Riordan Outlines MC&G's Future, Agency's Role; In St. Louis Joint Society Speech

"We are looking into a not-too-distant future that will place ever-increasing demands on our abilities. We will be challenged to produce a greater diversity of end products in reduced delivery time, while meeting the increasing qualitative demands of users," said William Riordan, DMA deputy director for Management and Technology, as he addressed the more than 100 attendees at the joint technical and professional society meeting held recently at the Aerospace Center.

"In meeting these challenges we will depend very much on the dedicated efforts of our work force, and particularly of professionals like yourselves," commented Riordan.

Speaking to the societies on the topic, "Military MC&G through the 1980s—What It Means to YOU," Riordan provided some thoughts about the probable effects of technological change on our work force during the next decade and particularly on the professionals in the various MC&G related fields.

In glancing back at the DMA history the top civilian in the agency said, **"When DMA was established in 1972, new requirements and technologies had begun to have far-reaching effects on military MC&G. Thus, one of the most immediate challenges facing the newly created DMA was that of making the most effective use of programs, equipment, and people to increase the range of our products and services. Our programs still emphasized the standard maps and charts which had been the 'bread and butter' of the DoD MC&G agencies for years. These standard products comprised about 65 percent of the DMA resources. Our production was supported by the traditional hard-copy libraries. However, new positioning and navigation requirements were rapidly evolving, including more accurate positioning for tactical operations and geodetic positioning for missiles. At the same time, major MC&G R&D efforts were directed toward support of more sophisticated navigation and weapon systems, with ever-increasing requirements for data accuracy and currency."**

In discussion of the changing work force Riordan pointed out, "In 1972 the bulk of our work force was in the 'conventional' MC&G disciplines—our people were mainly cartographers, photogrammetrists, and geodesists. Since then our technological fields within these disciplines have continued to expand. Some of our computer people were from the computer science disciplines rather than the MC&G related fields, and others had converted from our photogrammetric and cartographic ranks. One of our early challenges was to determine what effects the new requirements and technologies would have on our people. It was pretty clear that the basic skills and disciplines of the work force would need to be broadened to include new technologies, such as remote sensing and data base management, in order to operate and manage the new equipment, systems and programs that would be coming down the road.

"Today, we can look back on seven years of growth and development in which the changes have been every bit as dramatic as we could have anticipated. We think we have a pretty good idea about how these changes will continue to affect us through the 1980s. Our product mix has changed dramatically. Standard maps and charts now comprise only about 40 percent of our total product mix, and we anticipate a continuing gradual reduction in subsequent years."

In a later question and answer session Riordan emphasized the continued importance of the conventional chart to the user despite a reduction in quantity. "The conventional charting product is still vitally important," he said.

In turning his attention to current and projected programs he pointed out that "positioning" products and services requirements have greatly increased, both in quantity and currency.

"As you would expect, our programs have been realigned in response to the present trends in weapon system support requirements. For example:

—Digital data are being produced for user applications, as well as in-house production support. We accomplish data transformations for tailored use of digital data in weapon systems such as the firefinder artillery-locating radar system, and in the DoD inventory of simulators. Thus, our products increasingly are for use directly by computers in new weapon systems and simulators. This imposes strict quality constraints on the data we produce. Before, we could compromise on the content of hard-copy products to be used by the large user community. We cannot compromise on most of our products that are tailored for machine use, particularly in systems such as the cruise missile.

—The more conventional libraries are giving way to data base systems as we strive to keep up with the sheer volume and high processing rates required for digital data.

—Production of tailored digital data bases for users will increase as new strategic air and tactical land systems come on-line. The most significant of these in terms of production effort will be the TERCOM digital terrain and obstruction data bases required for our strategic

Orientor

DEFENSE MAPPING AGENCY AEROSPACE CENTER

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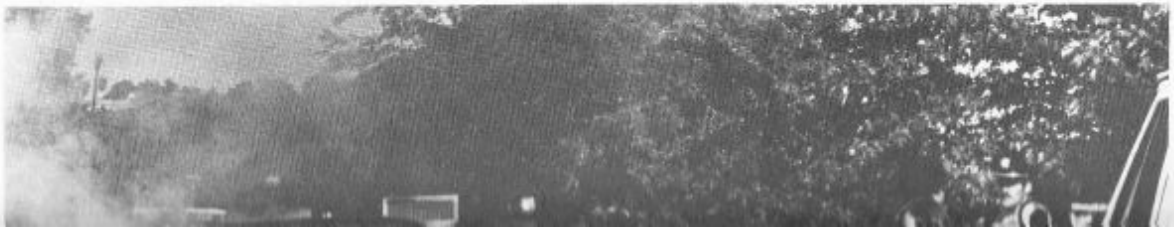
You Never Know When You'll Need Help . . . Help Yourself and Others Through CFC



missiles, as well as digital terrain for tactical land combat systems.

