

# The Village Critic

 national accelerator laboratory

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## CONTROLS GROUP PROVIDES VALUABLE INFORMATION

Keeping track of things by computer is a rather simplified description of the responsibilities of the Controls Group, according to group leader Bob Daniels. "We develop, install, and maintain all of the NAL computer control systems."

Components for controlling and monitoring the beam line are distributed over a distance of approximately 45,000 feet -- all the way from the Cockcroft Walton pre-accelerator, the Linac, the Booster, and the Main Ring through each of the three experimental areas. Providing the means of controlling accelerator components, that is magnets, vacuum valves, water pumps, etc., monitoring their activities from a central location, and collecting data relating to beam and component parameters are very important functions in the smooth operation of the accelerator. The more quickly problem areas can be pinpointed, the less time is lost from "real physics."

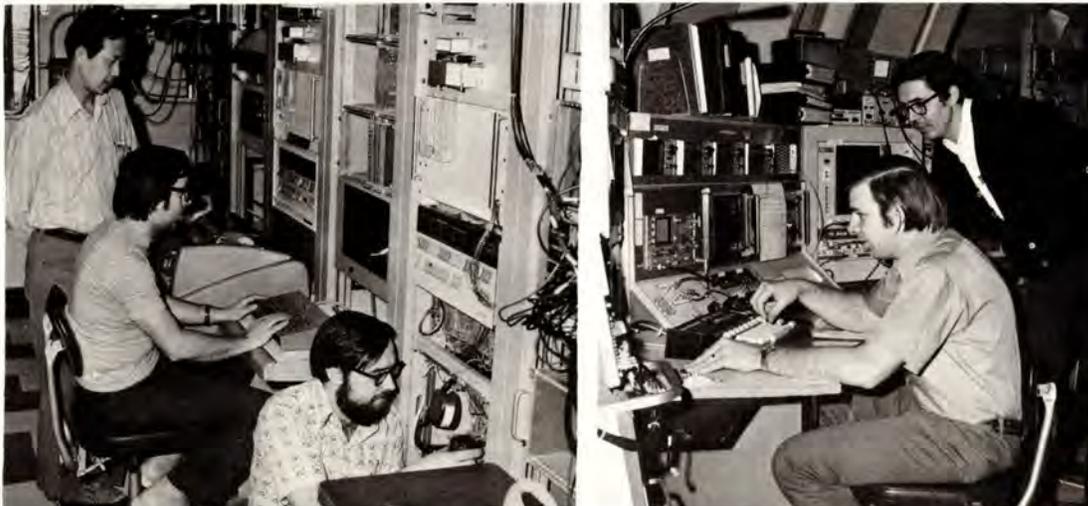
Three Xerox Data Systems Sigma computers are really the heart of the controls system, providing the link between the accelerator operators and the machine components. They receive commands and translate them into control functions which are sent to the components via twelve smaller Lockheed MAC 16 computers, each of which controls and monitors a specific area of the beam line. Several data cables extend from each MAC 16 throughout its assigned beam area. Component controllers and monitoring equipment is connected with these cables.

In the experimental areas, each experimenter has the means for controlling and monitoring his own beam line components; the control consoles communicate directly with the MAC 16's.

Of course, the ease with which the accelerator components and beam parameters can be controlled electronically is related directly to the skill and creativity of the computer programming staff. The Sigma programming tasks are primarily assigned to Bob Goodwin, Mel Storm, and Janelle Zamie. Harry Hepinstall, Al Maier, John Michelson, and Lin Winterowd handle the programming for the MAC 16 computers.

The Sigma computers, and most of the MAC 16's are located in the basement of the Cross Gallery, underneath the main control room. All of this equipment is designed, built, and maintained by Elton Anderson, Steve Smith, Tony Tumillo, Betty Conrin, Bob Marquardt, Carl Schmidt, and Ted Ulijasz.

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*(Left) Carl Schmidt (foreground) modifies a MAC 16 computer, while Sandy Lamantia (center) and Norm Lau check the Neutrino Area control system.*

*Bill DeLuca (standing) and Al Maier check a problem in the Switchyard control system at a control console in the Main Control Room.*

CONTROLS GROUP (Continued)



Controlling and monitoring equipment located throughout the accelerator is the responsibility of Bill DeLuca, Bob Ducar, Carl Swoboda, Frank Mehring, Loren Anderson, Rupert Crouch, Wally Habrylewicz, Al Jones, Mark Kibilko, Rich Mahler, Gary Solomon, and Al Stump.

