

## BIGGER & BETTER: 1980's ADP CONFERENCE

**Maureen Johnson, Computer Specialist**

As expected, the Data Centers were pervasive topics at this year's ADP Conference. But Conference speakers also discussed ADP services planned for the 1980's, current system development activities in the Agency, and current studies being performed. The record 230 attendees represented the largest number of organizations ever participating in MIDSD's annual conference. Here is a rundown of the topics and activities at the Conference.

### DATA CENTER TOPICS

**WCC:** Representatives from COMNET presented new organization and management plans for the WCC, describing goals and anticipated steps toward achieving them. They also discussed the new User Communications Program, MVS, Security, Mass Storage, and the Management Information Control Program.

**NCC:** Members of the SDC ISI staff reviewed the Scheduler, File Management, Computer Performance Evaluation, and NCC Security. The Time Sharing Services Management System (TSSMS) was discussed in light of the recent transfer of system responsibility to North Carolina. NCC User Services used cartoons to illustrate its philosophies and role at the NCC.

### MAJOR SYSTEM STUDIES

In a session on system feasibility studies, Morris Yaguda (OPM/MIDSD) coordinated a very informative discussion of changes to old EPA systems and plans for new ones. The discussion emphasized the effect of new legislation on the Agency's efforts to integrate its permit activities. Jim Sussha (Water Program



▲ Ted Standish (Region 3), Sam Conger (OWWM), and Willis Greenstreet (MIDSD) discuss some of the issues raised at this year's ADP Conference.

Operations), Essie Horton (Office of Solid Waste), Tom Martin (Office of Mobile Sources Pollution Control), and Jack Sweeney (EPA Region 2) described various studies with which they are involved.

### THE NEXT DECADE

Some of the sessions addressed activities which will affect EPA ADP users over the next decade. Dr. Richard Nolan opened the conference with a keynote address on "Effective Management of Data Processing in the 1970's and 1980's." His dynamic presentation drove home some important points concerning the growth of data processing in an agency such as EPA and the effect of such growth. Dr. Nolan presented a six-stage growth process followed by all organizations using data

*(continued on page 4, column 2)*

## DIRECTOR'S CORNER



Willis Greenstreet

It seems appropriate in this December issue to reflect on the events of 1978. Here's an outline of the significant ADP events in which MIDSD was involved.

### SYSTEM FEASIBILITY STUDIES

Over 20 feasibility studies were undertaken during the past year by Arthur Young and the MIDSD team. These studies are leading the way toward future applications within EPA. Some of the major studies are:

IRLG Common Codes: This project has the interest of the Administrator and emphasizes our role in working with other regulatory agencies. The study is looking at the joint establishment of Common Codes.

New Source Tracking: This project has received the attention of the Deputy Administrator. The study is establishing the techniques for tracking the permits associated with new sources.

Waste Water Treatment: A plan is being developed to help the Agency meet the ADP needs of the Waste Water Treatment program.

Underground Injection Control: This is the third system resulting from the Safe Drinking Water Act. The data needs associated with the control of injection into the ground are being studied.

Hazardous Waste: This major new system resulted from the Resource Conservation and Recovery Act of 1976. The data needs for controlling hazardous waste are being studied.

### SYSTEM DEVELOPMENT

Several developmental tasks were underway in 1978 in which MIDSD provided project management, technical assistance, and/or

contract development services. One such task resulted from the commitment to develop a new Personnel Management Information System. Development of that system is underway. The new Model State Information System for the Office of Drinking Water has been installed in many states and is being used by our regions. And the new Federal Reporting Data System for ODW has been delivered for testing and acceptance.

The development of real-time support for Ann Arbor reached a major milestone with the delivery of the SEL computers. The development of applications for the regional minicomputers has continued at a rapid pace.

### PEOPLE DEVELOPMENT

The National ADP Institute was established this year. Vic Cohen led this effort by contracting for needed training with North Carolina State University and some private educational companies. Major emphasis at NADPI has been placed on the Data Base Management and Project Management Seminars.

