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RELEASED

Circumstances Surrounding The
Transfer Of The Division Of
Ecological Research From Research
Triangle Park, North Carolina,
To Corvallis, Oregon B-177222 ✓

Environmental Protection Agency

BY THE COMPTROLLER GENERAL
OF THE UNITED STATES

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JAN 5, 1973



COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON DC 20548

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Dear Mr Galifianakis

Pursuant to your request of October 2, 1972, this is our report entitled "Circumstances Surrounding the Transfer of the Division of Ecological Research From Research Triangle Park, North Carolina, to Corvallis, Oregon."

As requested by your office we did not obtain formal comments on the matters included in this report. These matters, however, were discussed with officials of the Environmental Protection Agency during our review. 24

Copies of this report are being sent to Senator B Everett Jordan and to Senator Sam J. Ervin, Jr. We do not plan to distribute this report further unless you agree or publicly announce its contents.

Sincerely yours,

A handwritten signature in cursive script that reads "James B. Axtell".

Comptroller General
of the United States

The Honorable Nick Galifianakis
House of Representatives

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ABBREVIATIONS

EPA	Environmental Protection Agency
GAO	General Accounting Office

*COMPTROLLER GENERAL'S REPORT TO
THE HONORABLE NICK GALIFIANAKIS
HOUSE OF REPRESENTATIVES*

CIRCUMSTANCES SURROUNDING THE
TRANSFER OF THE DIVISION OF
ECOLOGICAL RESEARCH FROM RESEARCH
TRIANGLE PARK, NORTH CAROLINA,
TO CORVALLIS, OREGON
Environmental Protection Agency
B-177222

D I G E S T

WHY THE REVIEW WAS MADE

Congressman Nick Galifianakis of North Carolina requested the General Accounting Office (GAO) to review the plan of the Environmental Protection Agency (EPA) to transfer its Division of Ecological Research, Office of Research and Monitoring, from the National Environmental Research Center at Research Triangle Park, North Carolina, to the National Environmental Research Center at Corvallis, Oregon

As requested by Congressman Galifianakis' office, GAO did not obtain the formal comments of EPA on the matters discussed in this report. These matters, however, were discussed with EPA officials during GAO's review.

FINDINGS AND CONCLUSIONS

The EPA decision to transfer its Division of Ecological Research from Research Triangle Park to Corvallis was necessary, EPA officials told GAO, to provide a nucleus for an effective ecological research program. EPA has four National Environmental Research Centers which were developed on a "thematic basis."

These centers have been assigned primary responsibility in one of the following research "theme" areas

health, engineering and technology development, ecology, and radiation and monitoring

Although research center programs are not limited strictly to the theme, each serves as a nucleus for an effective research effort in its theme area. EPA officials said the transfer was consistent with the research theme of ecology established for the Corvallis research center.

It appeared to GAO that implementation of the theme concept could require substantial reorganizations and numerous transfers of programs among National Environmental Research Centers. Therefore GAO wanted to determine whether the transfer of the Division fits into an EPA overall plan to implement its theme concept.

GAO found that EPA

--had not issued orders or regulations to establish the theme concept as official policy,

--had not made studies to determine the cost and total impact of implementing the theme concept, and

--had done little planning to implement the theme concept.

In addition, there was confusion and

uncertainty among EPA personnel about the degree to which the theme concept would be implemented

EPA headquarters officials told GAO that program transfers to implement the theme concept would be on a selective basis and that they were preparing functional statements for the National Environmental Research Centers. These statements and a comprehensive plan to implement the theme concept should clarify the degree to which that concept is to be implemented. This could reduce uncertainty and confusion about the theme concept among EPA personnel.

An EPA technical program review group reviewed the factors related to the transfer and recommended that a comprehensive plan--to include a discussion of the options for and impacts associated with similar transfers--be developed for better implementing the theme concept prior to transfers of other program elements.

GAO agrees with this recommendation. GAO does not question the merits of the theme concept, but it believes that EPA should study its total impact on the research, development, and monitoring programs and the effect it would have on EPA's pollution control programs. After all factors are considered, should EPA conclude that implementation of the theme concept is desirable, EPA should formalize the theme concept as official policy and develop a comprehensive plan to implement the concept to minimize costs and program disruptions. (See pp 8 to 11)

EPA officials stated that the ecosystems research program would be improved by transferring the Division of Ecological Research to Corvallis. The officials informed GAO that there were three main advantages of the proposed transfer:

- It broadens the scope of ecological programs at Corvallis by interjecting expertise from air programs
- It provides for consolidation of mathematical and statistical services to support the total ecological program
- It allows transfer of resources to develop a strong interface between air and water ecological research programs. (See pp 11 to 13)

GAO noted, however, that the transfer

- may have an adverse effect upon the capability of the Division to meet projected milestones of its in-house research as outlined in EPA's fiscal year 1973 planning documents,
- will cause delays in initiating research and in continuing research underway at Research Triangle Park,
- may have an adverse impact on employee morale,
- will cost about \$123,000 to move 14 employees and to ship the Division's equipment. (Nine employees indicated that they did not plan to go to Corvallis) (See pp 13 to 16)

EPA is leasing facilities at Research Triangle Park for the Division

at a cost of about \$50,000 annually and has incurred costs of about \$700,000 to design and plan space needs of the Division, to purchase and install laboratory equipment, to provide a cold-storage room, and to build a greenhouse

Additionally, EPA has the use of a 25-acre field site at Research Triangle Park on which it incurred costs of \$34,000. These facilities were acquired by EPA for use by the Division and were completed in September 1972.

