

NOAO-S Facilities Operations

Status of FY2017 & FY2016 Projects

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By: Nicole S. van der Blik, Pilar Viera

Executive Summary

In FY2016 the NOAO-S Facilities Operations Department (Facilities Operations) embarked on an ambitious program to upgrade and improve the existing facilities to provide more reliable services and to allow for certification of critical areas and equipment. A first set of projects was planned for FY2016, and these are described in “*Budget Fiscal Year 2016, v3.2, Section 4*”. In February 2016 a three-year budget proposal was prepared: “*Outlook budget fiscal years 2017-2019, Facilities Operations NOAO-S, v1.2*”. That document described the most urgent upgrades and improvements and presented a three-year budget outlook. Following this proposal, the FY2017 plan and budget included a second set of upgrade and improvement plans, which are described in “*Budget Fiscal Year 2017, v4.1, Section 4*”. All these documents can be found on the NOAO-S Facilities Operations website¹.

Here we present the status of the FY2016 and FY2017 upgrade and improvement projects and the project accounts at the end of the first quarter of FY2017, i.e. the end of calendar year 2016.

An overview of the funding for the FY2016 and FY2017 projects is given in Table 1. A total of 197 MCLP was carried forward in the project accounts from FY2016 to FY2017. This includes 15.6 MCLP in encumbrances and 59.5 MCLP in carry-forward for severance pay. From FY2017 onward severance pay is budgeted in the general overhead account, and the FY2016 carry-forward budgeted for severance pay will be moved to this general overhead account before the end of FY2017. In FY2017 a total of 176.5 MCLP were budgeted for upgrade and major maintenance projects. Thus, at the start of FY2017 the total funding for upgrade and improvement projects was 373.7 MCLP. The balance at the end of Q1 of FY2017 in these project accounts was 343.8 MCLP.

Several large and costly projects planned for FY2017 will not start until the second half of the fiscal year: major road repairs, renewal and upgrades of the heating facilities and remodeling of the Pachón kitchen and dining facility. Thus, while the current, linear projection indicates a large surplus at the end of the fiscal year, we expect the bulk of the expenses to take place in the second half of FY2017. Moreover, the projects completed came in over budget by about 20 MCLP, and in addition, we carried out two unplanned projects (roof repair and renewal of a water pump) that together cost a total of 12 MCLP. Thus during FY2017 we will monitor spending in the project accounts and we will assess, in the last quarter of FY2017, if there are sufficient funds left for the purchase of a backhoe, one of the larger expenses planned for in FY2017.

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

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1. Introduction

In FY2016 the NOAO-S Facilities Operations Department (Facilities Operations) embarked on an ambitious project to upgrade and improve the common infrastructure on Cerro Tololo, Cerro Pachón and in La Serena, to provide more reliable services, and a safer work environment for the AURA staff. Where feasible critical areas and equipment will be upgraded such that certification under Chilean health and safety standards is possible.

The first set of projects was planned for in FY2016. These projects are described in “*Budget Fiscal Year 2016, v3.2, Section 4*”. In FY2016 we were still lacking expertise in the critical areas of electrical engineering and civil engineering, and it wasn’t until after we hired two senior engineers, an electric engineer and a civil engineer, that we were able to scope and bid the larger of these projects. As a result, few projects were completed at the end of FY2016 and some projects had only just started. The remainder of the FY2016 projects were deferred to FY2017 altogether. A status report on the FY2016 projects, as at December 19, 2016, can be found on the NOAO-S Facilities Operations website.

The FY2017 upgrade and improvement projects are described in “*Budget Fiscal Year 2017, v4.1, Section 4*”, which can be found on that same website.

In this report we discuss the status of the FY2016 and the FY2017 projects.

2. Projects completed during FY2016

The following projects were completed in FY2016:

- Power Line Stability
Installation of three automatic circuit re-closers at critical points in the AURA power line system.
- Communication Network
Upgrade of the mountain communication system, consisting of replacement and relocation of the antenna on Cerro Pachón and replacement of the repeater.
- Hotels Tololo, Pachón and La Serena
Roof repair Hotel Tololo; Maintenance bathrooms Hotel Pachón
- Water supply system
Submersible pump repaired and a spare pump purchased
- Maintenance shop roof repair
Roof repair CTIO Instrument and Facilities Operations Maintenance workshops

A full description can be found in “Status FY2016 Projects, v4.1”, December 19, 2016, posted on the NOAO-S Facilities Operations website.

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3. FY2016 projects completed in FY2017 Q1

In the first quarter of FY2017 the following FY2016 projects were completed: planned upgrades and maintenance on the hotels Tololo, Pachón and La Serena; moving the Pachón policlinic from room #7 in the Pachón hotel to the 2-units building; renovation of the Tololo kitchen.

3.1. Hotels Tololo, Pachón, and La Serena

In the first quarter of FY2017 the outside of the hotel Tololo was painted and room #7 of the hotel Pachón, which used to be used as a policlinic, was converted back to a hotel room. With these two projects finished, all FY2016 projects for the hotels Tololo, Pachón and La Serena were completed.