Also, monthly New User Orientation Seminars have been established for the data center users. Advanced User Seminars began in November and all new ADP contractor personnel will soon be required to attend.

### THE FUTURE

The Major Acquisition Office (MAO) was established by a charter from Mr. Costle. The MAO initiated a multi-year program to procure the ADP resources required by EPA in the 1980's.

### THE DATA CENTERS

The management of the two data centers was centralized. Don Fulford, Chief of the Data Center Branch, now has responsibility for both data centers and the telecommunications network. He has begun to standardize the operation and management of these resources.

### PROGRAM LIAISON

Some DC-located personnel were redirected to emphasize liaison and assistance to specific programs.

## MANAGING THE DATA RESOURCE

Emphasis this year was placed on proper management of EPA's "data resource." The Interagency Regulatory Liaison Group Common Codes project, a joint effort of the four regulatory agencies, reflects this emphasis. And a Data Management/Data Standards project is underway within MIDSD. Region 2 is participating in a pilot project on a common facility file for EPA. And the Systems Directory is being enhanced with a data element dictionary.

## DOMESTIC INFORMATION DISPLAY SYSTEM

Through an interagency agreement, EPA is working with NASA to provide fast response color displays on demand to the White House. Elijah Poole is involved in this project.

It has been a busy and successful year, even though many problems yet remain. I look forward to advances in 1979 after we've all had a Merry Christmas.

## PDP-11/70 PROCESSES FIELD DATA

### George Allison, Las Vegas

The most recently installed PDP-11/70 standard terminal minicomputer system was delivered in March, 1978, to the Environmental Monitoring and Support Laboratory in Las Vegas, Nevada (EMSL-LV). Most users were quite surprised by its immediate availability for general use. The system has provided 100 percent of the Laboratory's requirement for batch terminal communication with the Washington Computer Center (WCC) since the beginning of the 30-day acceptance period. By the end of the acceptance period, users had Calcomp and Tektronix plotting available as well as several other general applications.

The EMSL-LV is involved in many projects in which data are collected in the field using cassettes or computer-compatible magnetic tape. Reducing these data to standard units of measure is the primary application of the minicomputer's local capability. In the past, the Laboratory used large-scale computer centers, including both the WCC and the Department

of Energy's Control Data 6400 system in Las Vegas, to perform this function at a relatively high cost. Most of this workload has now been converted to the PDP-11/70. As of August, processing costs on the 6400 system have been reduced by more than 50 percent compared to the previous year's monthly average.

Processing field instrumentation tapes is characterized by tape reading problems and a large interactive processing requirement. Tape recording errors are caused by the harsh environments in which data must be collected, power interruptions, mechanical problems, and the like. Interactive processing is required for input of cassettes, review of data, and reconstruction of files in problem areas. The sophisticated magnetic tape error-recovery software of large-scale computing systems often inhibits successful reading of field instrumentation tapes since the user is seldom allowed to process his own errors. By contrast, the minicomputer's operating system is oriented toward giving the user more direct control over peripheral devices and error recovery.

As the name "Interactive Application System" (IAS) implies, the PDP-11/70 operating system is very oriented toward the interactive user. The system has most of the interactive capabilities of large-scale computer systems although the philosophy for implementation of some features is quite different. File naming conventions and editing files without the use of line numbers are two areas where users have had to make adjustments. However, these differences have posed no problem in the processing of field instrumentation data.

The terminal emulation capability of the minicomputer is quite valuable when the data collected must eventually be stored in one of the Agency's national data bases. Without this capability, transfer of data would be accomplished by sending magnetic tapes through the mail. Transferring data by magnetic tape between dissimilar computer systems is often plagued with subtle formatting and compatibility problems causing delays in addition to normal mailing delays. The three-hour time difference between Las Vegas and the Agency's computer centers

increases the difficulty in obtaining the support necessary to overcome such problems. However, the combination of local processing and terminal emulation allows users to format data for direct batch input, thus avoiding potential problems with data transfer.

