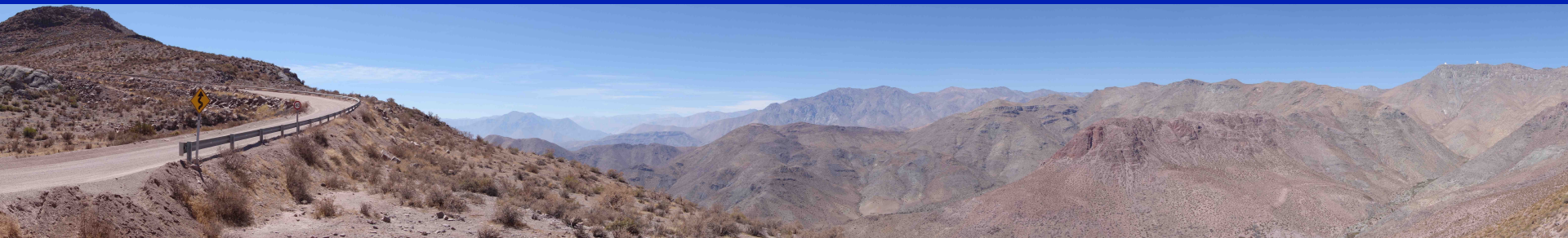# NOAO South
Facilities Operations Department

Nicole van der Bliek
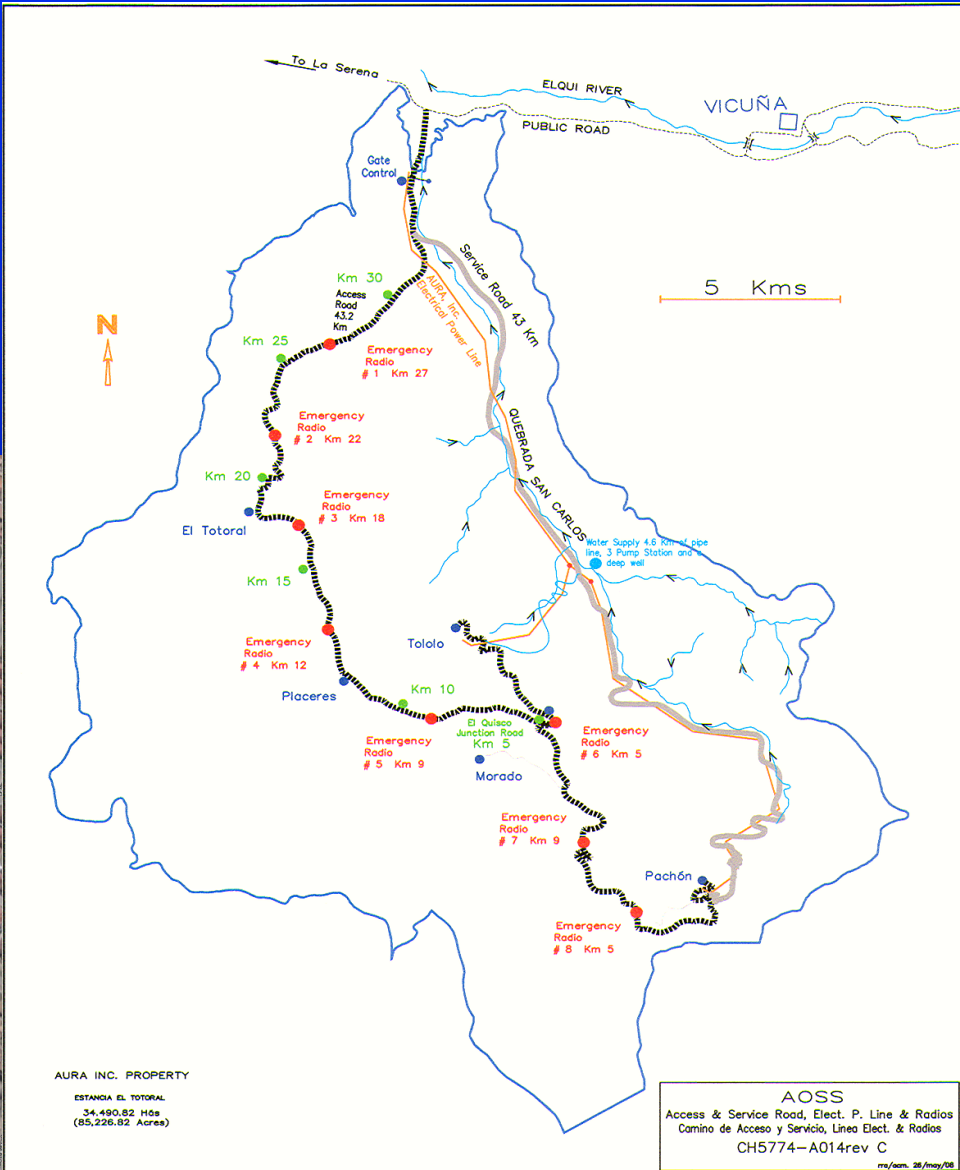
- Services
- Clients & Recovering cost
- Reporting

