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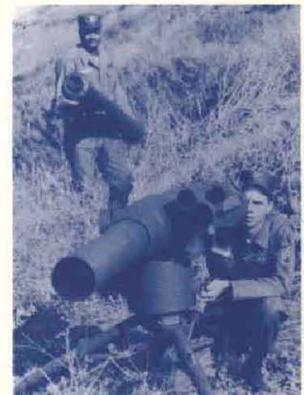
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After Operating 10½ Years in 'Tempo 7' . . .

2,600 Headquarters Personnel Moving to Ultramodern \$15 Million AMC Building

More than 10 years after the U.S. Army Materiel Command was established as the most powerful and widespread organization of its kind in U.S. history, some 2,600 headquarters personnel are moving from World War II Temporary Building 7 to a new 13-story, ultramodern \$15 million AMC Building.

Scientifically designed to meet AMC operational requirements in an efficiently convenient manner, the structure is leased from the LNT Corp. Ten stories above and two stories below the ground level facilities provide approximately 470,000 feet of floor space, about 400,000 of which will be occupied by AMC activities.

Except for a well-equipped health service facility for AMC employes, most of the ground floor space is being leased to private concerns for convenience facilities to serve employes. These will include a 450-seat cafeteria, a 122-seat more elegant lounge-type eating facility, a barber shop, hair stylist, dry cleaner, full-service bank, and other enterprises still being decided.

The AMC Building—the name selected in a contest that drew more than 500 entries and earned the suggester a \$100 award—is located at 5001 Eisenhower Avenue, Alexandria, Va. It is about one-half mile off Van Dorn Street and approximately one mile in back of Cameron Station, one of the Army's larger Washington, D.C., area complexes.

Some employes privileged to make a preview examination of the new headquarters in its final stages of construction have termed the move "a transition from minimal to maximal" operational accommodations. That possible over-statement—in view of a few relatively minor conditions awaiting corrective action—is understandable after 10 years of AMC operations in Bldg. Tempo 7.

In officially restrained language, an AMC announcement to personnel states:

"Our new building contains some of the finest office space ever pro-

vided [U.S.] Government employes. The interior of the building is tastefully decorated. The colors of walls, floors and trim were especially developed to make your office a most pleasant place to work.

"All partitions were selected to provide efficient sound control. Placement of partitions is designed to allow maximum work flow. . . . All lighting in the building is fluorescent and eye comfort is not dependent upon whether or not there is a window in the office.

"The building is equipped with a unique 'zoned' environmental control system to provide for responsive temperature and freshness of air in your office."

Pride of employes in the beauty and the convenience of facilities in the AMC Building appears solidly insured by long years of careful planning to provide a desirable working environment. The entrance foyer is large and impressively prestigious without ostentation. One of the focal points is a stained glass mural.

Travertine marble slabs imported from Italy line the lobby pillars and some of the walls. Eye-appealing contrast is provided by rough-cut, narrow marbleized brick laid vertically on other walls. A new type of terrazzo flooring, believed the first of its kind installed in a Washington, D.C., area building, is composed of precast, prefinished 12-inch squares laid like vinyl or asbestos tiles.

Perhaps the comfort feature that will be appreciated most by employes is "total electric" temperature, air conditioning, humidifying and power systems—in line with current national objectives of minimizing environmental pollution. Except for the Nassif Building in Washington, the AMC Building is believed one of the largest total electric facilities in the Washington area.

Separate heating, air-conditioning and humidifying systems, one for each quadrant of the building, will meet about two-thirds of comfort requirements. The remaining one-

third will be served by perimeter control units under each window in all offices. These can be adjusted by occupants to compensate for temperature changes due to varying weather exposure of exterior walls.

Precise automatic control is designed into the large computer center where temperature can be maintained at plus or minus 1 to 2 degrees and humidity within 2 percent of desired levels. Similarly accurate controls are provided for optimal operational efficiency in a large photographic laboratory where the air and water also are filtered.

Central scheduling to assure maximum utilization will apply to the use of two large special conference rooms and a 200-seat auditorium equipped with modern audio-visual systems, as well as to 20 smaller general-purpose conference rooms stacked above each other, 10 at each end of the upper 10 stories.

Eleven elevators operating at 350 feet a minute assure rapid movement of personnel throughout the building. All areas secured for classified information are safeguarded by an electronic intrusion detection system, and security guards are stationed in the lobby.

COMMAND GROUP personnel will be located on the tenth floor, where a visitors bureau and an Equal Employment Opportunity Office also are placed. The Directorate for Requirements and Procurement occupies the ninth floor and the Directorate for Research, Development and Engineering is on the eighth floor.

The seventh floor will accommodate the Office of the General Counsel, the Surveillance, Target Acquisition, Night Observation and Selected Systems Office, the Aviation Office, Information Office, Office of the Chaplain, AMC Technical Library, and AMC Credit Union.

