

Third Nike Zeus Intercept Includes Decoys

The Redstone Rocket

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BIDS FOR SYSTEM DUE THIS MONTH

A mid-January date has been established for submission of proposals for requirements for an automatic engineering drawing storage and retrieval system.

The proposal date was disclosed to some 75 representatives of more than 25 industrial concerns at a bidders conference conducted at Missile Command headquarters recently.

The conference was highlighted by presentations on the proposed system and the anticipated requirements by Brig. Gen. H. P. Persons, Jr., Deputy Commanding General, Air Defense Systems, and Col. E. V. Lau, Director of Procurement and Production.

Under current procedures, several hundred thousand engineering drawings on various missile components are maintained on file at the Command. Requests for individual drawings require a search of the files and reproduction, a time consuming process.

The proposed new system would perform the same functions on a fully automatic basis and within a fraction of the time now required. Savings in manhours is expected to be substantial.

The system involves microfilming some 200,000 missile parts drawings initially. Contractors were told that growth capability would be required in the accepted proposal.

It will be operated by the documentation center of the Procurement Directorate.

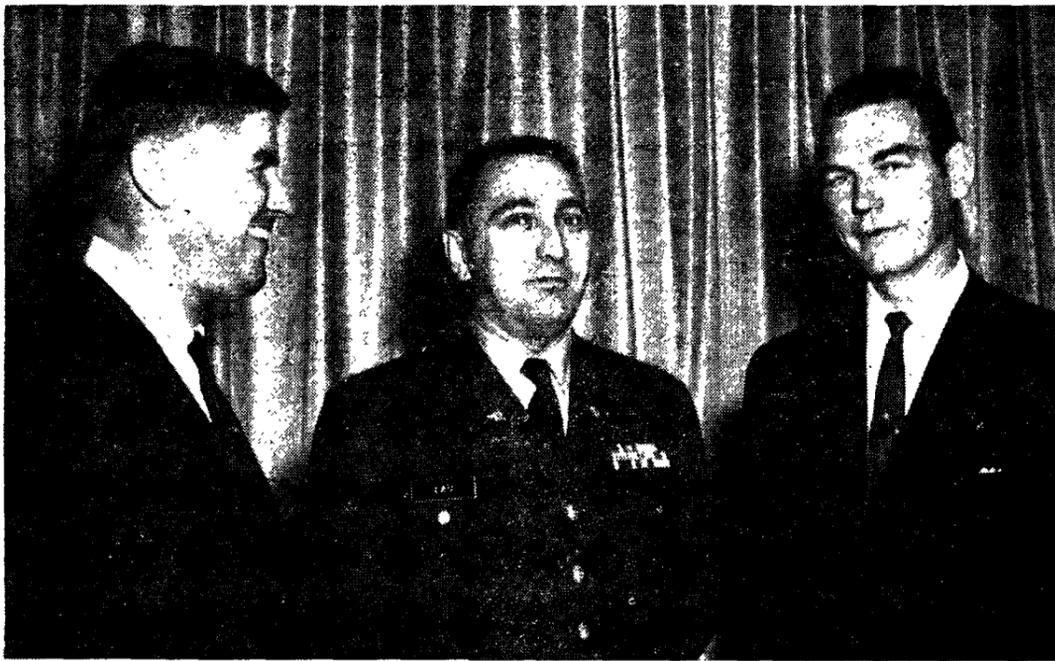
Robert E. Manley, of the Procurement Division, and Harry Patterson of the Engineering Documentation Center, participated in the presentation.

They were joined by Margaret Hamilton of Procurement and Hardy B. Jackson of the Legal Office in a panel which answered Contractor-posed questions concluding the conference.

LANCE FEATURED

The third in the current series of features on the Missile Command Project Offices throws the Rocket spotlight on the Lance this week.

A complete rundown on the system and the people who manage it will be found starting on page 4.



BIDDERS CONFERENCE—The Directorate of Procurement and Production recently briefed commercial bidders on its concept of an automatic engineering drawing storage and retrieval system. Explaining the system were, left to right: Robert E. Manley of the P&P Directorate's Procurement Division; Col. E. V. Lau, Chief of the Directorate; and Harry Patterson of the Engineering Documentation Center.

1962 Is Year Of

Challenge, Accomplishment

The Commanding General called it a year of change and challenge.

It was a year of new names and new missions for the Army elements at Redstone Arsenal.

It was a year of major accomplishment for many of our Army missile programs.

It was the year of the Army reorganization, the President's visit, a change in command.

It was 1962.

Major General Francis J. McMorrow took over the reins of the Army Ordnance Missile Command. Midway in the year, the "O" dropped from the command title, as we became a major commodity command of the newly-created Army Materiel Command.

Several of our weapon systems — Hawk, Hercules, Lance, Mauler, Pershing, Sergeant and Zeus — were selected for high priority project management and realignments of the command organization reflected the change.

Watertown Arsenal and three GOCO plants joined the family. The Army Ordnance Guided Missile School marked its 10th anniversary and gained a new boss—

the Continental Army Command.

President Kennedy visited Redstone and the Marshall Space Flight Center in September, the Secretary of the Army came in the Spring, the Chief of Staff looked in on Pershing tests at Cape Canaveral, General Frank S. Besson of AMC and all his major commanders convened a periodic top level conference here.

Thirty-five thousand men, women and children came to Redstone and sat on the ground in a searing August sun to hear Dr. Billy Graham.

Forty-five thousand attended the Open House in May. Army missiles passed in review, sky divers took that one long step, 150 Alabama Guardsmen spread their silk wings in a mass parachute drop.

At year's end, Army activities at Redstone — the Missile Command, Guided Missile School and the Army Missile Support Command—numbered 9,148 civil service employees and 3,570 military personnel exclusive of OGMS students. There were 3,741 contractors and other non-government employees on the Arsenal in Army

connected activities.

All of them had a new way to enter and leave the Arsenal in the year just passed as Martin Road's eastward extension to the Parkway opened for vehicle traffic and the Arsenal's new main gate was manned full time.

Many of them had a new place to work on the Arsenal. A realignment of functions early in the year instituted the largest mass move in the installation's history. Later in the year, the establishment of missile system project offices occasioned another shift for some.

The Computation Center was finished, the new R&D building begun.

Old organization charts came down, new ones went up.

It was a year of change, and General McMorrow said: "These changes have been met with understanding and enthusiasm by our people."

It was a year of challenge met.

Successful Year Capped By Firing

The U. S. Army's Nike Zeus anti-missile missile system capped a successful year with a spectacular intercept of a decoyed re-entry vehicle high over the Pacific on Dec. 22.

The Department of Defense announcement of the test said that the ICBM-boosted target vehicle intercepted by the Zeus missile was the first to be accompanied by decoys.

The early Christmas bonus for Col. I. O. Drewry, Zeus Project Manager, and his staff who direct the Zeus program here at Redstone was the third intercept of an ICBM-boosted target by the Zeus system announced during 1962 by DOD. An initial intercept was scored on July 19 and the historic achievement was repeated early in December.

News stories on the latest test emphasized the significance of the intercept of a decoyed target. No details were released on the number or nature of the decoy devices which accompanied the target.

Decoy devices are a means employed to confuse a defense system in an attempt to prevent it from isolating and intercepting the real target.

The complete text of the Department of Defense announcement of the intercept follows:

"The U. S. Army's Nike Zeus anti-missile missile system today successfully intercepted another re-entry target vehicle launched by an intercontinental ballistic missile in another of a continuing series of development tests.

"This was the first target to be accompanied by decoys.

"The Nike Zeus missile was fired and controlled from the Army test installation, at the Pacific Missile Range facility, Kwajalein Island in the South Pacific.

"Two Zeus missiles were fired in salvo during the engagement, the first of which made the successful intercept.

"The Army said ground tracking equipment indicated that the target vehicle was well within the lethal radius of the Zeus operational warhead.

"The second missile was automatically destroyed because of a technical defect.

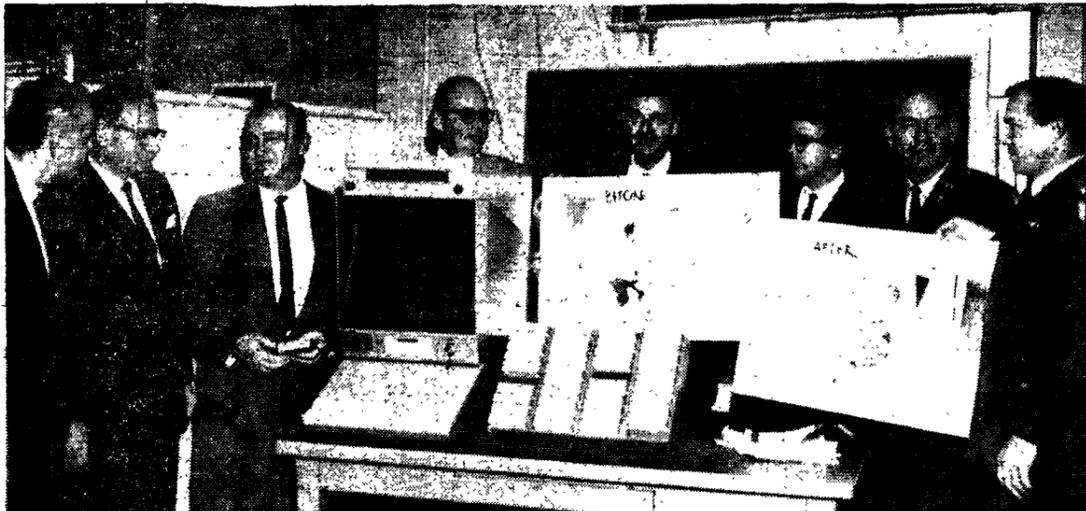
"Neither the intercepting missile nor the target vehicle carried a nuclear warhead.

"Ground distance from Kwajalein and the altitude at which the intercept took place were not disclosed.

"The target vehicle was boosted to ICBM velocity on a 5,000 mile trajectory using an Atlas ICBM booster fired as a training exercise by a crew of the Strategic Air Command.

