

# Orientor

Defense Mapping Agency Aerospace Center

April 9, 1993

New DMA  
Deputy  
Director

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Employees of the Air Force Aeronautical Chart and Information Center, forerunner of the Defense Mapping Agency Aerospace Center, leave Building 36 at the end of the day shift in February 1954.

## ST. LOUIS AERO MAPPING

*A Tradition of Excellence for Half a Century*

PAGES 5-8

# PIT Established for Performance Management And Recognition of TQM Contributions

**T**he DMA Quality Council charted a Process Improvement Team (PIT) to develop performance management and recognition process improvements for all DMA employees at all organizational levels. It was recognized there is a concern with current employee performance and recognition processes not focusing on or promoting teamwork, continuous improvement goals, or the total quality management approach.

Team leader Fred Foltz (HRL), assisted by facilitator Sheridan Gates (Coopers & Lybrand), is leading members in interviewing and surveying selected employees to obtain information about the current system, performance awards criteria relating to TQM, and ideas for improvement and making processes more compatible with TQM. Members are Caroline Leroy (Hq PPP), Charles Bobbitt (DMAAC DPPB), Roberta Munske (DMAHTC PPI), Teresa Boyd (DMARC RDD), Joseph Bastian (DMACSC PIO) and Gene Boland

*"The team is developing performance expectations and recognition criteria that serve as a positive reinforcement to encourage employees to continue in their efforts to bring TQM into action in DMA."*

(DMASC ST).

Using the PIT charter as its guidance, the team is developing performance expectations and recognition criteria that serve as a positive reinforcement to encourage employees to continue in their efforts to bring TQM into action in DMA.

During their first meeting the PIT objectives were identified as follows:

- Ensure that performance management and recognition process improvements are compatible with

TQM principles;

- Increase work force confidence with performance and awards;
- Reinforce continuous improvement and customer orientation;
- Foster and recognize team building and team results;
- Support empowering employees to do their job and improve the way their work gets done;
- Reinforce accomplishment of DMA goals and objectives; and
- Facilitate personnel decisions.

The PIT is also developing a method of measurement to evaluate improvements in the performance and recognition processes resulting from PIT actions. The PIT is gathering statistical data on ratings, awards, group achievements and looking at other federal agency and private industry practices relating to performance and awards. The PIT has conducted interviews with a small number of managers and employees, and they surveyed and conducted focus groups with a much larger number of DMA people during mid-March ■

## Ribbon Cutting



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Lieutenant Col. Steven R. Foster, Director of Facilities Engineering, cuts the ribbon for the opening of the new 2nd Street Dining Hall. Almost everything inside and out is new, but visitors can also appreciate something old: Arched windows of the original 1849 structure that were long hidden by stucco veneer have been reopened. Standing next to Lt. Col. Foster is Aerospace Center Director Lon M. Smith and at right William J. Brown, Deputy Director for Production.

# Chief Scientist Named DMA Deputy Director

**T**he chief scientist of the Defense Mapping Agency, Dr. Kenneth I. Daugherty, has been named as the new DMA Deputy Director in an announcement by Air Force Major General William K. James, DMA Director. Dr. Daugherty succeeds Penman R. Gilliam, who announced his retirement effective March 31. The nomination of Dr. Daugherty was made to, and approved by, the Secretary of Defense.

Dr. Daugherty's career with DMA has been one of continued advancement into positions of significant responsibility and demanding leadership. Prior to becoming the Agency's first chief scientist in July 1991, he was Director of the DMA Systems Center from 1987 to 1991. In October 1990 his responsibilities at the Systems Center were increased as he assumed the additional role as Headquarters DMA Deputy Director for Research and Engineering.

The new Deputy Director was born in Jamboree, Ky., and holds a bachelor's degree in mathematics, geography and geology from Morehead State College; a master's in geodesy

Dr. Kenneth I. Daugherty



from Ohio State University and a *filosofie licentiate* and doctorate in geodesy from Uppsala University in Sweden.

Dr. Daugherty began his federal career in 1957 with the Air Force Aeronautical Chart and Information Center (now DMAAC), where he held a variety of line and staff positions. He worked on pioneer efforts to establish the role of geodetic and geophysical support for ballistic missile operations and was a member of the Air Force

Science Advisory Board on Geodesy and Geophysics in 1967.

From 1967 to 1974, Dr. Daugherty was with the Hawaii Institute of Geophysics, University of Hawaii, as associate professor of geodesy and geophysics and associate director of the Hawaii Institute of Geophysics. From 1971 to 1972 he was a student and visiting scientist at the Geodetic Institute of Uppsala University.

In 1974 Dr. Daugherty returned to DMA in the Washington, D.C., area as Chief of the Department of Geodesy at the DMA Topographic Center. From 1975 to 1979 he held key supergrade management positions at DMA Headquarters in Washington, dealing with source-material acquisition and multi-year programming.

From 1979 to 1986 Dr. Daugherty was Technical Director of the DMA Hydrographic/Topographic Center in Brookmont, Md. From 1986 to 1987 he served as Deputy Director for Research and Engineering at Headquarters DMA.