—Data base Management will be concerned with the transition to automated data bases, while developing the capability for the high density storage and rapid processing needed to meet the increasing qualitative and quantitative demands of users.

—The Global Positioning System (GPS) coming on-line by the mid-1980s will revolutionize the traditional role of DMA in point positioning and navigational support to the military services. In this system, receivers anywhere on earth will be able to convert information transmitted from a network of 24 satellites into accurate three-dimensional coordinates."

He spoke of equipment changes at the production Centers and how those changes reflect the agency's commitment to systematically adapt new technological developments to the automation of the cartographic production processes. "Analytical plotters designed primarily for compilation purposes have been, and are continuing to be, modified with emphasis on digitizing," he said.

He indicated our digitizing capability has expanded greatly with the addition of a wide variety of manual digitizers, automatic scanners, and automatic scanner/plotters.

Continued examination of technical processes for their potential for further improvement is called for, indicated Riordan. **"The ultimate might be to compile directly in a digital mode. This could be a logical extension of present trends since we see source collection systems becoming digital, and more and more of our outputs becoming digital in nature. The evolution into 'Digital Photogrammetry' would indeed be a fundamental change, but the feasibility of this change must await the completion of a number of studies DMA now has underway."**

He said the impact of the digital data explosion on DMA is shown by the rapid expansion in computer needs over the past two years. **"We had planned to replace our major computer systems by competitive bid in 1982. However, we found we could not wait that long because of the dynamic changes in computer work load requirements. As a result, we have had to go to GSA to request an interim upgrade of our existing UNIVAC systems."**

He described the new computer configurations as giving DMA the capability for interactive editing on digital data production with the potential of freeing the work process from the slow, inadequate manipulation of digital data in the batch processing mode. **"We will need to realign our processes and skills at work stations as we fully integrate interactive editing functions into our production pipelines. A challenge will be to minimize the points at which human intervention will be necessary."**

Continued Pg. 2

President Carter Proposes Seven Percent Pay Raise for Feds

President Carter urged Congress to support his request for a 7 percent October pay raise for 3.5 million military and civilian federal employees.

The original fiscal year 1980 budget had provided for a 5.5 percent pay increase. "The president recognizes, however," a release from the White House stated, "that employees are faced with a higher cost of living than when he submitted his 1980 budget."

By recommending the 7 percent instead, the president's action will add a little less than one billion dollars to the $60 billion already slated for these annual salaries, the White House said.

The law governing federal civilian white-collar pay requires that the Bureau of Labor Statistics conduct an annual nationwide survey of salaries paid private-sector employees in jobs similar to the federal ones.

This year the body that evaluates this information found an average increase of 10.41 percent would raise the federal white-collar salaries to a compatible level.

The law provides the president authority to propose lower increases because of "national emergency or economic conditions affecting the general welfare." The president cited economic conditions in his proposal to Congress.

"Pay compatibility for federal civilian employees and the military must be viewed in the light of the current economic situation," the president stated.

"Inflation continues to be the single greatest threat to our economy and is a national problem of foremost concern," he told Congress.

The president noted that the revised pay plan would be within the pay standard being developed by the Council on Wage and Price Stability that will apply to all employees in the country in 1980.

In explaining the change he wrote, "We expected significantly lower rates of inflation than we have actually experienced. I believe the loyal and outstanding service given to the country by the government's civilian and military personnel warrants recognition of that changed circumstance and of the new pay standards for 1980."

Riordan MC&G Outline

Continued From Pg. 1

In discussing the management of the digital data base he pointed out that quality control was one of the keys in the production process.

"In the digital world, we no longer can directly view and correct map and chart materials as they pass through the pipeline. Of course, we can plot out the digital data for later edit; but batch processing and subsequent plotting for editing and verification of digital data simply aren't cost effective."

He described the only feasible approach as editing of the data as it is collected through interactive CRT at the digitizing stations.

An even bigger challenge than quality control is the determination of how we are going to store and retrieve the data in our data bases, added Riordan.