Because EPA owns the greenhouse and uses the field site free of charge, such facilities at Corvallis will duplicate those at Research Triangle Park. EPA estimates that the facility costs at Corvallis during the first year of operation will range from \$58,000 to \$80,000 (See pp 16 and 17)

The facilities available for use by

the Division at Research Triangle Park are superior to those available at Corvallis. As of November 27, 1972, EPA had no firm plans for the specific use of the facilities to be vacated by the Division at Research Triangle Park. EPA officials told GAO that these facilities would be used.

There has been uncertainty about the space needed in Corvallis for the Division, and formal plans have not been made to meet facility needs. EPA's principal source for facilities in Corvallis will be the Oregon State University, which is located adjacent to the Corvallis research center.

Annual costs will be incurred to provide interim facilities at Corvallis until permanent facilities are constructed for the Division. EPA plans to construct a \$7.5 million research laboratory at Corvallis by 1977. (See pp 17 to 27)

CHAPTER 1

INTRODUCTION

The General Accounting Office reviewed the circumstances surrounding the proposed transfer of certain functions, resources, and personnel of the Division of Ecological¹ Research, Office of Research and Monitoring, Environmental Protection Agency (EPA), from the National Environmental Research Center, Research Triangle Park, North Carolina, to the National Environmental Research Center, Corvallis, Oregon. The transfer is to be completed by January 31, 1973.

The review was made pursuant to the request of Congressman Nick Galifianakis. (See app. I)

OFFICE OF RESEARCH AND MONITORING

The Assistant Administrator for Research and Monitoring is the principal science advisor to the Administrator, EPA, and is responsible for the development, direction, and conduct of a national research program in pollution sources and effects, environmental sciences, and pollution control technology. He is responsible also for planning, coordinating, and evaluating all EPA environmental quality monitoring programs. In fiscal year 1972 EPA spent about \$112 million on pollution research, development, and monitoring.

To carry out its research, development, and monitoring programs, EPA established four National Environmental Research Centers located in Cincinnati, Ohio, Corvallis, Oregon; Las Vegas, Nevada; and Research Triangle Park, North Carolina.

The Cincinnati research center directs most of its research and development toward developing engineering and technological solutions to programs of water pollution, solid waste management, and radiation. It has seven satellite laboratories located throughout the country.

¹Ecology is a branch of science concerned with the inter-relationship of organisms and their environment.

The Corvallis research center directs most of its research toward understanding, measuring, and responding to problems related to environmental pollution, primarily water pollution, as it relates to ecological effects. The center has eight satellite laboratories located throughout the country.

The Las Vegas research center directs most of its research effort toward environmental surveillance and radiological research.

The Research Triangle Park research center directs most of its research programs toward determining the long- and short-term effects of environmental pollutants, developing, sampling, and measurement methods and instrumentation, analyzing the formation and decay of pollutants, and studying environmental meteorology. The center directs its development program toward improved technology to control, abate, and prevent air pollution. The center has two satellite laboratories.

The Division of Ecological Research, which is under the direction of the Research Triangle Park research center, conducts and manages research to determine the effects of air pollution on organisms in the environment. The Division of Ecological Research consists of the Ecosystems¹ Branch, the Autecology² Branch, and the Materials Branch. The Materials Branch, which conducts and manages research to determine the effects of pollution upon materials and real property, is not scheduled to be transferred from Research Triangle Park and will be assigned to another division. The Ecosystems and Autecology Branches' research programs are discussed on pages 13 and 14.

Our review, which was made at the research centers in Corvallis and Research Triangle Park and at EPA headquarters

¹An ecosystem is a community of organisms living in a defined environmental area

²Autecology is a branch of ecology dealing with research aimed at determining the effects of environmental pollutants in the air, water, and soil upon plants, animals, and microorganisms

in Washington, D C , included (1) looking into the justification and the planning of the transfer, (2) ascertaining the advantages and disadvantages of the move, (3) determining the cost of transferring personnel and equipment to Corvallis, (4) obtaining cost information on research facilities at Research Triangle Park and Corvallis, (5) finding out whether adequate facilities were available at Corvallis to house the Division, and (6) determining the planned use of facilities to be vacated at Research Triangle Park. Our review did not include an evaluation of the quality or results of the research being carried out by the Division.

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CHAPTER 2

CIRCUMSTANCES SURROUNDING TRANSFER OF

DIVISION OF ECOLOGICAL RESEARCH

In May 1972 EPA's Assistant Administrator for Research and Monitoring announced his decision to transfer the Division of Ecological Research from Research Triangle Park to Corvallis. EPA officials told us that they plan to establish the Division as a satellite laboratory under the direction of the Corvallis research center.

In a letter dated October 24, 1972, to Congressman Galifianakis, the Assistant Administrator stated that

"This transfer is necessary to implement research which will allow EPA to understand how man-caused pollutants move through and impact the interrelated and intermedia physical and biological systems which make up our environment. The development of this knowledge is one of the most critical research requirements facing us today if we are truly to be able to protect our environment from degradation. The transfer will consolidate our ecology research program and form the critical mass of disciplinary skills necessary to carry out a productive program in total ecosystem modeling. It will allow our terrestrial ecologists to work as a team with our aquatic ecologists in all areas of ecological research--air, water, and soil."

The results of our review of the circumstances surrounding the transfer of the Division of Ecological Research to Corvallis are set forth in the following sections of this report.

JUSTIFYING AND PLANNING THE TRANSFER

EPA officials informed us that the transfer of the Division to Corvallis was necessary to provide a nucleus for an effective ecological research program. EPA's National Environmental Research Centers were developed "on a thematic

basis consistent with the expertise and functions available to the Center at the time of its conception " EPA officials informed us that the transfer of the Division was consistent with the research theme established for the Corvallis research center

EPA officials told us that the four National Environmental Research Centers would be responsible primarily for research and development associated with the following themes

<u>Research center</u>	<u>Theme</u>
Research Triangle Park Cincinnati	Health Engineering and technology development
Corvallis Las Vegas	Ecology Monitoring and radiation

Although research center programs are not strictly limited to the theme, each center serves as a nucleus for effective research in its theme area.

