Need To Reevaluate The Proposed Relocation Of The Navy's Fleet Missile Systems Analysis And Evaluation Group

Department of **Defense** B-168700

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-168700

The Honorable George E. Brown, Jr.
House of Representatives

Dear Mr. Brown:

As you asked on March 21, 1974, we are reporting on the need to reevaluate the proposed relocation of the Navy's Fleet Missile Systems Analysis and Evaluation Group from Corona to Seal Beach, California.

We discussed this report with Navy officials in Washington, and they agreed there is a need to perform a new economic analysis before any further action is taken.

We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours,

PAUL G. DEMBLING

Acting Comptroller General
of the United States

Contents

ABBREVIATIONS

DOD	Department of Defense
FMSAEG	Fleet Missile Systems Analysis and Evaluation Group
GAO	General Accounting Office
NASA	National Aeronautics and Space Administration

COMPTROLLER GENERAL'S REPORT TO
THE HONORABLE GEORGE E. BROWN, JR.
HOUSE OF REPRESENTATIVES

NEED TO REEVALUATE PROPOSED RELOCATION OF THE NAVY'S FLEET MISSILE SYSTEMS' ANALYSIS AND EVALUATION GROUP

Department of Defense
B-168700

D I G E S T

WHY THE REVIEW WAS MADE

GAO was asked to determine the

--adequacy and propriety of studies on the costs to relocate and the savings to be achieved,

--suitability of facilities at Seal Beach as compared to the facilities at Corona,

--effects of relocation on computer operations, and

--effects of relocation on employment and employees.

FINDINGS AND CONCLUSIONS

The Navy estimated that relocating the Fleet Missile Systems Analysis and Evaluation Group (FMSAEG) from Corona to Seal Beach would save $446,200 annually and result in one-time costs of about $2.7 million. (See p. 1.)

The Navy's estimates of savings and costs

--lacked documentation in support of most of the estimates,

--differed from GAO estimates for some items, and

--did not account for all aspects of the relocation. (See pp. 4 to 7.)

The Navy's economic analysis also used an apparently inappropriate basis for comparison and did not employ present value analysis. (See pp. 7 to 9.)

The structures to be used by FMSAEG at Corona would provide more space and appear to be better suited for accomplishing FMSAEG's missions. (See ch. 3.)

The possibility of losing stored data while moving the computer appears remote. (See ch. 4.)

About 10 percent of FMSAEG's employees said they will terminate employment or retire if FMSAEG is relocated to Seal Beach. Navy officials believe this could cause an adverse effect on FMSAEG's operations. (See ch. 5.)

Navy officials believe other potential factors will affect FMSAEG's relocation to Seal Beach:

--Loss of efficiency for certain activities at Seal Beach.

--Loss of efficiency and productivity by the private contractor who provides various support

Tear Sheet Upon removal, the report cover date should be noted hereon.

services to FMSAEG. (See ch. 6.)

Excluding the economic considerations, consolidation of FMSAEG at Corona appears to be a better alternative than relocation to Seal Beach.

Because of questions concerning the Navy's economic analysis, GAO is unable to conclude that the Navy has adequately justified the proposed relocation.

GAO believes the Navy should reevaluate the proposed relocation, including making a new economic analysis, before any further action is taken.

In performing the analysis, the Navy should consider the best physical layout if FMSAEG were to remain at Corona. (See ch. 7.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

Navy officials in Washington, after reviewing the contents of GAO's report, observed the following:

--The Navy needs to make a new economic analysis before it takes any further action, with respect to FMSAEG.

--The Navy, at the time it developed the July 1973 economic analysis felt that the only viable alternatives for FMSAEG were consolidation at Corona or relocation to Seal Beach. (See p. 38.)

CHAPTER 1

INTRODUCTION

On February 5, 1974, the Department of Defense (DOD) approved the relocation of the Navy's Fleet Missile Systems' Analysis and Evaluation Group (FMSAEG) from Corona to Seal Beach, California. FMSAEG's relocation was to be completed by June 1975. The Navy estimated that the relocation would (1) save $446,000 annually, (2) result in one-time costs of $2.7 million, (3) transfer 6 military and 499 civilian positions, and (4) eliminate 13 civilian support positions.

FMSAEG RELOCATION

FMSAEG's mission is to provide Navy organizations with evaluations of the per-forrnance, reliability, readiness, and effectiveness of missile weapons systems, subsystems, assemblies, and associated test equipment and checkout systems. FMSAEG also acts as the cognizant field agent for the integrated logistics support of the fleet air-training ranges. Its projected level of funding for fiscal year 1975 is about $28 million.

FMSAEG (formerly the Missile Evaluation Department of the Naval Ordnance Laboratory, Corona) was commissioned as an independent activity on April 24, 1964. The emergence of this group as an autonomous activity resulted from approximately 12 years of missile evaluation and its increasing importance to the Navy in the guided and ballistics missile weapons systems programs.

FMSAEG remained at Corona arid continued to grow as new missiles were developed and more evaluation responsibilities were assigned. In June 1971, in response to severe budgeting reductions and as a result of' base closure studies, FMSAEG was disestablished as a separate activity and placed under the administrative control of the Naval Weapons Station, Seal Beach.

In April 1969, the Secretary of' *the* Navy announced that the Corona Laboratories (formerly the Naval Ordnance Laboratory, Corona) was to be disestablished as of June 1971 and transferred to the Naval Weapons Center, China Lake, California. FMSAEG was to remain at Corona. As directed by the Naval Ordnance Systems Command in June 1970, FMSAEG performed a study which indicated that its most economical and effective configuration at Corona would be to consolidate its operations in the southeast section, mainly in the area known as the "inner compound." (*See* appendix.)

In March 1971, DOD announced that FMSAEG would be relocated to the Naval Weapons Station, Seal Beach, by June 1971. Since the Weapons Station did not have adequate space at Seal Beach to accommodate FMSAEG, the Navy concluded that relocating FMSAEG to nearby leased commercial space would save about $750,000 annually due to a reduction of 80 support personnel.

In December 1971 the Real Estate Subcommittee of the House Armed Services Committee disapproved the plan to lease commercial. space. As a result, the Navy during 1972 made preparations for consolidating FMSAEG's operations into the inner compound and for disposing of about 506 acres of the Corona property. In Cecember 1972, DOD disapproved the Navy's plan and directed that FMSAEG be relocated to another DOD-controlled facility. This directive was based on the assumption that more than $1 million annually could be saved by relocating FMSAEG.

Early in 1973, certain National Aeronautics and Space Administration (NASA) facilities at Seal Beach became available for occupancy. Under the DOD directive, the Navy, in the first half of 1973, planned to relocate FMSAEG to the NASA buildings. In the last half of 1973, the Navy prepared an economic analysis to support the proposed FMSAEG relocation. DOD approved FMSAEG's relocation to the NASA buildings on the basis of the Navy's estimate of annual recurring savings of $446,000

CORONA PROPERTY

The Navy installation at Corona is 4 miles north of the city of Corona. The Navy acquired the site--originally developed in 1928 as a luxury resort--in 1941 for establishing a naval hospital. The property, which consists of both improved and unimproved land totaling over 600 acres, includes a 58-acre, manmade lake (operated since 1956 as a wildlife refuge) and 19 acres of land containing a sewage disposal plant, a water reservoir, and a well site.

The Navy converted the major resort building for hospital use and also constructed other buildings. In the 1950's, as the hospital phased down operations, accountability of the property was gradually transferred to the Naval Ordnance Laboratory, Corona. The Laboratory's predecessor, the Missile Development Department, National Bureau of Standards, had occupied part of the Corona property since 1951. After the hospital closed in 1957, the main hospital building and 90 acres of land were donated to the State of

California for use as an institution for rehabilitating drug addicts.

Currently, the Navy owns 610 acres of land at Corona. FMSAEG and the Fuze Model Range, an annex of the Naval Weapons Center, China Lake, are the only activities on the Corona property. A private contractor which provides FMSAEG with certain managerial, scientific, technical, and support services is located near the Corona property. As of June 30, 1974, the contractor employed 228 employees of whom 79 worked on the Navy property at Corona.

SEAL, BEACH PROPERTY

The Naval Weapons Station, Seal Beach (formerly the U.S. Naval Ammunition and Net Depot), began operations in 1944. The Seal Beach facility is on 5,000 acres of land on the southern California coast in Orange County. The facility includes 206 buildings, 124 magazines, and a 1,000-foot wharf for servicing Navy ships.

In 1962, NASA arranged to build facilities for producing, testing, and preparing for shipment of the S-II stage of the Saturn booster on about 40 acres of the Seal Beach property. It spent about $18 million to build one adininistrative building and seven industrial-type buildings. In November 1973, after the Saturn program was cnnpleted, the buildings were transferred to the Navy.

As of June 30, 1974, the Weapons Station had 1,176 civilian personnel on board. Relocating FMSAEG's 559 civilian personnel, 8 civilian support employees, and the private contractor's 79 employees[1] to Seal Beach would increase the station's on-board civilian employee population by about 55 percent. Weapons Station officials said this increase would not adversely affect their operations because of the availability of NASA facilities.

---

[1]The remaining 149 contractor employees will need to be in commercial space near the Weapons Station.

CHAPTER 2

ECONOMIC ANALYSIS OF RELOCATION

The Navy estimated that it would cost $2,676,100 to relocate FMSAEG to Seal Beach and that the cost would be recovered in about 6 years since the move would save about $446,200 annually. Most of the cost and savings data, summarized below, came from an economic analysis dated July 27, 1973.

Estimated annual recurring savings:	
Reduction in maintenance costs	$ 245,000
Reduction in personnel costs	266,000
Total	511,000
Less increased contract service costs	64,800
Net annual recurring savings	$ 446,200
Estimated one-time costs to relocate FMSAEG to Seal Beach:	
Prepare NASA buildings for occupancy	$ 643,000
Moving of FMSAEG	316,600
Severance pay of civilian employees	300,000
Relocation of civilian employees	1,680,000
Moving of private contractor	136.500
Total one-time costs	3,076,100
Less one-time cost avoidance:	
Cost to repair existing facililties at Corona	400,000
Net one-time costs	$2,676,100

Our review of the Navy's stated savings and costs indicated that the

- figures were not fully supported, current, and accurate;
- basis for comparison (i.e., FMSAEG retaining its current physical layout at Corona) appears inappropriate; and
- Navy did not consider using present value analysis in its calculations.

Questionable estimates

We are concerned about the Navy's estimates because of:

--A lack of documentation.

--Differences between the Navy's estimates and our estimates for similar items.

--Various aspects of the relocation we identified that the Navy did not account for.

Lack of documentation

Seal Beach officials generally did not have documentation to support the Navy's estimated costs which were primarily developed by personnel at the Naval Weapons Station.

For example, we attempted to verify the Navy's estimates for relocating FMSAEG's employees and moving the contractor. We were told that these estimates had been primarily based on those made in early 1971 to support the original plan to move FMSAEG to Seal Beach and were carried forward to the July 1973 analysis without updating. FMSAEG and Weapons Station officials said the estimates resulted from discussions with department heads and that there was no backup data to support their development. Seal Beach officials would not comment on the current validity of the estimates. However, with respect to the private contractor, FMSAEG officials said these estimates were no longer valid because of inflation and large increases in the amount of work being done by the contractor since 1971.

We further experienced difficulty in trying to verify the Navy's estimated cost for renovating NASA facilities. Weapons Station officials allocated the estimated $643,000 renovation costs between an urgent minor construction project and a special project for equipment installation. The Weapons Station official who prepared the estimates said the costs were based on his engineering judgment and were not traceable to other supporting documentation.

