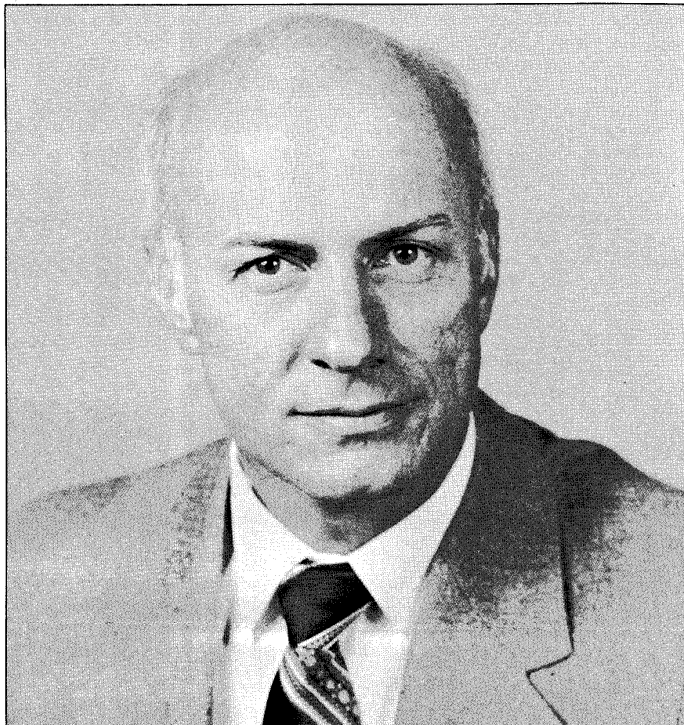


In This Issue:

- SECDEF on POW/MIA's
- NADC takes the helm
- Women's excellence award
- New cooling technique
- Day camp a success
- Reserve Change of Command set

Castaldi receives Presidential award



Thomas W. Castaldi, Head of the Mission Avionics Technology Department

By Jim Kingston

Thomas W. Castaldi, head of the Mission Avionics Technology Department has received one of the highest and most prestigious civilian awards given by the federal government — the Presidential rank of Meritorious Executive. Following his meeting with President George Bush at Constitution Hall, the honor was bestowed upon Castaldi on September 14th by Secretary of the Navy, H. Lawrence Garrett, during ceremonies at the Pentagon.

Castaldi was signaled out and nominated for this high honor jointly by Center Commander, Captain Curtis J. Winters, and Technical Director, Guy C. Dilworth. According to the two, Castaldi was nominated because he has "... demonstrated superb technical and executive leadership and accomplishments over a sustained period of time. He has held a variety of technical and executive positions and has had a profound impact on the scope and direction of airborne anti-submarine warfare within the Department of the Navy. He has consistently demonstrated qualities of leadership, integrity, and industry."

Reacting to the nomination and selection, Castaldi said, "This award is a tribute not only to me, personally, but to NADC as a whole and also to my family. I believe it truly reflects the outstanding caliber of work performed by the people of the Center and represents one of the finest honors that can be bestowed in recognition of this superb work."

Castaldi holds a BS in physics from St. Joseph's University and an MS in Electronics Engineering from Penn State University. He also graduated with distinction from the Naval War College and attended the Federal Executive Institute. In 1978, Castaldi received the Navy Superior Civilian Service Award.

The Presidential rank of Meritorious Executive recognizes prolonged, high quality accomplishments of career members of the Senior Executive Service (SES). It affords the President the opportunity to acknowledge members who have demonstrated sustained accomplishment over a period of at least three years.

Iavecchia authors 'best' human factors paper

By Mary Ann Brett

Joyce Iavecchia, Operations Research Analyst in the Tactical Air Systems Department was recently named the recipient of the Human Factors Society (HFS) 1989 Jerome H. Ely Award for the best paper published in the Society's journal in 1988. Iavecchia the principal author, and contributors Helene Iavecchia and Stanley Roscoe, wrote the winning article entitled "Eye Accommodation to Head-up Virtual Images," published in *Human Factors* Volume 30, Number 6, pp. 689-702.