"Digitization is basically a high cost process, and obviously we need to make maximum use of the data that has been collected. Support of multiple products from a data base is the way we are proceeding, but the goal won't be achieved without the development of detailed standards. We are putting a lot of effort into standards development: definition of data elements, formats, coding and so on. We have found that it is much easier to introduce the standards as new equipment is introduced, rather than to retrofit the standards to existing systems. But the organization of the data base must allow for coexistence and communication between the old and new formats, systems and technology. We have also learned that we can't expect other producers to adopt our internal storage standards, but we can take

on skills and disciplines. **"I can say with assurance what others have said: Automation is not replacing our work force; but it is causing shifts into new areas, and this trend will continue through the 1980s."**

Basic knowledge in computer technology will extend throughout much of the work force, while there will be a decreasing demand for manual cartographic skills. There also will be more specialization, he said, and a greater demand for professional level skills and people with advanced degrees in their disciplines and the related technologies. **"For example, we need more computer scientists prepared to deal with very large digital data bases. We need photoscientists who can specialize in devising methods for extracting information from imagery. We need photogrammetrists specializing in remote sensing. We need more specialists in the geodetic and gravimetric sciences, and in mathematics, inertial systems, data base management, and communications."**

More higher level of training for many DMA employees is anticipated as a result of changing patterns.

In describing the organization's structure Riordan said, "It should be pretty obvious by now that the development of new programs to meet more stringent MC&G requirements; the introduction of more sophisticated automated equipment; and the changing mix of skills will influence the way the DMA organization is structured and managed in the future. The impact that these changes, as well

foresee such a change during my time."

Beyond the mid-1980s the agency will make a gradual transition toward functionalized organization in which major operations will center on data acquisition, and source data base maintenance.

"As this trend develops, major users will have an increasingly larger role in maintaining the data bases that support their specific requirements. We can't speak with any certainty about the exact structure the future organization will take. As I have said, the effect of the future source collection systems on the future organization have yet to be determined. We can only speculate that the structure will incorporate some features of a product/user orientation, a functional orientation, or a combination of both."

What about impacts and challenges for the professional career?

"Scientific and technological advances will be so dynamic, that you will constantly be challenged to maintain technological currency. Your education certainly cannot be terminated with your college degree. Continued self-development will be necessary to keep pace with the state-of-the-art in your field, and many of you would need to work toward advanced degrees."

He pointed out that organizational and individual professionalism is important in continuing a healthy, progressive, and respected organization.

"I have had an opportunity to travel extensively and to visit with the majority of the Directors of MC&G organizations in the free world. DMA is looked up to and admired by all. We are recognized as the leader in the field of MC&G.

CFC Campaign Begi
Agency Goal Set at $

The 1979 Combined Federal Campaign (CFC) begins at the Aerospace Center on October 9th, according to Hamlet Kelly, Center project officer.

The campaign, which is designed to support the International Services Agencies, United Way and National Health Agencies, will run through October 26th and has an agency goal of $140,000.

"In the face of crushing inflation," said Kelly, "the three agencies we support with our contributions continue to perform while keeping their administrative cost to 3¼ cents and campaign cost to 4¾ cents per dollar. That returns 92 cents of every dollar contributed to the community or service area."

Last year the overall East-West Gateway Combined Federal Campaign contributed over one million dollars to the area participating health and welfare agencies.

The overall CFC theme for this campaign is "One Gift to Help Many" with the Aerospace Center also using a secondary theme of "Together We Can Help".

Last year the Aerospace Center employees contributed a record setting $138,000 that was used to assist over 790,000 people in this community and countless millions in developing countries.

"The CFC is the one annual opportunity the Federal Family has to reach out and help thousands of our friends and neighbors whether they live across the street or across an ocean," said Clarence Squellati, the East-West Gateway CFC chairman and director of Finance, for the Farmers Home Administration.

Helping the Blind

storage standards, but we can take advantage of their efforts by developing exchange standards and the associated conversion software for exchanging data with them."

In the informative discussion the Deputy Director for Management and Technology talked about the impact adopting new methods has as changes in production technology, will have on DMA is not yet fully understood, but we are working with a number of assumptions in an effort to define the production procedures and techniques, the equipment and facilities, and the manning and skills that will carry us to 1990 and beyond."

While speaking of DMA studies he mentioned some of the major assumptions being used:

—There will be greater diversity in end products, with emphasis on digital information, display systems, and support to computerized weapon systems.

—A system of centrally-managed data bases will be developed and maintained to support a variety of product categories, and selected data bases will be provided directly to weapon system operators.