In a letter, dated June 15, 1972, to the Director of the Cincinnati research center, the Director of the Corvallis research center stated that it was his understanding that project managers under the direction of a research center director would not be required to report to a program director at a different research center and that operating direction of a program housed in one research center would not be provided by another research center

It appeared to us that implementation of the multimedia research theme concept, in accordance with the understanding of the Director of the Corvallis research center, could require a substantial reorganization and numerous transfers of program elements among National Environmental Research Centers EPA officials informed us that a general implementation of the theme concept requiring numerous program transfers was not intended and that any future consolidation of

programs related to the theme concept would be made only to achieve program improvement

In a laboratory plan, dated August 1972, submitted to the Office of Management and Budget, EPA indicated that it planned to consolidate a number of its laboratories and that, when programs were transferred, emphasis would be placed on establishing multimedia research programs consistent with the theme concept. Thus we wanted to determine whether the proposed transfer of the Division of Ecological Research fits into an EPA overall plan to implement its theme concept.

We found that EPA

- had not issued orders or regulations to establish the theme concept as official policy,
- had not made studies to determine the cost and total impact of implementing the theme concept, and
- had done little planning to implement the theme concept

Our review indicated also that there was uncertainty among EPA personnel about the degree to which the theme concept would be implemented. EPA headquarters officials told us that program transfers to implement the theme concept would be on a selective basis. They told us also that they were in the process of preparing functional statements for the National Environmental Research Centers to delineate the program areas--which may or may not relate specifically to the centers' basic themes--for which each center would be responsible.

The functional statements and a comprehensive plan to implement the theme concept should clarify the degree to which the theme concept is to be implemented. This could reduce the uncertainty and confusion about the theme concept among EPA personnel, which is illustrated in the following example.

In fiscal year 1972 the Corvallis research center spent about \$20 million on water pollution research and development, of which about \$9 million was spent on water pollution control technology.

In its April 1972 report, a task force studying the organizational structure of EPA water pollution control technology programs recommended that the water pollution control technology being conducted under the direction of the Corvallis research center be transferred to the Cincinnati research center to achieve the theme concept

In a letter dated June 15, 1972, to the Director of the Cincinnati research center, the Director of the Corvallis research center stated that it was his recollection that such a move would not be approved by the Assistant Administrator for Research and Monitoring as a result of a meeting in May 1972. The Director further stated that it was his understanding that there would be no other transfers of programs or employees from one location to another for the purpose of achieving research center themes

The Technical Program Review and Analysis Staff, Office of Research and Monitoring, reviewed the factors related to the transfer of the Division of Ecological Research. In its report dated August 9, 1972, to the Assistant Administrator for Research and Monitoring, the review group recommended that a comprehensive plan--to include a discussion of the options for and impacts associated with similar transfers--be developed for better implementing the theme concept prior to the transfer of other program elements

We agree with this recommendation. We do not question the merit of the theme concept but we believe that EPA should study its total impact on its research, development, and monitoring programs and the effect it would have on EPA's other pollution control programs. Should EPA conclude, after all factors are considered, that implementation of the theme concept is desirable, EPA should formalize the theme concept as official policy and develop a comprehensive plan to implement the concept to minimize costs and program disruptions

PROGRAM IMPROVEMENT

EPA officials stated that the ecosystems research program would be improved by transferring the Division of Ecological Research to Corvallis. The improvement pertains primarily to broadened scientific exploration of pollution affecting all media

The former Director, National Environmental Research Center, Research Triangle Park, told us of three main advantages of the proposed transfer

- It broadens the scope of ecological programs at Corvallis by interjecting expertise from air programs
- It provides for consolidation of mathematical and statistical services to support total ecological programs
- It allows transfer of resources to develop a strong interface between air and water ecological research programs

He further elaborated on these advantages, as follows

"When research programs in ecology consider only one media of pollution transport, those programs are restricted to a single phase of a complex system involving interacting multimedia. By physically bringing together individuals with differing media expertise, the recognition of these interactions between phases will be easier. The future programs that evolve from these contacts should have a broader scope and, in the long run be more realistic and efficient

"Within the effects research programs associated with air pollution, there has been a growing tendency to solve complex problems through a mathematical approach. Such programs require the services of mathematicians and statisticians. By contrast, the aquatic ecological programs at Corvallis have placed less emphasis on mathematical modeling and therefore lack the staff to adequately support a total ecosystems approach. Individuals in North Carolina associated with the modeling activity could greatly enhance the capabilities at Corvallis by providing bio-mathematics expertise

"An important factor in achieving a total ecosystems research capability is the development of a strong interface between Air and Water media research. In nature, this interface exists to a large extent, in and on the land. Therefore, the transfer of existing capability in terrestrial ecosystems research from North Carolina to Oregon would assure a totally integrated program that could address broader environmental pollution problems."

PROGRAM DISRUPTIONS

The approved fiscal year 1973 research plans of the Autecology and Ecosystems Branches of the Division of Ecological Research provide funds of \$431,000 for in-house research and \$1.1 million for research grants, contracts, and interagency agreements.

The proposed transfer may hinder the capability of the Branches to meet the projected milestones of their in-house research, as outlined in EPA's fiscal year 1973 planning documents. The transfer will cause delays in initiating research and in continuing research underway at Research Triangle Park. The adverse impact can be attributed principally to the loss of temporary and permanent skilled personnel of the two branches who will not transfer to Corvallis. Acquisition and preparation of adequate research facilities at Corvallis is expected to contribute further to the delay in continuing the research.