The paper discusses the problem of

visual distortion resulting from head-up aircraft cockpit displays designed to provide a means for Naval aviators to simultaneously focus on the real world and on displayed symbology.

Iavecchia has worked at NADC for ten years. She has a BA in Psychology from Temple University, 1976 and an MA in Engineering Psychology from

the University of Illinois, 1979. She has had at least one other technical paper published which was so popular she received hundreds of requests for reprints from around the world. That paper entitled, "The Moon Illusion Revisited," appeared in *Aviation, Space, and Environment Medicine* in 1983.

According to Earl Wiener, President of the HFS, "Your (Iavecchia's) work has contributed much to human factors, and your name deservedly belongs among the leaders of our field."

"I'm thrilled as well as surprised," said Iavecchia of her selection, "It's a very prestigious award and it's hard to believe it's mine."

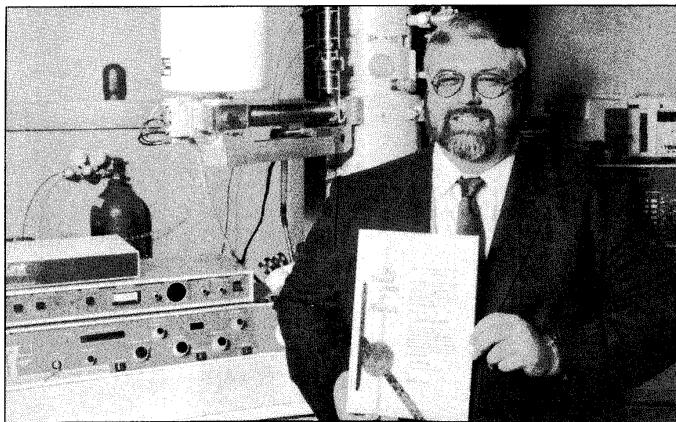
Frazier awarded patent for alloy

By Mary Ann Brett

The Air Vehicle and Crew Systems Technology Department's Dr. William Frazier was recently awarded a patent entitled "Elevated Temperature Aluminum/Titanium Alloy by Powder Metallurgy Process."

Frazier, who works in the Materials Engineering Division, explained that his work addresses not only the alloy's composition but the processing technology as well. This processing technology involves a combination of rapid solidification plus mechanical alloy processes. The alloy itself retains structural strength 100 degrees C greater than current aluminum alloys.

Although developed primarily with Naval tactical aircraft in mind, this



Dr. William Frazier displays patent award for elevated temperature alloy work.

Photo by NADC Photo Lab



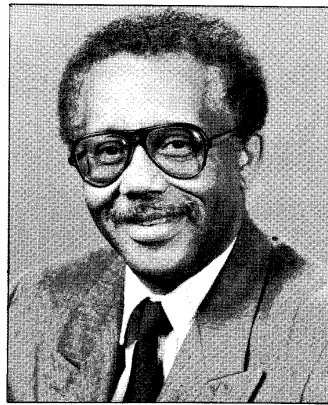
Joyce Iavecchia

Continued on page 7

Command Corner



Captain Curtis J. Winters
Center Commander



Guy C. Dilworth, Jr.
Technical Director

To all hands:

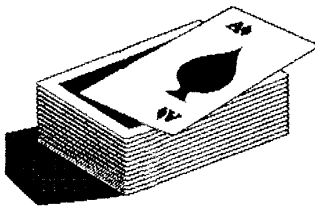
Warfare Systems Analysis Department Head Selected

CAPT Winters and I are pleased to announce the selection of Andrew J. Atkinson to the SES position of Head of the Warfare Systems Analysis Department. Atkinson will continue until June 1990 to attend the Sloan School of Management at MIT. Starting 25 September 1989, Robert N. Becker

will be full-time Head of Code 30 while Atkinson is away. I will assume, with staff support, Becker's O1A functions. Otto Kessler will assume Centerwide responsibilities for sensor/platform data fusion products.