In view of the lack of documentation and the failure of the Navy to update the estimates, we attempted to develop new estimates with the assistance of Weapons Station and FMSAEG personnel. The Commander of the Naval Weapons Station told us FMSAEG and Weapons Station personnel would give us factual data on the relocation but that they would not help prepare current estimates to support or update the costs identified in the July 1973 economic analysis. His

reasoning was that the previous estimates, even though we found them to be outdated or incorrect, were not to be "second-guessed" by Weapons Station and FMSAEG personnel.

Differences in estimates

We could not develop a complete cost analysis for the proposed relocation primarily because of the lack of supporting documentation for the Navy's estimates and the Navy's unwillingness to help us develop new figures. However, we developed estimates for some of the items and, in several instances, found large differences between our estimates and those in the Navy's economic analysis.

	Navy estimates	GAO estimates
Prepare NASA buildings for occupancy	$ 643,000	$ 454,300
Disconnecting/reconnecting computer	[a]12,000	19,000
Severence pay of civilian employees	300,000	157,500
Relocation of civilian employees	[b]1,230,000	1,096,100
Moving of private-contractor	[c]136,500	285,300
Total	$2,321,500	$2,012,100

[a]This cost is part of the Navy's $316,600 moving costs. (See p. 4.) We could not compute a comparable cost for the balance ($304,600).

[b]We estimated the moving costs and home selling and purchasing costs but could not compute a comparable cost for the $450,000 of temporary quarters and subsistence included in the Navy's $1,680,000 relocation costs. (See p. 4.)

[c]In part, the higher estimate is due to the increased amount of work the contractor was doing. (See p. 5.)

In several instances our cost estimates were less than those cited by the Navy. For example, the Navy estimated a $900,000 cost to reimburse relocating employees for expenses they would incur in selling their homes. We estimated such costs would be about $791,900. The Navy estimated spending $90,000 for costs associated with the purchase of new homes, whereas we estimated the cost to be about $61,500.

The Navy's estimate was similar to ours in one instance; it estimated $240,000 for moving household goods and we estimated $242,600.

Excluded items

Our review identified various aspects of the relocation that the Navy did not consider. For example, the private contractor at Corona is reimbursed about $34,000 annually for 15,000 square feet of space leased for his operations. We determined that the cost of comparable space at Seal Beach could range from about $90,000 to $126,000 a year. Although the Commander of the Weapons Station stated that some type of usable space can be leased near the Station for about $34,000 annually, we believe that transferring the contractor to Seal Beach would increase the Navy's contract cost.

Other aspects the Navy did not consider included:

- Recruiting and training personnel to replace those FMSAEG and private contractor employees who refuse to relocate.

- Loss of productive time from relocating the private contractor; (Navy considered such loss time for FMSAEG employees.)

- Support of the Fuze Model Range; Navy officials estimate that, if FMSAEG moves to Seal Beach, about $50,000 in one-time costs (new electrical substation), and $55,000 to $80,000 in additional annual recurring costs would be needed to maintain the range at Corona.

- Caretaker services for the Corona property pending its disposal.

- Effect of computer downtime on the two military activities that currently have terminal links to the FMSAEG computer. (See p. 29.)

Inappropriate basis for comparision

On the basis of information supplied by the Navy, leaving FMSAEG at its present physical layout at Corona had not been considered a viable alternative. Rather, the Navy considered consolidation in the inner compound at Corona as the logical action if FMSAEG remained at that location.

The main building FMSAEG currently occupies is outside the inner compound. The building, which houses FMSAEG's

computer, appears to be less than satisfactory for occupancy because it lacks a sprinkler system, is in poor condition, and has an inadequate electrical system that experiences power fluctuations and outages. FMSAEG officials estimate that at least $140,000 in lost computer time has resulted during the 15-month period ended June 30, 1974, because of these electrical failures. For example, data being processed by the computer must be reprocessed when the electrical system fails.

In April 1970, FMSAEG was instructed to determine physical requirements for centralization at Corona. The results of the study indicated that the most economical area for retention at Corona was the inner compound. FMSAEG determined that the existing buildings in that area could be used with little or no modification and minimum expenditure for maintenance and speration.

The House Armed Services Committee disapproved the Navy's proposal in 1971 to lease commercial space in Seal Beach to relocate FMSAEG. The Navy interpreted the Committee's action to mean that it could save a sizable amount if FMSAEG consolidated at Corona.

Since the prior planning had envisioned consolidating FMSAEG at Corona, the economic analysis prepared by the Weapons Station in July 1973 did not consider the costs associated with retaining FMSAEG in its current physical. layout at Corona. However, in response to a telephoned request from the Naval Ordnance Systems Command in September 1973, the Weapons Station public works officer compiled the figures within a few days. He stated that they were merely estimates based on his staff's judgment. Acc'ordingly, there was no documentation to support the estimates.

Navy oficials in Washington said the Navy had only two viable alternatives with respect to FMSAEG--consolidation in the inner compound at Corona or relocation to Seal Beach. Accordingly, the Navy's economic analysis should have concentrated on comparing one-time and recurring costs of both alternatives to determine which was the most economical.

Present value analysis

Present value analysis is a technique in which all future costs, cash outlays, and savings of public investments are discounted to present value to facilitate economic comparisons. The basis of this concept is that dollar

benefits which accrue in the future cannot be compared directly with investments made in the present because of the time value of money (i.e., a dollar today is worth more than a dollar tomorrow because of the interest costs). According to Navy criteria, this discounting technique should be applied in evaluating alternative investment proposals to promote greater disclosure of and consistency in identifying the resource implications of such investments. The technique should also better indicate the cost savings from cost-reduction investment proposals.

A Navy official in Washington said discounting should have been used in estimating savings and costs of relocating FMSAEG to Seal Beach. He did not know why the discounting technique had not been used in the July 1973 economic analysis.

CHAPTER 3

COMPARISON OF FACILITIES AT CORONA AND SEAL BEACH

FMSAEG currently occupies about 200,000 net square feet of space in 24 buildings. (See appendix.) Most of the 24 buildings were constructed in the early 1940's as part of a Navy hospital complex that was disestablished in 1957. At June 30, 1974, FMSAEG's functions were being performed by a civilian staff of 559 and a military staff of 4. The staff was composed of' engineers, technicians, and administrative personnel, and the work facilities consisted of approximately 80 percent office space and about 20 percent electronic equipment and laboratory space.

FMSAEG officials believe that the present layout causes a number of problems and inefficiencies. The operations are scattered throughout various buildings as far as 7/10 of a mile apart. Shuttlebus service transports people and material to and from the buildings.

The officials believe this inefficient layout results in a lack of management control over departments and an annual loss in productive time due to travel between departments. In addition agency officials estimated the costs for maintaining the grounds and security in the occupied area to be about 50 percent more than it would be if FMSAEG was consolidated in the inner compound.

Since the Navy did not consider retaining the present configuration a viable alternative, we compared the facilities of the inner compound at Corona-with the NASA facilities at Seal Beach. The inner compound structures provide more space and appear to be better suited to accomplishing FMSAEG's missions.

INNER COMPOUND AT CORONA

Under the Navy plan to consolidate FMSAEG into the inner compound, all of the departments would be relocated into 24 of 29 buildings. FMSAEG would also use the structures east of the lake, the club-cafeteria on the front of the lake, and the fire station southeast of the lake. Under the consolidation plan, FMSAEG would occupy about 190,800 net square feet of building space in the inner compound. (See appendix.)

As of' August 1, 1974, 191 persons worked in the inner compound. However, the Navy anticipates that as of October 1, 1974, 326 persons, or about 58 percent of FMSAEG's

current work force, will be in the inner compound. This increase is due to the planned transfer of 135 employees from the building containing the FMSAEG computer to reduce the load on the building's inadequate electrical system. (See pp. 7 and 8.)

The inner compound buildings are single-story, wood-frame structures with concrete foundations, stucco exterior, concrete and wood floors covered with tile or carpeting, and wood interior walls. Most of the buildings to be used are connected by a covered walkway and have Spanish-tile roofs. (See photographs on pp. 12 to 15.)

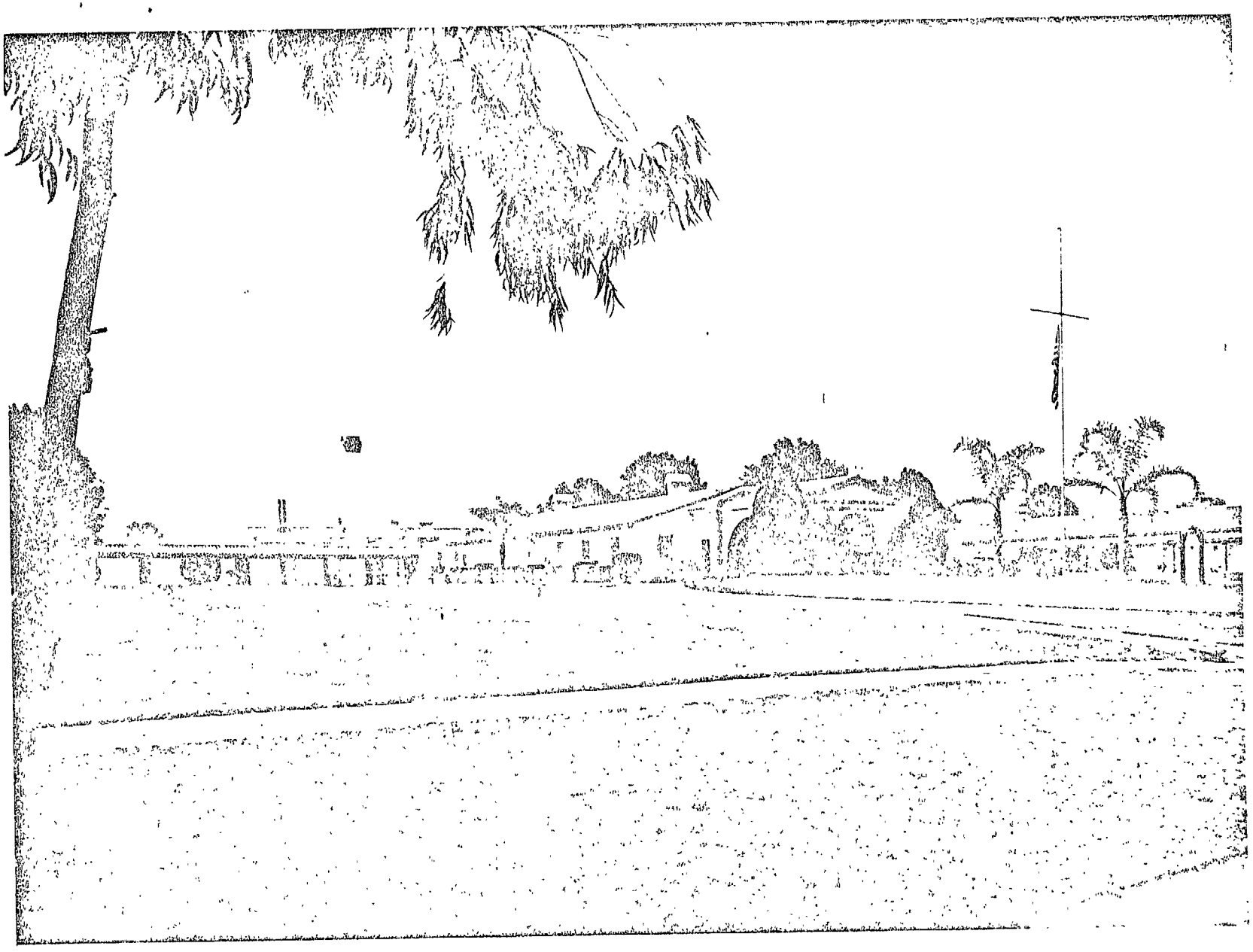
According to a May 1972 General Services Administration survey these buildings were in excellent condition. FMSAEG officials stated, however, that, because of the lack of maintenance and the modifications required for FMSAEG's equipment, many of the buildings would have to be renovated before being occupied. The officials noted that the general maintenance of all FMSAEG buildings at Corona was lowered after they were directed not to spend money on the facilities due to the possible relocation to Seal Beach.

