

Mount Hamilton BUDGET + OPERATIONS

John Wareham, Deputy Director
J. Xavier Prochaska, Associate Director

Lick Observatory: Top-Level Budget

FY 12

| | | |
|-------------------|----------|---------|
| On-Mountain Staff | 17.7 FTE | \$1750k |
| UCO Technical | 2.3 FTE | \$300k |
| UCO Admin | 2.6 FTE | \$230k |

****Notes:** These estimates do not include Research Scientists nor UCO faculty. They do not include monies spent on APF or Shane/AO.

They also do not include a few 'self-supporting' activities (e.g. gift shop, dorms).

TELESCOPE OPERATIONS

July 2009 Payroll: \$62,900

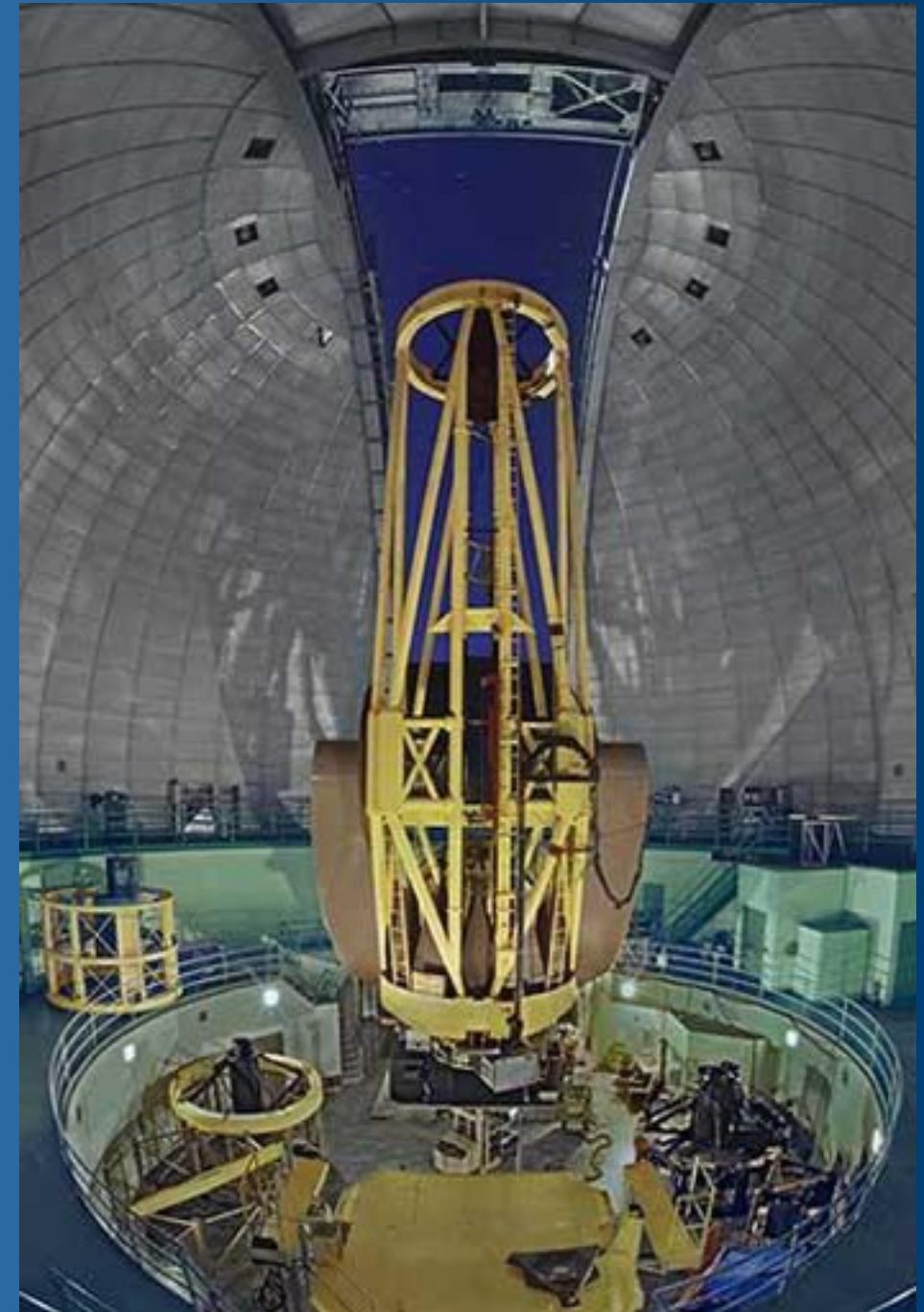
July 2012 Payroll: \$55,200

11% reduction while pay rates increased 7% =
18% real reduction compared to 2009 levels

Attrition will reduce teleops techs from 5 to 4
by June 2013 and from 4 to 3 by June 2014.
Could proportionately reduce teleops mechanic
position (From 1.0 FTE to 0.50 – 0.80 FTE)

Current Staffing:

- Kostas Chloros – Teleops Manager
- Keith Baker – Retiring June 2013
- Wayne Earthman – Retiring June 2014
- Donnie Redel – 4 years experience, laser op.
- Erik Kovacs – 2 years experience
- Pavl Zachary – 1-1/2 years experience
- Bob Owen – Teleops mechanic



MH PHYSICAL PLANT, CUSTODIAL/HOUSEKEEPING

PHYSICAL PLANT

July 2009 Payroll: \$31,400 (incl. custodial)

July 2012 Payroll: \$24,900 (incl. custodial)

21% reduction while pay rates increased 7% = 28% real reduction from 2009 levels

Reorganization: 2.5 Skilled Craft FTE's to 2 SBMW FTE's + HVAC PM/inspections

- Sam Shankle - Maintenance Supervisor
- Greg Sulger and David Perrin – 2 years experience, promoted to Senior BMWs
- Michele Redel and Tina Kurth – Water system operators (P/T)

CUSTODIAL/HOUSEKEEPING

Reduced from 2.0 FTEs to 1.6 FTEs in 2011

- Sam Shankle - Supervisor
- R.J. Herskorn and Connie Vilicana – Each 0.80 FTE for past year

Lick Observatory: Scientific Support

Staffing

- Two SAs employed
 - Heavy work load (see informational slide)
 - Initiated new support policy (see below)
 - Will be challenging to initiate new projects
- Observing support
 - 10 nights, on-mountain on-call
 - Optional 5 nights of off-mountain on-call
 - Responding to pre and post-observing inquiries



Supporting Lick Observatory from UCO

UCO Technical Facilities @ Mt. Hamilton

Role: backup when MH does not have the manpower, knowledge or expertise

- precision machining
- precision and vacuum welding
- vacuum vessel repair, leak check
- engineering design
- optics refurbishment (ex: 36" objective)
- optics cleaning and handling
- detector and electronics diagnostics, replacement
- anything out of the ordinary

Lick Observatory: Technical Operations

SPG Staffing

- 5 FTEs
 - Day-to-day LO work distributed among ~3 persons.
 - See informational slide for extensive list of activities
 - Work priority given to keeping LO operating
- Note: SPG does not include research scientists
 - Brad Holden, Bob Kibrick
 - These staff push scientific programming in very important new directions



UCO Administration Functions

| CONTRACTS & GRANTS ADMINISTRATION | FINANCIAL ADMINISTRATION |
|---|--|
| Prepare proposal budgets | Manage and support recharge facilities (annual rate reviews, billing and reporting) |
| Provide all aspects of post award grant administration | Manage and support instrumentation projects including complex labor cost accounting system, and cost proposal activities |
| Develop contract language for wide variety of scientific and technical MOUs and contracts | Manage operating budgets |
| | Manage gift and endowment accounts |
| | Manage income generating accounts |
| | Manage permanent funds/Maintain FMW |
| | Provide analysis and custom report generation |
| | Maintain staff proficiency in Infoview Report writing tools |

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OPERATIONAL IMPROVEMENTS

Bandwidth Improvements – 11 GHz microwave

Productivity tracking in Maintenance and
Custodial/Housekeeping Units

Water System Reorganization

Generator Preventive Maintenance

Electric Switchgear Diagnostics and Repair

3-meter Front Steps and Façade

Main Building Façade, L&M Building,
40-inch Dome Resurfacing

County Snow Removal Contract

Fleet Vehicle Savings



VISITOR SERVICES and PUBLIC OUTREACH



Reorganized Dept., separated Gift Shop / Guide functions from Public Program

- Deputy Director and 0.10-0.20 FTE Coordinator manage programs
- Eliminated overtime, expanded public programs beyond the usual 12 wkends

Lotus Baker – Gift Shop Team Leader retiring June 2013 – Payroll savings

Added 3 new public programs in past year (Star Party, Transit of Venus, BBQ)

Saved ~\$500 per event by providing our own security and parking services

Friday Night Visitor Program and Music of the Spheres from 6 to 8 weekends

Adding 7 Saturday night Star Parties (alternating Saturday nights with MoS)

Adding overnight lodging option to the 8 VIP nights (3rd Floor of Old Dorm)

VIP tour will include walk thru the 2nd floor of Old Dorm to promote suite sponsorships (4)

PUBLICITY PUBLIC OUTREACH EDUCATION

Friends of Lick Observatory

Center for Science Education (CSE) MOU

The Tech Museum, San Jose – MOU in progress

The Lick Observer – quarterly e-newsletter

Social Media Presence – Facebook & Twitter

UCO Gala – September 2013 (to be confirmed)

125 year LO Anniversary

20 year Keck Anniversary



Lick Observatory: Technical Operations

Lick Technical Staff

Tele Ops Manager
Kostas Chloros

4 Tele Techs/Operators

Keith Baker
Wayne Earthman
Erik Kovacs
Pavl Zachary

44% Night Operations
Assist with Observations

56% Day Operations
Instrument setups, Repairs,
Assist with focus/instrument
Changes, PM

1 Electronics/Laser Tech

Donald Redel

20% LGS/AO
20% Instrument & Focus Changes
60% PM, Repairs, Upgrades

1 Mechanic

Bob Owen

100% Mechanical
Instrument installations
Focus changes
Repairs, PM

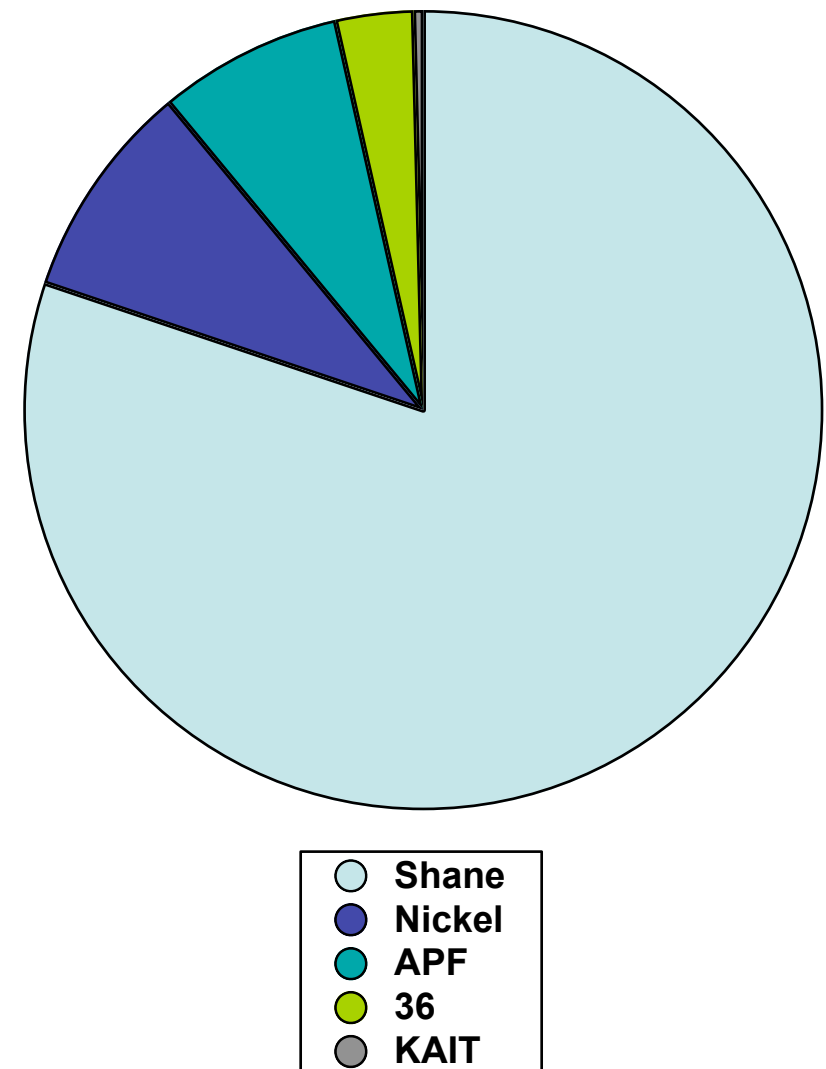
7 part time laser spotters

J. Allen, B. Fies, S. Stuckey, J. Schultz, T. Kurth, M. Redel, G. Vosters

MH Telescopes

(Tele Ops, PM, Setups, Repairs)

- Shane 3-m = 4 FTE
 - Nickel 1-m = 0.5 FTE
 - APF = 0.4 FTE
 - 36" Refractor = 0.2 FTE
 - CAT = 0.2 FTE
 - KAIT = 0.02 FTE
-
- Crossley, Astrograph, Crocker Dome : Not in use
 - Tauchmann: In use by residents



Telescope Operations

(3-m, 1-m, CAT, KAIT)

- Night ops: 2.0 FTE
- Repairs: 0.8 FTE
- PM/Upgrades: 0.7 FTE
- Instrument installations: 0.6 FTE
- LGS support: ~0.45 FTE
- Dewar fills: 0.4 FTE
- Focus changes: 0.2 FTE
- O/T (long night ops, repairs 3-m): ~0.5 FTE

- APF: ALL = 0.4 FTE

Lick Observatory: Scientific Support

Activities

- Observing support
- Telescopes
 - Optimization/development
 - Scripting
 - Help with maintenance
- Instruments
 - Maintenance support
 - Documentation
 - Participation in upgrades and new projects
- Outreach
- SVP support
- Public tours
- Special events
- Computer screens
- Education
 - Undergraduate intern
 - Grad workshop
- Odds and ends
 - Plate archiving
 - Computer support
 - Web page maintenance

UCO Tech @ MH: Maintenance

- Re-aluminization of 120” mirror
- Monthly optics cleaning
- Dewar maintenance (vacuum, etc.)
- Detector controller repairs, troubleshooting, upgrades
- Dome shutter seal repair
- 36” dome axel repair

UCO Tech @ MH: “Small” Projects

- Kast motor control upgrade
- Hamilton spec. motor control upgrade
- Automation of Hamilton spec. iodine cell
- 120” dome axel replacement
- Detector upgrades (Hamilton, Kast blue)
- Weather station repairs
- Microwave antenna installation
- New encoder mounts on the 120” and 40”