—There will be shorter data maintenance cycles, made possible by increased collection and processing speeds.

—Production operations will be increasingly automated, and work station configurations will change to accommodate the interactive numerical control devices.

—Requirements for geodetic and gravimetric surveys will in all probability decrease as GPS and satellite altimetry systems go into operation. Exceptions will possibly be support for some strategic systems, such as the MX, scheduled to replace the Minuteman III. Based on the assumption, Riordan felt that at least through the mid-1980s DMA would continue to be organized along product/user lines, with some selective functionalization, such as printing.

"Our continued orientation toward end products and the size of our work force during this period support the continued decentralization of the management of our operations." This point was reemphasized during the question and answer session when he responded to a question on possible production center consolidation by saying, **"The concept of under one roof or at one facility is contrary to the present decentralized management concept. I do not**

as the leader in the field of MC&G. A significant payoff resulting from our professional reputation is our international agreements program through which many of the U.S. MC&G requirements are satisfied."

In closing Riordan said, "Today, our stock in the DoD is very high, and we are getting good marks in our responsiveness to the military users, although we have some severe challenges facing us in the near years.

"In meeting these challenges we will depend very much on the dedicated efforts of our work force, and particularly of professionals like yourselves. Your contributions and the contributions of the professional societies represented here tonight have had a significant impact on the technological progress of DoD MC&G for many years."

The ORIENTOR is an official newspaper, published bi-weekly on Friday by and for the personnel of the Defense Mapping Agency Aerospace Center, at St. Louis, Missouri, as authorized by DoD Instruction 5120.4. Opinions expressed herein do not necessarily represent those of the DoD.

Col. Robert C. Burns
Director

David L. Black
Chief, Public Affairs Office
Editor

Nancy Brannon
Asst. Editor

CFC Is . . .

"The CFC epitomizes the American ethic of letting the people do it."

—Lt. Bradley Stewart, SS

Helping Arou

Oct. 9; 40,000

We must maintain our commitment to improving the quality of life for the many people who benefit from our gifts of time and money."

Again this year Federal employees have the payroll deduction method of contributing available to them. Under the payroll deduction method an employee can make a generous gift using an installment pay method. Minimum contribution is $1.00 per bi-weekly or semi-monthly pay period or $2.00 for the monthly payroll system. The payroll contribution will begin with the first pay period after January 1, 1980, and will continue for one year. It may be discontinued upon written request to the payroll office.

Aerospace Center keyworkers have already been identified (see September 14th **Orientor**) and will be contacting employees right after the holiday. Executive pledging will be conducted at the Director's staff meeting next week.

Again this year employees will have the opportunity to designate contributions to specific health and welfare agencies by selecting the organization name and number from the Contributor's booklet and entering the information on the pledge card. Keyworkers will be able to provide all the information necessary to correctly complete the cards.

Contributor's booklet may be kept by the employee for future reference. The booklet contains a brief description of each health and welfare organization and phone numbers for assistance.

Together We CAN Help

What Is CFC . . .

"When we think about it, the organizations supported by the CFC are not as far removed from us as we might think. We all benefit from organizations like the Boy Scouts, American Cancer Society and the Red Cross Blood Program. The CFC can also be an extension of your religious beliefs by donating to the Catholic charities, Protestant Welfare Association, Lutheran Child & Family Services, Jewish Center for the Aged, or the United Methodist Children & Family Services." —Donald Smith, AD

Hire the Handicapped

One out of seven people in the world has a physical or mental disability and is considered handicapped.

However, handicapped has never meant useless. Most handicapped people lead active, productive lives. Many have made major contributions to humanity in spite of their disabilities.

- **Franklin D. Roosevelt, cripped by polio, was the only president elected four times.**
- **Helen Keller, blind, deaf and mute, learned to read, write and speak and went on to help other blind and deaf people.**
- **Poet Lord Byron had a clubfoot.**
- **John Milton wrote "Paradise Lost" after becoming blind.**
- **Ludwig van Beethoven's best-known music was composed after he became deaf.**
- **Ben Hogan was told he might not walk after being severely injured in a car accident. Four years later he won three of the world's top golf tournaments.**

Centuries ago, people whose vision was limited were considered handicapped. Eyeglasses, contact lenses and corrective surgery have made less-than-perfect vision merely an inconvenience for most.

We are reaching a time when other disabilities can be considered the same way. Artificial legs are no longer the wooden pegs of stereotyped pirates. Artificial arms can caress a child or paint a portrait.

Schools and public buildings are being improved to allow access for handicapped people. Stores and homes are being designed specifically for people in wheelchairs.

As our understanding and support grow for people with disabilities, handicapped may come to mean no more than the limits each of us place on ourselves.

NATIONAL HANDICAPPED WEEK OCT. 7-13

Everybody Involved . . .

"The Officers of Local 1827 would like to encourage its members in supporting this years Combined Federal Campaign."

—Virgil Haun
President
NFFE Local 1827

CFC Aids National Programs

CFC Is . . .

"The CFC is a joint effort to help others." —Katherine Jungewaelter, GD

the World

Please give thru Payroll Deduction Contributions

CFC Does . . .

"Provides the government employee the opportunity to voluntarily help many worthy individuals and at the same time help the government employee to be recognized as a social and civic responsible member of the working community."

—Donald Gorris, GA

Terrain Analysis Program Expands DMA Mission

The Defense Mapping Agency (DMA) has received approval for its first expansion of mission since the Agency was formed in 1972. DMA now has responsibility for the Department of Defense Terrain Analysis Program (TAP).

Terrain analysis provides ground forces more detailed geographic information on the physical aspects of terrain and man-made features and analyzes their significance to military operations. The products generally consist of thematic maps showing soils, geology, vegetation, inland hydrology, and surface materials; and terrain studies, including urban area analyses, tactical commander's terrain analyses, and digital topographic data bases.

On June 15, the Secretary of Defense approved the transfer of the TAP from DIA to DMA. On August 24, Secretary Brown approved the submission by DMA of a detailed request for resources to support the TAP. The necessary budgetary decision to provide DMA an increase of 78 spaces and $2 million will be made during the FY 1981 budget review cycle.

If the resources are approved, DMA will treat terrain analysis as an integral part of its mapping, charting, and geodesy (MC&G) mission. MC&G officers in the Unified and Specified Commands and the armed services will be requested to include terrain analysis requirements in their annual submissions to DMA of their MC&G requirements. The DMA Hydrographic/Topographic Center is preparing an implementation plan for this new mission.

With the addition of terrain analysis, DMA becomes a "full service bank" relative to topography—running the gamut from precise positioning of discrete points, to point positioning data bases and digital terrain elevation data bases over vast geographic areas, to production of standard maps and charts and perspective views of terrain, to detailed terrain analyses in direct support of tactical commanders.

Asch Presented Navy Achievement Medal

James Asch, chief of the Programs Planning Branch of Facilities Engineering, was awarded the Navy Achievement Medal during ceremonies held recently at the Naval Reserve Center in Kansas City, Mo. He was presented the medal by his unit captain, Commander John Bowser.

Asch holds the rank of Senior Chief Machinist Mate in the U.S. Naval Reserve, NR SUBBASE Pearl, Detachment 918, at Kansas City. He has 26 years total active and reserve Navy service.

The citation accompanying the medal stated that, "Senior Chief Asch consistently performed his demanding duties in an exemplary and highly professional manner. Displaying exceptional, individual effort and resourcefulness upon his assignment as Administrative and Personnel Officer of NR SUBBASE Pearl, Detachment 918, Senior Chief Asch willingly devoted his time and managerial expertise toward establishing, improving and maintaining the administrative records of this large unit. He has spent numerous hours other than drill time to achieve this end. This dedication to duty has been at great personal inconvenience in that his place of residence is approximately 250 miles from the Reserve Center."

The citation was signed for the Secretary of the Navy by Rear Admiral F.F. Palmer.

Wanted

Volunteers for OLD NEWSBOYS DAY Tuesday, November 13 (NOTE: New Day and a Week Earlier)

Contact: Marge Wisneski/4142

Walker Commended

Clinton Walker, GDD was recently commended for his work during attendance at the Armed Forces Staff College. Maj. Gen. L. Gordon Hill wrote, "Mr. Walker's performance at the Armed Forces Staff College was exemplary in all respects. He displayed his talents in a number of areas and proved to be a strong, effective member of

Thirty For Two

JOE P. LUCKETT, SOP, reached the 30 year mark on September 10th.

He went into the U.S. Army in August 1940 and was assigned to the 9th Cavalry with duty in North Africa. He was transferred to the 92nd Infantry and served in the European Theatre of Operations, receiving his discharge in August 1945.

He returned to Federal service at the Post Office in 1953 as a laborer and in April 1955 went to work for General Services Administration as a guard and elevator operator. He transferred to the Aerospace Center on December 31, 1956 and has been assigned as a guard since then.

LEWIS CALVERT, LOSMR, reached the 30 year mark on September 17th and, except for his military service, all of his Federal service has been at the Aerospace Center.

Luckett

Calvert

He served in the U.S. Navy from August 1944 until November 1945.

He returned to Federal service at the Aeronautical Chart Plant on December 10, 1950. He is presently assigned as a sorter/classifier in the Material Facilities Branch of the Supply and Services Division of the Directorate of Logistics.

Softball Champs

Pictured above, left to right are: Jerone Reynolds, manager of the Division I Panthers; Jerry Johnston, manager of the DMAAC

DMS Relocation Study Concluded

Major General William L. Nicholson, III, director, Defense Mapping Agency, announced his decision recently not to move the Defense Mapping School (DMS) from its current location at Fort Belvoir, Virginia.

His decision was based on the results of a study conducted by DMA to determine the feasibility of relocating the School. The study was necessitated by information provided to DMA which indicated that Bagley Hall, one of the major facilities assigned to DMS, had deteriorated to the point that replacement within the next three years was essential.

The study concluded that further review of the Bagley Hall engineering evaluation showed that the building could be upgraded and made suitable for continued occupancy at a far more reasonable cost than originally estimated; therefore, the relocation of DMS would not be cost effective. Also, it was determined that DMS can best perform its mission at the present Fort Belvoir location.

Colonel J.J. Meara, HQ DMA/PPL, was Chairman of the Study Group appointed in March by former Director Lt Gen Abner B. Martin. Other members of the Study Group were, Robert S. Allen, HQ DMA Facilities Engineer, George L. Andrus, HQ DMA Management Analyst, and Wilbur E. McCullough, DMS.

New Arrival

Master Sergeant Terry G. Harvey has reported to the Center after serving a four and one half year tour of duty at Lindsey Air Station in Wiesbaden, Germany. He is replacing MSgt. Ed Granthum, who is retiring, as chief, of military liaison in the Directorate of Administration.

He began his Air Force career in September 1964. It has included 15 months of service in Vietnam.

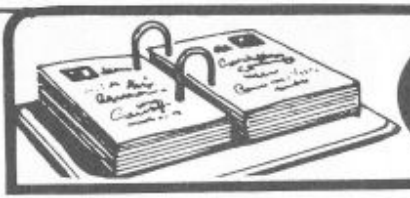
Sergeant Harvey is married to the former Lynn Morrison of San Diego, Calif.

He is a native of Oklahoma.

his seminar. He excelled in team operations and earned the professional respect and personal admiration of all who worked with him."

During the course he completed a research paper entitled, "Digital Products: The Way of the Future for Mapping."

Tournament champion Buffalo Chips; Walt Fisher, assistant manager of the Panthers; Paul Hudson, manager of the Mustangs; and Harold Layton, representing the Jakes who took second place in the DMAAC Tournament. Missing from photo was Garnet Bebermeyer, manager of the undefeated and Division II Tenrags. The Panthers, Mustangs and Tenrags represented DMAAC in the City Tournament, but all were eliminated early.



Calendar

OCTOBER CALENDAR

OCT	EVENT	WHERE	RESPONSIBILITY
4	Assn. of Litho Clubs	Grant's Cabin	V. Wojcicki/4713
4	Toastmasters	Lindbergh Room	
8	HOLIDAY—COLUMBUS DAY		
9	FBA Lunch & Meeting	Carpenters Hall	D. Black/4142
11	IMAGE Meeting	4604 Gravois	C. Athie/4276
12	DMAAC Women's Club Fall Rummage Sale	7015 S. Broadway 8 a.m. to 3 a.m.	Mrs. R. Mattke 536-1690
18	Toastmasters	Lindbergh Room	
18	DMAAC Women's Club Luncheon	Miss Kitty's Dining Car	Mrs. J. Johnson 394-4895
18	FEW Meeting		V. Garcia/8409
19	Bloodmobile	2nd Street	D. Ullo/4292
24	AGU Meeting	Pietro's Restaurant	G. Breville/4036
25	Toastmasters	PP Conf. Room	
25	Arsenal Credit Union Annual Meeting	Electricians Hall	771-5050
30	NFFE Local 1827	Bldg. 36, 1st Fl Training Room	V. Haun/4044

Contact Marge Wisneski/4142 to have your November events listed.