SOW Maintenance and Engineering Services for the 8m Mirror Coating Plant in Paranal

Synopsis of the Work

The work plan is divided in three main parts or stages:

Part 1: The assessment of the current condition of the 8m coating plant used for depositing a thin reflecting Aluminum layer on the surface of the mirror, using the sputtering method.
After loading the mirror in this chamber, and under vacuum conditions, the spattering process deposits the single 100nm Al layer on the mirror surface while it is rotating underneath the target.
The process consists of the pulverization of Al atoms that are sputtered from a target of pure Al under the action of Ar+ ions that are generated in the plasma.

The performance of the plant has being decaying over the years and it is required a full assessment of the actual condition and the current performance.

Part 2: Once the assessment of the plant is done and a report is delivered, the contractor will have to deliver a plan and actions to take the plant to the nominal condition with respect to the performance and coating results obtained at the time of the delivery.
This will require the maintenance and adjustment of the plant in order to have the next coating in September 2013 at its optimal condition.

The work will need to be properly certified by a full testing of the process on special targets.

Part 3: After getting the plant running in its nominal performance, a call for the overhaul of the plant will proceed to replace the parts that have been aging or are difficult to replace because they are out of production or simply replaced by new components in order to get the plant running for the coming 15 years.

This work, that is not included in this SOW, will require a proposal that will be studied by ESO and will depend on the cost and budget available at the time.

Views of the Coating plant: