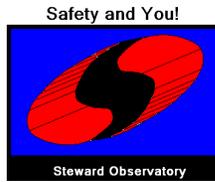


## Electrical Safety Inspection 12-Meter Telescope



Date: June 14, 2006

To: Tom Folkers  
Bob Peterson

cc: Jeff Kingsley  
Karen Kenagy  
Dale Webb

From: Tom Reeve

Re: 12-Meter Electrical Safety Inspection  
June 8, 2006

### **SUMMARY OF INSPECTION:**

The first safety inspection at Kitt Peak was performed on the 12- meter radio telescope on June 8<sup>th</sup> 2006. The tour was conducted by Bob Peterson.

The generator power transfer switch is the most dangerous safety situation. It is supposed to be an automatic transfer switch, but has been broken (1-3 yrs). This switch is not to be activated manually by hand (hence the word automatic). The cabinet is very old with all of the connectors exposed to the elements (rain, snow, ice) and most of all personnel work without proper protective gear. It is my recommendation that this switch should no longer be transferred manually. I highly recommend this site be closed down until this issue is fixed. It is extremely dangerous! To my understanding, the company Caterpillar still makes the parts and equipment to repair this switch. I do not know the cost but was told that the switch could be repaired within eight hours.

Inside of the 12-meter telescope, at the back of the control room, is a homemade spot light. It is made with an extension box and held together with silicone caulk. There are also several gutters in the same location that are sealed closed with silicone. I suggest replacing the equipment to be used for the right application.

There are several boxes and enclosures throughout the building that are missing knock out seals. On the telescope itself, there are extension cords and plug strips. I recommend installation of at least two maintenance receptacles.

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In the computer room, I found loose power cords (still plugged in but going to nothing) lying in a messy heap on the electronics rack. Organization and housekeeping is a needed task for this room.

The final stop on the 12- meter telescope was the lab. I found three separate pieces of equipment (lathe, mill and drill press) wired in series which is not to NEC specs. They need 3 individual feeds for 3 different machines.

As you walk in, there is an emergency light above the door. This light has a very old lamp cord hanging from it, and I saw no strain relief or connectors plugged into the wall. It should be hard piped or have the proper cord and connectors in place.

On a very good note, the 12-meter site has and uses a lockout tag out system.

### **SAFETY RECOMMENDATIONS:**

I recommend that this site implement the changes as follows:

- Personnel need to attend the TEGG course on the arc flash and safety.
- Personnel need to be given the proper safety equipment to use at this site (i.e. minimum of one arc suit, gloves, shock mats and flash blankets).

### **CORRECTIVE ACTION REQUIRED:**

	<b>Abatement Date</b>
Repair generator transfer switch so that it is automatic.	
Repair emergency or spot light on the back of control room. (Need to use the right equipment for the application).	
Install missing knock out seals on boxes and enclosures.	
Install receptacles to replace use of extension cords and plug strips.	
Install 3 individual feeds for machines that are currently in series from same feed.	
In the lab there is an emergency light above the door when you walk in. it is wired with a lamp cord hanging out of the fixture without any kind of connector and is not grounded.	
Improve housekeeping in the computer room. Electronics racks with equipment cords plugged in to main power, but going to nothing (5 power). Old and	

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new steel connectors lying all in and around rack.	
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**Please return this completed form to Karen Kenagy**