GUY C. DILWORTH

DEAL YOURSELF A WINNING HAND



...with U.S. Savings Bonds purchased through the payroll savings plan. Bonds are safe, have tax advantages, and pay market-based interest rates. Gradual savings will make you a winner sooner than you think.



If the SOC Fits

By Robert Janes

In the next few weeks several hundred of you will sit down to fill out a DD Form 1555, Confidential Statement of Affiliations and Financial Interests. This annual exercise is a hallmark of the Navy's Standards of conduct (SOC) program, and despite some criticism of it, the filing requirement just keeps growing. Up until now, NADC required forms from GS-12s and above in the Contracts Division, and GM-13s, Navy Commanders and above virtually everywhere else. This year, as a result of recommendations from two different outside audit teams, we are extending the filing requirement to include all COTRs regardless of grade.

We hear a good deal of complaints about the forms. Many people see them as unnecessary paperwork, while others argue that they are an unwarranted invasion of personal privacy. Although some aspects of the filing system are ripe for criticism, it is abundantly clear that the system is here to stay. In fact, Government-wide, the filing of personal financial information is on the increase. I think it helps not to take the filing as a personal affront — to bear in mind that the forms are not aimed at trying to trap dishonest people, but to help honest people stay out of trouble. The primary

purpose of filing is simply self-assessment. It is directed at the overwhelming majority of employees, who are honest, but susceptible to inadvertent mistakes.

For those of you who will be filing a 1555 this fall — please be sure to complete all three blocks in Part 1. If appropriate, put "None" in the block, rather than leaving it blank or writing "Not Applicable." Timely filing is also important. The forms are to be completed no earlier than 30 September and no later than 31 October. As many of you know, we are required to keep the forms for six years after filing. Thus, we have your prior 1555s in our locked files, and if it would help you in completing this year's form, please feel free to contact the Office of Counsel for a copy of what you filed last year.

Letter to the Editor

Is NADC cafeteria exempted from Warminster recycling law? It seems that providing extra bins for juice bottles and aluminum cans is not too much of an inconvenience.

Use of biodegradable containers and trays instead of polystyrene products is
Continued on page 7

SECDEF speaks

POW/MIA recovery supported

By Master Sgt. Mary A. Peterson, USA
American Forces Information Service

Sept. 15 is National POW/MIA Recognition Day — a time to honor America's returned prisoners of war and to rekindle the resolve to account for American servicemen still missing.

Since some 590 American prisoners of the Vietnam War were released from North Vietnam in March 1973, the Department of Defense and the U.S. government have strived to account for 2,344 Americans still listed as prisoners or unaccounted for.

Since 1974, 391 sets of remains have been returned to the United States from Vietnam, of which 209 have been determined to be those of missing Americans. Since the mission of retired Army Gen. John W. Vessey, special presidential emissary, to Hanoi in August 1987, the Vietnamese government has repatriated 227 remains. Of those, the Central Identification Laboratory in Hawaii has positively identified 65 as American servicemen listed on the Missing in Action and Prisoner of War rosters.

The most recent identification was on Aug. 1 when the Department of Defense released the names of the remains of three service members.

Identified were Air Force Col. Bobby Kirby of Atlanta, pilot of a B-52 that crashed in 1972 in North Vietnam; Army Maj. Robert G. Cozart Jr. of Hammond, La., pilot of an O-1G

helicopter shot down in 1970 over South Vietnam; and Army CW2 Michael B. Varnado of Ferriday, La., who was piloting a UH-1H helicopter when it crashed along the Cambodian/South Vietnamese border in 1970. Varnado was reported to have survived the crash and died in captivity.