The unique combination of features provided by the minicomputer plus the proximity of the system provides better control of applications from initiation to completion. As a result, EMSL-LV users are becoming more productive and data processing projects are being completed sooner. We expect this trend to continue as more and more applications are converted to this system.

## NETWORK UPDATE

**Fred Kastner**

RJE access to NCC for 1004-type terminals is currently being tested over the COMNET-provided networking facilities using Region 1, Region 3, Annapolis, and Grosse Ile as test sites. Once all of the problems are resolved, other 1004 sites will be brought on-line.

Problems associated with 1200 bps full-duplex access to NCC are still being investigated. To satisfy the increased growth of 1200 bps processing in the RTP area, local lines and modems have been ordered for installation at NCC. COMNET has completed testing of new modems that will provide support of either VADIC or Bell 212 modems.

We are dedicated to resolving any and all network-related problems. If you are experiencing problems with access to either WCC or NCC, you are encouraged to report those problems to the COMNET technicians (800-424-8647 or 202-537-2610), Dave Jordan (202-537-2640), or me (FTS 629-2932). If you find that you or your co-workers are having to rely on FTS or WATS because of poor local-dial multiplexor reliability, that is a problem and should be brought to our attention.

The deadline for submitting material to the January/February issue of *EPA Data Talk* is DECEMBER 20, 1978. Contributions made after that date will be held for later publication at the discretion of the *Data Talk* editor.

*(continued from page 1)*

processing. During the next few months, Dr. Nolan will evaluate the EPA ADP management process, determine our stage in the growth process, and recommend action for ADP management.

Mr. Fred Dietrick, Associate Administrator for Systems and Technology from the Office of Federal Procurement Policy, addressed the Conference on the new procurement policy of OMB Circular A-109. Mr. Dietrick gave the historical development of the policy and outlined its objectives. He placed emphasis on the front-end analysis and design of large-scale procurements.

Mr. Samuel Brown, Program Manager for EPA's ADP Systems Acquisition and Implementation Program (SAIP), discussed the objectives of the SAIP and how A-109 will be used to accomplish those objectives. Reliability of service is the prime target of the procurement program.

International Data Corporation (IDC), a market research and consulting firm in the computer industry, made a presentation of significant industry trends, what vendors intend to offer, technological time frames, and what other users are doing and plan to do. The attendees gained insight into the long-term market outlook, increased awareness of technological trends, and reliable feedback on whether EPA plans are consistent with these trends. IDC is under contract to the SAIP and will provide both technical and vendor information to the SAIP.

### INTERAGENCY ACTIVITIES

Morris Yaguda (OPM/MIDSD) described the background, functions, and accomplishments of the Interagency Liaison Group, which is a cooperative effort involving EPA, FDA, OSHA, and CPSC. One of the working groups, the Information Exchange Group, is examining how five data categories - chemicals, products, uses, business sites, and exposures - are represented and defined in the various data systems within these agencies. The group will then make recommendations on Common Codes for these agencies.

Dr. Sid Siegel (OTS) discussed the activities of the Interagency Toxic Substances

During the recent ADP Conference, Willis Greenstreet presented a Bronze Medal for Commendable Service to Ted Harris, Management Information Systems Branch (MIDSD). The inscription read, "for achievement of outstanding results in cost effectiveness, responsiveness and ADP management control in the management and procurement of data processing equipment, particularly in regard to new technologies such as bringing minicomputers and distributed processing into the Agency, providing for standard terminals, and in long-range planning for future ADP requirements."

Congratulations, Ted!



Data Committee. Dr. Siegel discussed this effort and the problems of establishing a Chemical Substances Information Network in response to the Toxic Substance Control Act.

#### SYSTEM DEVELOPMENT

Don Worley (OPM/MIDSD), Mike Platt (OPM/PMD), Tom Martin (OWWM), Mary Lou Melley (OPM/MIDSD), and Roger Dornberger (Ann Arbor) provided a lively presentation of several major systems development activities. Projects discussed included the Personnel Management Information System, the Model State Information System, the Federal Reporting Data System, the NIH-EPA Chemical Information System, and the Real-Time System for Motor Vehicle Emission Tests. Discussion of the differing methods for developing systems was a highlight of this session.