"The capability of intercepting single ICBMs under research and development conditions is a valuable contribution to our under-

(See SUCCESSFUL on Page 3)



PM'S HEAR ABOUT 'ADDRESS'—The Army Missile Command Project Managers' Office were briefed recently on the Army Data Retrieval Engineering system—ADDRESS, for short. Project manager representatives present at the meeting included, L to R: J. P. Love, Mauler; John Godman, Pershing; Charles Sneed, Director of Procurement and Production; L. L. Gober, Mauler; E. L. Smock, Hercules; Lonnie Hightower, Hawk; Maj. A. A. Hard, Sergeant; and Lt. Col. Alfred Holston, of the Zeus.

Construction At Arsenal Totals Almost \$10 Million

From hand-ball courts to missile test facilities — the Army Missile Command has expanded in every conceivable direction during the past year.

And there's still more to come. Many construction or modification projects, at a total cost of \$9,523,649, are readily evidenced by a drive through this sprawling 40,000 acre installation.

You may pass over, or under, the \$276,900 Martin Road overpass, completed this year—itself a vital link to relieving heavy traffic during peak rush hours.

You will pass Army Missile Command Headquarters and glance south. Orange steel girders yawn skyward as one of the largest projects started during the year moves toward mid-1963 completion. The girders are part of the Army's new \$4,382,300 Research and Development facility.

Near Martin Road, a compact brick building completed during

the past year houses intricate equipment used by the Army in its computation programs.

Near the winding Tennessee River, new antennas bedeck slight buildings at missile test ranges. The buildings, long used in test programs, house newly installed target track facilities.

At the home of the Research and Development Directorate, workmen carry lumber to be used in a \$272,000 project to expand the building.

And, at the Redstone Army Airfield, heavy cargo planes droop earthward to a newly extended and strengthened runway. A recently installed airfield lighting system lines the strengthened runway.

At the Redstone Arsenal golf course, a stately golf house is evidence of an installation-wide interest in expansion.

In addition, scores of other small projects figure into the overall (See CONSTRUCTION on Page 3)

The Redstone Rocket

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Rocket Ruminations

"Whoso neglects learning in his youth, loses the past and is dead for the future." —Euripides

A Hope For Lasting Peace

The following New Year's message is forwarded by President Kennedy to the members of the Armed Forces:

"At this season, when men's hearts and thoughts are alight with the hope of a lasting peace in a world of good will, I would like to express the appreciation of a grateful nation to the men and women of our armed forces — to you, our guardians in peace in a world of danger.

"During the past months, your quiet readiness has proved vital to the preservation of peace at times when world freedom has been in hazard. Those whom you defend send their thanks to you — and we all express our gratitude that the strength of our armed forces is thus used to assure the blessings of liberty for all men everywhere.

"To each of you, I extend warmest good wishes for a New Year of happiness and tranquility."

Basic Allowance for Quarters

New rates for officers and warrant officers

Pay grade	Without dependents			With dependents		
	Old	New	Dollar increase	Old	New	Dollar increase
O-10 General	\$136.80	\$160.20	\$23.40	\$171.00	\$201.00	\$30.00
O-9 Lieutenant general	136.80	160.20	23.40	171.00	201.00	30.00
O-8 Major general	136.80	160.20	23.40	171.00	201.00	30.00
O-7 Brigadier general	136.80	160.20	23.40	171.00	201.00	30.00
O-5 Colonel	119.70	140.10	20.40	136.80	170.10	33.30
O-5 Lieutenant colonel	102.60	120.20	17.60	136.80	157.50	20.70
O-4 Major	94.20	120.00	25.80	119.70	145.05	25.35
O-3 Captain	85.50	105.00	19.50	102.60	130.05	27.45
O-2 First lieutenant	77.10	95.10	18.00	94.20	120.00	25.80
O-1 Second lieutenant	68.40	85.20	16.80	85.50	110.10	24.60
W-4 Chief warrant officer	94.20	120.00	25.80	119.70	145.05	25.35
W-3 Chief warrant officer	85.50	105.00	19.50	102.60	130.05	27.45
W-2 Chief warrant officer	77.10	95.10	18.00	94.20	120.00	25.80
W-1 Warrant officer	68.40	85.20	16.80	85.50	110.10	24.60

Rates E-4 (over 4 years) through E-9

Pay grade	Without dependents			With dependents		
	Old	New	Dollar increase	Old	New	Dollar increase
E-9 Sergeant major	\$51.30	\$85.20	\$33.90	\$77.10	\$120.00	\$42.90
E-8 Master sergeant	51.30	85.20	33.90	77.10	120.00	42.90
E-7 Sergeant, first class	51.30	75.00	23.70	77.10	114.90	37.80
E-6 Staff sergeant	51.30	70.20	18.90	77.10	110.10	33.00
E-5 Sergeant	51.30	70.20	18.90	77.10	105.00	27.90
E-4 Corporal with over 4 years' service	51.30	70.20	18.90	77.10	105.00	27.90

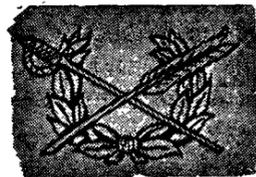
¹Higher present allowance authorized for enlisted personnel with 3 or more dependents.

Rates E-4 (4 years or less) through E-1

Pay grade	Without dependents			With 1 dependent		
	Old	New	Dollar increase	Old	New	Dollar increase
E-4 Corporal, under 4 years	\$51.30	\$55.20	\$3.90	\$77.10	\$83.10	\$6.00
E-3 Private, 1st class	51.30	55.20	3.90	51.30	55.20	3.90
E-2 Private	51.30	55.20	3.90	51.30	55.20	3.90
E-1 Recruit	51.30	55.20	3.90	51.30	55.20	3.90

Pay grade	With 2 dependents			With 3 or more dependents		
	Old	New	Dollar increase	Old	New	Dollar increase
E-4 Corporal, under 4 years	\$77.10	\$83.10	\$6.00	\$96.90	\$105.00	\$8.10
E-3 Private, 1st class	77.10	83.10	6.00	96.90	105.00	8.10
E-2 Private	77.10	83.10	6.00	96.90	105.00	8.10
E-1 Recruit	77.10	83.10	6.00	96.90	105.00	8.10

The Judge Advocate Advises



Many servicemen purchase gifts to show love and consideration of family and friends. Personal items are purchased to satisfy natural human desires either to "keep up with the Joneses" or to be the owner of cherished and dreamed of possessions. During these times many servicemen forget their limited income and "splurge" beyond their means.

The result is that debts are incurred which can't possibly be paid. Finance companies constantly urge to borrow money through news media.

Credit buying becomes the accepted as well as the easy way. Later, other necessities of life are purchased and more money is needed to pay off debts. The anecdote "Up to my neck in mud and somebody is about to throw a brick at my head," describes this situation extremely well.

COMMANDER FIRST HEARS

Generally, your commanding officer's first knowledge of these problems comes by mail and reads something like this: "... we realize you are not a collection agency, but since this indebtedness reflects discredit upon the service, we would appreciate it if you would..." By Army regulation, the unit commander must counsel the serviceman as to the circumstances of the alleged debt, and

determine whether the amount is justly owed.

The fact that a serviceman has contracted indebtedness beyond his means to pay indicates a laxity in handling personal affairs, which may be reflected in efficiency reports and reduce chances of promotion. Further, an established pattern of dishonorable failure to pay just debts is grounds for elimination from the service by board action under AR 600-208.

In certain cases trial by Courts-Martial under Article 134, Uniform Code of Military Justice, may result where failure to pay tends to bring discredit upon the Armed Forces.

THE JUDGE ADVOCATE SAYS

Take stock of your status in life. Examine your financial situation carefully before you buy or borrow. Do not live above your means.

When you find the outgo more than the income, reorganize your financial thinking and attack the problem with the objective of satisfying the obligations that you have contracted.

Then treat your financial affairs as a major issue, wisely weigh all factors involved and resist all inducements to purchase added merchandise that would place you in debt beyond your means to pay.

Ford To Develop Grenade Launcher

Ford Motor Company has received a \$232,000 Army contract to continue research and development on a 40-millimeter grenade-launcher to be mounted on U. S. Army helicopters.

Vulnerability of helicopters recently used in operations in Vietnam emphasized the need for the new weapon. Helicopter pilots expect to use the launcher in situations where enemy ground fire has harassed helicopter operations.

The grenade-launcher was designed by the Springfield Armory, a facility of the Army Weapons Command, and has been undergoing development and refinement for the past two years. It is capable of firing long, sustained bursts of 40 mm grenades with accuracy. It is regarded as highly effective when used as an anti-personnel weapon, or against trucks and other light military vehicles.

The launcher, designated the XM75, is compact and the lightest yet designed for a 40mm grenade. It was demonstrated successfully in a Hula helicopter before Defense Secretary Robert S. McNamara and service representatives at a recent Army Materiel Command review for the Army Tactical Mobility Requirements Board at Ft. Bragg, N. C.

'Ray Gun' Range Finder Developed

WASHINGTON (AFPS) — A crossbow far more accurate than the old-fashioned weapon used by William Tell to split the apple has been developed by engineers of Raytheon's Missile & Space Division.

The new "crossbow" is an electronic instrument firing a 20-foot lance of light to measure distances to targets in space or on the battlefield.

The engineers hope that this new highly accurate laser range finder will help solve critical ranging problems entailed in safe rendezvous of satellites and other space vehicles.

On the battlefield the device fires non-deadly spears of light which give target distances for pinpoint shelling of the enemy.

Weighting less than 30 pounds, the portable ranger makes use of pin-thin beams produced by lasers and the principles of radar measurement.

With the speed of light, (186,000 miles per second), the light-lance zips to distant target and reflects back. A photo-multiplier tube and miniature computer work together to calculate instantly the time it takes for the beam's round trip. The elapsed time matched against the known speed of light gives quick and accurate distance measurement.