Ecosystems Branch

The research objectives of the Ecosystems Branch for fiscal year 1973 pertain to (1) the impact of oxidants on forest vegetation and (2) predictive modeling of air pollution on terrestrial ecosystems. The budgeted funds for this work in fiscal year 1973 total \$820,000--\$271,000 for in-house research, \$215,000 for contracts, and \$334,000 for grants.

In May 1972, when EPA announced that the Ecosystems Branch would be transferred to Corvallis, the Branch had 13 employees--six permanent and seven temporary. As of

November 1972, only two of the employees who remained with the Branch planned to move to Corvallis. One was a research veterinarian and the other a plant pathologist.

The program disruption and loss of experienced personnel associated with the transfer may prevent the Ecosystems Branch from meeting its fiscal year 1973 objectives, as outlined in EPA planning documents. For example, the experimental phase of one in-house task to support the development of a population dynamics model has not begun, due to the loss of experienced skilled personnel.

Autecology Branch

The Autecology Branch's research objective for fiscal year 1973 is to strengthen the scientific basis for established secondary air quality standards by determining the effects of sulfur oxide, nitrogen oxide, photochemical oxidants, hydrocarbons, and particulates on selected plant species which are considered representative of all the major plant species.

The budgeted funds for fiscal year 1973 are \$691,000--\$160,000 for in-house research, \$391,000 for grants, and \$140,000 for interagency agreements.

The relocation and subsequent reorganization of the research effort may cause delays in attaining research objectives according to scientists actively engaged in the work.

The possible loss of three Agricultural Research Service scientists--one is the Branch Chief--could also have an adverse effect upon the research program. To date, the Agricultural Research Service, Department of Agriculture, has not committed the scientists to transfer to Corvallis with the Branch.

The loss of some EPA scientists is also expected to have an adverse impact upon current research programs. Two scientists with a combined total of 21 years' service in Federal air pollution research told us that they did not plan to transfer to Corvallis.

In addition, through discussion with the Division's employees, we noted indications that the planned transfer may have an adverse impact on employee morale. Of the 14 employees who elected to transfer to Corvallis, five told us that they do so reluctantly. Of the 14 employees, nine were among those transferred in 1969 from Cincinnati to Research Triangle Park. Following that move, they occupied temporary research facilities pending the construction of permanent facilities at Research Triangle Park. Construction was almost completed when the decision to move to Corvallis was announced in May 1972.

COSTS ASSOCIATED WITH TRANSFER

Personnel and equipment

EPA planned to transfer 23 employees to Corvallis. Discussions with 21 of these employees indicated that only 14 will transfer at a cost to EPA of about \$71,000. Two other employees were reassigned within EPA. In addition, there are three scientists of the Agricultural Research Service who are working in the Division of Ecological Research under an interagency agreement who may also transfer to Corvallis. If the three scientists transfer, additional costs will be incurred.

We estimated that the cost of shipping equipment of the Division of Ecological Research would be \$52,000--for a total cost of about \$123,000 if the three Agricultural Research Service scientists do not transfer. Additional costs may also be incurred to hire employees to replace those who will not transfer.

Facilities at Research Triangle Park

In 1969 the Department of Health, Education, and Welfare entered into a 20-year lease with a private contractor to provide research facilities at Research Triangle Park. These research facilities were later assumed by EPA under Presidential Reorganization Plan No. 3 of 1970. Office and laboratory space assigned to the Division was being leased by EPA at about \$50,000 annually.

EPA incurred costs of about \$700,000 to design and plan space needs of the Division, to purchase and install laboratory equipment, to provide a cold-storage room, and to build a greenhouse. Additionally, EPA has the full use of a 25-acre field site at Research Triangle Park on which it incurred costs of \$34,000.

These facilities were acquired by EPA for use by the Division of Ecological Research and were essentially completed in September 1972. EPA officials informed us on November 27, 1972, that, although they had not finalized plans for their specific future use, these facilities would be used.