Status: Complete

3.2. Policlinic Pachón

During 2016 the 2-units building on Cerro Pachón was converted into a policlinic, with sleeping quarters for the paramedics and an office area for the safety officers and facilities operations staff. The Pachón policlinic has been in use since the end of October 2016.

Status: Complete

3.3. Kitchen Tololo

One of the upgrade projects of FY2016 was the renovation of the kitchen Tololo. The kitchen renovation plan was detailed and bids were requested in the last quarter of FY2016. Work in the kitchen started at the very end of FY2016. The renovation included renewal of the electric system and the gas lines, to bring all elements up to Chilean health and safety regulations. The kitchen sewage system, including the degreaser chamber were replaced and floors and walls were re-tiled, and ceilings painted. Most kitchen equipment was renewed, while the remainder was cleaned cryogenically. The kitchen was fully functioning again by the end of the calendar year 2016, and was inaugurated on January 6 2017.

Status: Complete

4. FY2016 projects planned for FY2017

The following projects were deferred to FY2017 all together: major road repairs; preparation of the electric subsystems for certification; expansion of the Pachón kitchen and dining area; and preparation for certification of heaters in the facilities buildings on Tololo and Pachón.

4.1. Road Maintenance

A severe storm in March 2015 washed out part of the road at “kilometer 30” and produced severe damage to the retaining wall at “kilometer 27”. In Q1 of FY2017 repairs were defined in detail: a ford, with culverts at kilometer 30 and replacement of the damaged gabions at kilometer 27. A call for bids was launched in December and in January and February 2017 quotes were received. Work on both areas is planned to start in the last month of Q2 of FY2017, and should be finished by the beginning of July.

Status: In progress

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4.2. Cerro Pachón electric substation

In order to certify the Cerro Pachón electric substation, the critical areas of this station are being enclosed with a fence. This work started in Q1 FY2017, and is nearing completion. Once complete, we will seek to certify this electric substation.

Status: In progress

4.3. Cerro Tololo electric substation

Renovation and upgrades of the equipment in the Tololo Power House are underway, and are funded through the No-Cost-Extension of the NOAO Cooperative Agreement 2010-2015. Once complete, we will seek to certify this electric substation.

Status: In progress

4.4. Kitchen Pachón

In the second half of FY2017 the project to improve the Cerro Pachón kitchen and dining facilities will be developed, and work is planned to start before the end of FY2017. This project will include an enlargement of the kitchen, renewal of equipment where necessary, and expansion of the dining area. It will also include improving the gym area.

Status: No progress.

4.5. Heaters Hotel & Kitchens Tololo and Pachón

Upgrading and/or renewing some of the heaters on Cerro Tololo and Cerro Pachón as well as certifying these systems is planned for Q3 of FY2017. In most cases this includes an upgrade of the area where the heater is located.

Status: No progress

5. FY2017 Projects

The following projects are planned in FY2017: upgrades on the water supply system; upgrade of the Tololo sewage system; move the La Serena hotel to house #9; purchase electrical equipment and spares; renovate electric cables; and purchase of a backhoe.

5.1. Water Supply System

We plan to upgrade the fill system for the water tanks on Tololo, renew the chlorination system and implement a water level measurement system.

Status: No progress, expected to start in May 2017.

5.2. Upgrade Tololo Sewage System

As part of the renovation of the Tololo kitchen, the kitchen sewage system was renewed, including a new degreasing chamber. We plan to install a water treatment plant on Cerro Tololo later this year.

Status: In progress

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5.3. La Serena Hotel

With the arrival of LSST a new office building and data center will be constructed on the La Serena compound. As a result the La Serena hotel building will have to be (re)moved. To continue to offer a hotel service, we plan to remodel House 9, such that it can be used as a hotel. House 9 has four bedrooms, two bathrooms, a kitchen and a living room. We plan to add bathrooms, so that each bedroom has an adjacent bathroom, plus one extra bathroom available for daytime users of the hotel. We are also considering moving part of the current hotel building, and/or adding a prefabricated house to House 9, depending on the long-term estimated needs for the hotel. The re-modeling project has been defined and bids have been solicited.

Status: In progress

5.4. Electric equipment and spares

We plan to purchase a spare automatic circuit re-closer, as well as electric equipment. However, as the cost of installations of the automatic circuit re-closers was higher than budgeted by 4 MCLP (see Table 1), the budget available for electric equipment and spares is only 10MCLP and purchases will be adjusted accordingly.

Status: In progress

5.5. Medium Tension Power Lines

We plan to renew parts of the medium tension power lines, in the part bifurcation to Cerro Pachón.

Status: No progress, expected to start in September 2017.

5.6. Backhoe purchase

We plan to use part of the upgrade and improvement budgets for renewal of major equipment, e.g. heavy equipment to be used for road maintenance, renewal of trucks. When the FY2017 budget was being prepared, funds for the purchase of a backhoe were included. However, with the major road repair at kilometer 30 and 27 just starting, and after having received the offers, we will be reconsidering priorities within the road works, and we will use part of the funds allocated for the backhoe for the road repairs at kilometer 30 and 27. In the last quarter of FY2017 we plan to assess whether there are sufficient funds left for the purchase of a backhoe.

Status: On hold