For field use it can be mounted on a rifle stock with the heaviest portion, the power supply, carried in belt or back packs. In the air the lightweight equipment can be nose-mounted on most planes.

Range of the new equipment is hundreds of miles in the vacuum of space. On the ground its range is limited only by the line-of-sight or severe weather conditions.



It's time for us to pop out and wish you a joyous New Year. May 1963 fulfill your highest expectations of happiness and prosperity.

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Nike Ajax Gear Finds Many Uses

Second-hand missile equipment is facing a long and useful life after being phased out of the Army's Nike Ajax ground-to-air defense system.

For the past decade the Missile Command-developed Ajax has been a key link in the defense of the United States. Now, however,

Nike Hercules, faster and longer ranged, is replacing the Ajax at strategic sites throughout the nation.

As Ajax retires, gear used in the system is ushered out of the program. But the equipment is not destined for the scrap pile.

Scores of eager customers are finding new and unusual uses for this equipment at military installations and research centers.

The gear is useful to just about anybody who fires something into the air and wants to keep track of where it goes and what it does. It has many applications in space and industry.

To date, \$39,000,000 worth of radar equipment has been placed in the hands of willing recipients from Cape Canaveral, Fla., to the Naval Ordnance Test Station at China Lake, Calif.

Use of the phased-out equipment stretches from research in thunderstorms at the New Mexico Institute of Mining and Technology, to more conventional usage in tracking vertical take-off aircraft at Langley Air Force Base, Va., by NASA.

At the New Mexico school, Ajax radar has been highly praised by physics Professor Marx Brook. "We were overjoyed at obtaining such modern equipment," he said.

Brook is primarily concerned with research in atmospheric physics in lower altitudes. The present research interest is in electrical and precipitation phenomena in thunderstorms. The radar system acquired under the Nike Ajax phase-out program will operate from Mt. Baldy, which rises 10,620 feet. This will permit a survey of rainfall patterns over an area of about 30,000 square miles of central New Mexico.

In speaking of the equipment, Dr. Brook said:

"It is not possible for us to estimate the dollar savings and time savings derived . . . we never could have afforded the purchase of a system costing as 'little' as \$50,000, let alone a \$750,000 system."

Elsewhere, Ajax equipment is being received with equally enthusiastic confidence. The gear is doubly welcome because of the substantial monetary savings possible and because it is immediately available.

Marquardt Corp., which was working on a NASA-associated program to evaluate unusual wind profiles at altitudes in excess of 100 miles, told the Missile Command:

"Had the Nike Ajax equipment not been available . . . the expense to the government to conduct this research would have been doubled or tripled."

Marquardt has been using Nike-Ajax on Naval and Air Force research programs since 1957.

During the past summer, the U. S. Naval Ordnance Test Station, China Lake, was given a requirement for improved range instrumentation facilities because of increasing complexity of tests being performed there. Through the Nike Ajax phase-out program, the Station acquired certain surplus equipment. This resulted in an estimated savings of well over \$100,000 plus a minimum of three months time and elimination of time-consuming contractual preparations.

Range safety on the Atlantic Missile Range at Cape Canaveral is also benefiting from the Army's 10-year-old Nike Ajax. The U. S. Air Force, which operates the range, had some of the basic radars modified in 1958.

Col. George T. Galt, Range Program Director, said:

" . . . These units have displayed excellent reliability during their period of operation. The units were modified at a cost of approximately \$100,000 each. Had two equivalent radars been developed for this purpose, they would have cost USAF approximately \$1,300,000."

Other Nike-Ajax equipment has

just been added to the Range at a modification cost of \$40,000. Development of such gear would have cost \$250,000 each.

NASA made effective and economical use of the hardware in tests of a variable stability helicopter flying simulator and other vertical take-off landing craft in U. S. Army Transportation Research Command-sponsored programs.

Utilization of the equipment resulted in an estimated monetary saving of about \$475,000, and made it possible to place a system in operation at least six months earlier than a newly procured system could have been delivered, NASA said.

Transfer of the materiel is conducted in accordance with the Defense Interservice Supply Support Program administered by the Defense Supply Agency.

At Redstone the Interservice Supply Support Program is managed under the direction of the Supply and Maintenance Directorate. Heading the work is ISS Coordinator Costa E. "Gus" Apostolakis. Col. R. W. Van Wert heads the S&M Directorate.

When the Ajax began phasing out, officials sent out about 1,500 brochures to possible users. When

an agency sees an item it can use, a telephone call to ISS coordinators at the Army Missile Command sparks a chain reaction. It results in advantageous non-reimbursable transfer of material to an agency which can use the equipment.

The trading program is designed to assure that retired missile equipment does not end up in the scrap pile. The inter-service effort is designed to save tax payers' dollars on equipment which has served long and well defending the nation.

SUCCESSFUL

(Continued From Page 1) standing of the basic factors involved in problems in this field. The tests do not represent an offense-defense contest, but from the performance of components of the Nike Zeus and the behavior of re-entry bodies, a better estimate will be possible following the test series of the capabilities of the Nike Zeus system.

"Testing of the Nike Zeus system using ICBM launched target vehicles will continue on the Pacific Missile Range."

CONSTRUCTION

(Continued From Page 1) picture at Redstone Arsenal.

The building program, planned on a long-term basis, is designed to expand and modify facilities for a glove-like fit to requirements to accomplish the job.

Dorman B. Eaton of New York, a leader in the civil-service reform movement, was the first president (now called chairman) of the Civil Service Commission under the 1983 Civil Service Act. He is also credited with having drafted legislation which became the Act.



Among the good wishes popping out all over, we hope you'll find time to accept ours (which are very warm, very sincere) for a New Year brimming over with the best things of life! Thanks, too, for your good will and loyalty.

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Radio, heater. — —
Reduced to \$1095.00 — NO MONEY DOWN!

1958 CADILLAC SEDAN DeVILLE
New tires, air conditioned. Solid Black. Priced specially for you — —
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\$1095.00 — NO MONEY DOWN!

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Straight shift — two to choose from.
\$695.00 — NO MONEY DOWN!

1955 FORD VICTORIA HARDTOP V8
Automatic, power steering, just like new.
\$695.00 — NO MONEY DOWN!

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V8, automatic, with radio, heater.
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Automatic. 21,000 miles, all 5 original tires. White with Blue top. Immaculate — —
\$1195.00 — NO MONEY DOWN!

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Young, Enthusiastic Staff Manages Lance



COL. W. W. HOLMES—Lance Project Manager



LANCE SECRETARIES—Here are half of the secretaries in the Lance Project Office. Seated in front are: Betty Simpson (left), and Nina Amacher. Standing from the left are: Shelba Jones, Frances Woody and Violet Perry.



MORE OF THE SAME—The remainder of the Lance staff of secretaries are: seated, Jane Jones (left) and Jean Rossman; standing from the left: Marie Hensley, Thomasine Pince and Carolyn Powers.

New System Provides Simple And Low-Cost Support

The Lance of early warfare was truly a simple, rugged and reliable weapon.

Today's Lance as visualized by the youthful planners of the Army's newest missile system will live up to the age of old military requirements.

Lance, known only as Missile "B" during its concept planning stage, is named for the ancient weapon that served its users so well. One of the weapons which the Army has singled out for special Project Management, its development is being managed from Army Missile Command here at Redstone.

The name, Lance, is the only thing that has the creaky joints of age in either system design or of personnel managing its development. Col. W. W. Holmes, still a young man himself, has years of experience as a missile expert. In heading Lance development, he is directing the efforts of 35 bold young missile planners.

Project Manager Holmes is proud that he has a young, enthusiastic staff. "Though most of these men are in their 30s, collectively they have vast missile experience," he said.

Col. Holmes said that Lance is not just a new name for another ballistic missile. The Lance story began in 1956 when the Army missile planners described requirements for a simple, reliable, low-cost, yet accurate missile to provide greater fire support for Army divisions.

New Approach

To meet the challenge of this and similar requirements, a new approach to inertial guidance was conceived and developed theoretically by Dr. W. C. McCorkle and other members of the Advanced Systems Laboratory. A unique test vehicle was designed and tested by engineers and scientists as the R&D Directorate proving the

validity of the new guidance concept.

Lance came into being as an outgrowth of the test vehicle development, and the name Missile "B" became Lance soon after the recent naming of Chance-Vought as a prime weapons contractor.

The system is the first Army system to undergo a program definition phase prior to development. Col. Holmes and his staff were instrumental in briefing contractors and officials of the Army departments on system requirements.

This story gives a brief outline of Lance and the people who are doing the job of getting it into the hands of Army troops.

Col. Holmes came to the project manager post last July from the Ordnance Weapons Command where he served as Director, Plans and Programs and Deputy Project Manager for the M14 rifle program.

A native of Kentucky, he is a graduate of Western Kentucky State College, where he majored in mathematics. He has done graduate work in mathematics at Peabody College, and in industrial management at the University of Kentucky.

Col. Holmes is a graduate of the Army Industrial College, the Ordnance School, and the Command and General Staff College.

Almost 30 Years

He entered military service in 1934 in enlisted status and was commissioned in the Infantry Reserve two years later. He gained his Regular Army commission

following World War II.

The missile expert, holder of the Army Commendation Medal, served as executive officer and commanding officer of the R&D Sub-Office, Air-to-ground Rocket Development in 1944-45.

For the next two years he was executive officer at White Sands Proving Ground and then went to the Karsfield Ordnance Depot in Germany for another two year tour.

Upon returning to the United States, Col. Holmes served as chief of Research and Development, Springfield Armory, Mass. Subsequent assignments include that of a general staff officer, J-4 Division, of the Army's European Command, the Weapons Guidance Laboratory, Wright Air Development Center, and the Air Force Armament Center, at Eglin Field, Florida.

A young engineer from Conyers, Ga., John A. Robins, has played a major role in the development of the new system as deputy project manager. He has directed much of the Lance activity from the conception stages through the present program definition phase.