Ten of the buildings need only cleaning; interior/exterior painting; and minor repairs to the floors, ceilings, heating systems, screens, lighting, and toilets. In addition to this work, five buildings need major electrical, air-conditioning, and structural changes to prepare them for use as FMSAEG laboratories and computer space. On the basis of data provided by the Weapons Station, we estimate it would take $613,500 to prepare the buildings for occupancy.

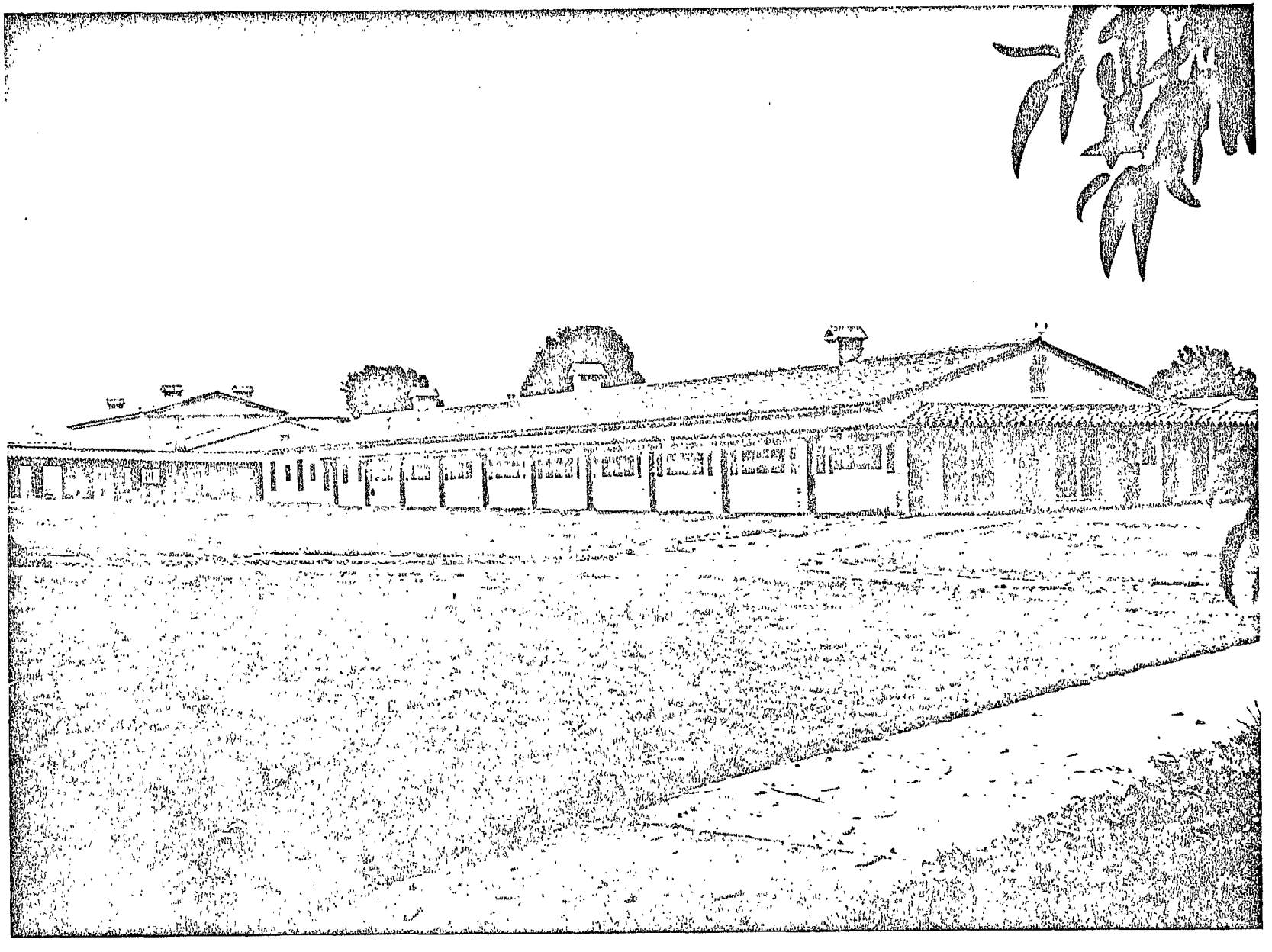
FMSAEG officials said they believe these buildings have adequate space, good working conditions, and an effective layout and thus, are well suited to their missions. Because the buildings had been modified to meet earlier, similar needs of a naval ordnance laboratory, they believe FMSAEG will be able to operate at its maximum level of efficiency if it is consolidated in the inner compound. Also, the favorable work environment of the buildings would help FMSAEG recruit and retain the predominately professional-type personnel it needs.

NASA FACILITIES AT SEAL BEACH

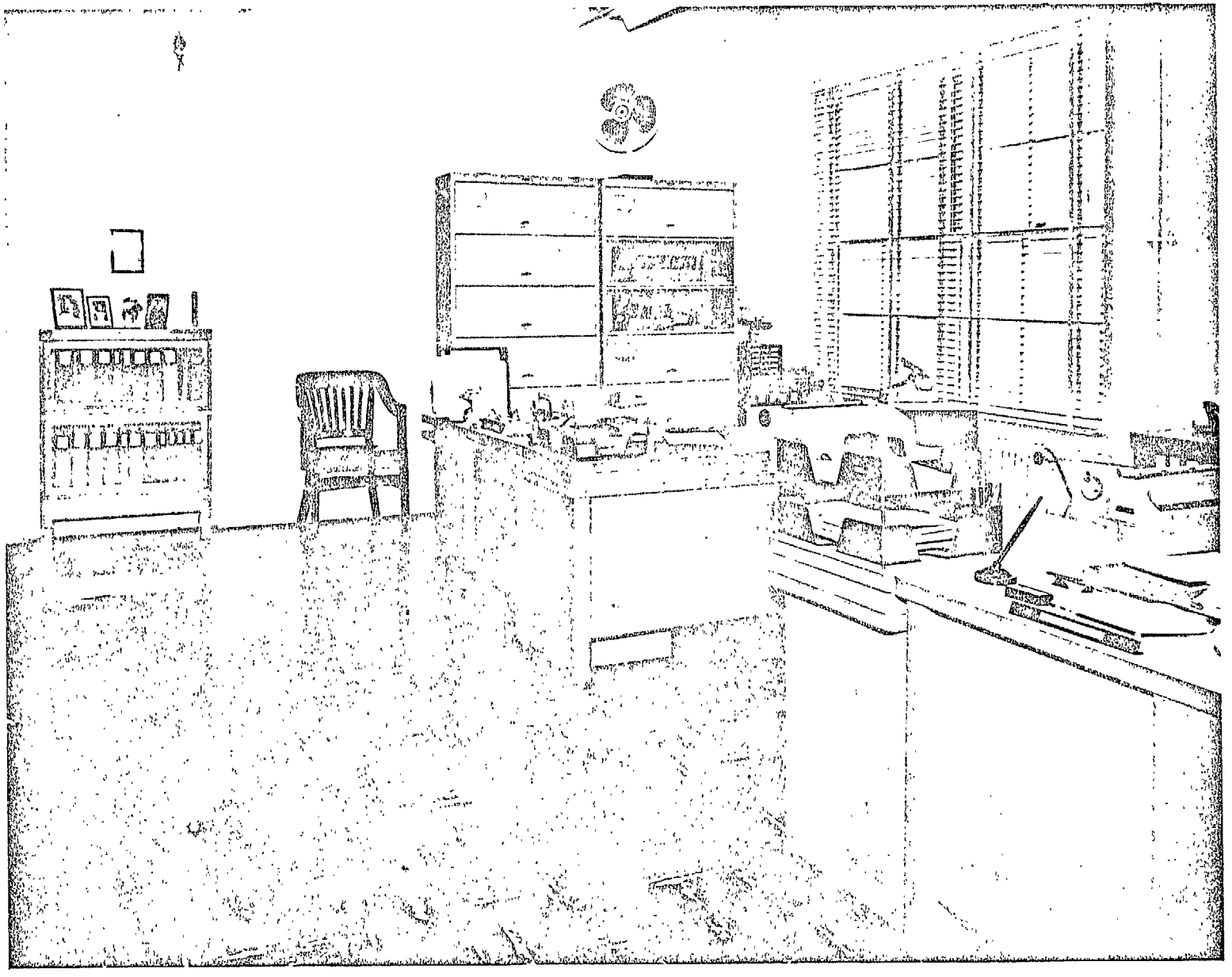
The Navy plans to relocate FMSAEG's technical and administrative departments primarily to four former NASA buildings at Seal Beach. These structures, built between 1963 and 1967, are on about 40 acres of the Seal Beach property. FMSAEG support functions, some of which will be



