RELOCATION OF INDUSTRY

7 April 1950

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Dr. Keith Baker was born in Springfield, Missouri, 18 June 1917. In 1939 he received the degrees of B.S. in Education and A.B. from Southwest Missouri State College, Springfield, Missouri. In 1942, he received an M.A. degree and in 1947, a Ph.D. degree from Yale University. During World War II he was in the Amphibious Fleet, serving in LCI(L) Flotillas One and Two in the European Theater. He was later made prospective commanding officer of an LSM; however, the end of the war came before the ship was commissioned. He participated in the invasions of Sicily, Salerno, Anzio, and Normandy. Before joining Chance Vought Aircraft in 1947 he held positions as reporter, teacher, and member of the general information staff at the Southern New England Telephone Company. His present position is director of public relations of Chance Vought Aircraft Division of United Aircraft Corporation.

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COLONEL McKENZIE: In 1940 I was working on a study of the problem of the location of the aircraft industry. One of the ideas that came to me was to write the plants and ask them specifically why they had located where they were. There did not seem to be any rhyme or reason for it, so far as I could figure out.

One of the letters I received from the management of one of today's leading corporations was to the effect that its founder was an amateur pilot-sportsman who took a trip in his plane and greatly damaged it in landing. Finding that there were no repair facilities in this particular neighborhood, he set up a small repair shop to fix his own plane. At about the same time, other people were damaging their planes in landing and taking off. So he began, from this small shop, what is today one of the largest plants in the United States.

Our speaker's company was a little more specific, in so far as the manufacture of engines was concerned. They had located in Stratford, Connecticut, in order to be near the heart of the precision tool industry. That told me nothing, however, as to why they had elected to build airplanes in that area.

You may recall a few days ago noting in the paper that some fifteen members of a small plant up in New York State had gone on a sit-in strike in protest to the plans of management to move a small glove plant. I only mention that to show that management is not entirely free these days when it elects to relocate its industry.

If I call to your mind the fact that the Government financed some 1,595 manufacturing plants just before World War II and in the early days of the war, it becomes readily apparent that we, as students of economic mobilization, are interested in the question of plant location. In the days of atomic warfare, the matter of relocation of industry becomes a very paramount one in our thinking. It seemed that if we could find a good case study and have it discussed here, that we would bring out a large number, if not all, of the essential elements involved in this problem.

Chance Vought Aircraft Division of United Aircraft Corporation had made such a move from the Stratford area down to Dallas, Texas, and we are extremely fortunate in having with us this morning the director of public relations, Dr. Keith Baker, who has come up from Dallas to present this case. Dr. Baker.

DR. BAKER: Admiral Sabin, Colonel McKenzie, and gentlemen: My topic is "Relocation of Industry." Actually, although that is the title, my remarks will be less general than the title implies, focusing entirely on the relocation of a single industry.

On 30 June 1949, my company, Chance Vought Aircraft, one of the divisions of United Aircraft Corporation, completed the removal of its entire operations from Stratford, Connecticut, to Dallas, Texas, a distance of 1,687 miles. The problems caused by this move and their subsequent solution are what I am going to talk about.

Vought moved a total of 1,300 employees with their families. The total number of people moved was between 3,000 and 4,000. Twenty-eight million pounds of machinery and equipment were transplanted to Texas--enough to fill approximately 1,006 freight cars. So far as we know, this is the largest industrial move in the history of this country.

Although we would not claim that the story of our move provides a definite blueprint for any future industrial move, we can say positively that we had no blueprint to use when we started our work. No company had made a comparable move which we could study as a model. It is our hope that the record of this move, which we are presently printing, can serve the armed forces in the event other industrial moves are made in the future.

The genesis of Chance Vought's move came in the fall of 1946 when the Navy Bureau of Aeronautics asked Vought to consider the feasibility of moving to an industrial aircraft plant located in Dallas, Texas. During its 32-year history, Chance Vought has manufactured carrier aircraft almost exclusively for the United States Navy. The negotiations for this move were carried on with naval officials.

One of the Navy's objectives in suggesting this move was to disperse the aircraft industry, a large part of which was concentrated in the northeast section of the country. I might interpose here that we were only thirty miles from Grumman Aircraft; about the same distance from Republic. United Aircraft, with its Pratt & Whitney Division, Hamilton Standard, Sikorsky, and a great many other industries were concentrated in that area. Bridgeport, of course, is a heavily industrialized area.

After a careful survey of the Dallas locality, members of Vought's management listed the advantages and disadvantages which the move would be likely to involve, both for Chance Vought and for the Navy.

The advantages were in the physical layout of the Dallas plant. Occupied by North American Aviation during the war, this plant was larger and more adaptable to efficient and economical operation than

the Stratford plant. By lengthening the runway, Vought could obtain the use of a first-class airport adjacent to the plant, from which jet aircraft could be tested. This was an advantage that Vought had long needed in its Connecticut location. The Texas area further offered better year-round operation from the climatic point of view.

The available labor supply appeared to be good. During the war, North American had built up from approximately 75 production engineers and management people to a total force of about 40,000 people, most of whom had been recruited from the area into which Chance Vought was considering moving.

The final advantage was that in Texas we were surrounded by a large, flat, and comparatively sparsely populated area whereas in Connecticut the area was heavily populated and we had either hilly terrain or Long Island Sound. This advantage of the Texas location meant that if one of our experimental pilots got into trouble and had to make a forced landing, he had a lot of nice level land so that he might be able to make a belly landing, saving himself and saving the airplane for further study.

