

# VLA/VLBA NEWSLETTER

From the World's Premier Centimeter Wave Radio Synthesis Telescopes

## AROUND THE VLA

### Retired after 12 years:

Jimmie Chavez, part-time custodian

### Welcome New Employee:

Rick Rael, part-time custodian

### Reassigned:

Glenn Mauger to PCs and radios, part time.

To call Operations, please dial 7180. Other numbers have been listed for Operations, but this is the extension which should always be used.

Since the employee poll at the VLA site did not show strong support of a change in schedule to the so-called 9/80 work week, we will stick to the existing "4/10s" in the summer season and "5/8s" in the winter, at least for the time being.

Tom Olney and Richard Murillo recently completed a course in hydraulics. Richard was able to apply the information immediately to solve a fork lift problem and to understand the operation of the new rail grinder. Tom reports that the transporter hydraulics comply with good practice.

New dust covers for the dump trucks, designed and manufactured by Jim Rexrode, bring our materials hauling operation into compliance.

## VLA OBSERVING

A report on 1997 observing statistics shows that the VLA was used 76% of the time for astronomy. The remainder of the use was for testing, maintenance, calibration, and downtime. For the VLBA, 50% of the time was for astronomy even though the instrument has been in use only 5 years. Over half of the total time on the VLA was used by 500 visitors from 172 institutions. The remainder of the VLA observing was

done by students, research associates, and NRAO staff, 612 different observers in all. 230 visitors from 85 institutions used the VLBA. Altogether, observers using NRAO instruments produced over 400 refereed papers in 1997. Extra galactic observing programs were the most popular -- 47% for the VLA and 61% for the VLBA. Other major observing areas for both instruments were stellar, galactic (our own galaxy), and solar, in that order. The complete report is available in the CB lobby.

C. Janes

## VLA NETWORK

The VLA may be "lit" soon for the first time as we begin adding connectors to the fiber optic computer network. This network will replace the dial-up network we currently use. The new network will be much faster and easier to use. Also, the spare conduit and casings we put in will provide an easy and safe route for future cabling needs (fire alarm, phone, etc.).

Kudos to Godin and Pete for digging almost 4000 feet of trench without incident, Jaime and Ed for locating dangerous power lines and Shane for protecting our water lines. Lew directed the digging, and Fred Dunn provided important planning information. Special thanks to Gareth Hunt and Gene Runion for getting the project started and funded.

Now in place under the VLA site we have about 2 miles of Endot Corrugated Conduit, 1 mile of Optical Cable Corp. fiber, and two new personholes. Some time this summer, we will add a fiber connection to the IPG Tower east of the VSQs and the atmospheric phase interferometer on the east arm. Those connections will be via a new manhole behind the CB. The manhole will facilitate later Control Building access for the MMA test interferometer.

B. Broilo

## WAREHOUSE INVENTORY ON ZIA

Ever wonder what the VLA Warehouse stocks? Or where an item in the warehouse is located? Well, thanks to Julie Ewart, Jim Ruff and Bob Broilo we need not wonder any longer. All you need to do is log on to ZIA and do the following at the prompt.

Type the following line once to get set up;  
zia<1>% ~hvac/cbin/install-commands

For instructions just enter p. ("p" for part)  
zia<2>% p

If you want to know if there is a "mouse" in the Warehouse you would type the following:

zia<3>% p mouse

Zia will print everything with "mouse" in it. In addition it will give the Commodity Number, Location, Item Description, and Item Number. Do this and you are all set to search the VLA Warehouse Inventory. Julie updates the inventory for us monthly.

L. Sema

## ANTENNA LOCKOUT/TAGOUT

This is a reminder for all personnel to use the antenna Lockout/Tagout procedure as described in the Safety Manual B2.3. Also, keep in mind that motor faults may occur if the procedure is not done correctly. In this case, contact the Array Operator for help. The procedure is readily available for review in the pedestal room of each VLA antenna.

G. Cole

## TRIPS TO ALBUQUERQUE

It is absolutely essential to have site personnel coordinate with AOC personnel when they are going to go by NRAO vehicle to Albuquerque. Due to the large amount of purchasing, primarily for the VLA, i.e. tires, oil, uniforms any help that we can get to assist us in picking up items would be greatly appreciated.