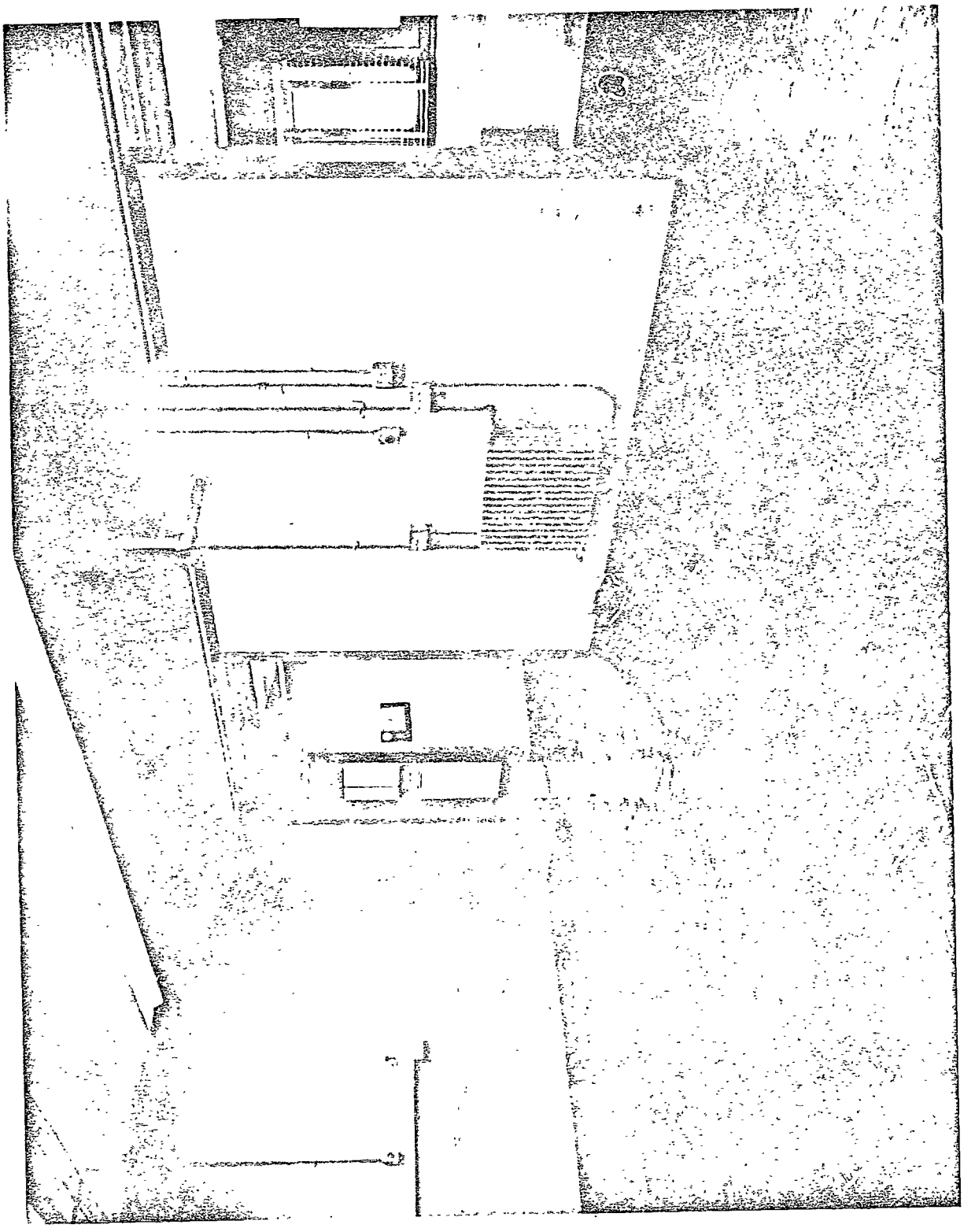
EXTERIOR VIEW OF TYPICAL BUILDING IN THE INNER COMPOUND



EXTERIOR VIEW OF TYPICAL BUILDING IN THE INNER COMPOUND



EXAMPLE OF OFFICE SPACE PRESENTLY USED IN AN INNER COMPOUND BUILDING



EXAMPLE OF UNOCCUPIED SPACE IN AN INNER COMPOWND BUILDING

merged with similar Naval Weapons Station functions, will relocate to the NASA facilities and in other available Seal Beach buildings.

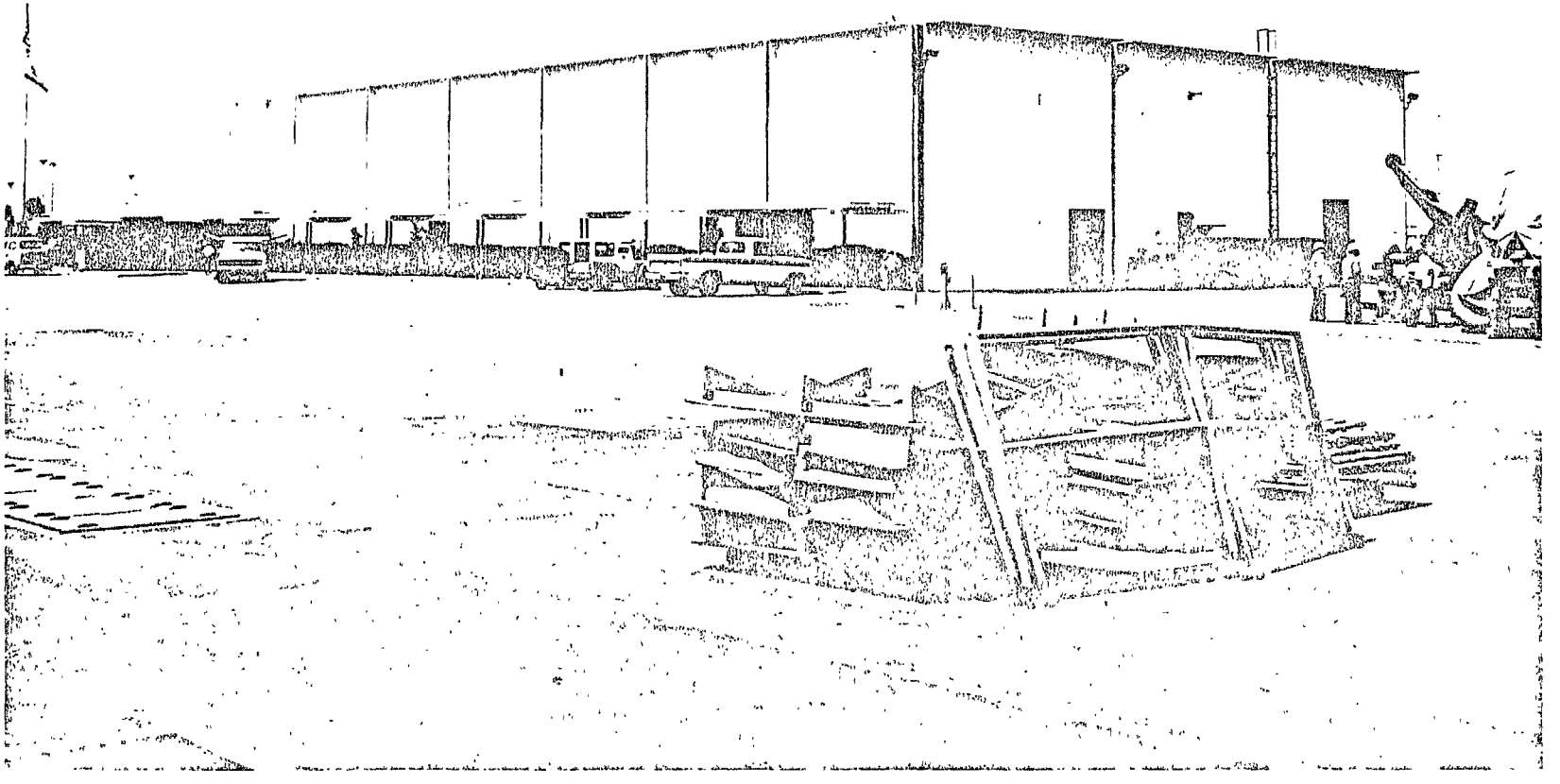
Although the Navy had planned to provide FMSAEG with 100,300 net square feet of space at Seal Beach, more accurate measurements and drawings made by a Seal Beach engineer at the time of our fieldwork showed that the buildings FMSAEG would relocate to would provide 95,700 net square feet of usable space--4,600 net square feet less than was originally planned for FMSAGE.

The four NASA buildings will provide approximately 87 percent (about 83,200 net square feet) of the FMSAEG technical and administrative space. One of the four buildings is a two-story reinforced concrete office-type building formerly used for administrative and laboratory functions. The other three buildings are special-purpose industrial buildings designed to fabricate, assemble, checkout, and evaluate the second stage of the Saturn booster for the Apollo program. .

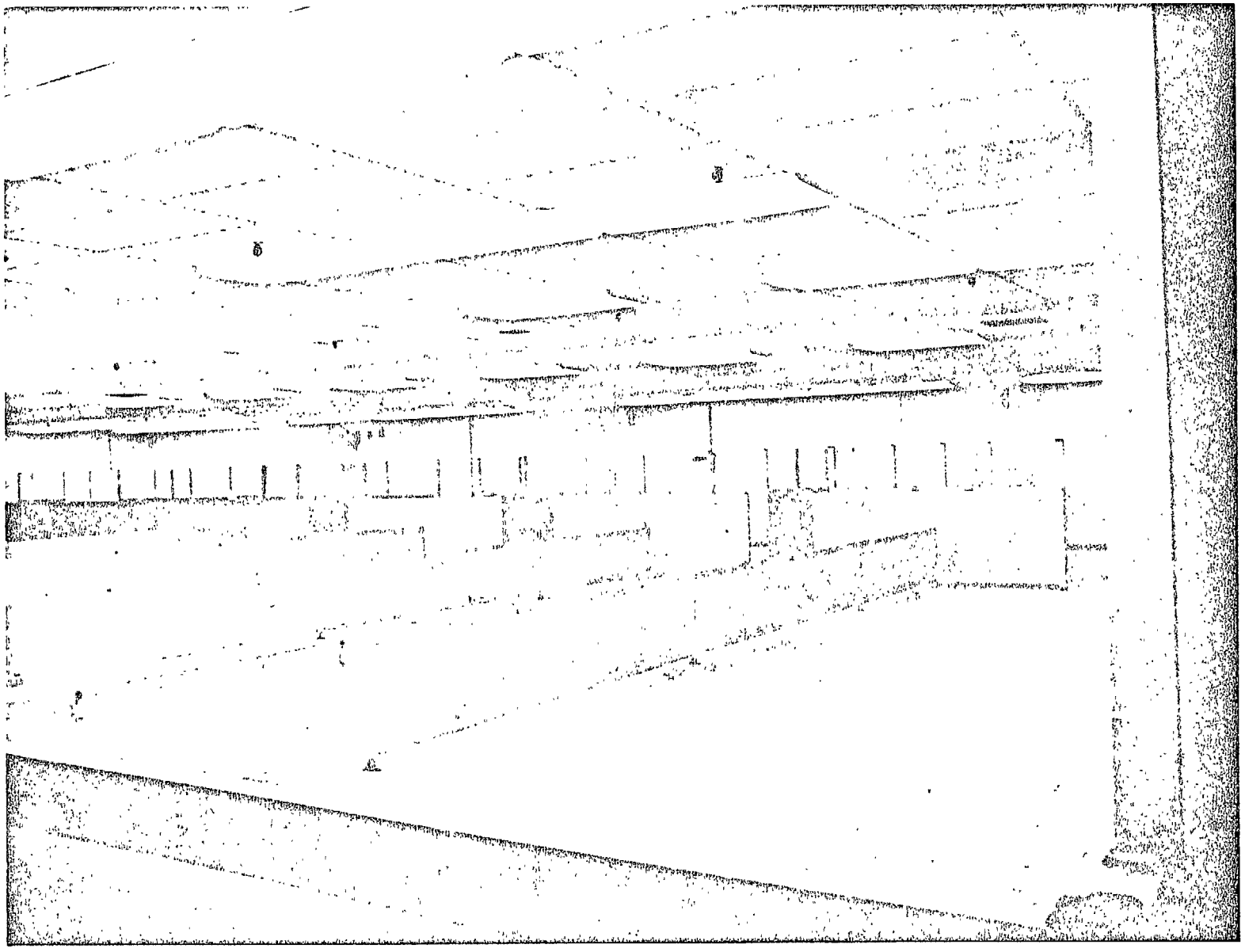
These buildings are three to six stories, windowless, concrete and steel structures covered with gray corrugated-steel siding. Described as buildings within buildings, each structure contains large open-bay areas along with laboratory and office space. Two of the buildings contain about 92,000 net square feet of floor space which is unusable because it is too costly to convert. One of the buildings contains specially prepared space for housing a computer. According to a May 1973 architect and engineering study, these buildings were all in good condition. (See photographs on pp. 17 to 21.)

About 62,600 net square feet of the space to be used in the NASA buildings will require only minor improvements, including painting of the interiors; adding partitions, and modifying existing heating, ventilating, air-conditioning, and lighting systems. The remaining 20,600 net square feet will require major modifications to convert the space for laboratory and office use. The first-floor open-bay (silo) areas of two of the buildings and the second-floor mezzanine deck of the third building will require soundproof walls, drop ceilings, and new floors. (See photographs on pp. 22 to 25.)