Facilities at Corvallis

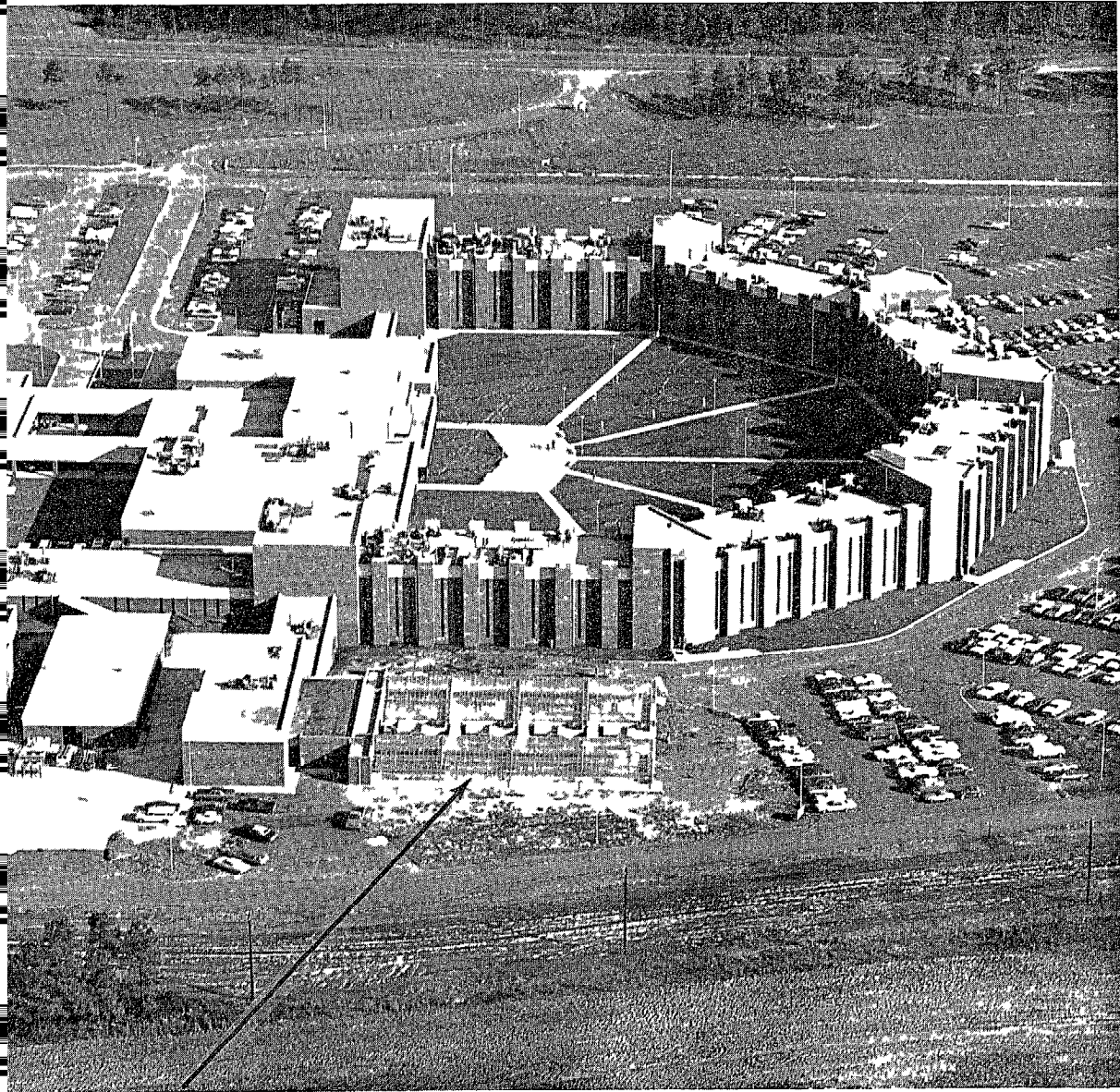
Because EPA owns the greenhouse and uses the field site free of charge, such facilities in Corvallis will duplicate facilities at Research Triangle Park. EPA estimates that the facility costs at Corvallis during the first year of operation will range from \$58,000 to \$80,000. Additional annual costs will be incurred to provide interim facilities until permanent facilities are constructed for the Division's personnel. EPA plans to construct a \$7.5 million research laboratory by 1977.

RESEARCH FACILITIES

In 1969 the Division of Ecological Research was transferred to Research Triangle Park from Cincinnati. One reason for the move was to provide the Division with special facilities to carry out its research. These facilities were essentially completed in September 1972. EPA spent about \$80,000 to plan and design the space needs of the Division within the research center. The picture below shows an aerial view of the Research Triangle Park research center and the greenhouse complex.

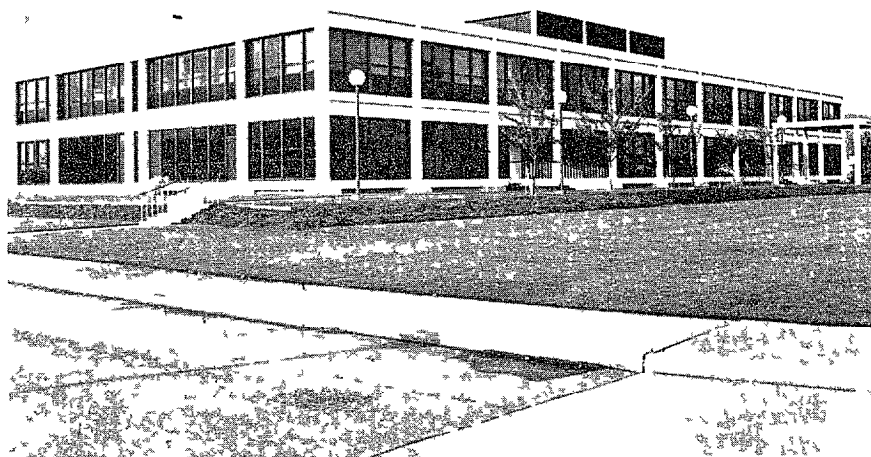
While waiting for the Research Triangle Park facilities to be constructed, the Division, through an interagency agreement with the Agricultural Research Service, used facilities at North Carolina State University. These facilities included general office and laboratory space, limited greenhouse space, space in the University's phytotron facility,¹ and a 5-acre tract of land for outdoor research. The Division anticipated that, as the facilities were completed at the Research Triangle Park research center, the use of these facilities would be phased out, except for limited use of the phytotron.

¹A phytotron is a carefully planned and equipped building capable of controlling factors that influence growth including light, temperature, humidity, nutrition, disease, and gaseous content of the atmosphere. This facility is unique in its capability to duplicate almost any growth environment by controlling, either separately or simultaneously, each of these factors.



**ARROW POINTS TO GREENHOUSE COMPLEX AT RESEARCH TRIANGLE
PARK RESEARCH CENTER (EPA PROVIDED PHOTOGRAPH)**

As of November 14, 1972, EPA had not developed plans or made formal arrangements to provide facilities at Corvallis for the Division of Ecological Research. EPA officials at Corvallis informed us that the Corvallis research center did not have the space necessary to meet the facility needs of the Division of Ecological Research and that they were uncertain of the specific facility needs of the Division. A picture of the Corvallis research center is shown below.



**NATIONAL ENVIRONMENTAL RESEARCH CENTER,
CORVALLIS, OREGON**

EPA's principal source for facilities in Corvallis will be the Oregon State University, which is adjacent to the Corvallis research center. Although specific facilities had not been identified, the university had agreed to provide some space for the Division.

