Summary Slides

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

- 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
Reporting

- 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
Additional Information

- Department Overview & Staff
- Services
- Cost recovering
- Reporting
Department Overview

• 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
Department Staff

NOAO SOUTH - FACILITIES AND OPERATIONS

SERVICES

KITCHEN SERVICES
- Samuel Aguirre
  Head Kitchen Services
  - Pedro Ramos
  - Cupertino Calis
  - Jorge Lopez
  - Nelson Jeraldo
  - Robinson Layana
  - Jaime Munzaga
  - Juan Jeraldo
  - Christian Agurto

HOTEL & JANITORIAL SERVICES
- Patricia Valencia
  Head Hotel Services
  - Juan Jose Palea
    Mountain Assistant
  - Alex Jeraldo
    Mountain Assistant
  - Allfonso Rojas
    Janitor Mnt. on Shift
  - Hector Paetan
    Janitor Mnt. on Shift
  - Luis Araya
    Janitor Mountain
  - Juan Celajes
    Janitor Mountain
  - Mario Lara
    Janitor La Serena
  - Victor Rojas
    Janitor La Serena
  - Richard Flores
    Reception
  - Dixon Mogado
    Reception

XXXX XXXXX
Business Analyst OPEN

XXXX XXXXX
Janitor Hotel Serena OPEN

INFRASTRUCTURE

Patricio Verdugo
Head Utilities
- Moises Alvarez
  Electrical Technician
- Jose Rojas
  Electrical Technician
- Oscar Nuñez
  Gas/oil Water/Gas

Marco Nuñez
Administ. Assistant

Fabrizio Bruno
Head Civil Works
- Juan Palea
  Lead Mechanic
- Luis Santa Maria
  Mechanic
- Bras Cárdenas
  Operator/Driver
- Carlos Piniche Jr
  Road Maintenance
- Patricio Araya
  Maintenance Group
- Hemmio Galvez
  Maintenance Group
- Soltero Quisilten
  Maintenance Group

XXXX XXXXX
Operator Mechanic OPEN (PY 2017)

JULY 2016

Overview NOAO-S Facilities Operations, July 2016
Services

• 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:
  – 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.
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:

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<thead>
<tr>
<th>Common</th>
<th>Tololo</th>
<th>Pachón</th>
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<td>Security</td>
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<td>Visitor center</td>
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<td>Road Maint. Gate-Quisco</td>
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<td>Emergency Medical Services</td>
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<td>Road Maint. Tololo-Quisco</td>
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<td>Power Line Maint. San Carlos-Tololo</td>
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<td>Road Maint. Pachon-Quisco</td>
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<td>P. Line Maint. San Carlos C. Pachon</td>
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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.
Census fees

- 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
Per-use fees

• 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
Tracking costs & usage

- 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