ARRA Infrastructure Improvements at the National Optical Astronomy Observatory

Quarterly Scientific Report (1) for August 1, 2010 – October 31, 2010

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ACTIVITIES AND FINDINGS

Activity related to infrastructure improvements at NOAO’s Tucson Headquarters, Kitt Peak (KPNO) Facilities, Cerro Tololo-Inter-American (CTIO) El Tortal (Mountain) Facilities, and CTIO La Serena Headquarters in the first quarter (August through October) of fiscal year 2011 (FY11) is described for each project below.

TUCSON HEADQUARTERS INFRASTRUCTURE

Renovate computer room electrical, cooling, and fire detection/suppression systems:
The initial phase of the heating, ventilating, and air conditioning (HVAC) system changes project was put out for competitive bidding and the successful contractor has the new equipment on order. Demolition work is scheduled to start during the second quarter with delivery and installation of the equipment due in early December. Staff are continuing to research the phase two efforts regarding fire suppression options and potential backup generator systems.

Replace and renovate electrical supply/distribution equipment:
The Engineering design effort was completed, and bid documents for phase one were provided to the NOAO Contracts Office. The pre-bid meetings were held the end of October with contractor bids expected in early November.

Replace 15-year-old building energy management and control system:
Staff completed a draft set of project specifications. The preliminary documents are being revised to incorporate the appropriate interface with both the computer room HVAC and electrical renovation projects. The project is scheduled to be put out to bid in the second quarter of 2011.

KITT PEAK FACILITIES INFRASTRUCTURE

KPNO water system renovation:
Staff reviewed and finalized the final water system design documentation with the engineering firm (Environmental Engineering Consultants). The final documentation was forwarded at the end of October to the EPA for review and also will be forwarded to the NOAO Contracts office in early November to initiate the bid process.

Kitt Peak instrument handling facility:
Support staff identified key equipment and instrumentation support requirements and began refining the building and site requirements. Efforts will be ongoing to finalize the bid documentation with plans to pursue construction bids in the second quarter of FY11.

CTIO MOUNTAIN INFRASTRUCTURE

Pachón water system renovation:
No progress since the last report (FY10 quarter 4).
Dormitories repair & renovations:
   No progress since the last report (FY10 quarter 4).

Pachón kitchen & dining facility:
   The Request for Proposal is being revised. The contract is expected to be awarded in December 2010.

Coudé room upgrades/handling for new instruments:
   The work on this project was completed.

Blanco 4-m computing room & console upgrade for DECam:
   The work of remodeling the new console room continued. This part of the project is planned to be finished by mid-January 2011. Work on the computer room will continue in March 2011 when the main shutdown of the Blanco 4-m telescope occurs.

Blanco 4-m mirror coating chamber:
   Work on this project continued. There are still spares to be ordered.

Blanco 4-m entrance protection:
   Work on this project continued. This project is planned to be finished by end of December 2010.

Blanco 4-m cooling system upgrade:
   No change since the last report (FY10 quarter 4). A requisition for the chiller unit designated to replace one of the existing units will be placed shortly.

Cerro Tololo UPS upgrade:
   The work is in progress. There are still spares that need to be ordered.

Cerro Pachón dorm emergency generator:
   Work on this project was competed. The generator was installed and connected to the electrical network.

Mountain meeting rooms renovation:
   No change since the last report (FY10 quarter 4).

Mountain road guardrail installation:
   A proposal to move funding from the guardrail installation project to a project to repair the CTIO Frequency Converter (a critical system that failed recently) and purchase a new stand-by generator was approved by the NSF. The Tololo Frequency Converter was repaired and installed on site. The stand-by generator was purchased, and delivery from the manufacturer is expected by January 22, 2011.

LA SERENA HEADQUARTERS INFRASTRUCTURE

Machine shop modification & refurbishment:
   The call for bids process was carried out, the proposals are being reviewed, and the contract will be awarded soon.

CNC milling machine:
   The CNC milling machine arrived, was installed, and is being used.
La Serena compound water system renovation:
No change since the last report (FY10 quarter 4).

La Serena meeting rooms renovation:
No change since the last report (FY10 quarter 4).

Repair and renewal of security fencing for La Serena compound:
A new section of fence was installed near the Cisternas street gate control.

SUMMARY OF FIRST QUARTER EXPENDITURES

The following table provides a summary of the account, showing cumulative expenditures to date (October 31, 2010) and the total funds remaining.

<table>
<thead>
<tr>
<th>Award</th>
<th>Amount</th>
<th>Prior Expenses</th>
<th>Expenses This Quarter</th>
<th>Total Expenses</th>
<th>Funds Available</th>
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