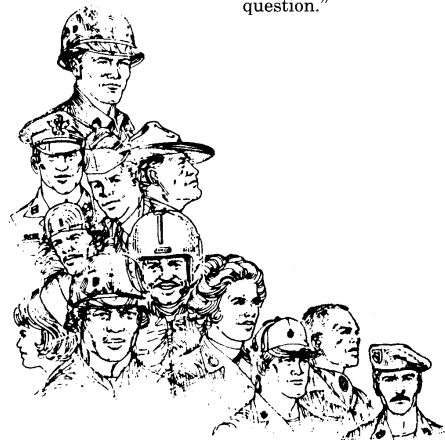
The most recent repatriation occurred July 31 when 15 sets of remains believed to be those of U.S. servicemen were turned over to U.S. military officials. As in previous actions, the Central Identification Laboratory will examine the remains to establish positive identification.


The United States is also making efforts to gain access to North Korea where an estimated 6,000 Americans are still unaccounted for — including 389 who were listed as prisoners of war.

In his address to the members of the National League of Families of Prisoners of War and Missing in Action in July, Secretary of Defense Dick Cheney reinforced DoD's strong support for the recovery effort.

"We have an enormous task before us made more difficult by the political realities of Southeast Asia. No matter how difficult, our dedication to this search must not wane," Cheney said.

"We continue to take very seriously all reports of live prisoners. The answers to this most vexing issue lie with the Indochinese governments, not here in Washington," Cheney said. "The burden is on them to supply satisfactory answers to this sensitive question."





Reflector

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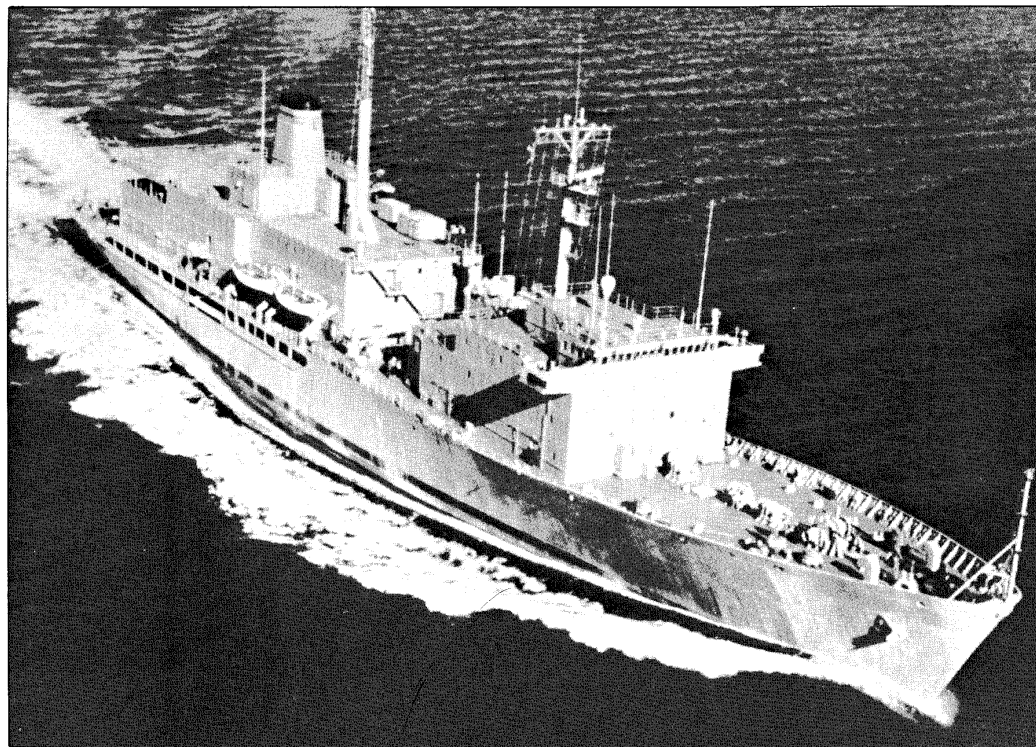
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Assistant Editor	Margaret Vigelis

NADC takes the helm in auto ship steering



USNS Maury equipped with NADC-developed real time computer controlled track keeping system.

