



Message from the Director General

SUMMARY OF A REPORT TO THE ESO STAFF

1. Audit

The team which was charged by the ESO Council to provide an audit report about ESO and in particular the VLT project, has now finished its work with a final discussion at the ESO Headquarters on April 28, 1994. The report has been published and was discussed by Council in its recent meeting.

I am glad to tell you that ESO came through this exercise "with flying colours" and that our earlier statements concerning the work done at ESO were largely confirmed by the Audit Team. In particular, it was agreed that the request for an increased VLT budget was reasonable and the need to add a number of staff positions was also supported.

The Audit Team proposed specific measures to the Council including increases in budget and staff and also improvements of various aspects of the work breakdown structure, the management system, as well as the plans for operations. A very important conclusion was that ESO will be able to manage the VLT project under these assumptions. It should be noted that this means that it has been possible to obtain support for a number of new positions since early last year. It is now our task to fill these positions with the best possible staff.

This will not be easy and will require a certain effort from all involved.

2. Chile

The situation of ESO in Chile has been the subject of many recent discussions and, as is known and has been made public through recent press releases, ESO appears to be under a concerted attack from some groups in that country. While ESO has meticulously adhered to its legal obligations in Chile, it is true that the wishes of the Chilean astronomers as well as the ESO Chilean staff were not always sufficiently taken into account. However, the Supplementary Agreement which is now in the final stages of negotiation, takes care of this. We are hopeful that it will become possible to conclude the signing and ratification procedure, so that this Agreement can enter into force and our Chilean colleagues can then profit from the new regulations. In fact, ESO has done everything it can reasonably do and the issues surrounding the ownership of Paranal is not ESO's problem, but a problem of the Chilean Government. We are confident that the Chilean Government will take the necessary actions in due time, but it is unfortunate that we may run into problems with the VLT

schedule, if a solution to this critical problem is not found soon. The recent visit by the ESO delegation to Chile during which meetings were held with the Foreign Minister and also the President of the Republic of Chile, reassured us that the Chilean Government fully adheres to the conditions laid down in the Chile-ESO Treaty, including ESO's immunities and privileges.

In view of the crucial importance of the Paranal issue for the VLT project and since we have at this moment committed approximately half of the total VLT budget, it is obvious that we must now do our utmost to "find a home" for the world's largest optical telescope.

3. OPC

The Observing Programmes Committee met for the first time under the new evaluation system at the end of May. The new process means that more scientists will be involved in the peer review and this will undoubtedly result in a better and more equitable assessment of the observing proposals. Things went extremely well and a very good job was done by Jacques Breysacher and his people despite the fact that a record number of applications was received for this round, close to 600.

4. STC

The Scientific Technical Committee also met recently and evaluated the scientific technical aspects of the ESO operations at La Silla. The STC again underlined that science must be the driver of all ESO activities and expressed the opinion that there are currently too many tasks for the astronomical/technical staff at La Silla. Reductions will be necessary, probably by the closure of some of the telescopes, or by transferring the operational responsibility to national groups.

The STC strongly supported the view that the VLTI must be re-introduced in the VLT as soon as possible since it is a unique feature of this telescope. The STC endorsed the new, smaller interferometry programme which was presented by ESO. It costs 30 % less and also further reduces the annual cost, since it will be stretched over twice the period earlier envisaged. In this connection, the interest of our Australian colleagues in VLT interferometry and the possibility of using in addition to the MPG/CNRS and ESO contributions the entry fee by Australia for this purpose, if and when it becomes a full member of ESO, is indeed very exciting.

5. Scientific Visiting Committee

This Committee has now delivered its report about the science carried out at La Silla and at the Headquarters. It is the intention to continue to rely upon its services as an Advisory Body for these questions. Certain problems were remarked on, in particular that more attention should be given to the involvement of ESO scientists in the development of new instrumental facilities, communications between the scientists inside and outside ESO and also the personnel policy of the Organization of which certain aspects, for instance salaries, are in the state of an undesirable lack of definition.

It is obvious that we must attempt to define better what we are really trying to do in the personnel area, but also that we must do everything possible to attract and keep the staff with the best qualifications. For this reason, special measures may become necessary during the period until the personnel policy has become better defined. The issue of a system based on merit is still open, but it is particularly important that the staff gets a feeling of fairness in the judgement of their performance. It will be my task to try to convince the Finance Committee and Council of what our "fair market value" really is. This will

become much clearer after the termination of the current comparative study of employment conditions (including salaries) at ESO and other national and private organizations.

6. Budget

I am happy to report that Finance Committee and Council approved the budget for 1994 as well as the forecast for 1995–1997. They also approved various management tools in connection with the cash flow, etc. which will facilitate the financial administration during the next years of heavy VLT expenditures.

7. Conclusions

In conclusion, I am glad to state that I do not see any real show-stoppers for ESO and its VLT project at this moment. We will surely be able to carry through successfully this great project but it is also true that we must improve ourselves in terms of management techniques and internal communication. There may still be some "cultural" problems within ESO, but I think that good will and enthusiasm for the common cause will make it possible to overcome these difficulties.

R. GIACCONI

TELESCOPES AND INSTRUMENTATION

Work Starts on the VLT M2 Units

D. ENARD, ESO

The development and construction of the 4 VLT secondary mirror units is going to be carried out by Matra Marconi Systems together with REOSC, SFIM and MAN. The kick-off meeting was held on April 20 and 21 and the design work is already proceeding.

One of the basic features of the VLT is that there is only one secondary mirror to serve the different observing modes. The switch from Cassegrain to the Nasmyth and coudé foci is achieved by moving the tertiary mirror into different positions rather than – as is traditional – by exchanging the secondary mirror unit. There are important operational and cost-saving advantages in this approach. It gives a unique opportunity to change at any time of observing mode, reduces maintenance and significantly simplifies the operation software as well

as the adapters. This secondary mirror has a diameter of about 1.2 metre for the nominal aperture of F/15 at the Nasmyth focus. Because the VLT is largely optimized for the IR, the secondary mirror also defines the pupil which is slightly undersized with respect to the beam defined by the primary mirror outer diameter. This approach sets however a number of tough requirements on the M2 unit since all the requirements which traditionally are distributed on several mirror units of different sizes are concentrated into one single unit.

As part of the active optics scheme, the secondary mirror must be able to maintain the telescope geometry with respect to the primary mirror. To this effect, the secondary mirror can be positioned in three coordinates to correct for focusing and centring as it is already

the case for the NTT as well as for most modern telescopes.

In addition, the VLT secondary mirrors can be controlled in tilt around a point close to the vertex to correct for fast guiding errors. This mode is called field stabilization and was introduced at a very early stage of the project and was driven by the important wind loads to which the structure would have been subjected with the retractable enclosure originally foreseen. The later decision to revert to a conventional enclosure – essentially in order to better protect the primary mirror from wind loads – did not remove that need. As a matter of fact, numerical and wind tunnel simulations have shown that the enclosure did not contribute much to reduce the dynamic part of the wind loads and that, considering the strong winds at Cerro Paranal,