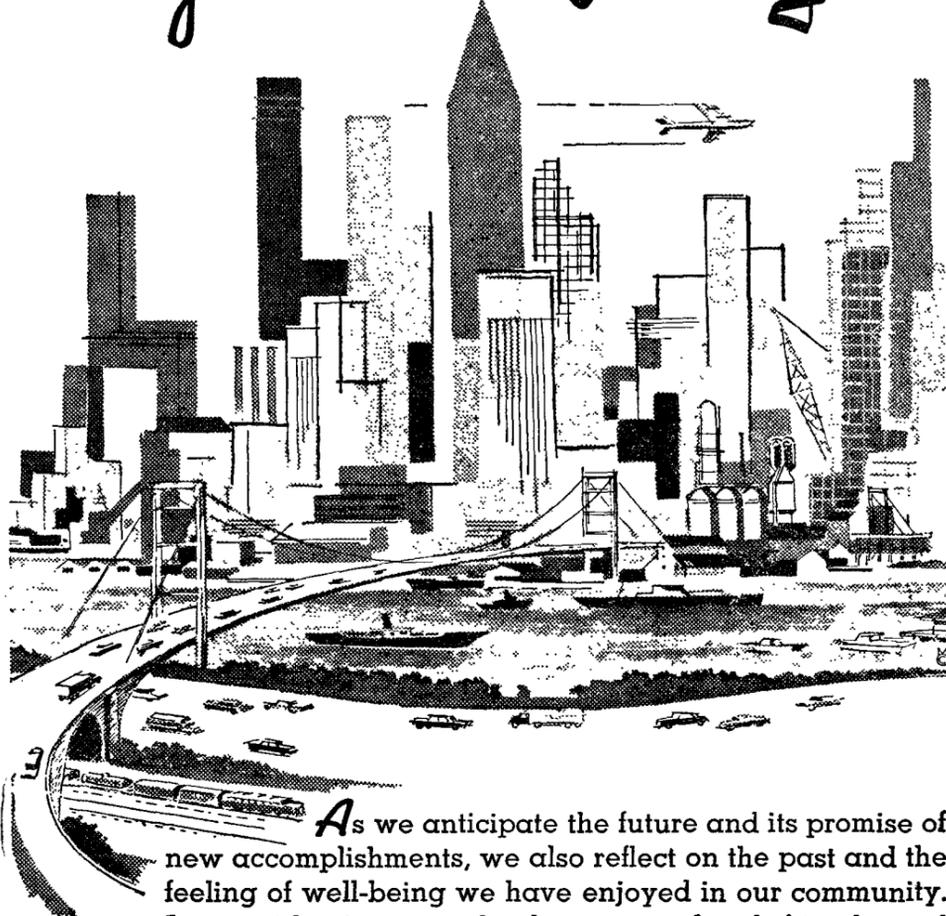
Robins said some 108 contractors were invited to submit ideas

(See LANCE on Next Page)



JOHN ROBINS

Progress in the New Year



As we anticipate the future and its promise of new accomplishments, we also reflect on the past and the feeling of well-being we have enjoyed in our community. It is with sincerest thanks to our loyal friends and customers that we wish happiness in the New Year to all.

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(Continued From Preceding Page) on how they would build a system using the Army's parameters. Representatives from 84 contractors gathered at Redstone in June to ask questions and be briefed on the system.

Unique Feature

The deputy project manager stated the industries were given 60 days to submit proposals for the total development program through deployment. In their proposals, contractors told the Army how they would design a system. Robins pointed out a unique feature of the bids was the fact that the contractors were asked for and submitted proposals on how they wanted to work with the Army and how they would solve technically the Lance requirements.

Eight contractors submitted proposals, and two of them, Chrysler Corp., and Chance Vought Division of Ling-Temco-Vought, Inc., won program definition contracts for the tactical Lance system. The development contract was subsequently awarded to Chance Vought.

Robins gained his bachelor of science in mechanical engineering from Auburn University after having spent a two-year tour with the Navy in the Pacific.

He came to Redstone in 1951 and was assigned as a project engineer on a new program known as "Honest John." In 1954 Mr. Robins became the chief R&D project engineer for the Honest John program which was later expanded to include Littlejohn and an improved version of Honest John.

As deputy director of the Large Rockets Office in 1960, Robins participated in the study of the 1965-70 requirements and state of the art for an advanced general support weapon.

He participated as a part of the Ordnance team during terminal stage of Missile A component development program and collaborated in the overall preparation and submission for Ordnance positions on these systems.

A key member of the Lance project manager's office is Maj. William A. Humphreys who actually is assigned to and represents the Army Artillery Board. Maj. Humphreys, a graduate of the U. S. Military Academy, main function is to see that the user's



WILLIAM A. HUMPHREYS

desires are incorporated into the system.

Because of his deep rooted interests and expertise in the missile business (the Major holds a MS in Aerospace Engineering from the University of Arizona) Maj. Humphreys is a full fledged member of the Lance project team. In this manner he has been able to completely integrate the user's needs into the system.

The epitome of enthusiasm in any technical job is expressed by Lance's technical director, Roy C. Rogers. His responsibility entails supervising four of the project office's major divisions. They are the Engineering, Systems Support, Quality Assurance and Reliability and Test Divisions.

Step Forward

"Lance is a forward step in guidance systems," asserted Rogers. "Accuracies formerly achieved only with platform inertial



ROY C. ROGERS

systems are now possible with the simple, economical Lance guidance system called Automet."

Rogers, a former basketball center for the Arsenal Service Team went on to add that a new look is being incorporated in Lance development. "We are trying to pay attention to cost of the system in relation to reliability," he stated. He pointed out that Lance is being developed with a missile cost goal in mind. "If costs go above an established amount, the system is not practical."

The technical director said evidence that engineers pay attention to cost is a healthy sign. In the past, the cost of a ballistic missile has not been a major consideration, he stated, but "in Lance we are paying strict attention to cost in relation to reliability in fielding a useable system."

Roy, whose avocation is directing the choir at Huntsville's First Christian Church, said, "complexity is no longer impressive. Simplicity is impressive."

Rogers has been at Redstone for 12 years and has been in the Lance system since the original study in 1958. He is a native Oklahoman and holds a bachelor of science degree in aeronautical engineering from Iowa State University.

He entered the service in 1950 and spent 22 months at Redstone as an enlisted man in the Army's Scientific and Professional Personnel Program working on the development of a 2-inch aircraft rocket. After being discharged, he was named project engineer on the rocket program. Rogers became project director of Missile A component development program in 1959 and he directed the program to a successful conclusion in 1961.

Rogers has the able assistance of J. D. Hance, acting chief of the System Support Division. A University of Kentucky graduate, Jack has the many tasks concerned with supporting a weapons system.

Hance manages all aspects of maintenance, supply control, stock storage, surveillance technical assistance, and new equipment training. Equipment specialists

James R. Hartley and Lloyd F. Deppensmith care for the many technical problems arising in the support effort. Missile system training needs are handled by Ivan W. Maurer.

Another assistant to the technical director is James Love, director of the Quality Assurance and Reliability Division. A graduate of Evansville College, Jim is developing and will direct strict quality engineering throughout the research, development and production stages of Lance. His job is to provide a continuous assessment and upgrading of quality and reliability.

The testing of Lance is directed by John D. Thomson, chief of the Test Division. Engineers Thomson, and H. L. Mitchell and 1st Lt. Don P. Duff will assure that the development test program yields data that will result in a proper evaluation of total weapon system performance.

Distant Points

This is no small task because the direction of the test program involves far-flung activities. Testing will be conducted at such locations as White Sands, Ft. Bragg, Aberdeen Proving Grounds, Ft. Greeley, Alaska, and at various contractor plants across the country. Maximum integration of tests is the key to the ac-



J. D. THOMSON

complishment of this rigorous program at minimum cost. Thomson has several years test direction experience, gained while performing the same function on the Honest John and XM-50 programs.

The Lance System Engineering Division is divided into three branches. Lawrence R. Segel heads the System Integration Branch charged with the direction and control of the technical effort to assure development of an optimum weapon system in terms of performance and cost-

(See LANCE on Next Page)

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Graduate Classes Leading Toward Advanced Degrees Will Be Taught in the Fields of Chemistry, Engineering, Education, Mathematics and Physics.

Persons who have not previously attended the University wishing to enroll for the Winter Term must make application and file official transcripts well in advance of Registration, so that determination of eligibility can be made by the Office of Admissions and Records of the University.

For further information concerning these courses, and for information concerning application, contact the University Center offices in the Huntsville Center building on University Drive West, Telephone 539-7731. Registration for the Winter Quarter will be on January 3 and 4, 1963.

Classes Will Be Offered Morning, Afternoon, and Night



BRANCH CHIEFS—Clem Rhodes (left) and Lawrence Seggel.

LANCE

(Continued From Preceding Page) effectiveness.

Seggel began his missile development career as executive officer of the Ordnance Missile Laboratories Division of ARGMA in 1958. Upon his release from active duty in 1960 he became project engineer for testing on the Missile A component development program.

The Warhead and Ground Support Equipment Branch has the mission to control and direct the technical efforts involved in fielding those portions of the system. Another Auburn graduate, Frank F. Fleming, is the branch chief and as such devotes much of his effort to the direction of warhead developments.

Some six separate heads are to be developed for the Lance system. Fleming draws upon some nine years experience here at the Arsenal as project engineer for warhead development on the Honest John and Littlejohn systems.

A Georgia Tech grad, Clem O. Rhodes, Jr., brings ground support equipment development experience from the Redstone, Jupiter, Saturn and improved Honest John systems. He is responsible for assuring effective development of the Lance GSE consisting of a self-propelled launcher, a transporter-loader, a light-weight launcher, and all ancillary equipment.

The chief of the Delivery Systems Branch, Sam L. Hardy, is a product of the Ordnance Missile Laboratories of ARGMA and the Propulsion Laboratory of R&D. He has gained valuable experience from work on such systems as Honest John, Littlejohn, Pershing and Missile A.

As branch chief it is his responsibility to direct the development of the missile, less warhead.

Program Director Gregory J. Long, fills the third important position on Col. Holmes' technical staff.