On the sixth floor will be the Directorate for Supply, Directorate for Logistic Operations, and a snack bar. In addition to this food service facility, a carry-out line near the entrance

to the cafeteria will provide much the same choice of food packaged for those desiring to eat in offices or outside the building. Vending machines conveniently placed throughout the building will offer coffee, soft drinks, cigarettes, candy, etc.

The Directorate for Installations and Services, Directorate for Maintenance, and Directorate for International Logistics are on the fifth floor.

Fourth floor occupants will include the Directorate for Quality Assurance, Cost and Economic Information Office, Directorate for Management Information Systems, Security Office, and Safety Office.

The third floor will have the Office of the Comptroller, Historical Office, and the Office of the Surgeon. The Directorate for Personnel, Training and Force Development is on the second floor.

Except for the use of accent colors on randomly selected walls, doors and pillars, such as gold, red, green and blue, the entire building is painted a soft off-white. Drapes and carpets will be installed in offices of these authorized such niceties.

Despite the tremendous improvement in the quality of the offices and the exterior beauty of the AMC Building, some employe criticism is surfacing. Most of it is focused on the anticipated traffic congestion where main arteries converge in the huge Landmark Shopping Center area, about 1½ miles away, and from there along Van Dorn Street and Eisenhower Avenue.

Relative to the concern about traffic jam-ups, some employes have summed up the situation rather neatly by saying: "What could be worse than the Tempo 7 area?" For 10½ years the old-timers among AMC employes have been contending with the density of traffic from and into Washington's National Airport and the maximum concentration of high-rise structures in the surrounding area.

The AMC Building offers the advantage of accessibility from all parts of the Greater Metropolitan Area of Washington by three major highways—namely Duke Street leading from Route 236 directly into Van

Dorn Street, Shirley Highway (Route 95) and the Capital Beltway (Route 495). Other feeder routes include Edsall Road and Franconia Road.

Other current problems expected to occasion some employe complaints include the lack of eating facilities in the area within a mile or so of the AMC Building, and a charge of \$12.50 a month for those who will use 1,765 outdoor parking spaces. Employes with a handicap condition will be able to obtain a privileged parking location by providing a current copy of a medical report to the Department of Defense Building Administrator.

Visitor parking for persons on official business is provided in the west parking lot near the northwest corner of the building. Employes expecting a visitor who desires park-

ing space must contact the building administrator, in advance, extension 274-8099, giving the name, make of vehicle, color of vehicle, license number, and expected time of arrival.

When the move from Tempo 7 to the AMC Building is completed, currently expected about Mar. 1, LTC Richard Woolshager will be one of those entitled to heave one of the biggest sighs of relief. Since he returned from a tour of duty in Vietnam, he has been devoting full time to construction problems and arrangements for the move as the AMC coordinator. That duty started with the ground-breaking ceremonies in August 1971.

Serving in a similar role for the Glassman Construction Co., primary contractor, is Robert Kaufman. The building architects are Holle and Graff of Bethesda, Md.

MERDC Develops New Cryogenic Cooling Unit

Cryogenic technology is incorporated in a new refrigerator featuring a turbine-alternator no larger than a pair of flashlight batteries. Described by the U.S. Army Mobility Equipment Research and Development Center as the forerunner of larger units, the refrigerator was recently tested successfully at Fort Belvoir, Va.

The test involved operation at 58 degrees Kelvin (minus 355° F.). The larger unit being developed to meet requirements for reliably cooling of superconductors in electric power equipment is designed for operation at temperatures of below 5° Kelvin (minus 450° F.). Developmental work is being done under contract.

Low-temperature superconductors can carry very large electric currents without the Joule heating which is a major problem in power machinery. For some high-power applications, the cryogenic approach results in over-all size reduction compared to conventionally cooled machinery.

The refrigeration unit consists of a compact heat exchanger, a compressor, and a miniature turbine-alternator with helium gas bearings. These bearings permit the turbine-alternator's 18-gram rotor to spin at 180,000 rpm at cryogenic

temperatures. Since they have no rubbing parts during operation, the bearings promise long turbine life.

Operating in a reversed Brayton Cycle, the unit uses helium gas as a refrigerant. Room-temperature helium is compressed to three atmospheres, which cause its temperature to rise. After the pressurized gas is cooled back to room temperature, it is cooled to cryogenic temperatures by passing through the exchanger.

The pressurized gas then passes through the turbine, where it expands and cools further. An alternator on the turbine shaft converts the energy of the expanding gas to electrical energy, which is conducted out of the cryogenic system.

When the helium leaves the turbine-alternator, it passes through the refrigeration load and then back through the heat exchanger again. There it cools incoming pressurized helium and is warmed to room temperature. The out-going gas is then returned to the compressor to begin the cycle again. The entire system is thermally insulated by a vacuum.

A turbine expander of the type used in this system has been operated at 100,000 rpm for 6,600 hours, or more than nine months, without failure and without maintenance.



AMC BUILDING—Now nearing completion, the 13-story building will be occupied by about 2,600 AMC employes in a time-phased move expected to be completed by March 1. The building is located near the Capital Beltway at 5001 Eisenhower Ave., Alexandria, Va. 22304.