Photo provided by Thermacore

By Jules Kreigsman

The Center's Precision Navigation System Development Division has developed a real-time computer controlled track-keeping system that very accurately steers an ocean survey ship along a prescribed track of constant heading.

Prior to this, a less accurate track control was used. The ship's autopilot automatically steered a constant ship heading while someone manually checked that ocean currents and/or wind hadn't induced the ship to drift off the track.

This new system consists of an Integrated Navigation System, a track-keeping interface and the ship's autopilot. The navigation system computer integrates position data from NADC-developed satellite navigation receivers, radio navigation receivers, Inertial Navigation System and various instruments which measure velocity. It then develops the best present position (BPP) for the ship. The navigation computer also receives a manual input on the Desired Ground Track and the coordinates of a point along the track. Together, these define the track-line to be steered. At prescribed, equally spaced times, the BPP is compared to the closest track line position through an algorithm which determines the distance that the ship is off-track. The off-track distance is used to develop proportional and integral corrections which are fed via the track-keeping interface to the autopilot. The autopilot accepts the correction signal as a bias to the desired heading, resulting in the ship being steered back to the desired ground track.

This new tracking system is currently in use aboard the USNS DUTTON, the USNS HESS, the USNS MAURY, and the USNS WYMAN.

Women's Equality Luncheon held; excellence award presented

By Mary Ann Brett

"Give 110% and you'll get 110%," said former Philadelphia Eagles linebacker Bill Bergey. "You will be rewarded proportionately to the amount of hard work you put into anything," stressed the famous football player who went from nearly quitting his career in 1972 to becoming the highest paid defensive player in 1978.

Bergey offered these and other words of motivation during his keynote address to attendees of the Women's Equality Day luncheon. His sentiments were echoed by Technical Director Guy Dilworth who said he would continue to strive to create an environment at NADC where hard work is justly rewarded.

Sponsored by the Federal Women's Program (FWP) Committee, the luncheon is held each year as one of its many activities aimed toward career development, day care, and other pertinent concerns. The luncheon is also used as the staging place for presenting the NADC Federal Women's Program Award for Excellence (formerly Woman of the Year). This award was established to recognize and honor an employee who has made an outstanding contribution to the enhancement of female employees at the Center and/or the local community, and to encourage high standards of achievement by others in these areas.

This year's award was presented to Regina Gasuk of the Tactical Air Systems Department. Gasuk was recognized for advancing from a GS-3

Clerk Typist to the Program Analyst position she presently holds. She was also cited for her work in the Center's Federal Junior Fellow recruitment effort, the Career Enhancement Series for Secretarial, Clerical and Administrative Personnel, and for community involvement with the Girl Scouts, Cub Scouts and Centennial Charities.

Other nominees for the award included: Jocelyn Alston, Christine Biscardi, Laurie Bryner, Mary Donnellan, Dianne Granata, Maureen Hanna, Phyllis Morway, Judy Scott, Marge Steenhoff and Marleen Weaver.

For more information on the Federal Women's Program, call Robin Halperin on extension 1366.



Photo by Drew Schmith
Bill Bergey speaks on motivation.