Greenhouse--high bay growth chamber area

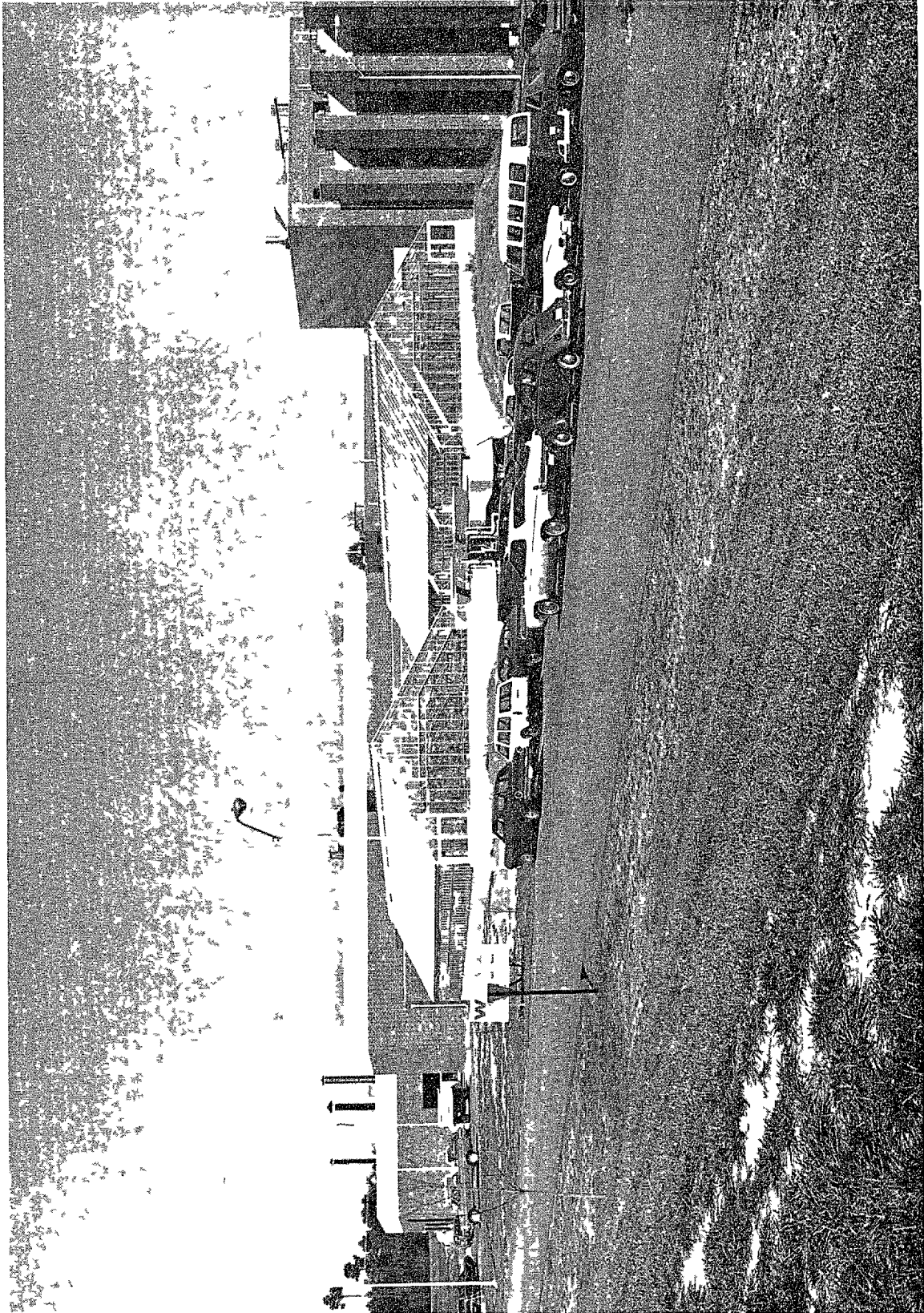
The Division's use of the Research Triangle Park complex was delayed primarily because the greenhouse, under construction from April 1971, was not completed until September 1972.

To meet the Division's needs for greenhouse space, the North Carolina State University provided approximately 1,000 square feet of greenhouse space, plus about 1,600 square feet of space in its phytotron.