- Locations:
  - La Serena
  - Cerro Tololo / Cerro Pachón

- Services provided:

  Described in detail in Service Level Agreement
  – Utilities & Roads
  – Hotel services
  – Maintenance of Vehicles & Buildings
  – General Services (e.g. guards)

Regular road maintenance

- Services provided:

Described in detail in Service Level Agreement
  - Utilities & Roads
  - Hotel services
  - Maintenance of Vehicles & Buildings
  - General Services (e.g. guards)

Water supply & transport
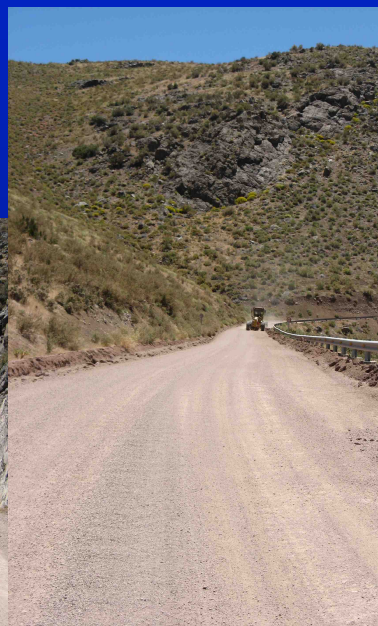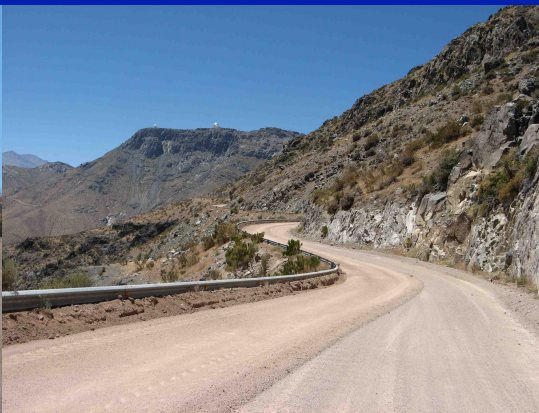
- Services provided:

  Described in detail in Service Level Agreement

  – Utilities & Roads

  – Hotel services

  – Maintenance of Vehicles & Buildings

  – General Services (e.g. guards)

Maintenance of power generating equipment and power lines

- Services provided:

  Described in detail in Service Level Agreement
  - Utilities & Roads
  - Hotel services, incl. meal service & transportation
  - Maintenance of Vehicles & Buildings
  - General Services (e.g. guards)

Tololo hotel

Pachón kitchen

Pachón hotel

- Services provided:

  Described in detail in Service Level Agreement

  – Utilities & Roads

  – Hotel services

  – Maintenance of Vehicles & Buildings

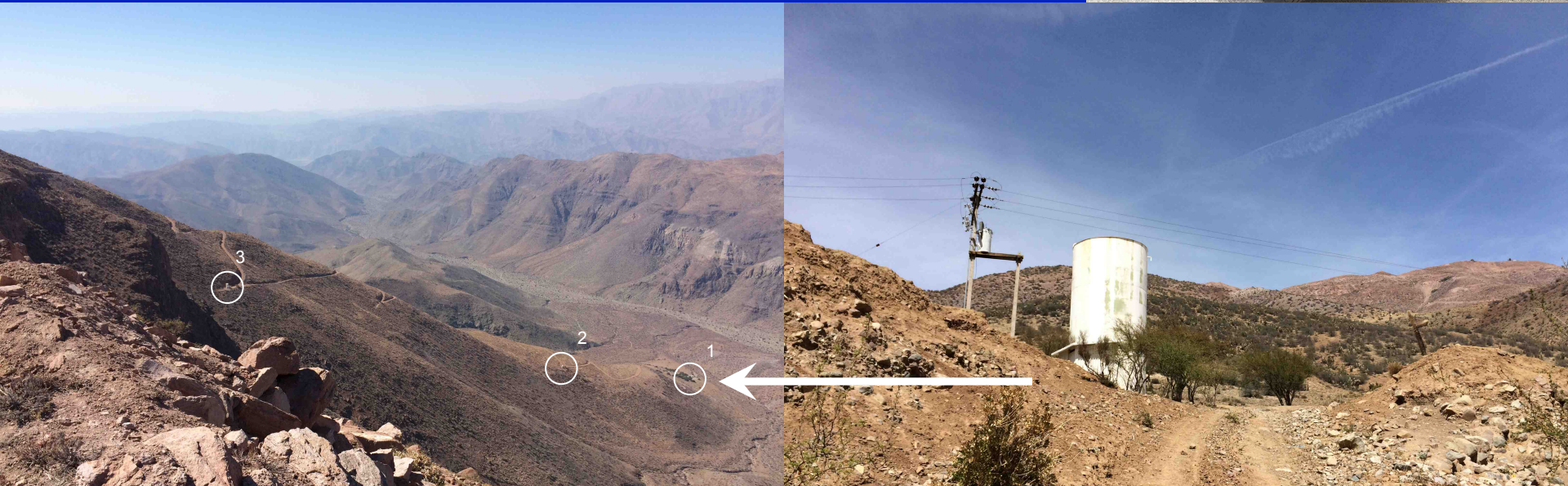 – General Services (e.g. guards)

Renovations of Tololo dorms, including re-roofing & exterior repair
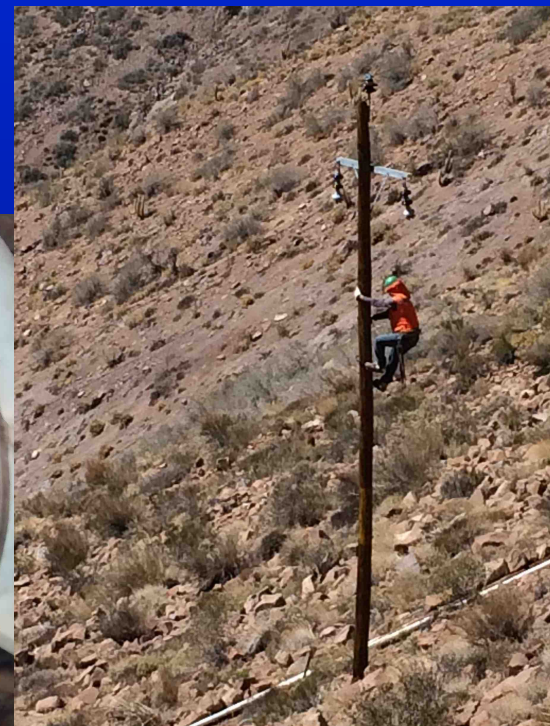
- Services provided:

  Described in detail in Service Level Agreement

  – Utilities & Roads

  – Hotel services

  – Maintenance of Vehicles & Buildings

  – General Services (e.g. guards, emergency medical services)

Pachón Communication Facility

Pachón clinic to be moved to 2-unidades

Clients & Recovering Costs

- Service provider
  - NOAO-S Facilities Operations Department
    - Supported by AURA-CAS
- Clients
  - Observatories on AURA Site
    - Gemini-S, LSST, SOAR, CTIO (Blanco), SMARTS
    - Smaller tenants
  - Other facilities e.g. ALO, GONG
  - Recinto Residents
- Cost neutral operations
  - Provider recovers costs by charging clients:
    - Mnt share fees
    - Census fees
    - Per-use fees

- Financial Reports:
  - Quarterly Financial Reports
  - Annual Financial Report
  - Annual Budget Report
- Communication with Clients
  - Advisory Committee

    Reviews & Approves Financial Reports and Annual Budget
  - AURA-O Bi-Annual Tenant Meetings

    Review of Annual Report and Annual Budget
- Support from & close collaboration with AURA-CAS for
  - Budgeting
  - Billing clients, including monthly invoices for utilities
  - Cost tracking & financial reports