Dr. Daugherty has held positions on numerous national advisory boards associated with mapping, charting and geodesy. His awards include the DMA and DoD Distinguished Civilian Service Awards, Meritorious Executive Rank Award, Air Force Superior Meritorious Civilian Service Award, and Heiskanen Award from Ohio State University. He is married to Joyce Salisbury Daugherty and has one daughter, Sharon, a graduate student at the University of North Carolina in Chapel Hill ■

## On the Move

### Krygiel, Phillips, Mendez Move to New Positions

**T**he move of three key DMA senior executives has been announced by the Director of DMA, Air Force Major General William K. James, following the elevation of Dr. Kenneth I. Daugherty, Chief Scientist, to the position of DMA Deputy Director.

**Dr. Annette Krygiel**, current Director of the DMA Systems Center, will become the Agency's Chief Scientist. **Earl W. Phillips**, DMA Deputy Director for Programs, Production and Operations (PP), becomes the Director of the Systems Center, and **John P. Mendez**, Assistant Deputy Director for Resources, PP, moves to the Deputy Director, PP, position.

The moves, subject to approval by Office of the Secretary of Defense, became effective April 1.

Dr. Krygiel has been with DMA since 1963. She holds a bachelor's degree in mathematics and a master's and doctorate in computer science from Washington University.

Earl Phillips has been with the Agency since 1965 and holds a bachelor's degree in mathematics from Southern Illinois University. He has advanced education at the Army War College.

John Mendez also began his tour with DMA in 1965. He holds a bachelor's degree in industrial engineering from the University of Tennessee and a master's in operations research from The American University.

All three candidates have held positions of increasing responsibility at production components and within the headquarters.

Continued on page 4.

### Gilliam Receives Farewell Gift

A framed Blood Chit, a unique product of the Aerospace Center, was presented to Penman R. Gilliam, retiring DMA Deputy Director, by AC Director Lon Smith during a farewell party in the Washington, D.C., area. Gilliam also received a framed collage highlighting his career.

With the outbreak of war, Nazi policy shifted from persecution to internment of Jews in concentration camps. Throughout occupied Europe, Jews were forced into ghettos that served as way stations for the Final Solution. Here, terrified children are being rounded up for deportation during the Warsaw ghetto uprising in April 1943.



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## On the Move

Continued from page 3.

The Director of DMA, Major General William K. James, has approved the following personnel actions:

In the Office of Acquisition, Installations and Logistics, **Anne Rutherford** was assigned as supervisory supply systems analyst, GM-15, in the Distribution Systems Branch.

In the Information Systems Office's Office of Support Services, **Curtis W. Wunderly** was reassigned non-competitively as telecommunications manager, GM-15.

In the DMA Systems Center's Modernization Development Group, three physical scientists were selected for GM-15 positions in the Technical Integration Division: **Ricardo McCrimmon** and **Gary McKeown** in the System Verification Office and **Kimberly Norgaard** in the Segment Verification Office. These selections are temporary, not to exceed one year, and may become permanent ■

## Was That Betty Forster On Our Cover?

Who was that young woman on the cover of the *Orienter* (Feb. 12) that kicked off the 50th anniversary series?

Many who know and work with her think it is none other than Betty Forster who, by the way, is still an active employee. "I thought it was, too," says Betty. "I dressed and wore my hair exactly like that. I even had that kind of wrist watch."

But the date on the photo is Feb. 28, 1944. Betty was still in school then. Soon after, in June 1945, she did work for a short time for the Army Map Service in a building downtown on North Broadway before returning to school in Minneapolis. She came to the Aero Chart Plant in early 1947.

The labor force at that point was heavily male because of returning servicemen. Women, who had been in the majority earlier, were few. "Many of the women just quit," she says.

Betty herself stopped working



Betty Forster at work in Negative Preparation (GABA)

STEPANIK

twice, first to have a child and later to raise her family. She retired from the Center in 1974, but returned in 1987 and is currently working in GABA (Negative Preparation.)

Though she has had a long career in that area, her first work, in the late '40's, was in Carto. She remembers working extra shifts and being detailed to other work in negative preparation and photogrammetry. "I liked detail, and I got lots of it," she says.

She also remembers vividly how it was to work with pen and India ink on Bristol Board. The work was painstaking and demanding, often done through a small window in a brown paper covering to protect the material underneath. "There was no air conditioning in those days, of course," she recalls. "But when those boards were finished and ready for the camera, they were real works of art!"

--Wells Huff

## THE DECADES OF DMAAC:

# Part Two, 1953-62

**"...the Cold War, the Korean Conflict and the necessity for contingency preparation on a world-wide basis, coupled with a new generation of jet fighter and bomber aircraft, as well as the advent of the ballistic missile; all combined to demand new charting instruments, new methods, new products, increased accuracies and faster production of charts in the 1950's."**  
—from "America and Aviation Cartography 1917-1975"

By Wells Huff  
Public Affairs Office

Having proven equal to the challenges of map making during World War II, and weathering the political changes and the economic ebb-and-flow that followed, the St. Louis aero mapping facility entered its second decade with new demands and constraints.

Tom Finnie had joined ACS in Washington in 1948 as chief of photogrammetric operations under Sidney Tischler and Bob Kingsley. In February 1952 he was sent to St. Louis as chief of operations.

