

VLA/VLBA NEWSLETTER

From the World's Premier Centimeter Wave Radio Synthesis Telescopes

PERSONNEL

Congratulation to Marlin Smith, who will transfer to the Transporter Shop on December 22. His current position as an electrician will be converted to a Servo Tech.

John Williams, Station Manager at St. Croix VLBA station flew to the mainland, Philadelphia, around a month ago to have a kidney removed. He has been recuperating and is expected back on the island this weekend, but will not return to work for a while.

Dewey Ross, Station Manager at Kitt Peak VLBA station has accepted a position with the Millimeter Array project. Jack Meadows, Station Manager at North Liberty VLBA is moving into his place at Kitt Peak. Dennis Beard, site tech at North Liberty, will assume Jack's position.

P. Lindsey

COMPUTER NETWORK

Fred Dunn and Lothar Dahlmeyer are installing the cable and connections for the site computer network. The interbuilding cable will be installed later in December or early January. No more modems!

C. Janes

1500TH ANTENNA MOVE

After tallying the number of antenna moves since last summer, I find we have just surpassed our 1500th move. It occurred during the DnC configuration when Antenna 26 moved from CW6 to DW1 on September 22, 1997.

G. Cole

VLA OPERATOR SHIFT TRANSITIONS

Communication is one of the problem areas in VLA Operations. In particular, having to pass all the needed information for successful observing from one operator shift to another is difficult. We are asking for your help in making this problem more manageable. Three shift transitions occur daily. The busiest and most difficult transition is the one running from 3:45 p.m. to 4:00 p.m. During this period we must exchange the needed information between VLA operators, plus continue to monitor the proper and safe operation of the array, process observing files, answer phone and radio calls, etc.

We ask that you try to avoid the 3:45-4:00 p.m. period to interact with the VLA operator. We understand there will be occasions when you must contact the operator during this period. Please limit these interactions to high priority items. If you have any questions or if you are unsure whether your communicate is of sufficient priority to interrupt operator debriefing, please contact Phillip Hicks or Dave van Horn. Thank you for your help and teamwork.

P. Hicks

OIL CHANGE

Oil samples taken earlier this year from the VLA drive gear boxes showed it is time to filter the oil. The oil in the azimuth gear boxes is synthetic, type Syncon 100, Conoco. Synthetic is used because the oil has to be pumped to reach all the gears and synthetic is less viscous in cold weather. Regular oil tends to wear out the pumps faster. The transporter is used to bring holding tanks to the antennas so that the oil can be drained, filtered, and returned. Jimmy Sanchez and others at the AAB completed the AZ gear boxes this month. Ramon Gutierrez initiated a monthly

procedure to manually rotate and in so doing clean the AZ oil pump filters.

The VLA EL gear boxes do not require filters and pumps; the boxes are up near the counterweight, however, so draining the oil, filtering, and returning is more difficult than changing the AZ oil. It must be done by warming the oil and using an air driven oil pump. At this writing, one antenna has been serviced. The work should be done by February 1, 1998, before moving to A Configuration. This is the first oil change for the drive gears since 1989.

R. Molina

WATER PURITY

Tests of the VLA drinking water conducted by the New Mexico State Scientific Laboratory Division show that the water purity is good. A water sample drawn in October shows no detectable levels of over 100 toxic compounds commonly associated with agricultural and industrial pollution. The VLA water is also tested quarterly for coliform bacteria by a certified laboratory in Albuquerque; no bacteria have been found. The tests are required by the Safe Drinking Water Act and are performed to EPA standards.

VLA water comes from a 400' well just south of the Cryo Lab next to the 75,000 gallon water storage tank. The pump is hung at around 190'. Average usage at the VLA in 1997 was 456,000 gallons per month. A liquid chlorinator system maintains the chlorine level at the minimal detectable level, less than 0.01 mg/liter.

A peculiarity of the water system is the fire pump in the well house which kicks in if the water system pressure drops below 35 PSI. This is to insure sufficient pressure and flow for the fire fighting. There is a gravity feed from the storage tank for use in filling tank trucks. If a fire hydrant is used to fill a tank

truck and it is shut off quickly, the resulting water hammer could be enough to break the water pipes. This happened during the Contact filming when the film crew filled a water truck and broke the main water line to the AAB.

Steve Troy is a state certified water and waste water small systems operator (less than 2500 connections). Shane Baca attended training for small systems certification in November. Steve keeps a record of all water tests in his office. Certified operators must receive 30 hours of classroom training every four years to maintain their certification.