Overview NOAO-S Facilities Operations, July 2016
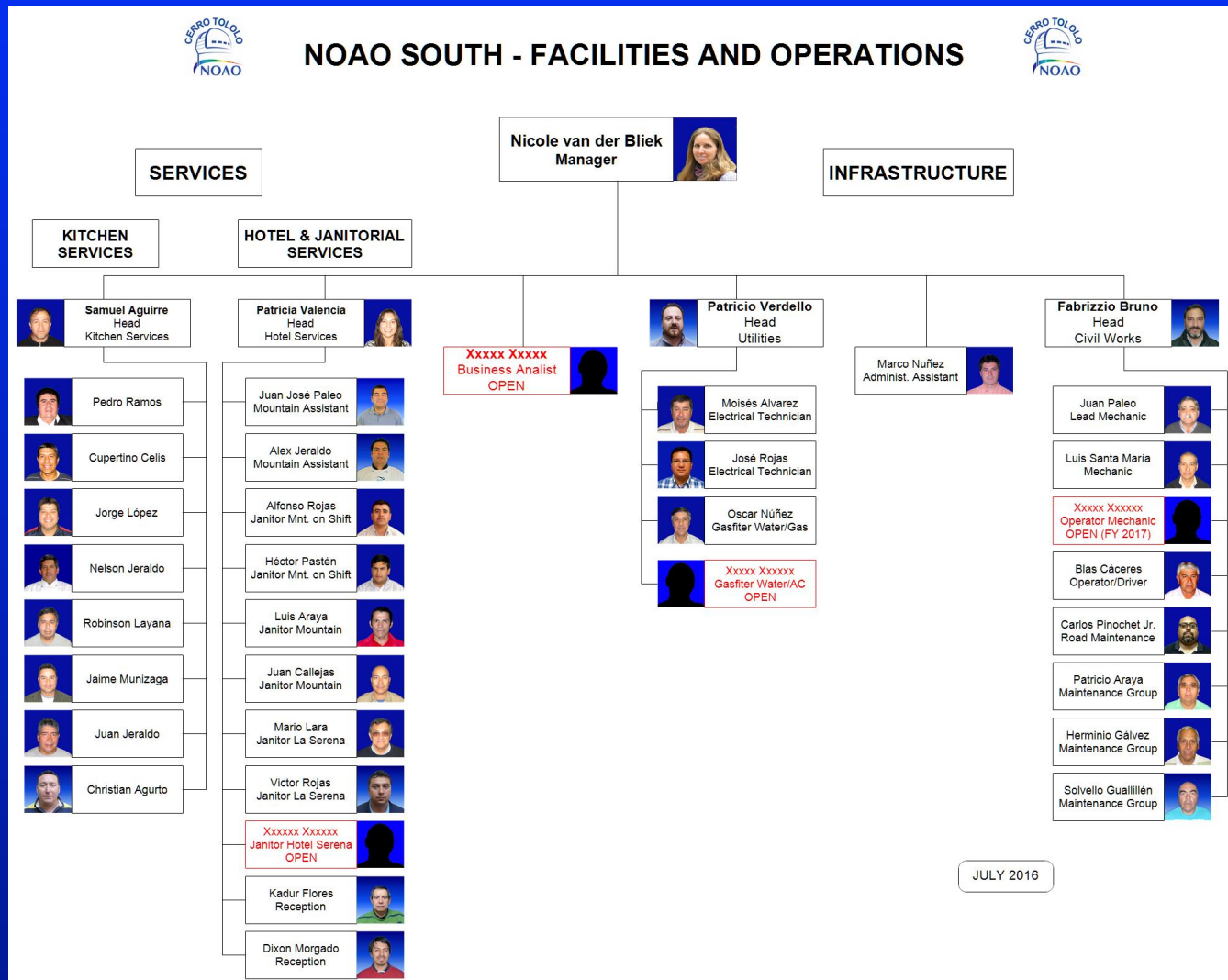
- Department Overview & Staff
- Services
- Cost recovering
- Reporting

- Infrastructure Group
  - Utilities, incl. electrical, water supply
    - Lead by Patricio Verdello
  - Civil Works, incl. roads, vehicles, building maintenance
    - Lead by Fabrizzio Bruno
- Services Group
  - Hotel services
    - Lead by Patricia Valencia
  - Kitchen services
    - Lead by Samuel Aguirre