Honor Graduates

An honor graduate from Lehigh University in industrial engineer-



G. J. LONG

ing, Greg is charged with the responsibility for managing the total cost and scheduling aspects of the Lance.

The program director, in addition to directing the procurement activity, has a three-branch Program Management Office. They are Plans, Programs and Evaluation and Review.

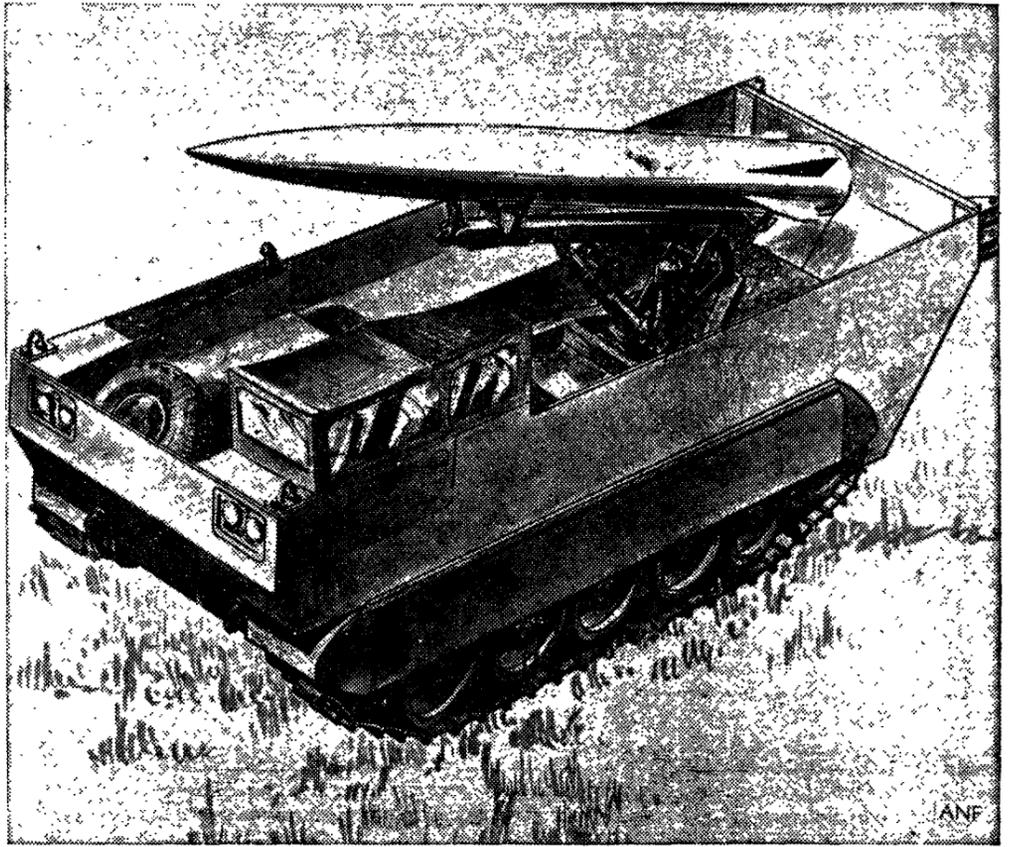
Long became the program director last August after serving as a special assistant for project management to Gen. Hurst. He also formerly served as chief of the Management Engineering Division of ABMA, after having come to Huntsville from the Rock Island Arsenal in 1959. At Rock Island he was chief of Methods and Standards Dept. and an OMETA consultant.

He keeps his hand in the academic world by serving as a part-time assistant professor at the Huntsville University Center. The supervisor, General Engineer, a registered professional engineer, holds a Masters degree from Lehigh.

Euel Ayers, a program specialist from the University of Georgia, develops all Lance planning documents. His deputy is Robert Gunner from the University of Florida. 1st Lt. Charles Tatham handles the production and logistic aspects of the Plans Branch.

Personnel in the Programs

Army's newest design for battlefield missile



ARMY'S LANCE—This is an artist's concept of the Army's newest battlefield missile—LANCE.



EUEL AYERS



J. S. FRAMPTON

Branch keep track of resources for the current fiscal year. Programs Chief, Jesse S. Frampton, conducts the total management effectiveness analysis function for the project office including mission, organization, and manpower. Eugene F. Bellew, a program specialist assists Frampton.

Program Evaluation and Review Techniques (PERT) and PERT-Cost techniques are in extensive use in the Lance system. The Evaluation and Review Branch, PERT, time and cost section, is headed by Stanley B. Prosser.

Prosser said that as a result of the detailed planning, each activ-

ity involved in fielding a system is included on a PERT network. The network shows the sequence of events, planned time consumption and most important, the interdependency of these activities.

J. William Leary, a Mississippi State student in his college days, aids in conducting this system which is the strictest control of a program ever afforded.

This branch, which includes Program Specialist Jerry Fox in the Review, Analysis and Report section, evaluates the contractors efforts. Fox stated that the branch specialists also conduct cost analysis and engineering economy studies as well as evaluation of project office efforts in the fielding of the system.

Lance shopping is conducted by Contract Specialist Stanley B. Szczepanski, acting chief of the Procurement and Production Division, and Mrs. Sarah C. Woodham,

of the P&P Missile Branch. Stan prepares and disseminates procurement actions, evaluates proposals and conducts negotiations. Col. Holmes commented that the acting procurement chief is doing an excellent job in procurement planning and programs.

Administrative support to the Project Office is provided by the Operations Office which is headed by Mrs. Carolyn S. Powers.

Capt. Warren N. Balish serves as the acting Project Manager Staff Officer in Washington. This office serves as a focal point at Headquarters, Army Materiel Command, or all information concerning the Lance system.

Capt. Balish acts for Col. Holmes to coordinate project matters and to anticipate any difficulties which will insure uninterrupted progress.



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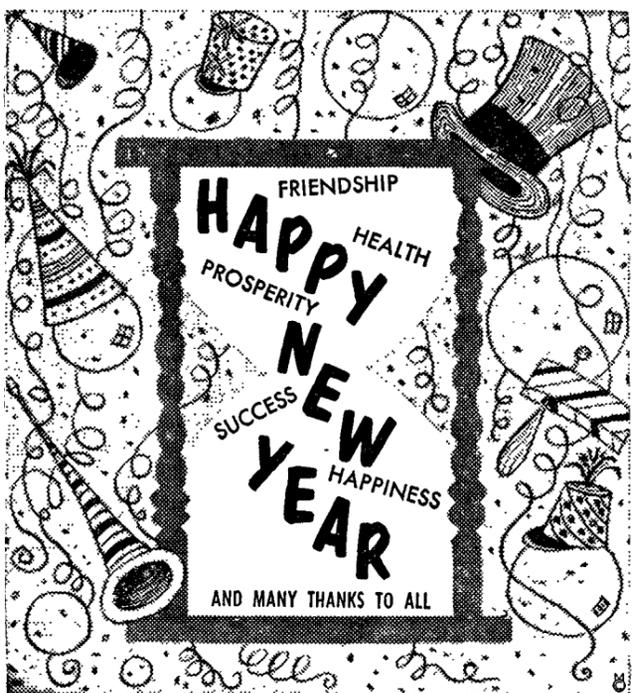
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Births at Post Hospital

Mark Stephen Hewitt, 8 lbs., 1 ozs., Dec. 16, son of Lt. Col. and Mrs. Henry H. Hewitt.
 Mary Will, 7 lbs., 15½ ozs., Dec. 17, daughter of Maj. and Mrs. Joseph C. Will.
 Lisa Marie Pearce, Dec. 17, 5 lbs., 14¾ ozs., daughter of Sp4 and Mrs. David G. Pearce.
 Michael A. Shropshire, 6 lbs., 3½ ozs., Dec. 17, son of Pfc and Mrs. James H. Shropshire.
 Donna Page Johnston, 7 lbs, 9 ozs., Dec. 21, daughter of 1st Lt. and Mrs. Archie L. Johnston.
 Catherine Mary Graichen, 8 lbs.

15½ ozs., Dec. 23, daughter of Pvt-2 and Mrs. John C. Graichen.
 John Arthur Robertson, 4 lbs. 15½ ozs., Dec. 24, son of Sgt. and Mrs. Floyd E. Robertson.
 Bradford Scott Hilton, 6 lbs. 1 oz., Dec. 26, son of 1st Lt. and Mrs. Richard C. Hilton.
 Glenn Mark Turner, 8 lbs., Dec. 26, son of SSgt. and Mrs. Charles R. Turner.
 Jeffrey Alan Mayo, 7 lbs. 9 oz., Dec. 26, son of Capt. and Mrs. Willie A. Mayo.

In 1956 the competitive service became worldwide for the first time when 20,000 jobs held by foreign-based American citizens were brought under coverage.

First appointment of a woman under the Federal merit system was made less than 8 months after the 1883 Civil Service Act was signed. Mary Hoyt of Connecticut was appointed to a Treasury job.



Social Security Deduction Rises

WASHINGTON (AFPS) — The service member's net base pay will be slightly less beginning Jan. 1. Social Security tax deductions will go from the current 3-1/8 per cent to 3-5/8. The reduction will hardly be noticed by those eligible for quarters allowances since they will be receiving substantial increases under the new quarters pay boost. This tax increase is required by law. Under current laws the tax will not be increased again until 1966. The maximum amount that can be deducted during the year is \$174. For persons who earn less than \$4,800 per year, the tax will be deducted in 12 equal monthly payments. Deductions for those earning more occur during the months in which they earn their first \$4,800. An E-6 with over 14 years service will pay a monthly \$9.97 tax on his \$3,300 per year base pay through the year. A lieutenant colonel of the equivalent with more than 20 years service and a \$745 monthly pay rate will pay \$27.01 per month for the first six months, \$11.94 for the seventh month and nothing more for the balance of the year. The quarters allowance increase, more than offsetting the increased tax deduction for those drawing the allowances, will raise enlisted quarters pay 7.6 to 55.6 per cent over current allowances, depending upon the grade and number of dependents. It will boost officer allowances from 17 per cent to 28.8 per cent.