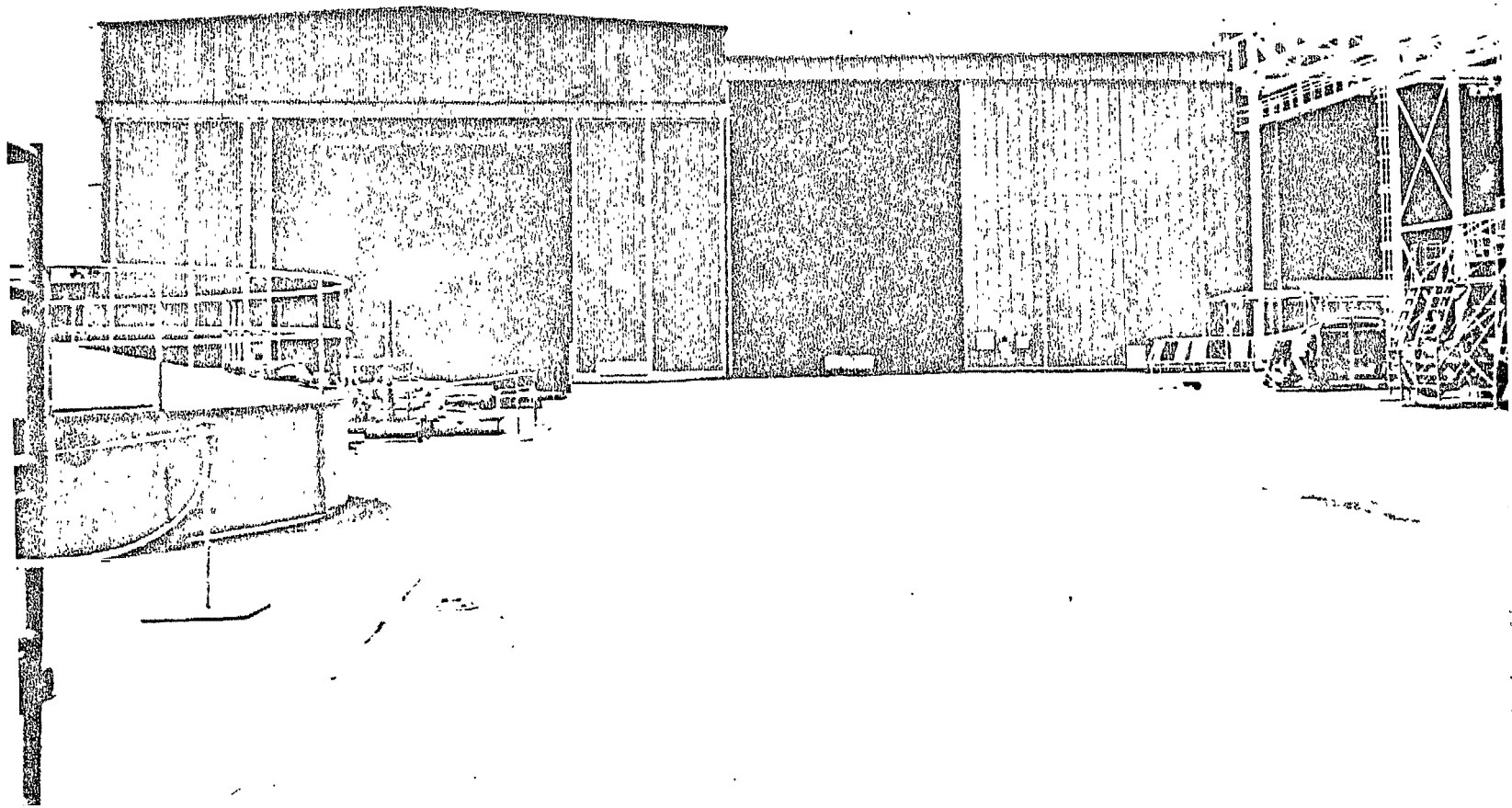
After all modifications have been completed, the four buildings will provide 83,200 net square feet of the total 95,700 net square feet planned for FMSAEG at Seal Beach. The remaining 12,500 net square feet of space planned for



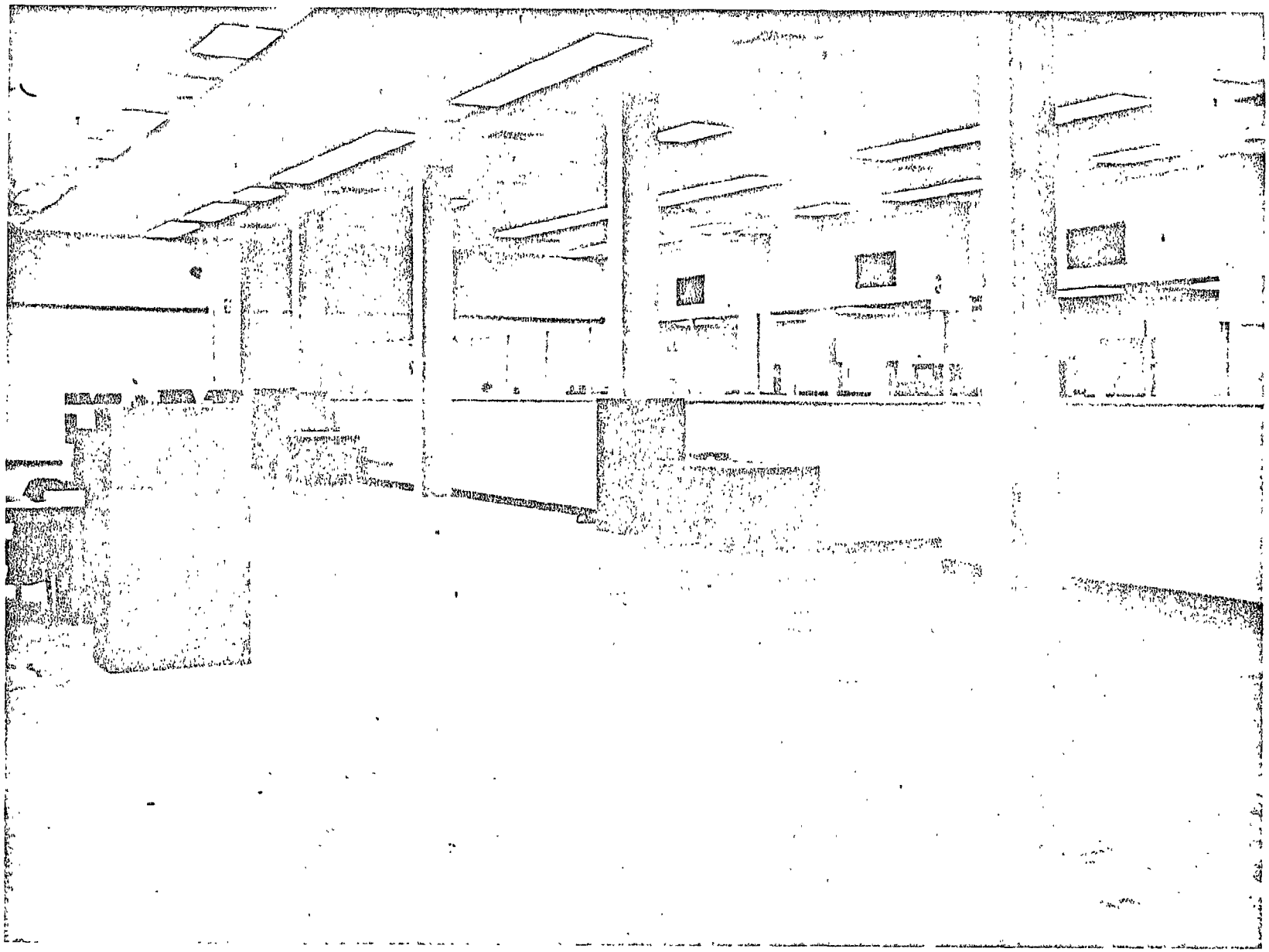
EXTERIOR VIEW OF THE NASA BUILDING FORMERLY USED FOR
ADMINISTRATIVE AND LABORATORY FUNCTIONS



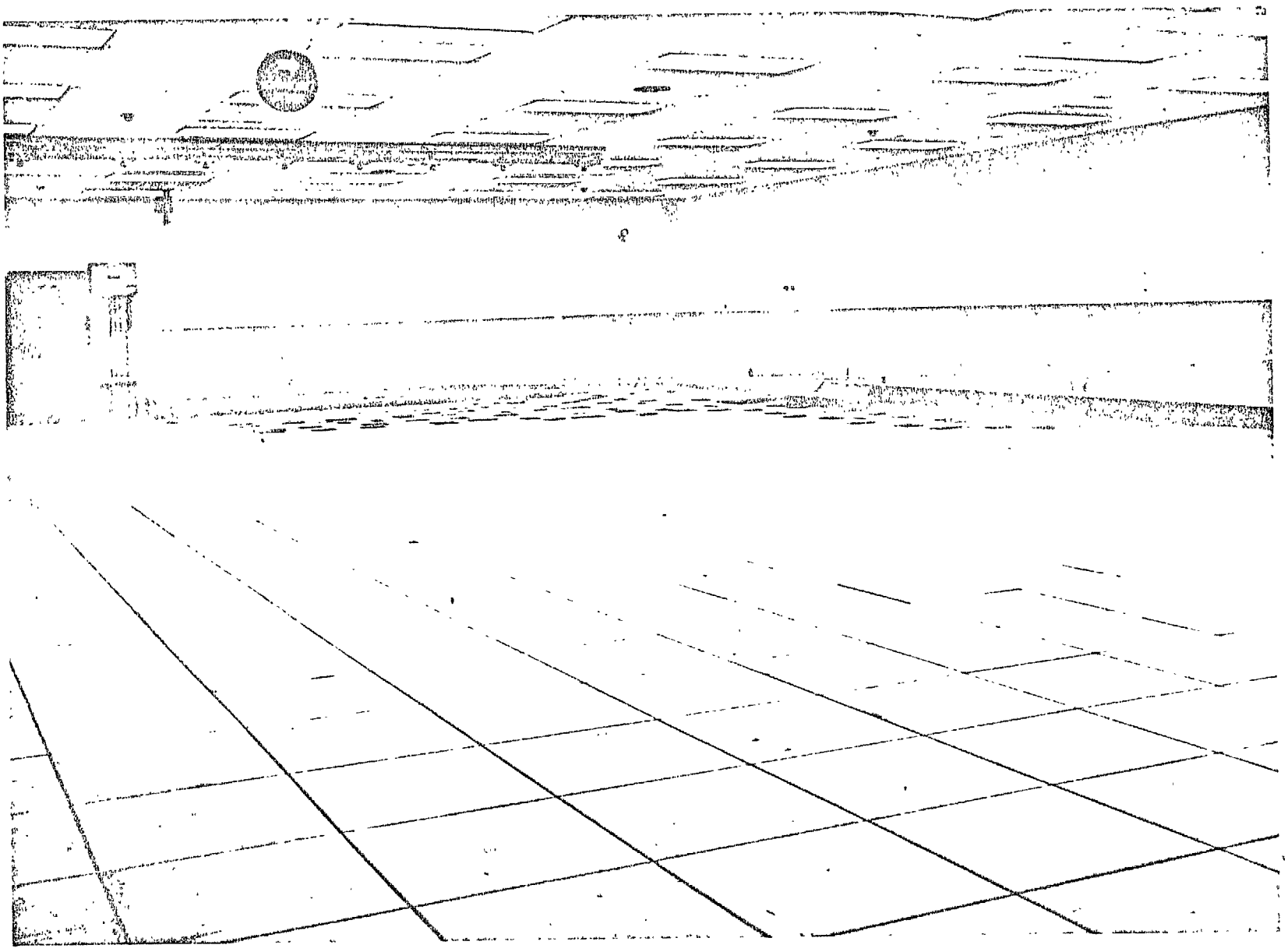
INTERIOR VIEW OF THE NASA BUILDING FORMERLY USED FOR ADMINISTRATIVE AND LABORATORY FUNCTIONS