Controls in the experimental areas -- the Neutrino Area systems are installed, and the Meson and Proton Area equipment is being completed now -- are the responsibility of Ed Barsotti, Norm Lau, Jim Simanton, Dick Dice, Mike Hayes, Sandy Lamantia, Jim Snow, Carl Wegner, and Rod Wischermann.

Timing of all events throughout the accelerator and experimental areas is controlled by a 1-Mega Hertz clock, which is synchronized to the line frequency provided by Commonwealth Edison. Generation of this clock signal is the responsibility of Carl Swoboda and Tony Tummillo.



Since for some applications the adage that a picture is worth 1000 words, even in computer language, holds true, there are seven closed-circuit television systems installed throughout the accelerator. Each system is capable of carrying the twelve standard VHF channels plus seven mid-band channels nestled between channels 6 and 7. There are approximately 60 miles of closed-circuit television cable and over 100 TV cameras and monitors. Jim Englebrecht and Larry Jackson handle the television network.

"At the moment," reports Daniels, "the system is just performing elementary control functions. In the near future it will be utilized for sophisticated orbit studies and optimizing programs."

Secretarial duties for the entire Controls Group, which is part of the Research Services Section, are taken care of by Sue Misek.



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*(Top)...Gary Solomon tests a circuit board in the Controls Laboratory, located in the basement of the Central Laboratory...*

*(Center)...Al Jones assembles computer components in the Controls Laboratory...*

*(Bottom)...Jim Englebrecht and Larry Jackson check signal levels on one of the television systems at the modulator panel for TV circuits, in the basement of the Cross Gallery...*

## NEW AEC CHAIRMAN SPEAKS OUT ON AFFIRMATIVE ACTION

Dr. Dixy Lee Ray, the first woman ever named to a five-year term as a Commissioner on the Atomic Energy Commission, has recently been designated as Chairman of the Commission by President Nixon. In accepting her appointment, Dr. Ray commented: *"We intend to move forward resolutely in all of the programs that lie within the broad arena of AEC responsibility."*

Just how she intends to confront some of these responsibilities was indicated in part in a speech she gave at the Fifth Annual AEC Affirmative Action Conference, "Affirmative Action -- Today and Tomorrow" held in Albuquerque, New Mexico, two weeks ago:

*"...And will the AEC continue its emphasis on affirmative action to overcome the effects of past discrimination? In these trying times of budget reduction and layoffs, many have assumed that equal opportunity is a frill or a luxury, not a necessity. They speculate that affirmative action will be the first thing to go in a budget squeeze. These speculations are misleading and unfortunate. I know of no change in emphasis or in policy in Government-wide opportunity programs."*



*...Dr. Dixy Lee Ray...*

More specifically, Dr. Ray commented:

*"...Not only in minority recruiting, but as a general principle, I think personnel officers would do well to give a little more attention to the personal abilities and skills of candidates and a little less to formal qualifications on paper...At all job levels, there is plenty of room for exercising imagination in identifying services and skills which minority groups can provide...There is an enormous untapped reservoir of talent in young women...We should discard the unchallenged assumption that certain work assignments must always be 'a man's job'."*

In conclusion, she stated that:

*"Equal opportunity is everyone's business. It is an over-all responsibility that requires top management commitment; middle management commitment; action at every management level from first line supervisor to laboratory director. While aspects of the responsibility may be delegated, the effectiveness of the delegation must be evaluated. Management has the responsibility to provide equal opportunity for minorities and women, but it is the responsibility of those employed, through sincere individual efforts and awareness, to make the goals...a reality...Every level of management must be involved; performance at all levels must be measured; good performance should be rewarded, and poor performance corrected."*

The conference at which Dr. Ray made these remarks was planned to bring together members of all the AEC Laboratories to discuss their Affirmative Action problems freely, in a spirit of understanding and goodwill, according to Warren Cannon, of NAL's Equal Employment Opportunity Office. He and Jean Davis, of the Los Alamos Laboratory, planned and co-chaired the meeting. Remarked Cannon, "I was pleased with Dr. Ray's comments on how she thinks the AEC will encourage Affirmative Action policies which concern all of the AEC Laboratories. She gave us some good guidelines, and some indication that there will be continued financial support for our programs. We'll have some suggestions concerning practices at NAL to make, on the basis of what we learned from our colleagues. We have a good foundation here; now we've got to build on it."