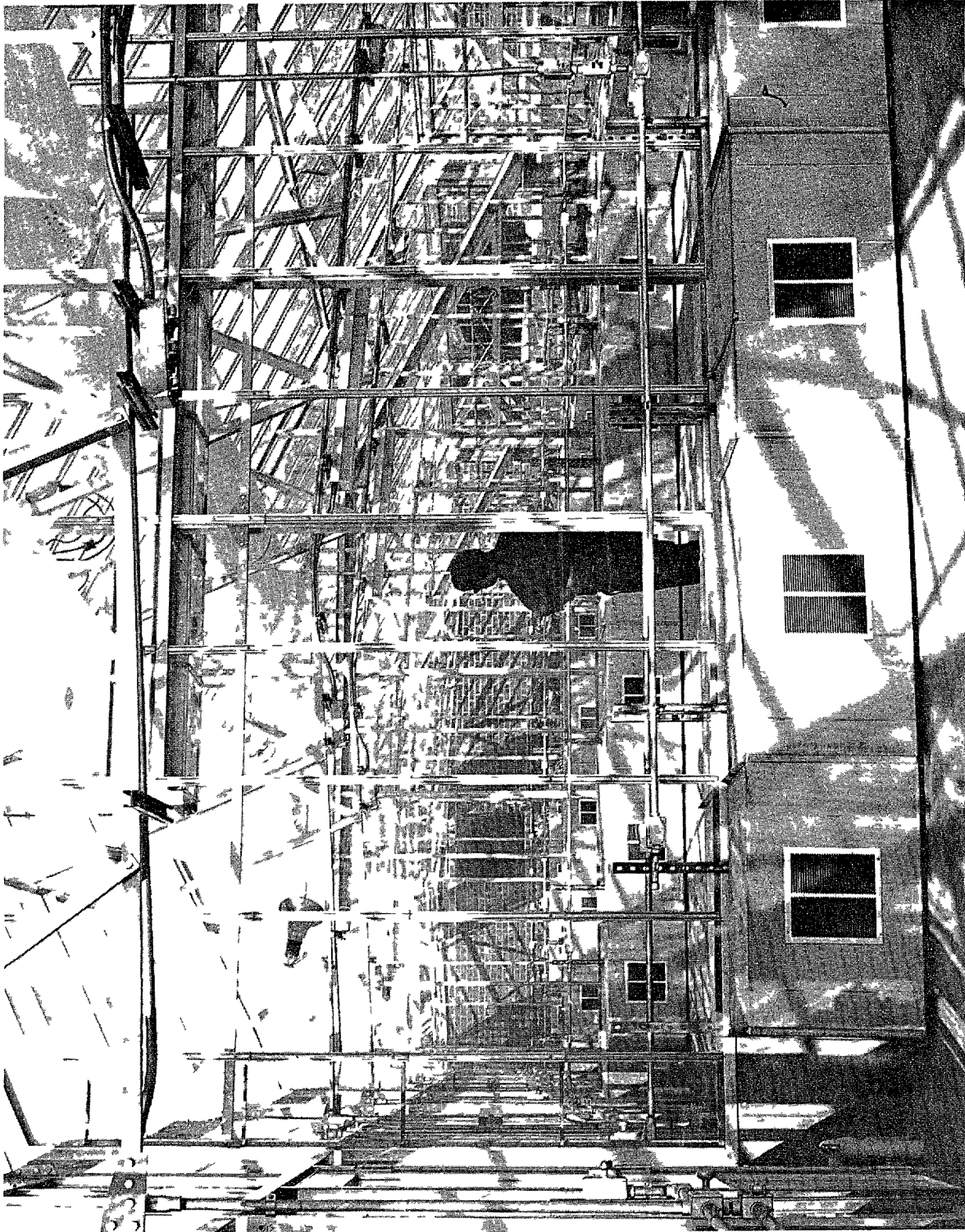
EPA accepted its greenhouse for occupancy on September 15, 1972. The greenhouse contains 8,640 square feet of space arranged in eight independently controlled compartments and cost about \$328,000. Each of the compartments has special capabilities which include (1) an air filtration system to remove gaseous and particulate pollutants, (2) temperature control (heat and air-conditioning), (3) light control, and (4) constant airflow. In addition, the greenhouse, with minor modifications, can also control humidity and carbon dioxide.

Facilities attached to, and considered part of, the greenhouse at Research Triangle Park include approximately 1,564 square feet of work area used for soil and plant preparation and adjoining special-use dispensing-monitoring laboratory, 1,760 square feet of high bay area designed to accommodate growth chambers, and a 597 square foot instrumentation room which was to be used to monitor growth chamber conditions. The high bay area consists of a two-story room with a control center and plant preparation space which was designed specifically to house and control growth chambers. Growth chambers are self-contained modules wherein light, temperature, humidity, etc., can be controlled which are used for plant growth under controlled environmental conditions.

The pictures below show exterior and interior views of the greenhouse complex.



**OUTSIDE VIEW OF THE GREENHOUSE COMPLEX DESIGNED AND
CONSTRUCTED FOR USE BY THE DIVISION OF ECOLOGICAL
RESEARCH (EPA PROVIDED PHOTOGRAPH)**

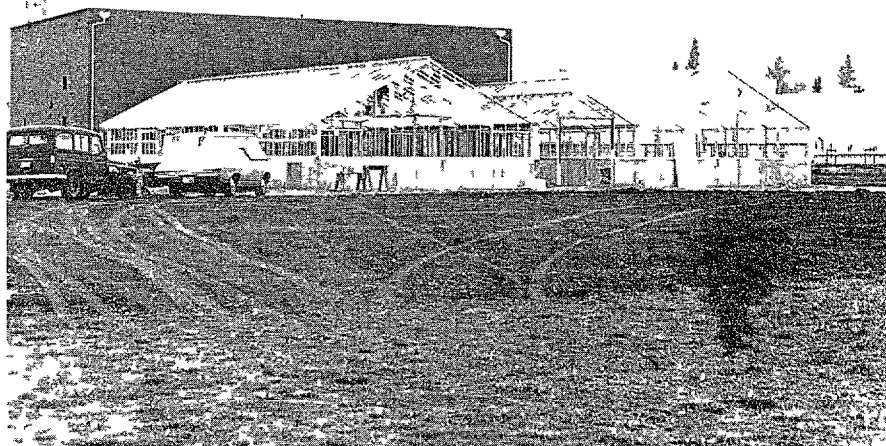


**INSIDE VIEW OF THE NEWLY CONSTRUCTED GREENHOUSE
SHOWING GROWING COMPARTMENTS (EPA PROVIDED PHOTOGRAPH)**

As of November 16, 1972, the Division of Ecological Research had not occupied the greenhouse, no plans had been made for the specific use of the facilities after the Division transfers to Corvallis, and no firm plans had been made to use the facilities for their designed purposes.

There are two possible sources available to meet the Division's immediate needs for approximately 3,000 square feet of greenhouse space in Corvallis. First, the Oregon State University has informally agreed to provide 1,440 square feet of space in the university-owned greenhouses. The university has agreed also to provide 1,500 additional square feet of greenhouse space if EPA is unable to meet its needs elsewhere. University officials told us that this space would probably be provided to EPA without charge for an expected 3-year interim period if EPA made the necessary improvements, estimated to cost \$25,000 to \$30,000.

Space may also be available to EPA in a greenhouse under construction by the Agricultural Research Service. The availability, size, and cost of this space are yet to be determined, and no agreements, formal or informal, have been reached with the Agricultural Research Service for the use of this space.