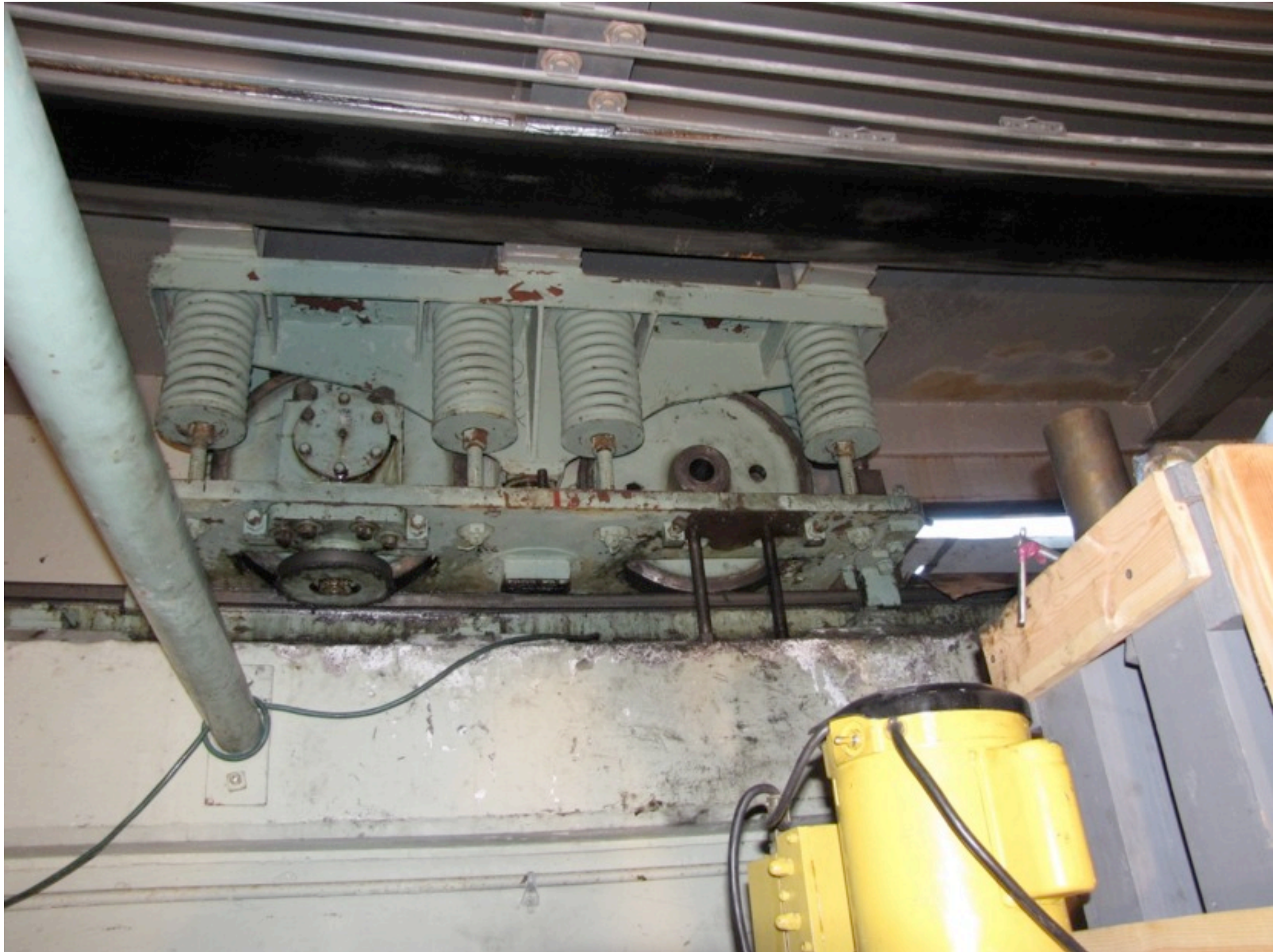
120" Mirror removal



120" re-aluminization



120" dome wheel axel replacement



The wheel sans axel, about 8 hrs later



Kast Re-furbishment



Lick Observatory: Technical Operations

Scientific Programming Group (SPG): Activities

- Mt. Hamilton Infrastructure
 - Telescope and Dome
 - Weather monitoring
 - TAC, scheduling
 - System-wide upgrades
 - Remote Obs.
 - Network, System Admin
- Instruments
 - UCAM controllers
 - Kast, Hamilton, PFCAM, POLISH, etc.
 - APF, ShaneAO
- Data Software
 - Science Archive
 - Vital statistics
- Support of other groups
- Troubleshooting

UCO Administration Functions

| BUSINESS TRANSACTIONS | ADMINISTRATION |
|-----------------------------------|---|
| Process direct payments | Support donor and VIP relationships |
| Procure directly up to \$50K | Manage systemwide telescope allocation process |
| Manage fabrication accounting | Coordinate systemwide advisory, Keck Science Steering, TMT Science and other committees |
| Manage equipment inventory | Maintain website |
| Manage cashier function | Manage photo permission use |
| Operate retail facility | Direct media liaison (on campus and at Lick Observatory) |
| Maintain staff proficiency in FIS | Coordinate meetings, workshops and events |

UCO Administration Functions

| ACADEMIC PERSONNEL | STAFF HUMAN RESOURCES |
|--|---|
| | Initiate and update career and limited staff recruitments into campus Recruitment Management System |
| Initiate & manage non-Senate academic actions- Researcher, Specialist, Project Scientist (recruitments, hires, promotions, merits, etc.) | Manage career and limited staff performance and problems |
| Manage academic employee payroll and time reporting | Manage staff SRDP and merit programs |
| Maintain staff proficiency in Division Data | Manage staff payroll and time reporting activities |
| | Coordinate employee rent perquisites |
| | Maintain staff proficiency in PPS |
| | Maintain permanent Staffing List for unit |
| | |

UCO Administration Functions

FACILITIES ADMINISTRATION

Manage academic and staff offices on campus including telephone, computer services, furniture, etc.

Manage academic and staff offices at remote location

Maintain Facilities Link database

Manage specialized labs and technical facilities

Hazardous Waste handling & removal

Manage operations and maintenance of physical plant

Manage employee residences

Plan and oversee all maintenance projects

Direct liaison with Calfire regarding fire suppression support

Direct liaison with Santa Clara County Sheriff Office regarding law enforcement

Coordinate facilities use agreements

Coordinate film & photo agreements

Coordinate emergency medical services for public whether on UC business or not