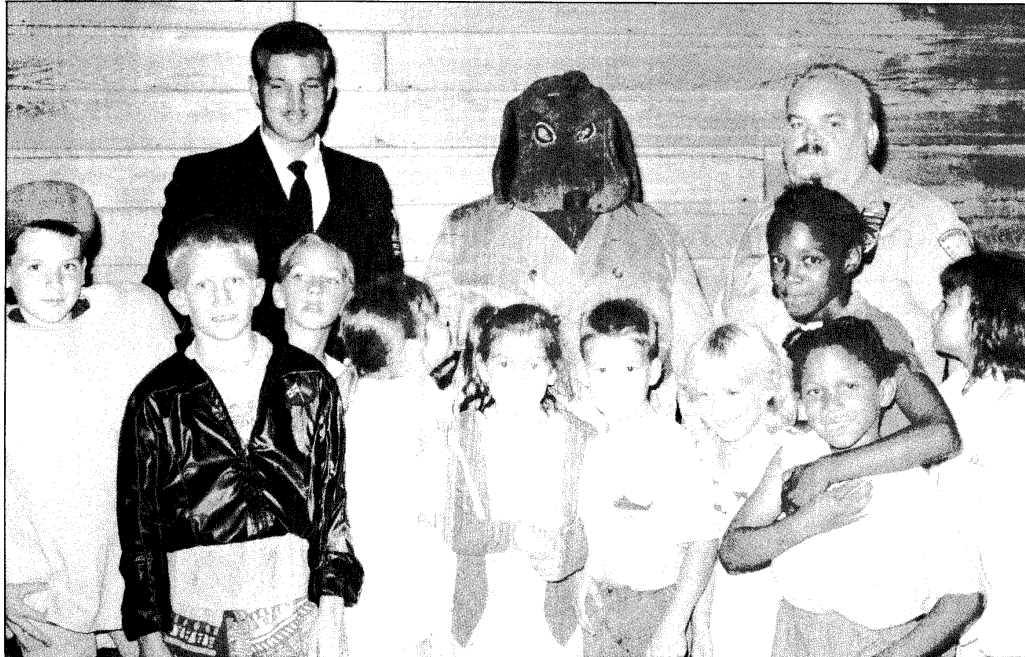
Excellence award winner Regina Gasuk with Anne Marie Burke, also of the Tactical Air Systems Department.
Photo by Drew Schmith



Award nominees included: Phyllis Morway, Dianne Granata, Marge Steenhoff, Mary Donnellan, Christine Biscardi, Marleen Weaver, Regina Gasuk, Maureen Hanna, Judy Scott, and Jocelyn Alston.

National Night Out Against Crime

Crime dog visits Navy housing



By JO2 Michael DelleDonne

"Take a bite out of crime." That's the message McGruff, the crime fighting dog said, when he visited Shenandoah Woods Housing Complex to promote National Night Out Against Crime.

National Night Out was a nationwide operation in which all residents were encouraged to sit outside with their neighbors, and to keep outside lights on between 8p.m.-10p.m. This was done to discourage criminals from practicing their trade.

Participating in the project were a variety of individuals including Housing Manager Nancy Fahringer and her staff, JoAnn West, Jim Kingston, Dave Ritho and ATC Daniel Ader. Dave Ritho elaborated on the project on a pamphlet that was distributed. "We told the kids there would be a suspicious looking 'character' who didn't know the Navy dress code walking around the housing area." "If they saw him they were to report it to me to claim a free prize. We had over 30 calls; it was outstanding. Chief Ader, our suspicious "character," deserves a lot of the credit."

At a future date, parents may bring their children to the Youth Center to be fingerprinted and photographed for identification.

Photo by JO2 Michael DelleDonne

Children from Navy housing gather with some of the Night Out Against Crime's adult participants: ATC Daniel Ader, Crime dog "McGruff", and Head of the Crime Prevention Unit for Warminster, Officer John C. Sparks, Jr.

Energy sources, conservation for 21st century

By Michael Blank, P.E.

Very soon we will be moving into the 21st century. America has the same dynamism and intelligence, democracy and strength, productivity and capability that made it a world leader after the Second World War and will ensure our leadership into the 21st century.

One of the most important resources which will make AMERICA WORK is energy.