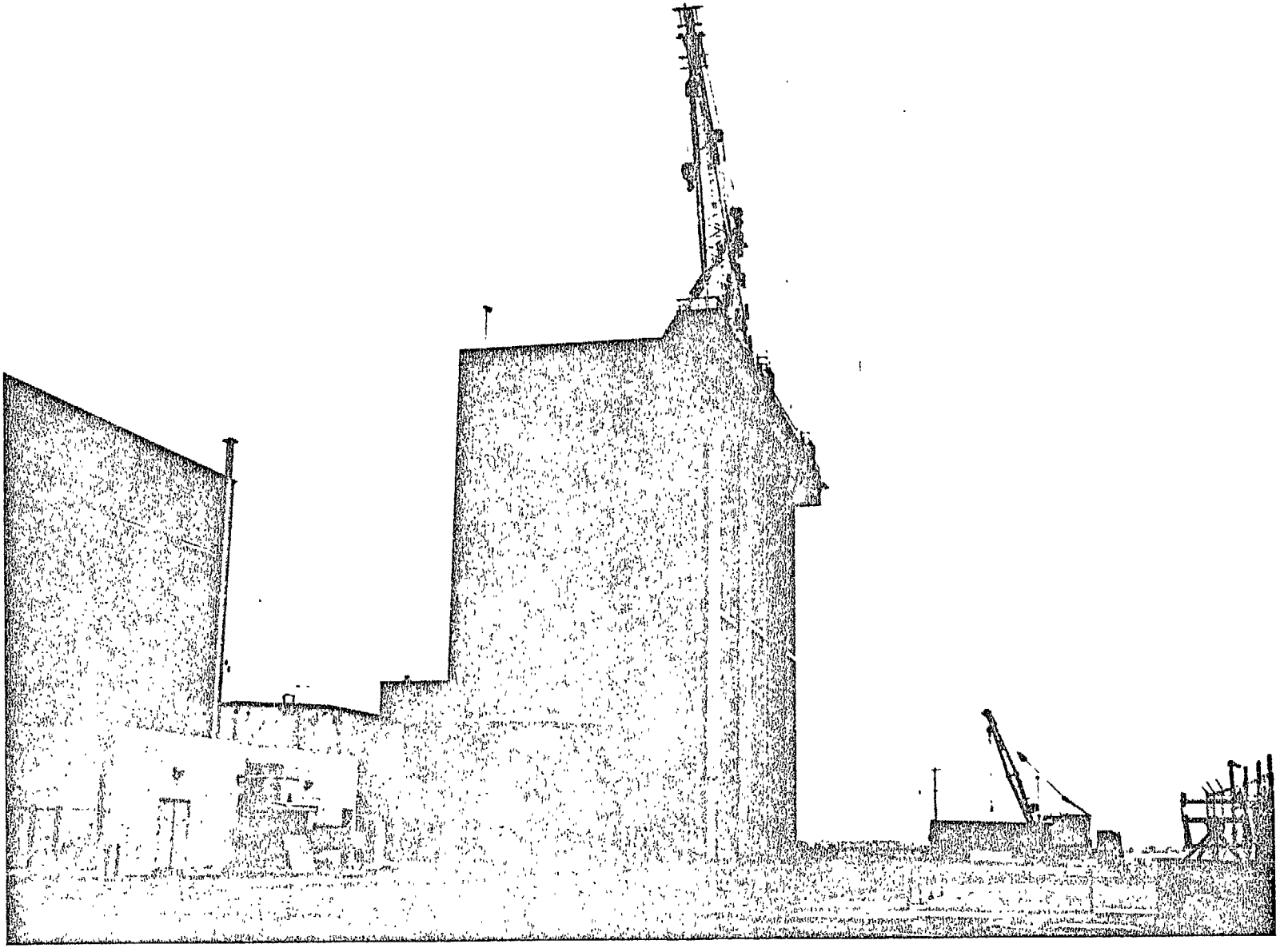
EXTERIOR VIEW OF THE NASA BUILDING FORMERLY USED FOR SUBASSEMBLY AND ASSEMBLY



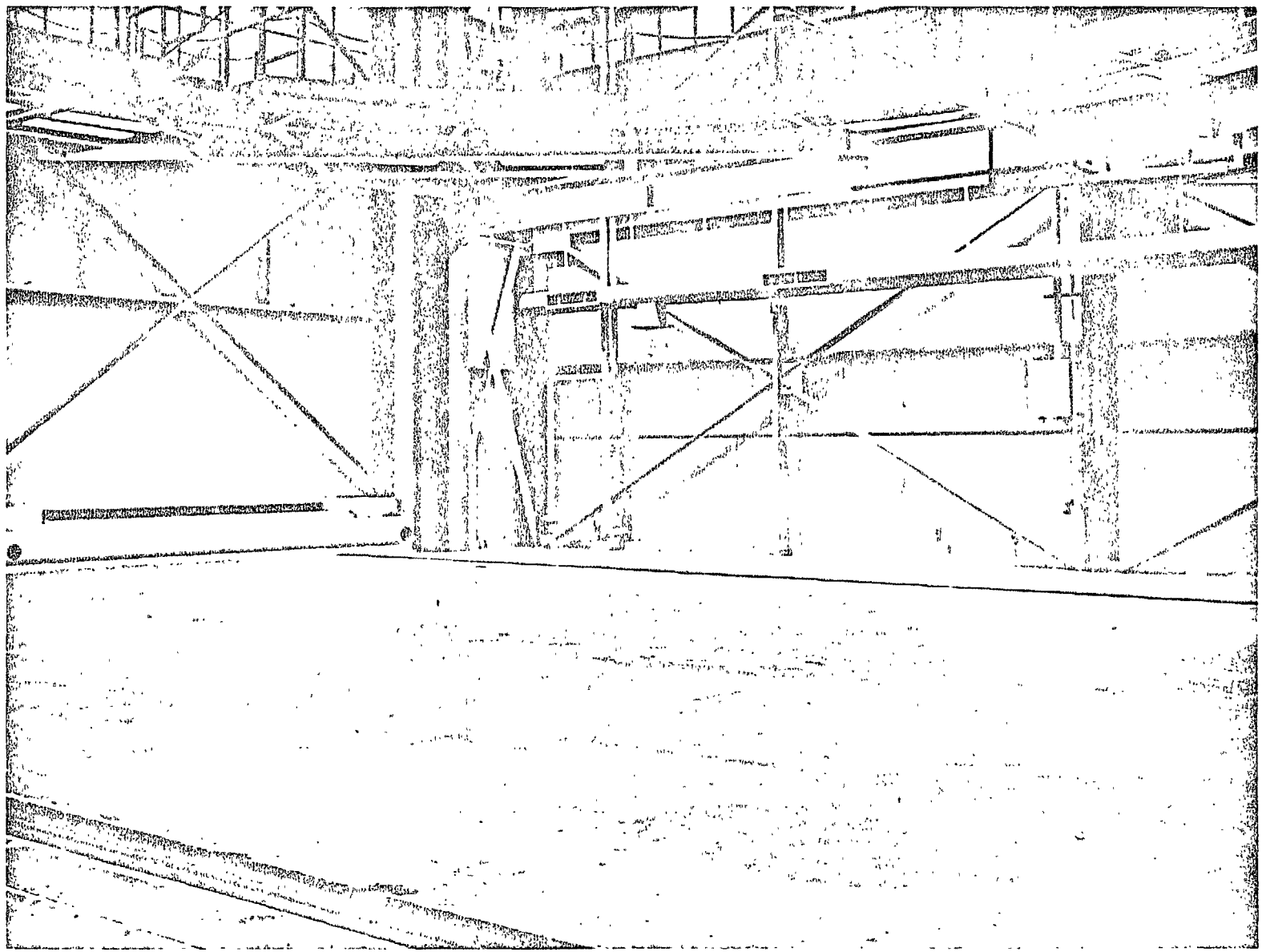
INTERIOR VIEW OF THE NASA BUILDING FORMERLY USED FOR SUBASSEMBLY AND ASSEMBLY



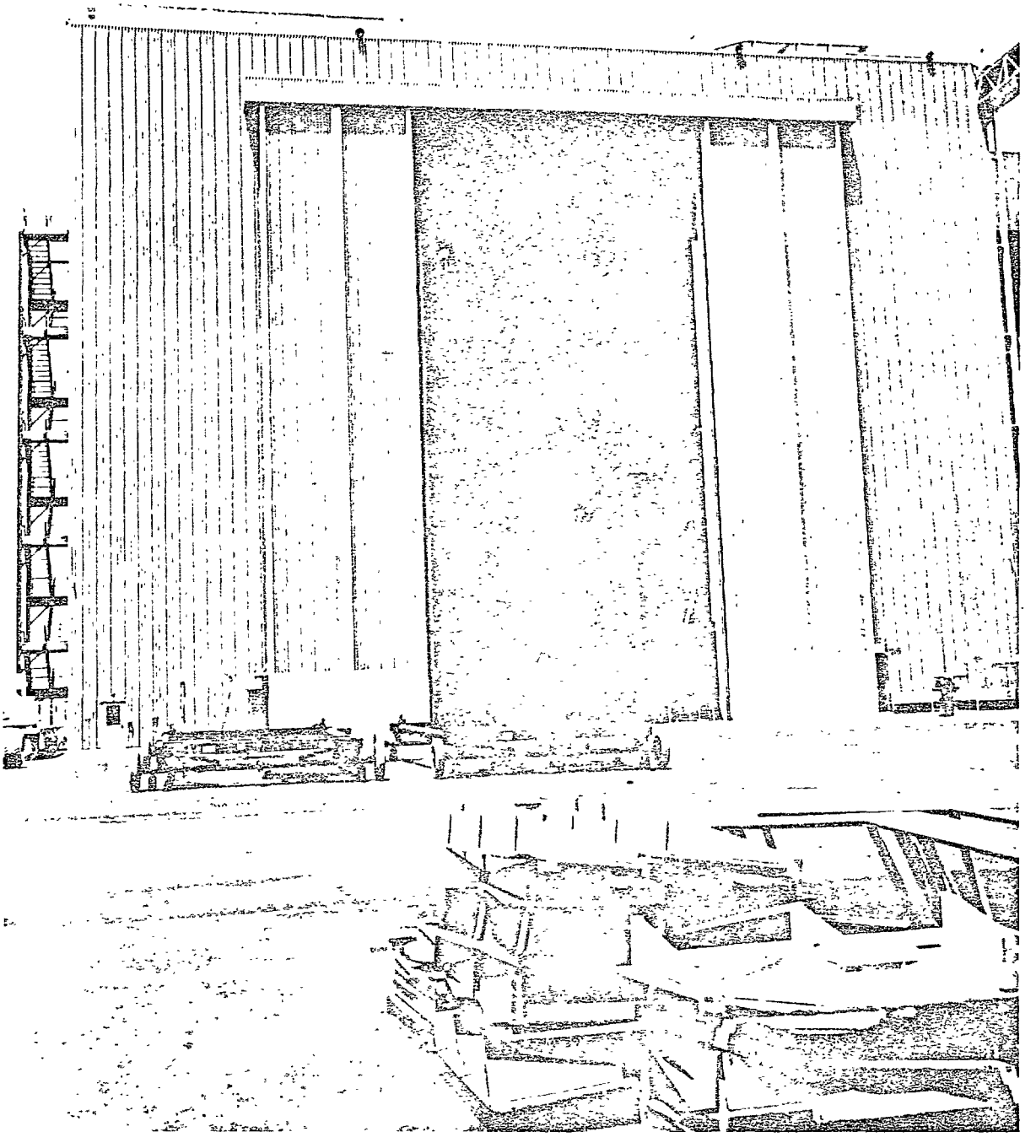
SPACE IN THE NASA VERTICAL CHECKOUT BUILDING WHICH HAS BEEN SPECIALLY PREPARED FOR HOUSING A COMPUTER