J. Dowling

## ALL ABOUT CRYO

With the time changed and all the new faces running around the VLA, many of you are probably wondering just what the main function of the Cryogenic and Waveguide group is. My objective is not to explain why we do what we do, but rather to inform you of our involvement with the day to day operation of the VLA and VLBA. At the VLA site, we have to maintain 99 cryogenic coldheads and 56 cryogenics compressors, while at the VLBA sites we help maintain 72 cryogenics coldheads and 30 compressors. Along with all the cryogenics systems that need to be maintained on a daily basis, we also have to modify the antenna helium line while an antenna is in the AAB, maintain the mechanical end of the 60 mm underground waveguide, 36 miles of waveguide pressurization system, all 20 mm waveguide on the antennas, rebuilding of all antenna rotary joints, and all antenna pad measurements. Along with these jobs, the cryogenic group is also responsible for the VLA site paging system, master clock system and wye com cable splicing. If you are interested in finding out why any of this work is necessary, please come by the Cryo Lab and ask questions.

Cryo Group

## VLBA ANTENNA MEMOS

The VLBA Antenna Memo Series has been resurrected for use in documenting maintenance trip reports, significant mechanical repairs, and other mechanical engineering work on the VLBA. So far trip reports for Owens Valley, Kitt Peak, and North Liberty have been filed. If you want copies of this series and are not now receiving them, contact Lori Appel.

G. Stanzione

## SLOB BUILDING REPAIR

Work to repair the roof of the building just west of the CB has been approved. This building used to be the Scientific Library and Office Building back when everyone worked at the site, hence the moniker "SLOB." Now the building is used by the NM Personnel Recreation Association (PRA) for vending machine stock and for shipping site souvenir items. The building is also used for storage by several different divisions, and as a holding area for excess equipment awaiting disposal. Repair of the building proved to be more economical than other options.

C. Janes

## NEW ITEM FOR PATIENT COMFORT

The VLA ambulance has a new feature to make the long ride to Socorro easier on patients. A fancy new gurney.

This striking addition looks very high-tech with its yellow framework, large black wheels and thick black mattress. The wheels are oversized to make rolling on rough terrain easier, the yellow "powdered" finish keeps the aluminum from leaving black marks on everything it rubs against, and it never needs greasing. The cot also has a safety feature built in that stops it as it is being pulled from the back of the ambulance, giving the EMTs time to lower the wheels, which keeps the patient from being jarred or dropped. Although the new gurney looks bigger and bulkier, it is actually much lighter in weight, aiding the EMTs in safer loading and unloading. With all its fancy good looks and advanced features, it cost more than the normal aluminum gurney but was paid for with State EMS Funds, not NRAO funds.

A. Patrick

## SNAKES

Last year there were several sightings of rattlesnakes around the VLA site. Mid-spring is the time of year when snakes begin to be active. As a precaution you should follow these recommendations.

Wear personal protection equipment wherever appropriate. Particularly gloves, shoes and coveralls or long pants. This may insulate you from the likelihood of a rattlesnake bite.

Watch out for rattlesnakes hiding under vehicles, equipment, materials, or anything that may provide cover. This is most important on very hot days when snakes seek shaded areas from the Sun's heat.

When working out on the array, be careful stepping out of vehicles or working around a lot of brush or water puddles. Remember to follow the two person rule.

Keep your workplace clean. Think about putting things away in a secure environment such as to not create a place for snakes to hide.

Should you encounter a rattlesnake keep your wits about you. Report immediately to your foreman or supervisor.

By all means, don't play with these snakes. They can strike immediately and without warning.

In event of a snake bite, sit down and stay calm. Have someone contact the EMTs. If available, apply a cold pack on the wound until the EMTs arrive.

G. Cole

## IPG TOWER

Have you been watching the RFI monitor tower, the 55' tower just east of the VSQs? Did you notice that the antenna on the tower sometimes points up at the sky like it was breaking off at the base? The antenna looks a little like a TV antenna with its short elements at front and longer elements at the back. It is a log-periodic (LP) directional antenna mounted on an AZ - EL rotator. Zach Barnes, an NM Tech student, built a computer interface for the rotator so that he can control the LP antenna from Socorro. The antenna can now be used to point directly at and track satellites to monitor the signal frequencies and strengths. Understanding radio frequency interference (RFI) from satellites is important to the astronomers for planning their observations.

The 3 white poles that surround the LP antenna, designed by Bob Broilo, are used for lightning protection. Bob and the Interference Protection Group are relieved that the poles and tower have survived the strong winds experienced this year.

D. Mertely