"The mission at that point was to provide two kinds of support," Finnie explains. "One was the aeronautical charts that were required to navigate and to strike targets, both from a tactical and a strategic point of view, and the second ... category was Flight Information Publications that were



On Dec. 9, 1954 a new organization emblem was approved: a shield divided into three parts representing land (the checks) sea (wavy lines) and space. The dividers, preserved from Howard Holmes' earlier design, denote accuracy and dependability.

**The Story So Far:** Established in early 1943, the new St. Louis Aeronautical Chart Plant became fully operational in mid-June. Despite the war-time difficulties in finding qualified personnel, employment rose steadily from an initial 400 to more than 1200 as supervisors and workers struggled to supply the urgently needed product. After the war ended it was rumored the St. Louis plant would be closed and the function moved back to Washington. Then in May 1950 a site committee headed by Col. Paul Schauer, who had been named Aeronautical Chart Service commander the year before, got approval to keep the plant in St. Louis and look for a better location. Meanwhile Col. Jewel Morrison had assumed command of the Chart Plant and such institutions as the ACP (now DMAAC) carollers and the *Orienter* had begun to appear. In 1952 the "better location" was found: The historic St. Louis Arsenal property. No longer needed by the Army, the site was transferred to Air Force ownership and the Chart Plant moved from downtown St. Louis (and several satellite locations.) On August 12 of the same year (1952) the Air Force Aeronautical Chart Service, more recently known as the Aeronautical Chart and Information Service, became ACIC—the Air Force Aeronautical Chart and Information Center—and headquarters was moved here from Washington. For the first time in its almost 10-year history the Center's production and operations would be supervised in St. Louis.

absolutely crucial to take-offs and landings and navigation in flight, over this country and our training areas as well as in our foreign operations."

Bill Moran, who had worked for the Chart Plant at its first location in the late '40's, remembers the change. "When I came, we had about 400 people on three shifts. Col. Morrison was the boss, and it was a close-knit organization. Everybody got along, everybody knew everybody. We had a lot of parties, and a lot of hard work."

There was also the rumor that the St. Louis facility might close. Then in May 1950 came the decision to keep the plant open. A few months later Moran, who had served in the Navy after World War II, was recalled because of the Korean conflict. When he returned two years later, a lot was happening. Employment had surpassed that of the Second World War, and in September 1954 it topped 3000 for the first time.

Bill, who was working in Distribution, remembers the development of FLIP production. "That's when the real product out of this place was the

Pilot's Handbook." These handbooks were revised every week and issued in loose-leaf to be bound in three-ring binders. Updating them was "a prodigious task," since all printing and distribution were done in-house.

"It got to be kind of mind-boggling," Moran remembers. We were always sending out NOTAMS, you know, like 'Hey, we missed something.' The biggest improvement, he recalls, happened in 1960 when the decision was made to put the books (there were then 16, world-wide,) in bound volumes issued on a cycled basis.

Bill smiles as he remembers some of the adventures of relocating the printing and bindery facilities, which had moved to Building 36. "They were on the second floor. The vibration seemed to me more than the building could handle. And then we had a fifteen-pocket collator. They'd be on together, and the second floor was kind of rocking... On the first floor they had a Graining Room [a process used to clear aluminum plates for reuse] that used flying metal balls. So that was some more noise."

Employees who worked there agree  
Continued next page

## THE DECADES OF DMAAC:

# Part Two, 1953-62

Continued from previous page

that Building 36 was still pretty much of a warehouse. During the first winter of occupancy, lacking a working boiler of sufficient size, the building was heated by a steam engine parked on an adjacent railroad siding. "It was smelly and noisy," Bill Moran remembers, "but it was better than freezing."

Having inherited an historic but somewhat run-down facility from the Army, the Arsenal site's new tenants began to spruce it up. In May 1954 Building 36 was dedicated as the Schauer Building in honor of Col. Paul Schauer, the ACS commander who spearheaded the committee recommendation for keeping the Center in St. Louis. The dedication followed Col. Schauer's untimely death in an air crash and included a plaque designed by Erhardt Siebert, an ACIC employee and St. Louis artist who earlier sculpted the statue of Gen. Nathaniel Lyon which now stands at the corner of Lyon Park.

Throughout the rest of the '50's and early '60's, signs of organizational growth and improvement abounded. In 1955 ACIC's new organizational emblem, the familiar shield that is still a part of DMAAC's seal, was adopted, and production of new 1:2000000 Jet Navigation Charts was begun. In 1956 the South Annex property was acquired, and ACIC distributed, for the first time, more than 100,000 charts. In the late 1950's the Pilots' Handbook was expanded into a full line of Flight Information Publications "including planning, departure, in-flight and approach types of information." In 1960 the decision was made to demolish Buildings 3 and 6, two of the older brick buildings on the



An ACIC technician checks areas covered by high-altitude trimetrogon photos. Each overlapping set of three pictures, taken simultaneously, provided lateral horizon-to-horizon coverage. Photos in this article were taken by Arthur Witman, St. Louis Post Dispatch, and published March 7, 1954.

site ACIC had inherited, and to raze the upper stories of Building 1, leaving the first floor as a working lunch room ... and Benjamin B. Lane, Jr., a career engineer and cartographer who had joined ACIC's Washington Office along with Finnie in 1948 and pioneered in the development of mapping and photogrammetric techniques.