Bernie Peters of the National Security Agency gave an entertaining talk on his approach to the management of software development. His primary thesis was the careful selection of who writes the code because only a small percentage of programmers really do it well.

Structured Programming is a concept which has gained interest throughout the Agency during the last couple of years. Michael Jackson of Michael Jackson Systems, Ltd., gave two enlightening talks on his theories and approach to structured programming.

In conjunction with EPA's Development, Maintenance, and Operations Contract, the Computer Science Corporation gave presentations on their current involvement in "Systems Development Guidelines" and the "Documentation Upgrade Effort."

#### NATIONAL ADP INSTITUTE

Mike Steinacher (OPM/MIDSD) and Vic Cohen (OPM/MIDSD) discussed the objectives and plans of the new National ADP Institute. Charlotte Gunter described the support being provided to NADPI by SDC ISI. The Institute will evolve into the focal point for all Agency ADP and related training.

#### BIRDS OF A FEATHER SESSIONS

New at this year's conference were the small, informal sessions, following the

main sessions, devoted to special interest topics. Minicomputers, modeling, scientific programming, and the computer-assisted training package (ASET) were included as topics for these sessions.

Of special interest was a fascinating session lead by Dr. Brandt Allen from the University of Virginia on actual and potential security problems at industry and government data processing installations.

## CONCLUSION

In summary, this year's ADP Conference met the objectives of presenting the Data Centers, current Agency activities, and the future of ADP in the 1980's. From the many comments and evaluations received, it appears that the attendees found the conference very enjoyable and informative. SDC ISI provided excellent logistical support, handling an infinite number of background details efficiently and effectively. A special thanks to Sam Brown and his staff for providing an excellent forum for the exchange of ideas and opinions among so many concerned with ADP in the Agency.

## HIGHLIGHTS FROM THE WCC

### Curt Lackey, Project Officer

✓ In February, MIDSD received the results of a WCC vulnerability study. The final report recommended a number of administrative, technical, and physical safeguards. In response, WCC management initiated a comprehensive task plan to develop a security program and begin remedial actions. A full-time security officer has been hired and some of the other recommendations, such as fire detection/suppression equipment, separation of the EPA and commercial tape libraries, physical access controls, etc., have been implemented.

✓ The new IBM 3032 processor is now fully operational and processing batch jobs. This new resource, combined with the new Job Stream Manager, has significantly increased WCC responsiveness and

practically eliminated the morning backlog.

✓ WCC is planning a User Communications Program to improve feedback to MIDSD and COMNET on user needs and problems, establish a better rapport between the EPA user community and WCC staff, provide an information source for the upcoming MVS conversion, and establish an effective Quality Assurance Program. Users will be visited at their program and field offices, and efforts will increase to provide current and accurate information about WCC activities and policies.

✓ COMNET has recently added a Production Control Manager, five Production Control Analysts, four Systems Engineers in the Project Office, and two Systems Programmers to their EPA project staff.

## NCC HIGHLIGHTS

### Tom Rogers, Project Officer

✓ A Task Plan was generated for the User Profile System. This will involve the implementation of a system to provide a profile of a user, or user group, regarding their utilization of the Univac 1110.

✓ A concerted effort is underway to test, correct, and enhance the documentation of NCC's graphics software. Improved maintenance procedures and user assistance are objectives in this task targeted for a February, 1979 completion date.

✓ Interest in the ASET on-line instruction courses continues to grow. Over 70 users have registered for at least one of the five courses available. A sixth course in ECL is currently under development.

✓ The Production Control Staff has assumed production responsibilities for the SAROAD update. The venture has been successful insofar as most updates have been completed on schedule. Production Control monitors these runs at night when user demands on the system are low and will provide additional retries should problems occur.