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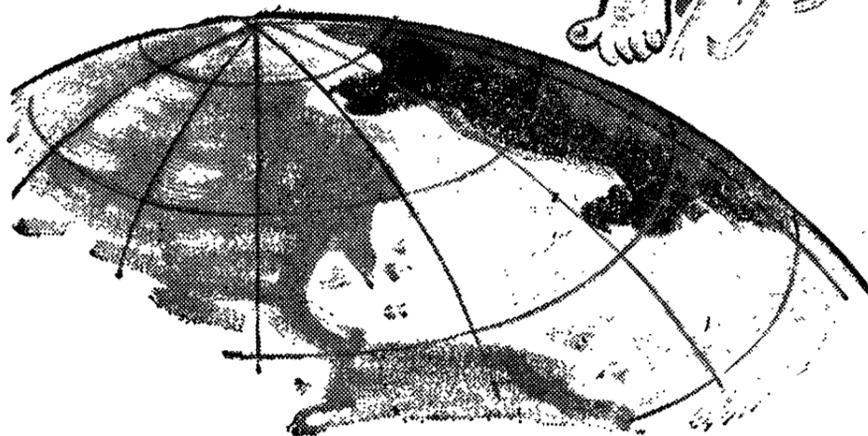
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EXPERIENCE

SOCIAL ^{and} CLUB EVENTS

Societies Unite To Form Largest Group In World

Huntsville sections of the American Institute of Electrical Engineers and the Institute of Radio Engineers have joined ranks to form the largest professional society in the world.

Known as the Institute of Electrical and Electronic Engineers, the Huntsville Section consists of more than 600 members.

The AIEE, dating from 1884, is the senior society in the United States, while the IRE, founded in 1912, is the largest international group.

Heading the new group as Chairman is Wayne L. Barker, Aeron Division of Aerojet-General Corp.; Vice-Chairman, Maj. C. W. Goldey, U. S. Army Missile Command; Secretary, Karl A. Woltersdorf; Treasurer, H. G. Glenn Woods, Missile Command; Assistant Secretary-Treasurer, Zack Thompson, Marshall Space Flight Center; Members-at-large, Raymond C. Watson, Brown Engineering Co., and Harold H. Hufuagle, MSFC.

John W. Davis, assistant vice president of Southern Bell Telephone and Telegraph Co., Atlanta, recently outlined the proposed boundaries of the Huntsville Section.

Engineers Hear Thiokol Chemist

William C. Ingersoll, of the Thiokol Corp., will be the main speaker when the Huntsville Chapter of the American Society of Tool and Manufacturing Engineers meets at the Sahara Motel on Tuesday, January 8.

Mr. Ingersoll will speak on trends in solid propellant motor manufacture.

A native of Los Angeles, the speaker has been with Thiokol for the past five years and is now on the Technical Management Directorate.

He is a member of the American Chemical Society and the American Rocket Society. He has presented various papers before national technical societies and his articles have appeared in a number of technical journals.

Tuesday's meeting will get underway with a social hour and dinner starting at 6 p.m. The technical session will start two hours later.

It will include Colbert, DeKalb, Franklin, Jackson, Lauderdale, Lawrence, Limestone, Madison, Marion, Marshall and Morgan Counties, Alabama, and Lincoln County, Tenn. Davis is director-designate of Region III of the new society.



PAST CHAIRMEN OF IRE—All past chairmen of the Institute of Radio Engineers, Huntsville Section, met at the Squirrel Hill Officers Club for a luncheon recently. The group which was organized in 1952, made final plans to merge with the American Institute of Electrical Engineers. The IRE was one of the first three technical groups organized in the Huntsville area, and has maintained the largest membership. The local section of the IRE includes parts of Mississippi, Alabama, and Tennessee. When the merger went into effect at midnight Dec. 31, the boundaries changed and a new slate of officers will assume responsibility in the merged organization. In the front row above, left to right are: Stephen L. Johnston, Army Missile Command; John R. Haeger, Bell Aerosystems Co.; Donald E. French, Marshall Space Flight Center; Andrew L. Bratcher, MSFC; and Thomas L. Greenwood, MSFC. Back row: Walter O. Frost, MSFC; William C. Pittman, Missile Command; Hans Hosenthein, MSFC; Peter T. Miller, Electro-Mechanical Research, Inc.; Delman E. Rowe and John L. McDaniel, both of the Missile Command.

Army To Establish Language Institute

WASHINGTON (AFPS) — The Army has plans to set up a new Defense Language Institute (DLI) in the near future. The Institute

will provide all Department of Defense language training that is not provided at the service academies.

The Army said it will also assume responsibility for a major portion of full and part time language instruction in the various military services.

The DLI will set academic

standards and supervise classes for foreign language instruction in the United States and overseas. It will also direct English programs for foreign military personnel visiting the United States.

All Defense language requirements will now be assembled and studied in one place.

Judges Announce Contest Results

Maj. and Mrs. W. A. Humphreys were declared the winners of the home decorating contest sponsored by the Redstone Arsenal Officers Wives Garden Club by a four-judge panel.

The Humphreys' display exhibited a white madonna on a blue background on the door and to the right were white angels with evergreens and with pink and white lights.

Judging the contest this year were: Mrs. Charles O. Blaser, Mrs. L. R. Horn, Mrs. Frank Norvell and Mrs. Peter Neilson.

Their task was made extremely difficult due to the many ingenious and beautiful displays that were entered in the contest. For this reason the judges awarded just the one prize.

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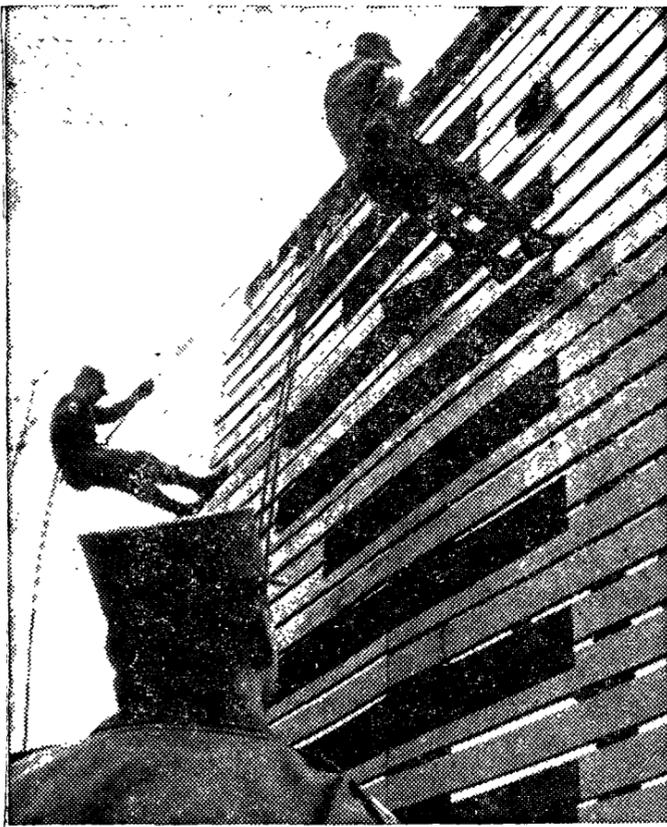
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RAPPELLING, a technique taught to potential guerrilla leaders, is a method used to descend a sheer surface such as a cliff or building. Each man of the Army's Special Forces is skilled in all types of infiltration techniques and survival methods.

INCENTIVE AWARDS

Suggestions

Earl M. Maddox, Maintenance Division, \$30.00 award—this suggestion resulted in a more positive lock for side adjusting screw on final drive sprocket being installed on all HAWK Guided Missile Loaders. The idea has intangible benefits in the minor-broad category.

Carriell Campbell, Provost Marshal Division, \$25.00 award—this suggestion resulted in latches or hooks being placed in such a manner to hold the gates open at hard stand 33-4, Post No. 43. The idea has intangible benefits in the minor-limited category.

Edward C. Sands, Reproduction Division, \$70.00 award—this suggestion resulted in the dampening form rollers on multilith offset presses being covered by Plast-O-Damp instead of molleton. The estimated first year savings is \$1,340.

Fayte M. Lasley, Jr., and **Lindsey Z. Rogers**, Calibration Center, \$40.00 award each—this suggestion resulted in small brackets being made for the cable racks in each of the new Calibration Vans issued by Frankford Arenal. This joint suggestion has intangible benefits in the minor-broad category.

Robert W. Peterson, Calibration Center, \$25.00 award—this suggestion resulted in high accuracy Bourdon tube pneumatic pressure test gauges being used in calibrating pneumatic pressure gauges. The suggested method will reduce fatigue and make the job less strenuous. The idea has intangible benefits in the minor-limited category.

James R. Pierce and **Samuel E. Willis**, Calibration Center, \$50.00 award each—this suggestion resulted in the rewiring of the RF Oscillator in the HAWK Missile System. The rewiring was accomplished in order to calibrate the oscillator within specifications.

The estimated first year savings for this joint suggestion is \$2,000.

Billy W. Hardin, Post Engineers, \$25.00 award—this suggestion resulted in a check valve being installed in each of the air conditioning systems at buildings 3433, 3434, 3435. The idea has intangible benefits in the minor-limited category.

Robert G. Smith, Post Engineers, \$55.00 award—this suggestion resulted in a device being attached to outside doors to prevent glass breakage. The device catches on the outside edge of the threshold and prevents the door from closing



We're going into orbit for '63 with high hopes for a happy New Year for all our friends and patrons. Our sincere thanks to all.

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We greet you at the year's dawning with our best wishes and warm thanks for your patronage, your confidence and cooperation. It has indeed been a pleasure to serve you!