"The major change that took place at this stage," Finnie recalls, "was the initiation of the Cold War, that lasted on through until about the 1992 time period, dominating the activities of the Department of Defense and the Aeronautical Chart Service/DMA. The resources of the ACS were about tripled..."

"And there's another fact that one needs to note; that really starting with World War I, reaching a major intensity in World War II, and continuing right on through to this date, the impact of aerial photography, both in terms of its utility as in intelligence input and also to support the navigation and strike purposes of the Air Force, caused organizational relationships to be established, where both the operations and intelligence elements at Headquarters Air Force were involved..."

"A major element of that program," says Finnie, "was the management [within] the Air Force by the Assistant Chief of Staff for Intelligence ... This contrasted with the mission of the Aeronautical Chart Service previously, which was managed almost totally by the operations staff of the Air Force."

"It is also important to note that ... in addition to tripling the numbers of people, we continued to use contractors, both government and commercial, and most particularly, the national mapping agencies, such as the Geological Survey and NOS; and, as a matter of fact, at that stage we converted a 200-man organization of the Geological Survey that had started supporting us in World War II and became a primary production unit for these air target materials."

For the new ACIC the requirement was to move from maps, charts and FLIPS, involving regional accuracy, into the additional and more complex environment of providing positioning, guidance and targeting information for high-speed and long-range aircraft, for submarines and for missiles requiring intercontinental accuracies. The awareness that the new Cold War game of strike and counter-strike would be played out in minutes and seconds elevated the task of compiling and packaging ATM information to a higher priority of sensitivity.

"It's worth noting at this stage," Finnie remembers, "that the kind of weapons and navigation systems that we were supporting, which included missiles required products with an emphasis on radar ..."

Tom Seppelin recalls these developments quite well. Seppelin, who graduated from Kent State in 1954, was recruited by ACIC and went to work in what was then known as the Chart Research Division. Chart Research, then numbering 175 employees, did all the source preparation work prior to actual map production. The division was still located in Washington, despite the move of ACIC headquarters to St. Louis.

There was a good reason. All the source material was at Brookmont, then the chief location for the Army Map Service. After seven months training and a short assign-



*Landmarks in overlapping areas of two photos are selected for use as control points in compiling a map of a general area. Prominent ground features such as crossroads or stream confluences are pin-pointed and circled, then coded to their true location on the base map.*

ment at the Pentagon, Seppelin was assigned to AMS for a three-year project called "Project Boxcar." "It was really the preparation for the move [of Chart Research] to St. Louis." The objective of the project was to replicate or put aside an extra copy of every source document needed for aero chart preparation. By Tom's count, the total was about 150,000.

Near the completion of the project came one of those days familiarly known as "Black Tuesday." Tom Finnie and Ed Thompson, the division chief, called everybody together and told them the division would be moving that summer.

"Of the 175, about 50 were willing to relocate," Seppelin recalls. He and his supervisor were two of the fifty. After the move, "more employees were recruited from schools around the country."

He remembers "being in on the ground floor" of new products like the Geodetic Data Sheet, used to support B-47 and B-52 missions, and a similar innovation, the Missile Target Data Sheet, begun in 1958 to target IRBM's and the later ICBM's

"Those particular products," Tom Finnie explains, "were used to support new weapons systems [for] both the Strategic Air Command, which had a bombing mission as well as later the ICBM mission; and the Navy submarines. Also crucial to the inputs to our products at that stage," he notes, "were various kinds of new intelligence."

These milestones in the history of ACIC, Finnie states, occurred in 1958. "At that time, very significant changes took place in the nature of the mission, the kind of technology that was required and, actually, the types of people that we needed."

First among the events that were drivers during that time period was the state of development, already alluded to, of interregional and intercontinental ballistic missiles. ICBM's, Finnie notes, "demanded a completely different new type of international geodesy that didn't exist," as did the Navy aircraft and submarines, developed for medium-range missiles, and SAC's long-range aircraft equipped with nuclear bombs.

"That grouping of ICBM's, submarines and Strategic Air Command was given a title of TRIAD, and there was a national focus established at the Strategic Air Command which was managed as a part of a SIOP plan, which was a