S. Troy

TRAINING NEWS

Recent participants in outside training have been: Ramon Molina - Anti-Lock Systems Diagnosis and Repair; Jo Helen Cason and Patty Lindsey - The Woman's Conference; Jaime Montero and Marlin Smith - National Electric Code; Alison Patrick - EMT Refresher Course and Managing Janitorial Services; Lew Serna - Basic Management; Gene Cole - Decision Driving-Train the Trainer; Garry Morris - Firefighter 1 (partial); and Bob Broilo got his Ham License.

A. Patrick

NEW MANLIFT

Hopefully, by the time this gets to press, we will have received our new manlift. It is a Terex model Marklift T-B-66. It has a 3' x 5' working platform with the controls to run it from the bucket. We will be able to work at heights of 75'. It is powered by a diesel engine made by Cummins. Top speed is 3 miles per hour. Four wheel drive and the diesel engine were options we added on. The cost was almost eighty thousand dollars. Earlier this summer, Steve Tenorio, John Dowling and Ramon Molina flew to Denver and inspected the lift. We tested it in a rain storm and it passed the test. It will be used mainly on the overhaul and in the array within our perimeter.

R. Molina

FASTENER SEMINAR

Robert Tullis, from Lawson Products, gave a seminar on the proper use of fasteners. He was well received by all in attendance, and offered many good suggestions dealing

with the proper installation and tensioning of fasteners. He demonstrated the importance of matched sets of bolts, nuts and washers when trying to develop the recommended tension in a connection. He also demonstrated how mismatched bolts and nuts can sometimes lead to stripping and seizing of the threads. When stripping or seizing of the thread occurs, the result is improper bolt tension, and possible failure of the connection.

Vernon Stanton, of Lawson, handed out packets to everyone containing information on how to identify the proper grade of bolt for the job. A recommended torque chart was also included for bolts through one inch. Counterfeit bolts were also discussed by Mr. Tullis. They often do not meet the quality control standards set by the industry. Included in the Lawson packet were several articles addressing the use of substandard bolts, which have been implicated in vehicle and other industrial accidents.

G. Stanzione

BAD TIE COUNT

The Track Crew has completed their search for bad crossties on the array. The count now stands at 15,337 bad ties on the North Arm, 22,563 on the East Arm, 25,263 on the West Arm, and 77 on the South Spur, about 30% in all.

P. Savedra

WAVEGUIDE CORROSION

In 1996, during all the flooding on the north arm, Godin Otero and Pete Zamora discovered severe waveguide corrosion at antenna pads CN7 and CN8 where the waveguide enters the concrete-lined waveguide access hole. The corrosion was so advanced that the steel lining for the waveguide was penetrated and nitrogen was escaping. Cryogenics and ES Division worked closely to repair the holes and the waveguide operation was not compromised.

A piece of test equipment called a "holiday detector" was dragged out of mothballs and used to detect leaks in the waveguide insulation. This summer the waveguide Crew inspected the excavated waveguide carefully while replacing six of the old concrete manholes with metal culvert. They found no more corrosion. We now think that the corrosion at CN7 and CN8 is a localized effect so that plans to inspect the entire array with the holiday detector are canceled.

C. Jones

FIRE BRIGADE

On Tuesday, November 25, Fire Brigade members met at the Firehouse for a practice session on SCBA. They practiced for a while putting air packs on and then had a timed event to see how fast they could strap on the packs, put on face masks and get air, pull up protective hoods and secure helmets. Top time was turned in by Jim Ruff in 50 seconds, Garry Morris in 70 seconds, Glenn Mauger in 75 seconds and John Wall in 90 seconds. John would have been faster but he forgot to remove his glasses first and didn't get a seal on his mask. Everyone did a great job!

A. Patrick

NOTICES:

Employee Handbooks are available from Patty Lindsey. PEP self appraisals are due December 31.

"FY2K" stickers mark equipment which may have trouble rolling over to the year 2000. Any microprocessor-based equipment with a 2 digit code must be verified for correct operation into the next century.

BONEYARD CLEANUP

Godin Otero and Pete Zamora have delineated areas in the Materials Yard (a.k.a. boneyard) for different site shops, and with help from Adrian Pino, Michael Torres, and Pat Trujillo, installed signs assigning each area. If your shop has an outside area assignment, please accept responsibility at this point for what is in your area. If there is something in your area that should not be there, please move it to the correct area. If you don't know whose it is, let Lew or me know. If you want to get rid of something, put it in the Warehouse area and send an e-mail to John Dowling requesting disposal. If the equipment you have stored needs restacking, etc., for easier access or for safe keeping, please make those arrangements yourself for your area. Many thanks for getting the Boneyard organized; now it is up to each of us to keep it that way.

C. Jones