Other NAL staff members who attended the conference were Kennard Williams, Joyce Curry and Roel Rodriguez of the Equal Employment Opportunity and Community Relations Office, and Richard Carrigan and Charles Marofske of Personnel Services.

## NEWS FROM NALREC

An International Folk Dancing Group is NALREC's newest scheme for keeping you entertained. Expert dancers Jim Griffin, of the R.F. Section, and his wife Marilyn have offered their services as teachers. Neither experience nor a partner is necessary -- just come to the Village Barn on Friday, March 16, at 8:00 p.m. to join in the fun. Marilyn Paul, Ext. 3453, will answer any questions in the meantime....NALREC would like to sponsor a womens' softball team this summer. Plans are for the players to decide which of the local leagues they'd like to join, or if enough interest is aroused, to have more intramural competition - as the NAL men's teams do. If you're interested, call Rita Underwood, Ext. 3210....DON'T FORGET -- if you want to display your artwork, crafts, hobbies, in the 1973 Arts and Crafts Show, you must return your completed application form to Denise Augustine, Neutrino Bubble Chamber, Farmhouse No. 66, on or before February 23. This annual event will take place the week of March 5 in the Village Cafeteria, and all NAL, AEC, DUSAF, Site Patrol and J & H Janitorial staff are encouraged to enter!

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## LOCAL THEATER ACTIVITIES

Lerner and Lane's "On A Clear Day You Can See Forever" will be presented by the North Central College Theatre Guild on February 23 and 24, at 8:15 p.m. in Pfeiffer Hall, 310 East Benton Avenue, Naperville. This delightful comedy is filled with light, lively, melodic and warm love songs. Tickets are on sale now at the Pfeiffer Hall box office, between 1:00 and 5:00 p.m. on weekdays. Adults, \$2.00; children under 12, \$1.00. For further information, call 355-3254 during these hours.

"The Canterbury Tales," a musical version of Chaucer's collection of stories told by a group of pilgrims en-route to the Canterbury Cathedral, will be presented by the George Williams College Theater Department, on March 2,3, and 4 in Emery Hall, Downers Grove campus. Performances start at 8:00 p.m.; tickets cost \$2.50 (adults) and \$1.50 (students and children).

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## NAL DUPLICATE BRIDGE CLUB

Enthusiasm and competition as well as a generous amount of good fellowship has been displayed at the NAL Duplicate Bridge Club lately. New faces appear each time the Club meets. Among those most recently enjoying the "run of the cards" are Danielle and Jean Paul Boymond, Stephen and Ruth Pordes, Phillip Martens, Alta Sumner, Herman Stredde, and Richard Krull. The Club meets the second and fourth Thursday of each month at 8:00 p.m., in the Village Barn. All NAL, DUSAF, AEC, and Service Subcontractors' employees and their guests are welcome.

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## NANCY STIENING JOINS PUBLIC INFORMATION STAFF

The Public Information Office was very fortunate to have had the talents of Nancy Stiening to call upon last week when the Editor of the Village Crier, Margaret Pearson, found it necessary to be away from the Laboratory for a few weeks on medical leave.

Since graduating from Goucher College, Baltimore, Maryland, Nancy has worked at writing and editing newsletters and journals as well as economic and medical reports for Rockefeller University Press, San Francisco Medical Center and Mills College, among others. She and her husband, Rae, NAL Physicist, are presently living in West Chicago, but plan to move in a new home in Batavia very soon.

We welcome Nancy and wish Margaret a very speedy recovery.

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...Nancy Stiening...

## CLASSIFIED ADS

FOR SALE - 3 bdrm. Ranch Hse on 2/3 acre wooded lot, fully landscaped, fire place, 1 car attached gar, new drive-way, redeck/kitchen w/new appl; plenty of cupboards an closets, w-w carp., drapes; full/basmt, W & D, Naperville. Call Mrs. Corry, 840-3637 or 355-9230.

FOR RENT - By the week or monthly, 2 bedroom air-conditioned house, on the waterfront of Pine Island, Florida, near Fort Meyers. Call Art Streccius, Ext. 3788 or 392-4905.

FOR SALE - Skis - Head Standard Metal Skis, 5' 11" w/cubco step-in bindings. Good condition, \$50. Call Bud Koecher, Ext. 3236.

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