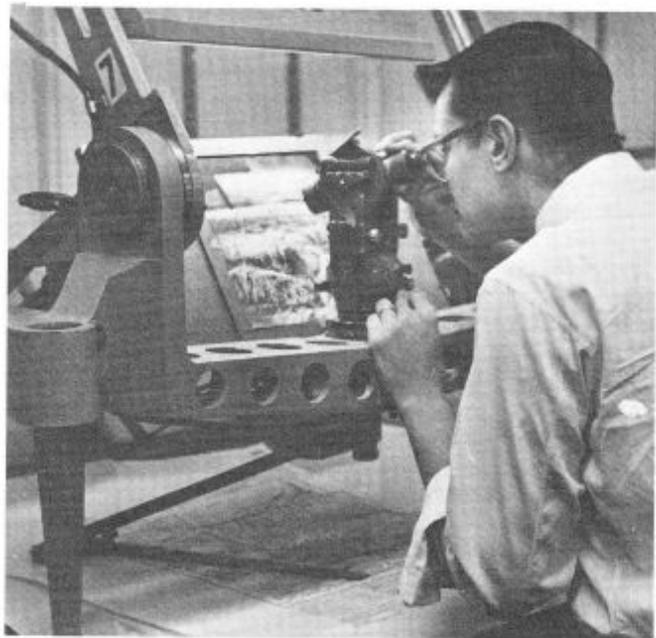
single integrated operational plan, that managed the whole process of establishing targets that were accurately located by ACIC, the kind of strike forces, Navy and Air Force, airplanes versus missiles, and finally, responding through the commander of SAC to the Joint Chiefs of Staff on the status of activities; using their plans as a basis for requesting resources and allocating resources across the board in defense; and this was the major priority for DoD during the time period that started really in 1948 and lasted through to the end of the Cold War.

"Now, the impact on [ACIC] was so great," Finnie continues, "that you almost have to categorize the changes as historical. For many years and up until World War II, it was just plain surveys, where the primary people that you hired for top management jobs were civil engineers, or engineers of one kind or another ... and then the majority by far were people at the technician level that had various kinds of training, primarily by the organization itself.

"At this stage we found that we had to go through major changes, not just in training of people but actually developing worldwide-type capabilities in geodesy and analytical photogrammetry.

"So a determination was made in 1957 that we needed to change the whole ACIC from primarily a technician organization to almost a total professional organization. The major professional areas that were driving this included geodesists and analytical photogrammetrists, of which we only had one each in the Agency and we needed many hundreds, and computer specialists, of which we had a national shortage at the beginning of the Computer Age. And so we had to train our own programmers."

Continued next page



*Using a photoalidade, an ACIC technician measures angles between landmarks to establish elevations above sea level. It is the same principle used in land surveying but, as a Post Dispatch writer noted in March of 1954, "as used here it attains the optical equivalent of a tripod several miles high."*

## THE DECADES OF DMAAC:

### **Part Two, 1953-62**

*Continued from previous page*

ACIC recruited several thousand graduates between 1957 and 1972, when DMA was created, with degrees in math, geology and the physical sciences. "Criteria were established that ensured a diversity of colleges visited and people hired, including women and minorities," Finnie adds. New hires attended six months of carto school, and many were selected for graduate work at universities.

Finnie mentions working with schools like Ohio State, Yale, Purdue and the University of Cincinnati to establish or enhance programs in geodesy, astronomy and analytical photogrammetry.

These processes, he believes, provided many of the future leaders and scientists of DMA.

"The majority of these activities ... were all included within a program called the Shoelace Program that was staffed through Headquarters Air Force in 1957 and funded at about three and a half million dollars a year to start with for its operation; with authorization of 300 additional spaces and for a very large number of Special Access to Intelligence type information of all kinds that was critical to the success of ACIC's programs.

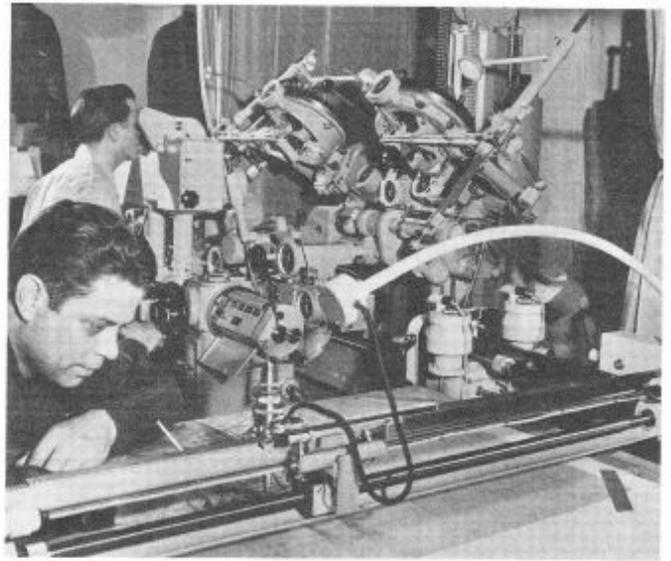
**Finnie also notes** that by the 1958 time period, in addition to these military missions, the Air Force was busily engaged in looking at what would be their role in space, and that "there was considerable activity ... trying to decide how they would use Army rockets versus Air Force rockets and various other elements, including most particularly the captured scientists we had gotten from Germany at the end of World War II that had missile backgrounds as a result of the last part of World War II in Germany."

Finnie remembers Bob Carder and Howard Holmes as two Center employees most closely identified with managing the program and the products of ACIC's "lunar years." Carder, who was chief of the programs branch in Operations, was asked by Robert Kingsley, the Center's technical advisor, for ideas on how to produce a lunar atlas.

Getting the space program contract, Bob Carder says, "depended on convincing NASA we could do the job." Both the Army and the Air Force very much wanted in on the action. Carder, Kingsley and others from ACIC visited the Air Force Cambridge Research Laboratory in Massachusetts. Through them, Carder says, they met Gerald Kuiper at the Yerkes Observatory. Ultimately, photos from Yerkes and several other observatories were printed in the *USAF Lunar Atlas*, published in March 1960 as a cooperative endeavor between AFCRL and ACIC.

