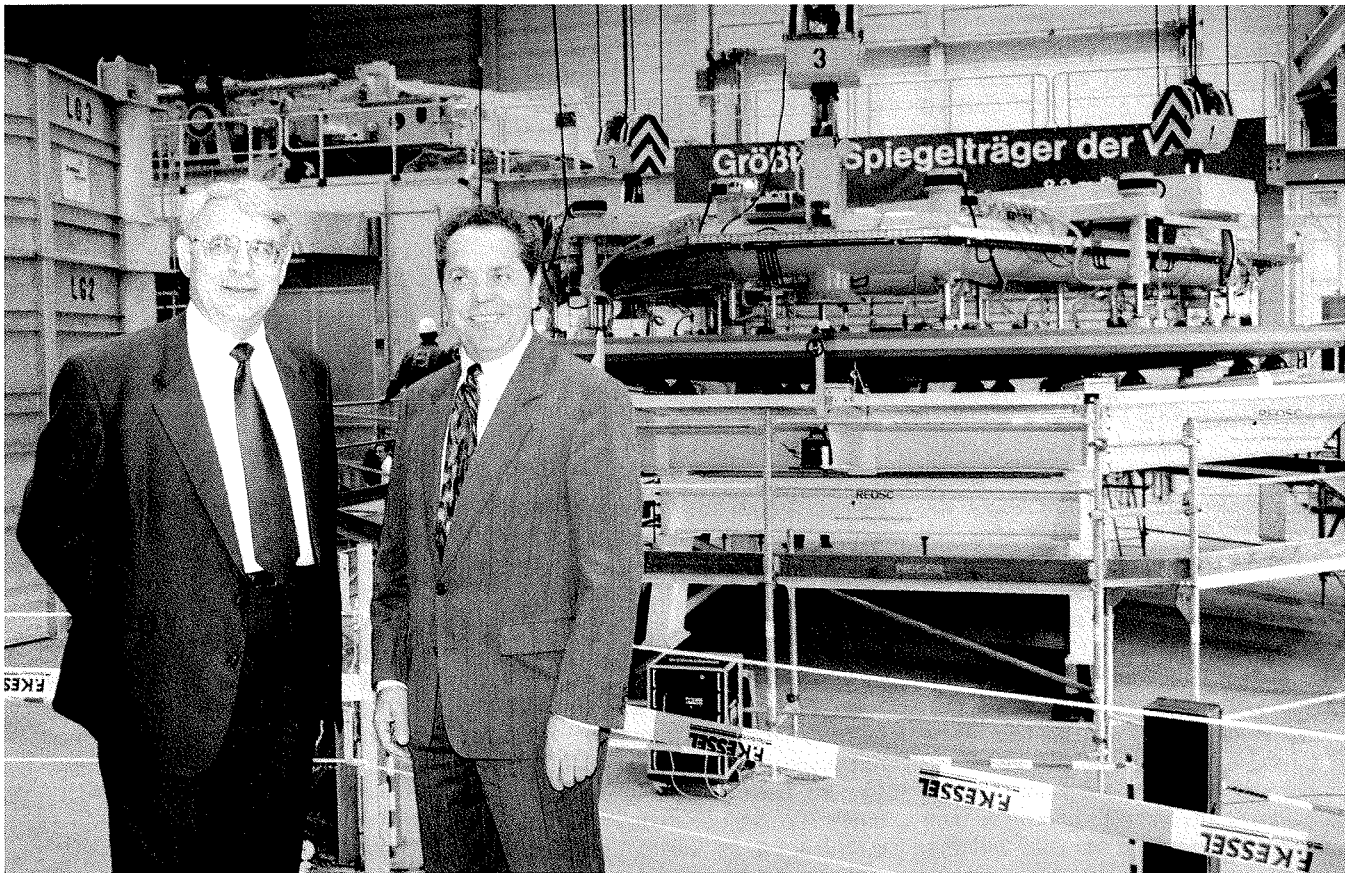


Figure 2: On Friday, June 25, 1993, Schott Glaswerke (Mainz, Germany) officially handed over to ESO the largest mirror blank ever made. Weighing 22,000 kilograms and with a diameter of 8,2 metres, the Zerodur blank has a thickness of only 177 millimetres. It is therefore quite flexible and must be handled with great care. It is the first of four such blanks for ESO's Very Large Telescope (VLT). The photo shows Professor Riccardo Giacconi (left), Director General of ESO, and Mr. Erich Schuster (right), member of the Board of Directors of Schott, during the hand-over ceremony at the Schott factory. At this moment, the thin blank had just been placed onto its support system in a specially designed transport box in which it will be moved by barge to the REOSC optical facility near Paris. Here, the giant mirror will receive its final, exceedingly accurate surface form during a two-year polishing process. See also the centerfold in this Messenger issue. (Photo: Schott)

After the completion of these two studies ESO will select the solution which will be implemented at the VLT unit telescopes. The selected industrial firm will be responsible for the construction of the first unit, the qualification tests of this unit with a concrete dummy mirror, the construction and tests of 3 additional identical units, the packing, transport and integration into the VLT telescopes in Chile. The completion of these two studies is planned for the end of 1994.

First 8.2-m Mirror Blank Ready at Schott

Major progress has been made in the production of the 8.2-m mirror blanks with the delivery by Schott of the first unit on June 25, 1993 (see Fig. 2).

The production of the first element of the telescope steel structure, the azimuth tracks, has also begun (Fig. 3).

The ESO VLT team has completed a detailed review of the VLT Programme covering managerial, financial, time planning, manpower and technical aspects.

The conclusions were presented to the ESO Council. The new planning, now under detailed definition, is following the constraint to obtain the first light of the first telescope properly instrumented and including the coudé and adaptive optics in early 1998 and to start interferometry as soon as possible in parallel with the 8-m activities.



Figure 3.

ESO C&EE Programme: a Progress Report

R.M. West, ESO

This is a progress report about the ESO C&EE Programme, see also *The Messenger* 71, page 9. As will be remembered, copies of the Application Document were sent to about 1000 addresses in late January 1993. Moreover, the guiding principles of this Programme are that support will be provided on the basis of scientific and technical merit, in order to help C&EE astronomers to do good research at their home institutes and also to provide benefits to astronomy in the ESO member states.

In early March 1993, the Director General established an ESO C&EE Committee with the following members: Nicolai Chugai (Moscow), James Lequeux (Paris), George Meylan (ESO), Giancarlo Setti (Bologna), Jean-Pierre

Swings (Liège) and Richard West (ESO), who was requested to act as Committee Secretary.

1. Response to the First Round

By April 15, 1993, 284 applications had been received from 936 applicants, requesting a total of DM 5,450,304. This amount corresponds to about eleven times the annual budget of the Programme, i.e. an "oversubscription" that reminds of that encountered by the OPC at some of the ESO telescopes. Of this, about $\frac{1}{3}$ was for Research Grants, and $\frac{2}{3}$ was mostly for equipment, especially powerful PCs and a few Sun workstations, CCDs and electronic components for telescope instruments, etc., and to a

lesser extent for travel-related expenses. Some applicants sent more than one application; altogether there were 805 individual applicants from 22 countries.

The ESO C&EE Committee held its first meeting at the ESO Headquarters on April 19 and 20, 1993. It first discussed a number of policy matters, many of which had surfaced under the previous months and partly in response to the Application Document. Among others, it was decided to:

1. spend about $\frac{1}{2}$ of the 1993 budget in the first round, in order to "show the flag" and to achieve an immediate and significant effect;
2. evaluate and classify the proposals into three classes, according to merit: Class I (Excellent), Class II (Good) and