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Awards and Decorations

Certificates of Achievement have been awarded to the following officers:

Lt. Col. Ralph N. Ross, formerly assigned as the Deputy Director for Missile Intelligence. Col. Ross has been reassigned to USMAAG, Vietnam;

Capt. Richard E. Mettam, former chief, Engineer Requirements & Plans Div., Zeus Project Office. Capt. Mettam is now assigned to the Student Det., U. S. Army Ord. Center & School; Capt. Chris Patte, Chief, Ln & Tng Br., System Spt Div., Persh-



ARMY HONORS AIR FORCE—The U. S. Army Ordnance Guided Missile School honored the Air Force recently when Capt. Kenneth H. Martin was presented with an Association of the U. S. Army plaque for achieving an average of 96.5 in the Missile Launch Officer Course at OGMS. Making the presentation is Lt. Col. Ray H. Lee, chief of the Field Artillery Missile Division of the Department of Individual Training. A native of Havana, Fla., Capt. Martin has served 10 years with the Air Force and is presently assigned to Biggs AFB, El Paso, Texas.

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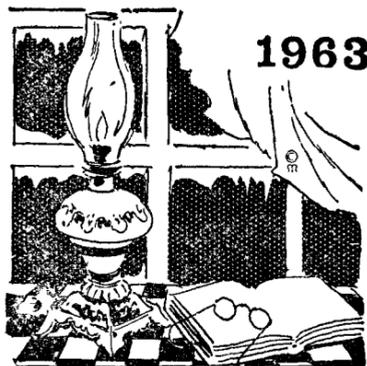
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May the New Year bring you your brightest days, and may you and all your family enjoy health, prosperity and happiness. Our very best wishes to all!

The
TOWN and COUNTRY SHOPPE
DOWNTOWN HUNTSVILLE

ing Project Office.

1st Lt. John D. Cremin, of the Zeus Project Office.

Army Commendation Medals have been awarded to the following:

Lt. Col. Wesley W. Scott, Commodity Manager, Redstone and Corporal Missile Systems;

MSgt. Richard C. Walker, Maintenance Div., Support Command; CWO (W-3) George F. Dye, Troop Command;

Capt. Jack M. Shortridge, Support Command;

Lt. Col. Henry A. Bretherton, Dir of Proc & Prod;

Capt. B. F. Register, Jr., Dir of Proc & Prod. This is the first Oak Leaf Cluster to the Commendation Ribbon previously awarded to Capt. Register.

Outstanding Performance Sustained Superior Performance Genevieve B. Redpath and Martha H. Wisner, Dir of Proc and Prod; Frances Faulkner, Dir of R&D; and Lorraine H. Cooper, Dir of Msl Intelligence.

Outstanding Performance Melvin W. Lawley, Edward Sebastian and Charlie P. Owens, Post Engineer; Delman E. Rowe,

Dir of R&D; Thomas LaBoarde, Consolidated Supply; Marlon W. Cantrell, Finance & Accounting; and William T. Bledsoe, Control Office.

Sustained Superior Performance

Vester C. Frith and Francis L. Kueht, Dir Proc & Prod; Richard Eppes, Jr., and Charles G. Auchterlonie, Dir of RD; Ruby J. Flynn, Civ Personnel; John R. Forbes, Dir of Sup & Maint.

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TRACTS NO. 6, 7, 8, 9, 10, 11, 12, 13 & 14— Each fronts a quiet country road and averages over an acre in size.

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Check the Many possibilities of this desirable property and be present to buy.

Sale to be held, rain or shine, at the residence.

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STALKING AT REDSTONE ARSENAL—Amid heavy vegetation at Redstone Arsenal, home of the Army Missile Command, two hunters and their dogs stalk quail in natural protective cover. Left is M/Sgt. Joseph W. Warren, Right is S/Sgt. Buford D. Harrison, Post Game Warden. Harrison has spearheaded an effort to restock Redstone Arsenal with game native to North Alabama.

Wild Turkeys and Deer Are Not Strangers Here

In a swampy southwestern corner of this sprawling 40,000 acre installation, a wild turkey pecks at tiny seeds newly matured on a scrappy gray bush just a few miles from Army Missile Command Headquarters.

Near the lazy Tennessee River, a fully grown deer steps lightly out of the woods into a clearing and is followed by a fawn, newborn and shaky on its spindle legs. The doe nibbles at lush vegetation.

The common denominator of these two seemingly unrelated events is that both the turkey and

deer have ample food and natural cover for protection.

This is because of determined effort on the part of game and wild life officials at the home of the Army Missile Command to preserve and replenish game native to North Alabama.

"About 5,875 acres of Redstone Arsenal currently is under the game management of Wheeler Wildlife Refuge," according to S/Sgt. Buford D. Harrison, post game warden. "We have about 15,000 acres of game and wildlife areas surrounding the refuge."

"It's probably the best stocked

acreage in this part of the country," Harrison says, and "the game count is steadily improving."

Harrison is proud of the expanding wildlife count at Redstone Arsenal since he has had a direct hand in its growth.

Furnishing food for game is only part of Harrison's work. With the aid of others, Harrison has spearheaded a drive for long-term game restocking of the lush forests.

"Years ago," he points out, "game was plentiful in Northern Alabama. We hope to eventually restock to that point."

"Today," he notes, "we have about 100 deer roaming about the installation. The herd is steadily improving and increasing," Harrison explains.

Early in 1960, 34 deer were released on Redstone Arsenal by the Alabama Conservation Department, Wildlife Division. Before the stocking, a survey was conducted by the Wildlife Division at the request of Redstone Arsenal officials to determine if adequate food existed to support deer.

The study showed the food supply was excellent and the wooded terrain was ideal to support deer, and—for that matter—other game.

In 1959, 24 wild turkeys were released on the installation. "Today," Harrison points out, "an

estimate of turkey would be around 150 birds."

"Turkeys like the heavy woods," Harrison says. "They eat the same food as quail—and there is plenty of that to support both type birds."

In addition, the study showed that the quail population on the installation was adequate for continuous reproduction with proper hunting controls and by increasing the food supply in accordance with the quail and turkey population.

To provide food for the quail and turkey, Redstone Arsenal officials planted lespedeza bi-color, sericea, kobe and Korean lespedeza. In addition, fescue and white clover now abound at Redstone Arsenal.

The small plants are put out primarily to control erosion, but, Redstone Arsenal officials selected plants which also furnish food for wildlife.

Lespedeza bi-color, a willowly gray plant which produces seed ideal for quail and turkey, now surrounds many wooded areas at Redstone Arsenal. They are called borders.

"To date, about 60 bi-color borders have been planted to furnish food and cover for quail and turkey," says J. N. Weldon, Real Property Management of the Post Engineers.

"The bi-color," as Weldon calls it, "is fertilized when it is plant-

ed." "But plants are not the only thing we fertilize here at Redstone Arsenal," he points out.

Game and wildlife officials annually pour several hundred pounds of fertilizer into ponds and lakes.

"The yearly average catch of fish, including crappie, bream, bass and catfish is approximately 3,000 pounds," Weldon notes. "Lakes and ponds are fertilized to support the fish and control water weeds," he says.

"In addition," Harrison points out, "other types of game abound at Redstone Arsenal."

"They include squirrel, rabbit, raccoon and opossum, fox and beaver, dove, woodcock, Wilson snipe or Jacksnipe, Rail and gallinule, duck, coot and goose."

Hunting on Redstone Arsenal is limited to military personnel, their dependents and guests. Military personnel may have two gun-carrying guests.

Prior to hunting, military personnel must attend one lecture on outdoor safety. Other requirements are that hunters or fishermen must possess a county or state license.

Hunting water fowl requires a Federal duck stamp. Permits to hunt at Redstone Arsenal are issued by Game Warden Harrison.



A-OK!
FOR THE
New Year

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For you, we hope that 1963 will live up to its "advance notices" in every detail . . . bring you all that you wish for . . . and, departing, leave behind it warm memories of your very finest year!

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POLICE USE ARSENAL RANGE—Sgt. J. L. Daly (left) gives pointers to Patrolman A. F. Kendrick during recent pistol practice by the Huntsville Police on the Redstone Arsenal range. Motorcycle scout B. W. Tallen is at right. The Huntsville Police Academy used the range as part of a program to bring the Huntsville Police Department to peak efficiency.

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Law for the Family (Will Bernard)
Celebrating Christmas Around the World (Herbert Wernecke)

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The Witch of Manga Reva (Garland Roark).
Two Loves (Han Suyin)
They Walked Like Men (Clifford Simak)
All the Tea in China (Katharine Topkins)
The Conquerer (Edison Marshall)
Journey Into Limbo (Scott Mitchell)
The Time Before This (Nicholas Monsarratt)
The Two Susans (William Brinkley)
Don't Go Away Mad (Joseph Hayes)
Coronation (Paul Gallico)
The Violent Man (Van Vogt)
Please Count Your Change (Peter Towry)
The Commissioner (Richard Dougherty)
A Question of Choice (Prudence Andrew)
Lion in a Den of Daniels (Caroline Benn)
The Rose of Tibet (Lionel Da-

vidson)
To the Coral Strand (John Masters)
Non-Fiction
The Pyramid Climbers (Vance Packard)
We Seven (The Astronauts)
Rendezvous in Space (Martin Caidin)
The Space Industry (Editors of Fortune)
Poetry
Everyone But Thee and Me (Og-

den Nash)
No Bugles for Spies (Robert Altcorn)
Escape From Red China (Robert Loh as told to Humphrey Evans)
The Great West (Charles Neider)
Every-Body Duck (Virginia Hamilton)
The I Hate to Housekeep Book (Peg Bracken)
The International Lesson An-

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TOASTMASTER OFFICERS—Officers for 1962-63 in the Redstone Toastmasters Club were recently elected at a meeting at the Squirrel Hill Officers Club. Seated are (left to right): Jim Donnini, secretary-treasurer; Maj. Robert Bryant, president; Larry Wood, educational vice president; Dave Ward, sergeant-at-arms; and standing is Web Mayfield, administrative vice president.

Way out in front is our wish to you and your loved ones . . . a wish for health, happiness and success in the New Year. It's been a privilege to serve you through the past year.