Through this and other lunar projects at AFCRL, as Carder relates, "ACIC became involved with the Moon. NASA was making plans for a manned Earth-orbital flight to be named Mercury, and discussions were under way for possible manned lunar journeys."

At this point, Bob says, "formative plans began at ACIC to produce maps to support the planned Mercury flight and to map the moon." Howard Holmes, who was chief of the Production Engineering office, was in charge of the design of the format and contents. The first lunar cartographic item, the *USAF Lunar Reference Mosaic*, LEM-1, compiled under



*As a stereo-planograph operator in the background moves a dot to trace a contour line, the movement is transmitted to a stylus over the base map in the foreground. In this WAC series, the contour lines were placed at 1000-foot intervals.*

Holmes' supervision, was published in February 1960.

Other lunar events and ACIC-produced items followed quickly. The March 9 1960 *Orienter* carried a photo of Astronaut John Glenn in his space suit, holding a copy of an ACIC Mercury Orbit Chart. In an accompanying article ACIC cartographer Raymond Paulsell commented that devising a system to portray the orbital paths had offered "a particular challenge."

After several trips to the Yerkes observatory it became clear to Carder and others that the number of clear nights at this location in Wisconsin was not sufficient to support the extensive observations ACIC would need for future work. Kuiper, who himself was departing Yerkes for the University of Arizona, suggested they investigate observatories in the Southwest. The search led first to the U.S. Naval observatory at Flagstaff; and then to the nearby Lowell Observatory. Thus began a project that continued on through the 1960's, a remote ACIC office at Lowell where workers made observations and annotated photos from other observatories, notably Pic du Midi in southern France.

NASA was favorably impressed with the first 1:1,000,000 Lunar Astronautical Charts (LACs) made from visual observations at Lowell and requested ACIC to map the entire Apollo zone. Detailed mapping of the moon had begun in earnest.

"It's interesting to note," Tom Finnie concludes, "that [in] this tremendous buildup of scientists, and people, and U.S. dollars in billions that were devoted to the NASA program, that the almost total navigation and survey type support needed for its peaceful purposes were obtained by contracting with the Department of Defense and in this case ACIC..."

**NEXT TIME:** PART THREE—The Space Program continues, more powerful computers enable development of the first Point Position Data Base ... and ACIC becomes DMAAC.

# Honor Roll

## Outstanding Performance/ Performance Award

Allen, Kathleen L.  
Auck, Elizabeth L.  
Babich, Millard M.  
Barnhart, Earl C.  
Becherer, Thomas L.  
Behlke, Elizabeth A.  
Bernhardt, Ladon F.  
Bersett, Ronald A.  
Bick, Barbara K.  
Bircher, James T.  
Bosma, Sydney J.  
Bowman, Jayne R.  
Bruckner, Sharon L.  
Bruno, Steven G.  
Burke, Diann L.  
Clemens, Joyce L.  
Clouser, John F.  
Courtney, David R.  
Crews, David R.  
Curtis, William G.  
Dieckmann, Betty A.  
Doerer, JoAnn  
Dulin, William W.  
Dumey, Dennis E.  
Duncan, James H.  
Duncan, William M.  
Elfrink, Hubert H.  
Foster, Nancy J.  
Friel, Bette M.  
Gross, Mark H.  
Gruettmeyer, Edward G.  
Grund, Jonathan J.  
Gulley, Marlane K.  
Haar, William M.  
Haase, Jeffrey A.  
Hall, Connie J.  
Harper, Marva B.  
Hodge, Julia  
Holleman, Douglas W.  
Hollenbeck, Alice C.  
Hyatt, Jo Ann  
Klaskin, John N.  
Kleen, Karl H.  
Klingeman, Fred W.  
Korte, Kenneth B.  
Kupferer, Robert R.  
Lackey, Diane R.  
Langan, Robert P.  
Leach, Kenneth R.  
Leiendecker, Beverly A.  
Lewis, Chester  
Liebsch, Gary L.  
Lovins, Edna M.  
Marineau, Patrick E.  
McClane, Douglas W.  
Milchak, Joseph P.  
Mobley, Clayton W.  
Mohesky, Norma J.  
Mooy, Linda L.  
Morrison, Diana S.  
Mouser, Donald W.  
Mroz, Monica Z.  
Nagel, Randall B.

Ostendorf, Guenther A.  
Oswill, Susan K.  
Perucca, Melissa A.  
Phillips, Mary A.  
Remmler, Richard A.  
Riggs, Herschell F.  
Riis, Edwin R.  
Robben, Francis R.  
Savoy, Louise  
Shoemaker, Wanda J.  
Sizemore, Smedley J.  
Smith, Samuel E.  
Sorum, Mark W.  
Spaunhorst, Scott J.  
Stallworth, James H.  
Stark, Kenneth W.  
Sterling, Deborah J.  
Stewart, Malcolm M.  
Sugg, William W. Jr.  
Taylor, Joyce A.  
Tichacek, Christopher T.  
Tidwell, Hubert C.  
Tremblay, Richard C.  
Truka Weisz, Christine L.  
Van Cleve, Brad K.  
Wall, Marilyn F.  
Walters, Ruth Ann  
Watkins, Thomas E.  
Weir, Donna L.  
White, Linda Kay  
Whitlow, Kenneth L. Jr.  
Whitmire, Mark T.  
Whitney, Mark W.  
Wilkinson, Jane D.  
Williams, Bonnie J.  
Winslow, Diana L.  
Wolf, Robert L.  
Woodard, Mark W.  
Yarber, Sharon D.  
Zavadil, William F.