NOAO SOUTH - FACILITIES AND OPERATIONS

Nicole van der Bliek
Manager

SERVICES

INFRASTRUCTURE

KITCHEN SERVICES

HOTEL & JANITORIAL SERVICES

Samuel Aguirre
Head
Kitchen Services

Patricia Valencia
Head
Hotel Services

Xxxxx Xxxxx
Business Analist
OPEN

Patricio Verdello
Head
Utilities

Fabrizzio Bruno
Head
Civil Works

Marco Nuñez
Administ. Assistant

Pedro Ramos

Juan José Paleo
Mountain Assistant

Moisés Alvarez
Electrical Technician

Juan Paleo
Lead Mechanic

Cupertino Celis

Alex Jeraldo
Mountain Assistant

José Rojas
Electrical Technician

Luis Santa María
Mechanic

Jorge López

Alfonso Rojas
Janitor Mnt. on Shift

Oscar Núñez
Gasfiter Water/Gas

Xxxxx Xxxxxx
Operator Mechanic
OPEN (FY 2017)

Nelson Jeraldo

Héctor Pastén
Janitor Mnt. on Shift

Xxxxx Xxxxxx
Gasfiter Water/AC
OPEN

Blas Cáceres
Operator/Driver

Robinson Layana

Luis Araya
Janitor Mountain

Carlos Pinochet Jr.
Road Maintenance

Jaime Munizaga

Juan Callejas
Janitor Mountain

Patricio Araya
Maintenance Group

Juan Jeraldo

Mario Lara
Janitor La Serena

Herminio Gàlvez
Maintenance Group

Christian Agurto

Victor Rojas
Janitor La Serena

Solvello Guallillén
Maintenance Group

Xxxxxx Xxxxxx
Janitor Hotel Serena
OPEN

Kadur Flores
Reception

Dixon Morgado
Reception

JULY 2016

- General Services
  - Security Guards at Gates
  - Emergency medical services (Nurses & Paramedics)
  - Safety program (for common operational support)
  - Reception

- Utilities & Roads (divided by sectors, response time critical)
  - Power line maintenance
  - Power generation
  - Road maintenance
  - Water & wastewater system (on mountain and in La Serena Recinto)
  - Communications, telephone and radio service maintenance

- Other, Per-use, Services both on Mnt & in LS
  - Meals & Lodging
  - Janitorial Services
  - Maintenance of Vehicles & Buildings

Service Level Agreement

- Service Level Agreement:
  - A description of all services as currently provided, including definition of response times, performance records and reporting practices.
  - Extra requirements not currently in place will be discussed with clients and will be folded into the costs.

- Development of SLA:
  - Led by Jeff Barr
  - Information gathering process:
    - Meetings with Providers & Users were held for each service. These meetings have arguably been the most useful part of the SLA process.
    - An agenda was prepared to focus discussion and to pose questions.
    - Convened personnel who perform and supervise the service to define scope and to identify problems and opportunities for improvement
    - Managers & providers then met with representatives of the Clients to get service-users perceptions and ideas for improvement
  - Based on this information, Jeff compiled the draft SLA document.

Service Level Agreement

- Development of SLA – cont.
  - Review & Approval of SLA document
    - Input from all reviewers have been taken into consideration and appropriate changes were incorporated.
    - Document was translated into Spanish and reviewed & verified by key service provider personnel. This document will also serve as reference for the service provider.
    - Changes to scope (including performance metrics), if necessary, will be discussed by the Advisory Committee. Changes to costs for the specific service due to a change in scope will be included in the fees.
  - Document complete
    - with the exception of the section on the Emergency Medical Service. This particular service (not the description) is under review, and the section will be completed once the new service is in place.
  - Signed off by Program Directors, Tenant Reps and AURA.
  - SLA is posted on NOAO-S Facilities Operations site:
    http://www.ctio.noao.edu/noao/content/Facilities

Cost neutral operations

- All costs associated to services are recovered through fees charged to clients

- Accounting for services through set of accounts separate from CTIO accounts

- CTIO is just another client:

    CTIO Telescope operations, ETS, scientific staff and corresponding support staff pay for all services provided by the NOAO-S Facilities Operations department, just like Gemini-S, SOAR, SMARTS, LSST and the smaller tenants.

