

NOAO-S Facilities Operations

Status FY2016 Projects

Version: 2.0

Date: September 9, 2016

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Executive Summary

In FY2016 the NOAO-S Facilities Operations Department (Facilities Operations) embarked on an ambitious project to upgrade and improve the existing facilities to provide more reliable services and to allow for certification of critical areas and equipment. These projects are described in Section 4 of the “Budget Fiscal Year 2016, v3.2” which can be found on the NOAO-S Facilities Operations website¹.

In this report we present the current status of these projects and the project accounts.

In general, it took more time to scope and bid due to the need for expert definition, which became possible only after hiring two senior engineers in FY2016. As a result, some projects have only just started and will be completed in FY2017, while others will be deferred to FY2017 altogether. Funds collected in FY16 to accomplish these projects will be carried forward to FY17 to complete these projects. It is expected most the effort to execute the projects will in the form of external contracts, so the projects should not adversely affect FY17 plans.

¹ <http://www.ctio.noao.edu/noao/content/Reports-and-documentation>

NOAO-S Facilities Operations

1. FY2016 Projects

1.1. Power Line Stability

In the second quarter of FY2016 we installed three automatic circuit re-closers at critical points in the AURA power line system. This improves the stability of the power lines, which connect the facilities on the two mountaintops with the commercial power system. The re-closers are installed (i) at the entrance where the AURA power lines connect to the commercial power grid, currently provided by CONAFE; and (ii) at the bifurcation, where the power line is split to provide power to each of the two summits, one for each summit. These re-closers protect the step down transformers and other electrical equipment on the summits, and allow monitoring performance of the incoming power as well as performance along the power lines. In addition, the re-closers will provide diagnostic tools, allowing for faster recovery of failures along the power lines. Completed.

1.2. Communication Network

In June 2016 we upgraded the mountain communication system. The antenna was replaced by a 12-m, 6-dipole antenna, and was moved to a more accessible location near the “Caseta de comunicaciones”. Because of the proximity of the Caseta, the actual equipment, the repeater and battery packs, could be placed inside the Caseta, rather than out in the open next to the antenna. A modern, more powerful device replaced the repeater itself: an analog/digital 50W repeater. This will eventually allow us to switch over to digital system.

A bid for the upgrade of the La Serena based equipment, with an additional base in the La Serena offices, has been received, and this part of the project is planned for in the last quarter of calendar year 2016.

1.3. Hotels Tololo, Pachón, and La Serena

Renovations of the Hotel Tololo and Hotel Pachón are underway. For example, in June the roof of the Hotel Tololo was repaired and in August maintenance on rooms in one wing of the Hotel Pachón was carried out: bathroom ceilings painted and windows sealed. More renovations as planned for, continuing into FY2017.

1.4. Certification of equipment

To comply with Chilean health and safety regulations, AURA has requested that critical equipment at the Mountain Facilities is brought up to standards and certified by Chilean authorities. This includes certification of the electric substations on Cerro Tololo and Cerro Pachón, heaters in all summit facilities, the policlinics, and the kitchen facilities.

In most cases the equipment or the areas where the equipment is located has to be upgraded before we can request certification by the authorities and these upgrades were planned for in FY2016. Detailed planning and execution of the upgrade projects was postponed till positions of electric and civil engineer were filled, and as a result only a few of the upgrade projects have been started FY2016: the renovation of the Tololo kitchen and moving the Pachón policlinic. The other upgrades, in preparation for certification by

NOAO-S Facilities Operations

Chilean authorities are planned for FY2017. Renovation and certification of heaters in hotel buildings and mountain office buildings is planned for in Q1 and Q2; Amplification of the Pachon kitchen is planned for in Q2 and Q3; and certification of the electric substations is planned for in Q3 and Q4.

1.5. Road Maintenance

In addition to regular maintenance of the road surface, some extra maintenance was carried out in the first half of FY2016 in preparation for the winter period, e.g. cleaning out the ducts and minor repairs of curbs. Major road improvement projects such as the repair of the washout at “kilometer 30” however, were postponed due to the need for expert definition. These projects will be defined in detail in Q1 of FY2017, and carried out in Q2 and Q3 of FY2017.

2. Other

2.1. Water supply system

In January 2016 the submersible pump of the water supply system had to be repaired and a spare pump was purchased. This purchase was included in the “FY2016 Projects” cost center rather than in the cost center “Water supply”.

2.2. Severance pay

With several staff members nearing retirement it was deemed appropriate to budget for sufficient severance pay in the FY2016 budget. This budget was included in the “FY2016 Projects” cost center. During FY2016 very little of these funds were used and, the remainder of the funds budgeted for severance pay will be carried forward to FY2017, transferred to the overhead accounts.