## Performance Award

Acord, Richard L.  
Ahonen, Thomas E.  
Ahrens, Robert J.  
Allen, Judith M.  
Allmeroth, Darleen M.  
Amsden, Stephen C.  
Barbaglia, Joseph P.  
Bauer, Henry R.  
Bauer, Juliet L.  
Betts, John E.  
Biscan, James C.  
Boerner, John J.  
Bollinger, Beverlee K.  
Botts, James A.  
Bouse, Rudolph L.  
Brannon, James D.  
Bratcher, Donald W.  
Brummett, Mary K.  
Bryant, Bernice  
Bunte, Richard V.  
Burke, Darrell E.  
Callahan, Michael P.  
Cejka, Patricia A.  
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Wortham, William D.  
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Zimmerman, Hazel A.  
Zweifel, Cheryl R.



An Air Force B-52 Bomber near the flight line at Grand Forks AFB, N.D.

STEPANIK

# Accident in B-52G Was Warning That Quality Is a Vital Team Effort

By Lt. Col. Greg Hennings

**I**t's no secret in the Mapping and Charting Dept., where I was Chief of Quality Assurance before my present assignment, that MC produces a myriad of products used by DoD aircrews throughout the world. And everyone there would agree that the quality of these products is vital to the safety of those who regularly depend on them.

So, who is responsible for building in this quality in all of the products produced at DMAAC? Well... it's not just the Quality Improvement Office nor the many individuals who perform quality edit functions. Quality is the direct responsibility of each and every employee who plays any part, large or small, in the production of our products. *Each employee at DMAAC is a member of a production team and product quality is a direct result of team effort.*

**THIS IDEA** was driven home to me during the summer of 1974. I was a young navigator on a bomber crew that was returning home from an eight-hour training mission. Each member of the crew was totally exhausted. Ahead of us, we had planned almost two hours of multiple approaches. The weather at our base was rapidly deteriorating due to an approaching squall line. Rain showers were already in the area, and there was talk of our having to divert to another base.

Our overriding goal at that point was to get the plane on the ramp at all



*"Don't depend on 'the other guy' to catch the mistakes... He may not be monitoring the descent either!"*

Air Force Lt. Col. Greg Hennings

cost. One quality check in that process was for the crew to "review" the planned approach and its associated minimum altitudes. We studied the instrument approach procedure, acknowledged "reviewed" over interphone, then started down, following radar vectors to a precision approach.

Soon we began experiencing communication problems. By now the field was in sight, so the pilot declared "visual" and proceeded with the approach. If we could get down and "full stop" the aircraft, we wouldn't have to divert before the storm hit.

**DOWN WE WENT** through the light rain. The impending danger was first signaled by the co-pilot. He

thought he saw tree branches fly by his side windscreen. None of us had been monitoring the descent on the altimeter--a major quality check overlooked.

We all heard the scrapes of the branches on the fuselage. Instantly power was applied to all eight engines; but since the B-52G isn't known for quick response, it seemed like forever before the aircraft attitude changed. Miraculously, we pulled out in time to continue the approach and make the landing.

During the accident investigation, the safety boys calculated that the fuselage had passed directly between the trunks of two large pecan trees. The wings and engines sheared through the tree tops ingesting more than their share of branches...not a real quality performance on the part of the aircrew team but a real testimony for the engines!

**THE POINT** of this example is twofold. First, don't place a production goal so far ahead of quality performance that your product may end up a disaster. Second, every member of a production team is directly responsible for the quality of the product they produce. Don't depend "the other guy" to catch the mistakes...he may not be monitoring the descent either! ■

*Lieutenant Colonel Hennings is the air operations staff officer assigned to the DMAAC Quality Improvement Office. This article first appeared in the April 1990 Mapping and Charting Dept. Grapevine.*

# Director's Awards

*MCF Chief Cited for Crisis Support Role; Geodesist Enabled Success of Map Grids*

Receiving the quarterly Director's Award in the supervisory category is **Thomas A. Schwartz**, Chief of MCF, the Mapping and Charting Department's Automated Cartography Division. He was cited for his leadership in providing support for Project Restore Hope in Somalia. In two months his division completed 68 updated Topographic Line Maps, 36 Landsat Image Maps and special Landsat scenes, 12 Joint Operation Graphics, and two special-request compact disks while continuing with counterdrug support and other assigned work. "His Total Quality Management initiatives allowed the division to orient and use personnel and equipment from another department to meet a difficult crisis support project ahead of schedule," officials said. During the quarter 17 cartographers were integrated into Map Publishing Environment production. "Together with his branch chiefs, Mr. Schwartz also instituted production initiatives to accelerate production while maintaining DMAAC's normal high quality standards."