Cost structure

- Input
  - Budgeted cost of providing services - based on prior year data
    - Labor & Non-labor costs, plus applicable overheads
  - Expected sales volume - based on prior year data
    - # of employees (census fees)
    - Estimated usages (per-use fees)
    - Size of scientific installation (mountain share fees)

- Model
  - Calculate internal revenue
  - Distribute overheads
  - Map cost centers to census fee, per-use fee or mtn share fee
- Output
  - Projected cost per service
  - Census fees, per-use fees and mnt share fees

For each cost center

- Calculate Total Cost
    - Sum of Payroll + Non-Payroll
    - Apply General & Administrative (G&A) burden
    - Adjust for Net Internal Recharges
    - Calculate Base Cost
    - Include corresponding % for Facilities Management
    - Include corresponding % for Admin at site (Mnt or La Serena)
- Calculate contribution to mtn share fee, census fee or calculate unit price in case of per-use fee

Mountain share fees

- Based on size of scientific installation
- Mountain share fees include:

Common	Tololo	Pachón
Security		
Visitor center		
Road Maint. Gate-Quisco		
Emergency Medical Services		
Power Line Maint. Gate-San Carlos		
Communicat.-Tel. Radio Maint.		
Safety		
	Power Generation	
	Road Maint. Tololo-Quisco	
	Power Line Maint.San Carlos-Tololo	
		Road Maint. Pachon-Quisco
		P. Line Maint.San Carlos C. Pachon

Mountain share fees

- Telescopes included are:
  - On Tololo: Blanco, SMARTS, KASI, T80S, Schmidt, PROMPT, LCOGT, Mearth, SARA, WHAM
  - On Pachón: Gemini-S, LSST, SOAR
- Infrastructure common to Tololo & Pachón: 50/50 split
  - between Tololo and Pachón
- Tololo mountain share fee model:
  - Based on size of telescope: directly proportional to (sum of) diameter(s)
  - Robotic / Remote telescopes and telescopes operating less than 3 months per year pay only 30% of corresponding share, with minimum of 0.5 share
- Pachón mountain share fee model:
  - LSST, Gemini-S, SOAR count as 1, 1, 0.8 share resp.

- Based on # of employees (roster July 2016):
    - Not including Facilities & Operations
    - Total all sites: 189
    - Total La Serena: 139
- All staff all places Census Fee
    - Safety
    - Reception
    - Garage
- La Serena Census Fee
    - Comm. & Tel. Maint
    - Security LS

- Based on estimated usage
- Services charged on per-use basis are
  - Meals
  - Lodging Mnt
  - Lodging LS
  - Janitorial Services Mnt
  - Janitorial Services LS
  - Water Mnt
  - Water Transport to Pachón
  - Water LS
  - Maintenance Group, for e.g. maintenance of offices, telescope buildings
  - Garage & Transportation, for specific jobs

- Major upgrades & extra-ordinary purchases
  - Budget for major upgrades and purchases of heavy equipment is separate from the base budget

- Throughout year costs are tracked
  - Monthly – for internal use
    - Ensure that right accounts are charged
    - Be alert for exceptional expenditures
  - Quarterly – to be shared with clients
    - Alert clients on any deviation of budget
    - Alert clients on deviations from estimated usage
  - Annually
    - Present overview of last years expenditures
    - Discuss large deviations from budget
    - Discuss estimated vs historic usage

Communication with Clients

- AURA-O Semi-Annual Users' Meetings
- Financial Reports
- Advisory Committee

Communication with Clients

- AURA-O Semi-Annual Users' Meetings
  - February meeting
    - Present annual report of recently closed FY
    - Discuss priorities for maintenance activities and large equipment purchases, to allow inclusion in planning for following year
  - August meeting
    - Present plan for following FY, including exceptional expenditures, and significant maintenance activities
    - Present budget & fees for following FY
- Financial Reports
- Advisory Committee

Communication with Clients

- AURA-O Semi-Annual Users' Meetings
- Financial Reports
  All reports are reviewed by Advisory Committee
  - Financial reports on a quarterly basis
  - Annual reports
    - Include financial statement
    - Prepare after closing of FY
    - Presented at Semi-Annual AURA-O Users' Meeting in February
  - Budget report
    - Presented at Semi-Annual AURA-O Users' Meeting in August
- Advisory Committee

Communication with Clients

- AURA-O Semi-Annual Users' Meetings
- Financial Reports
- Advisory Committee
  - Members
    - Representatives of major stakeholders, Gemini-S, LSST, SOAR, CTIO
    - Two representatives of Smaller Tenants
    - Head of NOAO-S Facilities & Operations department, Head of AURA-CAS and AURA Executive Vice President
  - Role of Advisory Committee
    - Review financial reports on quarterly basis
    - Review budget for upcoming FY, including approval of major projects
    - Review improvements to cost structure model
    - Review scope of services and, when appropriate, propose alternatives or reduction in scope

Credit: Kathy Vivas