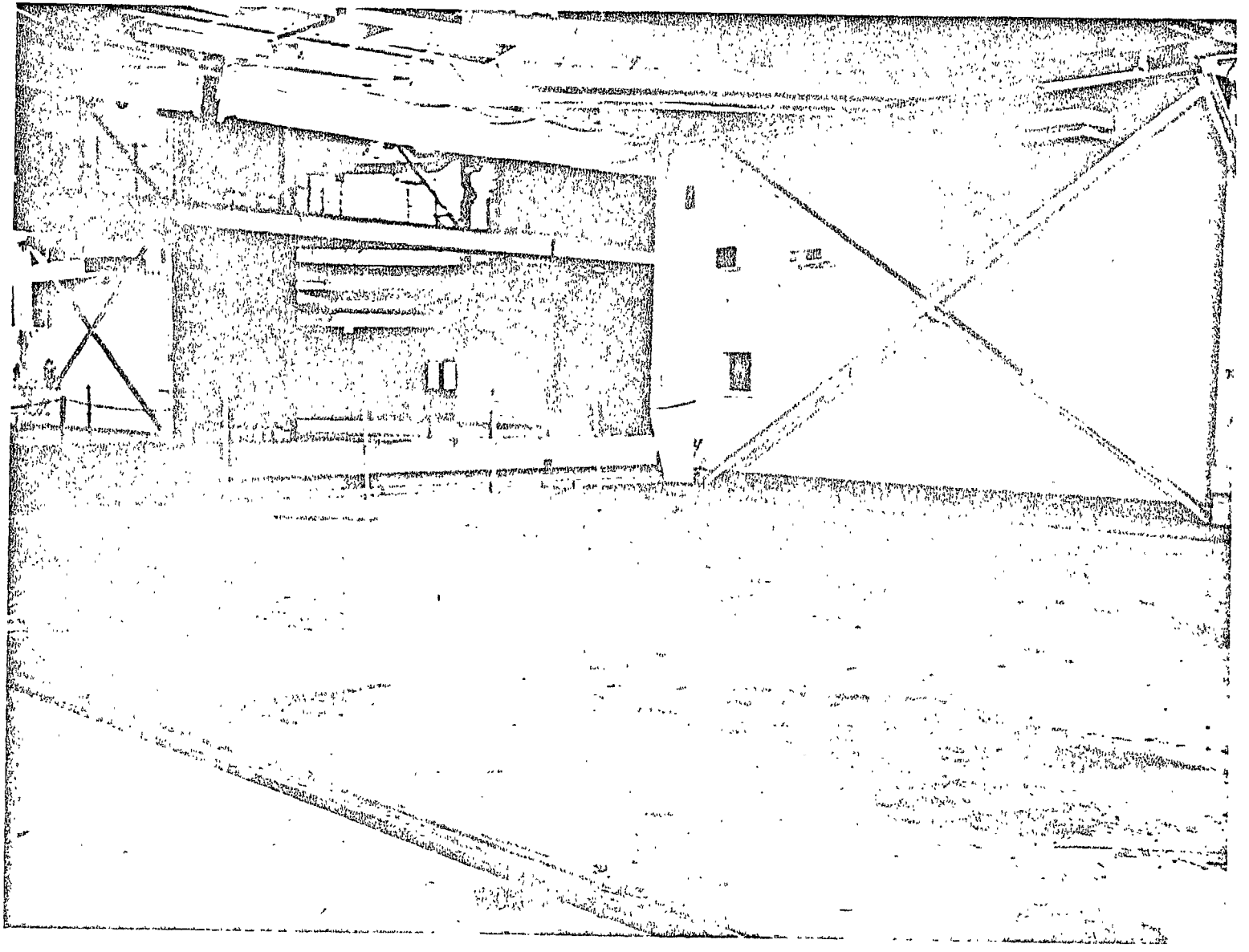
EXTERIOR VIEW OF THE NASA VERTICAL CHECKOUT BUILDING CONTAINING LARGE VERTICAL SILOS



FIRST FLOOR OF THE SILO AREA IN THE ABOVE BUILDING REQUIRING ALTERATIONS FOR FMSAEG USE



EXTERIOR VIEW OF THE NASA FABRICATION BUILDING CONTAINING LARGE SILOS



FIRST FLOOR OF THE SILO AREA IN THE ABOVE BUILDING REQUIRING MAJOR RENOVATION FOR CONVERSION INTO OFFICE SPACE

the various FMSAEG support functions will be provided in five buildings apart from the NASA buildings--two concrete warehouses, a relocatable office trailer, a prefabricated steel building, and a wood-frame building formerly used as a mess hall.

FMSAEG officials said they believe the working environment in the NASA buildings will be detrimental to recruiting and retaining the type of people FMSAEG requires to accomplish its predominately scientific and engineering missions. Although these officials feel the individual working spaces will be adequate, they believe the industrial environment outside the departmental work areas will be totally inadequate for professionals. An additional concern voiced by FMSAEG officials was that relocating in a new community and in new facilities would temporarily disrupt and negatively affect FMSAEG's operations.

AVAILABILITY OF SPACE

Following is a comparison of space allocations for FMSAEG at Seal Beach and Corona.

	Present location at Corona	Planned relocation to Seal Beach	Planned consolidation at inner compound, Corona
	(net sq. ft.)		
Total space assigned	200,200	95,700	190,800
Space assigned to departments (excludes those FMSAEG support activities that would merge with Weapons Station activities at Seal Beach)	132,900	95,700	143,000

Weapons Station officials were instructed by their higher command to plan for 499 civilians and 6 military in the relocation to Seal Beach. FMSAEG and Station officials advised us that this personnel level did not take into account either FMSAEG's growth in employment, which was about 10 percent annually in fiscal years 1973 and 1974, or the private contractor's 79 employees at Corona. Of the 559 full-time, permanent civilian FMSAEG personnel on board as

of June 30, 1974, 509 were employed in departments that would relocate to the NASA facilities at Seal Beach.

On the basis of Navy criteria and calculations by Weapons Station engineers, it appears that FMSAEG will require, as of June 30, 1974, about 12,500 net square feet more than is planned at Seal Beach. Although FMSAEG officials agreed that their organization would require more space, Weapons Station officials expressed the opinion that FMSAEG could probably fit into the space assigned at Seal Beach. The Weapons Station's commanding officer stated, however, that, if needed, more space could be provided for FMSAEG in the Weapons Station Marine barracks or in storage warehouses. The warehouses are primarily windowless, industrial structures lacking utilities and plumbing.

FMSAEG officials said placing technical departments in such buildings would result in inefficient operations.

CHAPTER 4

EFFECTS ON COMPUTER OPERATIONS

A vital part of FMSAEG's operations is its Computer Systems Department. The heart of the department is a 1108 computer system which supports the operations of the four technical departments. The computer is currently operated 2-1/4 shifts a day, 5 days a week, and 1 shift on Saturday.

The Computer Systems Department supports the technical departments in the following areas of automatic data processing: systems analysis and design, systems development and documentation, data base maintenance, production data processing, and special request processing. The computer, along with its peripheral equipment, is under an annual renewable lease.

FMSAEG also provides time-sharing services to two other military installations that have terminal links to the FMSAEG computer. The Marine Corps Base, Twentynine Palms, California, uses the computer primarily for computer-assisted instruction in its training schools. The Navy Ships Weapons Engineering Station, Port Hueneme, California, uses its terminal for engineering analyses and for an automatic data preparation system. The Engineering Station's terminal also has a crypto system for handling classified data.

FMSAEG performs some batch processing for the Fuze Model Range and the Navy Project Office at General Dynamics, Pomona, California. The Navy Project Office also plans to have a terminal link to the FMSAEG computer by October 1974.

FMSAEG plans to continue using the same type of computer equipment regardless of whether it is relocated to Seal Beach or to the inner compound at Corona. FMSAEG officials said formal plans for moving the computer will not be developed until they are certain of the relocation date.

Officials of the computer company and FMSAEG said the possibility of losing stored data while moving the computer is very remote. Rather, the major problem concerns vibrations to the equipment while it is being moved, causing components to be thrown out of adjustment. Although the potential problems resulting from such vibrations are difficult to pinpoint, the officials agreed that the greater the moving distance the greater the chances of the vibration problem occurring.

The Navy estimated a production loss of $86,000 if FMSAEG is relocated to Seal Beach and $38,000 if it is consolidated in the inner compound at Corona. However, Weapons Station and FMSAEG officials were unable to explain or document how the costs were developed, nor could they explain what portion was a result of lost computer time.

Computer company officials told us that it would take 8 days, working 24 hours a day, to move the computer to either Seal Beach or to the inner compound at Corona. Their estimate is based on three previous moves involving similar 1108 computers.

The Weapons Station Computer Systems Department manager told us that during the time the computer is inoperative, FMSAEG would probably-process its top-priority jobs on similar computers at either the Naval Weapons Center, China Lake, or the Naval Undersea Center, San Diego, California.

EFFECT ON OTHER MILITARY INSTALLATIONS DURING THE MOVE

Naval Weapons Station officials said their economic analysis did not consider those costs that would be incurred by the Engineering Station and the Marine Corps Base as a result of relocating the FMSAEG computer. Officials of these organizations said they have not considered this effect on their operations because FMSAEG did not notify them of the proposed move. However, representatives for both organizations believe an alternate computer would be required if the FMSAEG computer was inoperative more ,than 5 working days. The representative from the Engineering Station estimates that approximately 1,000 man-hours would be needed to switch its software system to an alternate computer and then back to the FMSAEG computer.

CHAPTER 5

EFFECTS ON FMSAEG EMPLOYMENT AND EMPLOYEES

Generally, FMSAEG employees are strongly opposed to relocating to Seal Beach. However, most of them said they will either relocate or commute from their present residences if necessary. About 10 percent of the employees would terminate or retire. The loss of these employees could have an adverse effect on FMSAEG's operations.

As of June 30, 1974, FMSAEG had 559 full-time permanent, civilian employees.

Employee classification	Number	Percent
Professional-technical	371	66
Professional-nontechnical	20	4
Subprofessional	59	11
Clerical	84	15
Support	25	4
Total	559	100

We distributed questionnaires to these employees asking their opinion of the proposed relocation and what they would do if FMSAEG was relocated to Seal Beach. Of the 559 employees, 475, or 85 percent, responded.

Employee opinion of relocation	Number	Percent
Strongly opposed	313	66
Mildly opposed	51	10
Neutral	46	10
Mildly in favor	18	4
Strongly in favor	46	10
Total	559	100

[a]A few employees did not respond to every question.

What employees would do	Number	Percent
Relocate to Seal Beach at Government expense	326	70
Commute from present residence to Seal Beach	[a]93	20
Terminate employment	36	8
Retire	10	2
Total	[b]465	100

[a]About one-half of these employees currently live closer to Seal Beach than to Corona.

[b]A few employees did not respond to every question.