**AGRICULTURAL RESEARCH SERVICE'S GREENHOUSE FACILITIES
UNDER CONSTRUCTION ON THE OREGON STATE UNIVERSITY
CAMPUS**

Field sites

Since February 1970 the Division of Ecological Research has been using a 5-acre field site belonging to the North Carolina State University. The Division intended to use this field site until it could obtain its own site.

The Division has, at Research Triangle Park, a 25-acre field site to be used in studying the effects of pollutants on vegetation under actual growing conditions and verifying hypotheses developed under greenhouse conditions. Prior to the decision to transfer the Division, 10 acres had been cleared and graded at a cost of about \$26,000, of which about 6 acres were being developed for use in the spring of 1973.

After the decision had been made to transfer the Division, EPA awarded an \$80,000 contract for covering the 6 acres with a uniform layer of topsoil. This contract was terminated in August 1972, after EPA had incurred costs of \$3,000 for topsoil. EPA officials told us that additional costs to terminate the contract will be about \$5,000. As of November 16, 1972, no alternative plans had been made to use this site.

The Corvallis Research Center has no field site available for research purposes. Oregon State University officials stated, however, that the university probably could provide a 5-acre tract of land that would be suitable for EPA requirements. EPA officials told us that an alternative would be to lease commercial land, which we determined would cost from \$10 to \$50 per acre, per year, depending on the location and quality of the land. In addition, site preparation costs would be incurred.

Laboratory facilities

Since its move from the Cincinnati research center, the Division of Ecological Research has been assigned approximately 4,500 square feet of laboratory space at the North Carolina State University. This space was to be used until the Division's own laboratories, totaling approximately 3,700 square feet, were made available at Research Triangle Park. Part of that space, located in the same complex as the

office space, greenhouse, and high bay growth chamber area, was available in November 1971 and complete occupancy was expected after completion of the greenhouse. The laboratories are leased at a cost of \$22,200 a year. In addition, EPA has incurred costs of \$265,000 to purchase and install laboratory fixtures and \$35,000 to provide a cold-storage room.

Although no firm plans have been made concerning the future use of this space, EPA officials told us that the laboratory space vacated by the Division would be used.

An EPA official stated that approximately 1,200 to 1,500 square feet of laboratory space would be required to support the Division's programs at Corvallis. There is limited EPA laboratory space available at the Corvallis research center to meet these needs, however, the Oregon State University has agreed to share with EPA 1,200 square feet of laboratory space on its campus. This space would be provided at no cost to EPA.

Office space

Since its move from the Cincinnati research center, the Division of Ecological Research has been assigned approximately 4,100 square feet of office space at the North Carolina State University. These facilities were to be used until the Division's own offices, totaling approximately 4,600 square feet and leased for \$27,600 a year, were available at Research Triangle Park. Part of this space was available in November 1971 and is located within the same complex as the greenhouse, high bay growth chamber area, and laboratories.

Although no firm plans had been made concerning the future use of this space, EPA officials told us that the office space vacated by the Division would be used.

An EPA official estimated that the Division would need approximately 3,000 square feet of office space in Corvallis. We found that EPA plans to obtain space for the Division from one of two sources at Corvallis.

First, office space on the Oregon State University campus would be available at an annual cost of \$4 per square foot. This space would be located adjacent to the Corvallis research center, and additional costs (presently unestimated) would be incurred by EPA to renovate the space. Corvallis research center officials indicated that the \$4 rate was rather high for the Corvallis area, especially for space in the condition offered.

Second, an office trailer, containing 2,160 square feet of space which we were informed would meet the office space needs for an interim period, could be purchased. The trailer would cost approximately \$30,000 and could be located within easy walking distance of the research center. It is estimated, however, that the trailer would not be available in January 1973. The following picture shows the type of trailer that officials informed us they were considering purchasing.



at the time of the transfer, permanent space could be available in 1 year to 5 years. EPA's Office of Categorical Programs operates a laboratory and greenhouse near the Corvallis research center, which are used in its pesticide registration program.

One alternative for greenhouse space at Corvallis is an addition to this laboratory and greenhouse facility. The present laboratory and greenhouse, which are Government owned, are on land leased from the university, and university officials stated that they would renegotiate the lease to include the land needed for the extension. The Corvallis research center estimates that such an extension could be completed no earlier than the summer of 1974 and would probably cost about \$45,000.

The second alternative for meeting space requirements would be the building of new facilities at Corvallis. This would likely result in the duplication of some facilities presently available at Research Triangle Park. Such facilities could be included in the Corvallis research center's expansion program planned over the next 5 years. This expansion program, estimated to cost approximately \$7.5 million, would consist of a new structure to house management officials of the research center, some employees presently assigned to the satellite laboratory located at Corvallis, and employees of the Division of Ecological Research.

NICK GALIFIANAKIS
1ST DISTRICT NORTH CAROLINA

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October 2, 1972

The Honorable Elmer B Staats
Comptroller General of the United States
General Accounting Office
441 G Street, N W
Washington, D C 20548

Dear Mr. Staats

I am very concerned about the Environmental Protection Agency's plan to transfer the ecological program components of the Division of Effects Research from the National Environmental Research Center at the Research Triangle Park, North Carolina to the National Environmental Research Center at Corvallis, Oregon

The enclosed correspondence (a letter of September 19, 1972 to me from Dr Stanley Greenfield and a letter of October 2, 1972 to the Honorable William D Ruckelshaus from me) gives what I believe is a full statement of the issues present in this situation I further believe this is a matter that deserves the attention of your office

Would you please conduct an investigation of this proposed transfer and provide me with a report of your findings as soon as possible If I may be of assistance to you in the course of the investigation, please do not hesitate to let me know.

Sincerely,



Nick Galifianakis

NG:ssb

Enclosures (2)

BEST DOCUMENT AVAILABLE