Meadow Gold Dairies
CLINTON STREET — HUNTSVILLE, ALA.

FLAMMABLE STORAGE
Fires and explosions involving nonexplosive proof refrigerators, in which a flammable is stored, continues with amazing regularity throughout the country, in spite of the publicity advising against storing these solvents in such refrigerators.

One of the most recent explosions happened at the University of Washington where a laboratory freezer, used to store chemicals and sacrificed animals, had its door blown off the frame and the frame bowed out of shape. The explosion apparently re-

January Promotion Hikes Total 22,540

WASHINGTON (AFPS) — Army enlisted promotions for January took a 50 per cent jump over the December cycle.

Altogether 22,540 stripe allocations were made by the Army, including the super-grades E-8 and E-9.

A breakdown by grade shows 211 going to E-9, 935 to E-8, 774 to E-7, 1,264 to E-6, 4,199 to E-5 and 15,157 to E-4.

The number of frozen MOS's was reduced by three specialties when 10 were removed from the freeze list and seven added.

sulted from the ether vapors being ignited by a spark from the thermostatically controlled switch. Future accidents of this type can be avoided by awareness of the hazardous nature of flammable solvents and the everyday utilization of practical safety measures.

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WANT AD RATES—\$1.50 minimum, per weekly insertion, covering first 25 words. 4 cents per word for all over 25 words. Cash with copy, except where open account basis is previously established. 25c service charge added for credit. Mail copy with payment to Mrs. Zillah T. Heath, P. O. Box 346, Room 217 Times Bldg., Huntsville. Deadline is Friday noon, before Wednesday publication.

Page 14 The Redstone Rocket — January 2, 1963

FOR RENT — 2 lovely furnished apartments. 1 bedroom, 5 closets, TV and washer connections, steam heat, adults, \$90.00. Also, 2 bedroom apartment, ceramic bath, pine paneled electric kitchen, best neighborhood, parking, adults, \$115.00. Phone 539-7027. ttp

WANTED — Ride from 2313 Brandon Street to Building 5678. Duty hours 0730 to 1600. Please call 876-0860 or 534-7823. ttp

FURNISHED — Modern 2 bedroom house. Also housekeeping units and motel rooms. Fishing pier and dock. Apply Nolan Motel, Guntersville. 582-3178. 2-20c

FOR SALE — 1961 Mercedes 220-S sedan, black, excellent condition, AM-FM radio, 20,000 miles, priced below wholesale, phone 877-4167. ttc

TOP TALENT — A career center service. Our girls are paid each Thursday. NEEDED good shorthand, secretaries, good dictaphone secretary, IBM executive typist, statistical typist to work on our payroll for leading companies in Huntsville and vicinity for assignments for any length of time you wish. No fee to pay. 614 Madison St., phone 539-3451, after hours, 536-1096. ttc

OLD COINS — I buy old coins—old gold coins; Indian head pennies, complete sets; Canadian coins. Darrell Sanders, Grand News Stand, Clinton Ave., downtown Huntsville. ttc

ROOMS FOR RENT — Single and double for men with good habits, completely and newly decorated, economically priced. Central Y. M. C. A. Dial 534-6452. ttc

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ON THE LAKE, LESS THAN 20 MILES FROM ARSENAL GATE — Boat storage for rent. Rooms with bath for rent. Contact W&W Land Co., 106 N. Lincoln, Phone 534-1451 or 536-3113. ttc

MODERN HEALTH Club Services — Central YMCA, 203 South Green St. is offering massages, turkish baths, electric heat cabinets, ultra-violet and infra-red lamps, diathermy sun lamp, swimming pool. Graduate massuer in charge. Phone 534-2444. ttc

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FOR SALE — 1939? '40? or '41 Ford ½ ton Pick-up truck. New paint, V8 motor about 4 mos. old. Good tires, and mechanically good. Phone Stover, SP 3-6032. Hartselle. tfnc

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FOR SALE — Antique rocking chair, large picture frame, 2 swords, old flat irons, wardrobe, 1 banjo, large brass chandelier, 1 fiddle, and 2 old "booze" jugs. Buescher Alto Sax, Alladin lamp. Phone SP 3-6032, Hartselle. ttc

PIANO INSTRUCTION — Register now for after Christmas Holidays. We will have a few openings in Lakewood, Blossomwood, Thornton Acres, Darwin Downs, and Bankhead Estates. For more information call Mrs. John Dudley. Phone 536-8444. ttc

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In welcoming the New Year . . . we wish to extend the very warmest greetings to all. May you and all those dear to you know great joy!

ARMY-NAVY Surplus Co.

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Welcome 1963

We greet you with every hope for your happiness in 1963. Again we pledge to do our best to merit your valued patronage and good will, throughout the year ahead.



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Fast Service - Expert Wheel Mechanic
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Across From Butler High
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Was \$1495.00 NOW \$1395.00

1959 CHEVROLET Convertible
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1955 CHEVROLET Newly Overhauled Engine, Black and White. Nice \$495.00

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Americans Have Proud Traditions To Preserve

Early American colonists fought and died to win the right and freedoms we enjoy today. The heritage they bravely passed on was an inspiration to the Americans who defended this country in two world wars and the Korean Conflict.

How well do we stand up? What heritage will we leave to future generations? Could we face a hangman's noose and say, "I regret that I have but one life to give for my country?"

Nathan Hale did at the age of 21.

Americans occasionally forget the significance of John Paul Jones' words when asked by the gunner of the Serapis if he would ask for quarter.

Jones threw his pistols at the gunner's head and replied, "I have not yet begun to fight!"

Jones' Bonhomme Richard was sinking and many of his crew were killed or injured. Yet he rallied his remaining men and after three and one-half hours of heroic battle with the ships locked together, the Serapis struck her colors.

Then Jones and his crew

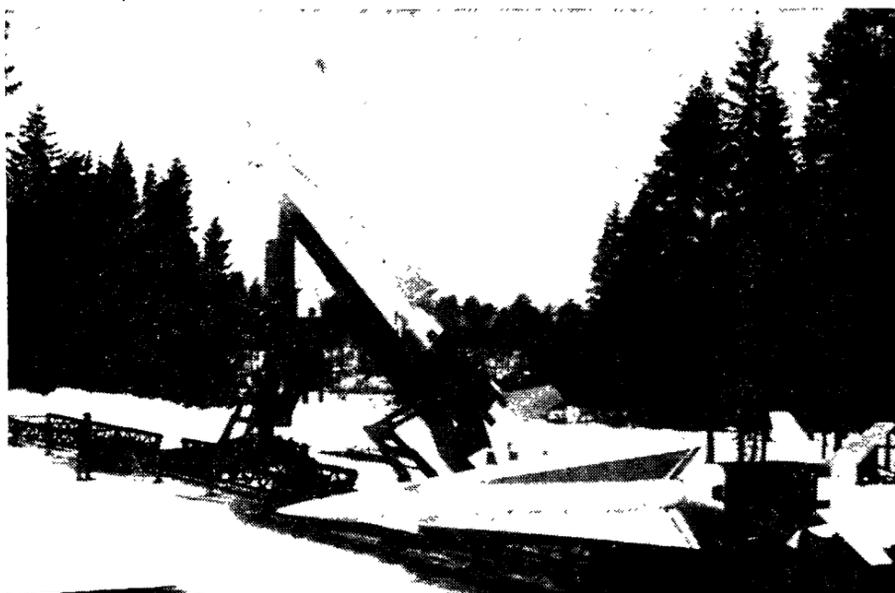
boarded the Serapis and saw their own ship sink with the stern and mizzenmast uppermost and with her colors flying.

This same spirit and determination was demonstrated by Maj. Gen. Anthony C. McAuliffe, USA, when the Germans asked him to surrender his 101st Airborne Division during the Battle of the Bulge.

His reply was simple but to the point . . . "Nuts!"

During the bitter winter fighting at the Chosin Reservoir, Maj. Gen. Oliver P. Smith and two regiments of his 1st Marine Division were surrounded by three divisions of the Chinese Communist Forces. Realizing his situation, he ordered his Marines to head south.

Press correspondents asked him if he was planning a retreat and he replied, "Retreat,



THE END PRODUCT—Somewhere in Norway, a Nike-Hercules base stands amid the immemorial pines and snows of the Northland, providing the free world's northern frontiers with defenses forged at Redstone Arsenal in the heart of America's Dixie.

Hell! We're just attacking in another direction."

These Marines emerged at Hungnam as unit carrying their

wounded and equipment. They didn't relish suffering and death.

They were fighting and dying so that Americans might worship as

they please; that they might voice their opinions; that they

might elect leaders of their own choice.

Western Electric Awarded Contract

The U. S. Army has awarded a \$19,896,130 contract funding continued development of an advanced radar designed for possible future incorporation into its Nike Zeus anti-missile missile system.

Work on the Zeus Multi-Functional Array Radar (ZMAR) began in June of 1961.

Awarded to the Western Electric Company, Nike Zeus system prime contractor, the contract includes funds for the fabrication and testing of hardware.

Sharing in the award will be the Bell Telephone Laboratories at Whippany, N. Y., responsible for system design and development; and Sylvania Electronics Systems, Waltham, Mass., Laboratory, system subcontractors.

The radar development is being carried on as part of the Nike Zeus system effort and as part of the Army's plan to incorporate advantages in technology in the Nike Zeus system on a continuing basis.

The Nike Zeus Project Office of the Army Materiel Command at Redstone Arsenal, Ala., is managing the program, the only missile defense system in advanced development in the Free World.

The New York Procurement District administers the contract.

Canadian Official Visits The Arsenal

The Canadian Military Attache to the United States spent a two-day visit to the Army Missile Command, Ordnance Guided Missile School and Marshall Space Flight Center this week.

Brig. John Arthur Watson Bennett, Commander, Canadian Army Staff, Washington, D. C. arrived at Redstone on Sunday.

He toured Army Missile Command facilities on Monday. Tuesday morning was spent visiting facilities at the Ordnance Guided Missile School, and that afternoon he visited Marshall Space Flight Center.



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