# CSC PROPOSES NEW CLASSIFICATIONS

**Ken Byram**

The Civil Service Commission has proposed new classification and qualification standards for the Computer Specialist and Aide/Technician Series (GS 334-335). Agencies have until January 22 to comment on the drafts, and EPA's Personnel Management Division has requested comments by January 8.

Supervisors writing position descriptions and getting personnel office classifications of an appropriate grade have struggled with the existing standards based on the computer technology of the early 60's. The new standards, if adopted, would correct many of the old ills. Highlights of changes are:

- A new title, "Computer Systems Programmer," will be added to the already extant "Computer Programmer" title to differentiate those who work with applications from those who work with system internals.
- Both "Computer Specialist" and "Digital Computer Systems Administrator" titles will be dropped, and included under computer programmer, systems programmer, or systems analyst.
- The classification criteria and examples have been updated, and more closely fit the positions which have evolved.

Agency personnel officers have been sent copies of the new standards for review, and employees should be able to get copies from them. Jerry Nitz (mail code PM-212; phone 202-755-2718) in the headquarters personnel office is preparing the Agency's response to these new classifications.

Beginning in January, 1979, EPA Data Talk will be published bimonthly. The next issue, to be distributed in mid-January, will cover the months of January and February. The March issue will cover March and April, and so on through the year.

# NADPI BRIEF

**Vic Cohen, Computer Specialist**

Although seemingly dormant, the National ADP Institute is actually alive and active. Six different organizations now are contributing their experiences to the NADPI program. Data Architects teaches the introductory project management course; AMETA/DOD is developing and will teach the course on systems design for users; Nolan and Norton, Inc., is assessing user awareness in an Agency component; Research Triangle Institute is developing case studies; an educational consultant is looking into course evaluation and quality assurance; and North Carolina State University, as a follow-on to this summer's pilot courses, is developing and presenting courses in basic concepts, minicomputers, data base technology, ADP policies, and others.

At the recent EPA ADP Conference, I identified two alternatives to the usual training approach. The usual approach is to develop, schedule, and announce a curriculum and then await the arrival of students. There is nothing wrong with this method, but frequently other priorities inhibit the flow of clients into the classroom. This was the case earlier this year when a ZZB emergency caused last-minute cancellation of 80 percent of the registrations for the executive seminars, thus postponing them.

The first alternative, known as special program education, assumes that an office presents a wide variety of training needs. It may be totally unfeasible to schedule a series of three-day courses for even half the office staff. But such an office might benefit from a series of sessions on a variety of topics, each tailored to the needs of individuals within that organization. Although a single session would hopefully be directed to more than one person to reduce its per capita cost, the one instructor/one client treatment would be available. The advantage is that such sessions could be scheduled around other office priorities and commitments.

The second alternative, which also claims the advantages of the first, identifies with the phases of the system life cycle

and carries the name Life Cycle Training or LCT. At each phase, different client categories, such as system user, project manager, executive, etc., could benefit from a carefully tailored set of short sessions. This approach ensures that managers periodically review principles of management, that future technicians are adequately prepared to assume responsibility for a system following its implementation, and that senior managers are not surprised by the capabilities, strengths, and deficiencies of their new system. The emphasis is on the front-end of the life cycle where the need for the system and its general architecture are identified.

These two innovative alternatives to teaching the management of information resources may be the keys to future directions in Agency education programs. Their single disadvantage is higher cost because each office must evaluate the user's awareness and then modify each educational program accordingly. But the number of people exposed to relevant material and their improved performance on the job may well be worth the additional cost of such programs.

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Working with ADP coordinators and MIDSD program liaison personnel, NADPI is asking the program offices for their contributions and involvement in these training approaches. A number of tasks are underway to evaluate their effectiveness, and I will report their progress in EPA Data Talk as it occurs.

EPA Data Talk is published monthly by the National Computer Center, Management Information and Data Systems Division, for EPA personnel and contractors interested in general ADP topics.

Comments and suggestions are solicited and should be addressed to:

William G. Allen  
Editor, EPA Data Talk  
National Computer Center  
Research Triangle Park,  
North Carolina 27711

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