Energy is used in construction and transportation, agriculture and industrial equipment and consumer appliances. We hope the next century brings new inventions for energy sources and the United States will not have to depend on oil imports.

According to U.S. Department of Energy the following energy sources

exist: natural gas, water power (hydropower) nuclear energy, solar energy, wind power, geothermal power, petroleum and coal.

Natural Gas accounts for about 35% of that used in the United States. Natural gas is the cleanest and most convenient fossil fuel. It can be transported through underground and above ground pipelines.

Water Power (Or Hydropower) is produced by water in rivers and streams passing through a turbine. It supplies approximately 10% of the nation's electricity.

Nuclear Energy is the second largest source of electricity in the United States. It produces approximately 20% of the nation's electricity needs. By the year 2000 nuclear energy may furnish 25-30% of the power in the United States.

Solar Energy is one of the cleanest sources of energy produced from an environmental point of view. There are several ways to use energy produced from the sun: (i.e.: storing and using solar heat, such as solar salt ponds and photovoltaics.) Other solar technologies involve using light, as well as solar heat to produce electricity. Projections of solar energy use by the year 2000 ranges from 7 to 23%.

Wind Power is actually a form of solar energy. Wind is caused by variations in the temperature of the air heated by the sun. There are more than 15,000 wind turbines in operation in the United States. Projections are that wind power would provide 8% of total U.S. electricity by year 2000.

Geothermal Power plants are generated by hot water or steam which comes from the earth. Geothermal power plants produce electricity less expensively than any other power plants.

Petroleum provides the largest contribution of any energy resources to total U.S. energy needs. About 40% of the energy used in U.S. comes from petroleum. According to various sources the United States only has about 40 to 50 years (at current consumption rates) of proven oil reserves. That is not a long period of time. Energy conservation will have an important impact on U.S. economy and national security.

Coal The U.S. has the largest recoverable coal reserve, 28% of the world's total coal accounts for 55% of the primary energy used by electric

utilities.

According to the "Report of the Energy Project" at The Harvard Business School, if the U.S. were to make a serious commitment to conservation, it might well consume perhaps 30% less energy than it now does, and still enjoy the same or an even higher standard of living. That saving would not hinge on a major technological breakthrough, and it would require only modest adjustments in the way people live.

Moreover, the cost of conservation energy is very competitive with other energy sources. The possible energy savings would be the equivalent of the elimination of all imported oil — and then some.

NADC's total energy usage consists of averages of 84% electricity, 12% fuel oil, 3% natural gas and 1% propane gas. Electrical use is heaviest in summer due to air conditioning. For example, in June 1989 NADC paid \$279,075 for electricity and \$3,464 for oil, and in December 1989 NADC paid \$230,736 for electricity and \$72,685 for oil.

As you can see fuel oil use is heaviest December through March due to the heating season.

Our experience shows that employee involvement at all levels Energy Coordinators, Publications, and Beneficial Suggestions is a very important part of Energy Conservation.

Numerous beneficial suggestions are submitted each year concerning Energy Conservation, and we should continue our efforts to improve energy efficiency at work and at home.

CHOLESTEROL FACTS

High blood cholesterol is one of the three major controllable risk factors for heart disease. Cigarette smoking and high blood pressure are the other two. A risk factor is a habit, trait or condition that increases the chance of getting a disease.

Cholesterol is an odorless, fat-like substance. The body uses it to make cell walls and for other functions. The amount of cholesterol in the blood is affected by the amount of cholesterol the body makes as well as the saturated fat and cholesterol in the foods consumed. The body makes all the cholesterol it needs.

The desirable level of total cholesterol is less than 200 mg/dL (milligrams of cholesterol per deciliter) of blood. Borderline

high blood cholesterol is 200-239 mg/dL, and high blood cholesterol is above 240 mg/dL. Levels above the desirable range should be treated after consultation with a physician. Most treatments begin with changes in the diet that stress lowering the consumption of fats and cholesterol.