EFFECT OF RELOCATION ON EMPLOYMENT

The analysis and evaluative functions performed by FMSAEG require a highly professional and technical staff. As of June 30, 1974, 66 percent (371) of the FMSAEG staff members were classified as professional-technical employees--scientists, engineers, physicists, and mathematicians.

FMSAEG officials believe that if FMSAEG relocates to Seal Beach, a significant number of personnel will terminate employment or retire. Although these officials were unable to estimate the number of persons that would be lost, results of our questionnaire distributed to FMSAEG personnel indicated that 57 employees (about 10 percent of the work force), including 25 professional-technical employees, would terminate employment or retire.

These officials said the loss of 57 persons, especially the loss of 25 professional-technical personnel, would adversely affect FMSAEG's operations. They stated that it is costly and difficult to replace professional-technical personnel because of their unique training and familiarity with FMSAEG's operations. Because of the number of variables involved, such as the job market, the relocation of new employees, and the amount of training needed for various positions, the officials were unable to estimate the cost of recruiting and training replacement personnel.

PLANS FOR EMPLOYEES TERMINATING

DOD regulations state that the Priority Placement Program is the primary method for finding jobs for those career and career-conditional employees who have been adversely affected because they are scheduled for involuntary

separations or who decline a functional transfer outside the commuting area. Employee participation in this program is voluntary. Under the program, employees who have been separated by a reduction in force are given first priority and employees who decline offers of functional transfers are given second priority in filling job vacancies.

The Navy's economic analysis provides for a reduction of 13 support personnel positions if FMSAEG IS relocate to Seal Beach. The commanding officer of the Weapons Station said, as a result of normal attrition at both FMSAEG and the Station, all FMSAEG employees wanting to transfer will be offered positions at the Weapons Station.

On the basis of the responses to our questionnaire, we estimated that 45 FMSAEG employees will terminate employment rather than transfer to Seal Beach. Weapons Stations officials advised us that if and when the decision is made, FMSAEG plans to implement the Priority Placement Program and other related programs to help those employees who decide not to relocate to find new jobs.

HIGHER HOUSING COSTS IN THE SEAL BEACH AREA

We estimated that 70 percent (397) of the 567[1] Federal civilian employees at Corona eligible to relocate will move to Seal Beach--314 homeowners and 83 renters.

FMSAEG employees indicated that the high cost of living and housing in Seal Beach is one of the main reasons why they are strongly opposed to the relocation. We determined that, on the average, housing in Seal Beach is about 27 percent higher than in Corona. Those employees who currently rent in Corona and plan to relocate to Seal Beach will be faced with increased monthly rental rates for comparable dwellings.

---

[1]The 559 FMSAEG employees and the 8 employees of support activities.

CHAPTER 6

OTHER ASPECTS OF RELOCATION

In addition to the factors discussed in the previous chapters, there are other aspects of the proposed relocation identified by Navy officials which, in our opinion, should be considered before making a final decision. However, we did not verify all related factors.

EFFICIENCY OF OTHER ACTIVITIES AT SEAL BEACH

In the event FMSAEG does not relocate to Seal Beach, the Weapons Quality Engineering Center and the Supply Department will occupy the space presently reserved at Seal Beach for FMSAEG. Officials of both activities said, if they are able to occupy the areas being reserved for FMSAEG, their activities will be approximately 10 to 20 percent more efficient.

The officials noted that currently their activities are occupying buildings that are widely dispersed, overcrowded, and unsuitable for their operations. The Center has 12 buildings, and the Supply Department has 9. They stated that relocating to the FMSAEG space would enable them to consolidate their operations. Supply Department officials, for example, estimated that consolidating in the NASA buildings would save the Department approximately $17,000 annually in overtime costs.

At June 31, 1974, about 85 Center personnel were temporarily occupying part of the space assigned to FMSAEG. Center officials said vacating the space would further reduce their efficiency.

EFFECTS OF RELOCATION ON PRIVATE CONTRACTOR

The Navy has a $7 million, 3-year cost reimbursable award fee contract with a private contractor to provide FMSAEG with managerial, scientific, technical, and clerical support in processing technical data from evaluation tests of naval weapons systems. The contract runs from May 1973 through April 1976 and is based on an anticipated level of effort of about 1,100,000 direct labor hours. The contract also provides for two 1-year option periods.

FMSAEG officials said if FMSAEG was relocated to Seal Beach, the best alternative would be to relocate the contractor to Seal Beach, rather than terminate the contract or have the contractor remain in Corona. The contractor has

been working with FMSAEG for the previous 9 years and has a thorough knowledge of FMSAEG's terminology and operating procedures.

FMSAEG officials said replacing the contractor would cause serious disruptions in their operations. Also, they believe it wouldn't be feasible to allow the contractor to remain in Corona. FMSAEG and the contractor need a close working relationship because there is a nearly continuous flow of data and personnel between them. For this reason the contract requires the contractor to be physically located within 5 miles of FMSAEG.

As of July 1974, the contractor had 228 employees working at Corona. A company official estimated that about 40 percent of the employees would terminate rather than relocate to Seal Beach.

	Number of employees	Number of employees who would not relocate
Professionals	77	15
Data technicians	121	61
Data clerks	27	14
Secretaries	3	2
	22%	92

The official said loss of these employees would negatively affect the contractor's efficiency and productivity for about a 2-month period, and FMSAEG's deadlines would not be met. He said the data technicians are the heart of his work force and a 50-percent loss of these employees would cause a break in the learning curve because of having to train new employees. The official estimated he would lose 6 days of productive time for all employees during the relocation.

The company official was unable to quantify the cost of the loss of efficiency and productivity in operations and of recruiting and training new employees. The Navy did not consider these factors in its economic analysis.

DISPOSAL OF THE CORONA PROPERTY

The Navy property at Corona consists of 610 acres of developed and undeveloped land. FMSAEG uses 169 acres of the property and the Naval Weapons Center, China Lake, uses 7 acres for its Fuze Model Range. The range, completed in 1968, is basically a steel frame, metal-covered structure

costing over $1 million. The Navy plans to continue operating this range if FMSAEG relocates to Seal Beach.

Under the relocation plan, all of the Corona property, except for the 7 acres, would be declared excess to the Navy's needs. However, the proposed move to Seal Beach was not the primary factor in the Navy's plan to declare the land excess; in 1972 the Navy requested that DOD declare most of the property excess as part of a plan to consolidate FMSAEG at Corona.

Government and private interests

Two local school districts, the city of Norco, and the county of Riverside apparently are interested in obtaining portions of the Corona property. Together, they would like to obtain about 90 acres of land, two buildings, the well sites, and the reservoir. Also, the State of California is interested in keeping the lake as a wildlife refuge. All of these areas are part of the Corona property that could be declared excess regardless of whether FMSAEG is consolidated at Corona or relocated to Seal Beach.

Navy officials said they are not aware of any private party who is interested in purchasing part or all of the Corona property. However, a Naval Facilities Engineering Command official said certain private parties indicated that they might be interested in trading land contiguous to the Marine Corps Air Station, El Toro, California, and the Marine Corps Air Station (Helicopter), Santa Ana, California, for the Corona property. Private development on these lands is starting to encroach on the airspace of the two installations. To stop this encroachment, DOD received congressional approval under Public Laws 91-511 and 92-545 to trade excess DOD lands for private land next to the two installations.

The official stated that the Navy would like to trade the Corona property to a private development company owning the largest parcels of land near the El Toro Air Station and that the company is interested. However, the Navy has not made a formal offer because it is awaiting a final decision on whether FMSAEG will be consolidated at Corona or relocated to Seal Beach. The official noted that the 97-acre parcel of land that would be used for consolidating FMSAEG was a prime piece of land because of its central location.

Market value of Corona property

The Corona property is bounded by commercial property on the east, by residential property on the south, by agricultural property on the west and northeast, and by the California Rehabilitation Center on the northwest which houses about 2,000 convicted drug users. Although the Navy has not formally appraised the Corona property, it estimated the entire property, excluding improvements, had a market value of about $1,850 per acre, on the basis of the value of comparable properties in the local area.

In a May 1974 economic analysis of the FMSAEG relocation, the Navy estimated the 97-acre parcel that would be used under the consolidation plan had a market value of $6,000 per acre ($582,000) and the buildings were valued at $8,210,000 for a total of $8,792,000. This estimate assumed that a buyer would want the property for institutional use, such as a medical center or school. However, it was the opinion of the Naval Facilities Engineering Command official that existing facilities on the land would have little or no value in selling the property because most developers would be interested only in the land and would not want to subdivide the property to use the facilities for specific purposes.

CHAPTER 7

SUMMARY

For the last several years, the Navy has been considering two alternatives for FMSAEG--consolidation in the inner compound at Corona or relocation to Seal Beach. The Navy's decision to relocate to Seal Beach was justified on the basis of an economic analysis which, as discussed in chapter 2, does not appear adequate to support the decision.

Excluding the economic considerations, certain unquantifiable factors--environmental and human--could impact the effectiveness of FMSAEG and other Navy activities, including:

--The facilities at Corona appear better suited for FMSAEG's operations, contain more space, and may provide a better working environment.

--Navy officials believe it will be more difficult to recruit and retain professional staff if FMSAEG is moved to the industrial environment of Seal Beach.

--Navy officials estimate that relocating will cause important employees of both FMSAEG and the private contractor to terminate employment or retire, thus disrupting operations.

--FMSAEG employees who relocate to Seal Beach will pay higher homeownership and rental costs.

--Navy officials believe the relocation could affect the efficiency of operations of those Navy activities already at Seal Beach that had planned to consolidate into the space being reserved for FMSAEG.

--Most of the property at Corona can be excessed regardless of the alternative chosen.

The Navy should reevaluate the proposed relocation of FMSAEG to Seal Beach, including performing a new analysis which considers:

--The total current cost of relocating to Seal Beach.

--The costs and merits of consolidating in the inner compound at Corona.

--The costs and merits of other possible physical layouts at Corona.

--Possible alternative uses for the NASA buildings at Seal Beach by such organizations as the Weapons Quality Engineering and the Supply Department which may already be occupying inadequate buildings at Seal Beach.

--Potential advantages in morale, recruiting, and performance if FMSAEG remains at Corona.

AGENCY COMMENTS

Navy officials in Washington, after reviewing the contents of our report, observed the following:

--The Navy needs to make a new economic analysis before taking any further action with respect to FMSAEG.

--The Navy, at the time it developed the July 1973 economic analysis, felt that the only viable alternatives for FMSAEG were consolidation at Corona or relocation to Seal Beach.

CHAPTER 8

SCOPE

We performed our review primarily at the Naval Weapons Station, Seal Beach; the Fleet Missile Systems Analysis and Evaluation Group, Corona; and at Navy Headquarters, Washington, D.C.

We interviewed Navy officials and examined records and documents related to the proposed move. Through the use of a questionnaire, we obtained FMSAEG employees' views on the proposed move.

We interviewed officials in the Seal Beach and Corona areas to obtain information on the cost of housing in these two areas. We reviewed documents and interviewed officials of the FMSAEG contractor to determine the costs involved in relocation and the effect of the proposed move on the contractor's operations and employment. We discussed the disposition of the Corona property with officials of the Naval Facilities Engineering Command in San Bruno, California, and Washington, D.C.

The photographs used in this report were provided by the Naval Weapons Station, Seal Beach.

MAP OF CORONA FACILITIES

KEY:

BOUNDARY OF CORONA FACILITIES, 610 ACRES — — —
AREA CURRENTLY BEING USED BY FMBAEG, 169 ACRES ——
AREA FOR CONSOLIDATION, 97 ACRES ●——●
INNER COMPOUND BUILDINGS ● ● ●