Receiving the quarterly Director's Award in the non-supervisory category is geodesist **Emmett L. Burton** (GGAE). "He is substantially responsible for the success of grids and projections for Aerospace Center charting activities," which were assigned to his department during the quarter, officials said. "He was instrumental in the predesign, collocation, and establishment of grids and projections. He developed the operational flow and saw that it was carried out, exceeding project require-

**Thomas Schwartz**



**Emmett Burton**



ments." In addition to normal production, Burton responded to 37 accelerated production jobs over Yugoslavia, 98 crisis-support jobs over Somalia, and 50 priority charting jobs for counterdrug activities. "Because of the stringent quality control measures that Mr. Burton built into the process, none of the jobs were returned for rework." Burton was also cited for his community involvement as fund raising chairperson for the Midwest Association of Tennis Charities, Inc., which offers instructional tennis to youth at risk, and as a trainer and speaker for the national association of Blacks In Government ■

*Recipients of the Director's Award are selected from Employees of the Quarter in departments and directorates. They will be recognized in the April 23 issue.*

## Sports

### Two of Hearts Holding On

After the position round for the second half in the Arsenal Mixed League at Shrewsbury Lanes, Two of Hearts are still in the lead. They are followed by Real McCoy's, Tom's Cats, Far and Away, HotShots, We Four, Strikebreakers, and Rollercoasters.

--Pat Wiese

## Director's Hotline

The Director's Hotline is available for employees who have questions or suggestions for improvements in all areas. Call 263-4178, 24 hours a day. An answering machine will take your call.

## Retirements

*Years of federal service are listed.*

### February 28

**Delores E. Grandier** (GAPA), lithographic specialist, 37 years.

**Valera D. Schoen** (GAPA), lithographic specialist, 37 years.

**Robert L. Zeigler** (GGF), geodesist, 30 years.

### February 19

**Jessie S. Hewitt** (FEMCA), custodial worker, eight years.

## Kudos

**Alex J. Buehler**, son of Karen Buehler (SDAA), has accepted an offer of admission to the Class of 1997 at the U.S. Military Academy at West Point, N.Y. Alex will graduate in June from Mehlville Senior High School in St. Louis County, Mo.

## Hail & Farewell

**Airman First Class Danny R. O'Dea** arrived March 10 from Spangdahlem AB, Germany for assignment to Det. 1, 375th Communications Group.

## Orienteer

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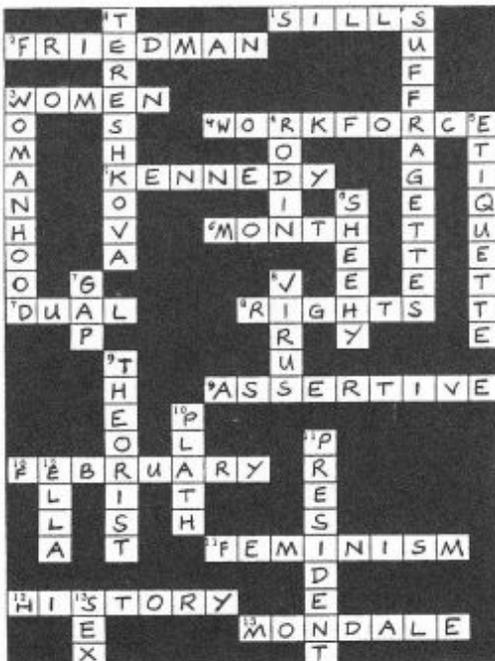
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## It Was a Very Good Year

"1992 was a year of political opportunity, which women seized," Harriett Woods told employees observing Women's History Month. The President of the National Women's Political Caucus and former Missouri lieutenant governor noted that women increased their representation in Congress by 23, compared to four or five at most in previous years. "Since the '70s women have been working their way up; they found an unusual climate of openness, and they were ready... Everyone will benefit because when society is opened up to new people, there's a bigger pie to share." Mrs. Woods is featured in a Women's History Month exhibit by visual information specialist Jane Wilkinson, which can be viewed in the lobby display area of Building 36 and in the hallway outside the Carto School at 8900 S. Broadway.

## Answers to Women's History Puzzle In March 12 *Orienteer*



## Discover a New World

The theme of Women's History Month provides the title for this poem by Peggy West (DPDB), who composed it for the Women's History program and read it at the event.

**A**s we celebrate Women's History month  
Let's travel back in time  
To chart the role of women  
In their slow but steady climb.

In the early 1940's  
Every little girl had one quest  
To become a wife and mother  
And take care of the family nest.

For women in our Agency  
Some fifty years ago  
The career opportunities were few  
And the pay scale very low.

The majority of working women  
Could be found in certain roles  
A nurse, secretary or teacher  
Would be her highest goal.

Twenty years later in the sixties  
Women were beginning to explore  
New and exciting career fields  
As they eagerly searched for more.

Near the end of the 1980's  
Men and women stood side by side  
To defeat a desert tyrant  
Whose actions we could not abide.

In the Nineties now upon us  
Let the history of women show  
With hard work and determination  
There's no limit where we may go.

The theme for Women's History month  
Is "Discover A New World".  
Let us go forth with one accord  
As our banner is unfurled ■

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