The primary disadvantage was the considerable financial risk which the company would incur during its reorganization period, because during that period all planning would, of necessity, have to be long-range.

Vought would also face a personnel problem, involving the temporary loss of engineering and manufacturing know-how. Although it was believed that Vought could retain most of its key personnel during such a move, even the loss of a few important people would be keenly felt.

After weighing these factors, Vought management decided that if the move were made, long-range econimies to the Navy and marked improvement to the national preparedness program would result.

Negotiations between the Navy Bureau of Aeronautics and Chance Vought began on 4 December 1947. Because of the numerous complexities involved, the lease on the Texas facility was not executed until 15 April 1948. It was later amended and re-executed.

Effective on 1 January 1949, this lease covered both buildings of the Navy industrial plant at Dallas and the accompanying grounds. The buildings comprised approximately three million square feet of building space. The lease ran for five years and was subject to two renewal periods of five years each at Chance Vought's option. Chance Vought also received the right of first refusal to purchase the plant if the Government decided to sell it. Vought's plan, which was carried out

subsequently, was to occupy plant B, approximately two million square feet, and to sublease plant A, approximately a million square feet, to the Texas Engineering and Manufacturing Company, which was its occupant before Vought's move was planned.

The decision to move Chance Vought to Dallas was officially announced by the Navy on 18 April 1948.

Chance Vought considered whether a complete shutdown should be made at Stratford and all facilities moved over a relatively short period of time, or whether the plant should be moved gradually over a period of months. The latter plan was chosen. The reason for this decision was one which may interest you.

Careful study had convinced Vought's management that a complete shutdown would impose unnecessary hardship and expense upon the company and would disrupt the Connecticut community we were leaving. The physical size of the move militated against the complete shutdown also. Transportation facilities were inadequate to handle a major plant and personnel move simultaneously during a short period of time. The housing situation in Dallas promised to be difficult if large numbers of people were to be transferred at once. In Dallas, the process of screening new hires would be difficult during a period of very rapid build-up rather than gradual build-up. Crating, inspecting, and shipping inventory to Dallas would involve higher costs if the move should be made suddenly.

On the other hand, if the current contract for F4U-5's were completed in Stratford, and the next contract started in Dallas, the costs would be reduced. The point, obviously, is that if we had completed this contract in Connecticut, we could fly away the airplanes. There would be no charge for transporting to Texas the materials from which those airplanes would be made.

The company was completing a contract for 328 F4U-5's at the time of the announcement of the move. The manufacture of these airplanes continued in Stratford and the last one was finished in October, 1948. Concurrently, manufacture of detail parts for F4U-5's began in Dallas as early as July 1948, which is approximately three months after the announcement of the move. The simultaneous production in both plants, 1,687 miles apart, did much to offset the disrupting effects of the move; however, it called for some close scheduling in order to run a business at two ends of a 1,687-mile road.

Shortly before the move was announced officially, the Navy requested Vought to keep available for production all manufacturing space in the Dallas plant. As a result, Vought's original plan, for which layouts had been made to house the engineering department on the mezzanine floor, was not possible. Plans had to be made for a new

engineering building. When North American had occupied the Dallas plant it had been primarily a production plant. All of its engineering staff and engineering laboratories had remained in California. In Texas, it had simply built up a large production staff to produce but not to design airplanes. We, on the contrary, had moved our entire operation, involving engineering, design, experimental, and manufacturing to Texas. In addition, Vought's operation in Texas required a new production hangar. Both of these buildings--the engineering building and the production hangar--had to be designed, financed, and constructed by the company.

The biggest premove chore, however, was the layout for the Dallas plant, which covered approximately two million square feet of floor space. When the over-all space required by the major departments had been determined, the layout coordinators, working with supervision, prepared individual unit layouts on which each piece of equipment in the Dallas plant was to be located. Detail manufacturing department layouts were made to a scale of one-fourth inch to the foot. For office layouts, a scale of one-eights inch to one foot was adequate.

Because the Navy had requested that planning for a possible national emergency be based on a subcontracting level of no more than 30 percent of direct man-hours, several million dollars were allocated by the company for the purchase of machine tools.

I would like to take a moment to explain that expansion was one of the difficulties with the Connecticut situation. During the war we were asked to increase production many times over. There simply was not room to expand. In the Texas location, however, we had almost three times as much space.

A second factor in Connecticut, which is highly industrialized, was the extreme difficulty during the war to recruit extra manpower for additional shifts. A total, fully manned, three-shift operation was practically impossible. During the war, in Connecticut, we were operating in such a fashion that approximately 60 percent of our business was subcontracted. One of the main purposes of the Dallas move was to avoid this sort of a situation in the event of another emergency.

Heavier and more elaborate machines are required to fabricate the large, intricate parts which make up a modern Navy fighter, and much of the money which the company allocated for new machinery went to obtain these essential facilities. The Dallas plant layouts provided space for these new tools.

To make the move efficient and orderly, schedules were prepared so that each item would be moved as soon as the Stratford workers could release it. In Stratford, Vought took a complete factory inventory, tagging the equipment so that it could be readily spotted when the shippers were ready for it. The information on the tags included the

number of the unit in which the machine belonged and the exact location to which the machine was to be sent in Dallas.

Workers in Stratford cleared a large area next to the shipping dock so that the machines could be crated and shipped. As machine tools were dismantled throughout the plant, they were moved into a cleaning and overhauling section and readied for their trip to Texas. This process included cleaning, overhauling, and preservation in paraketone to protect the machines during the long trip.

In various areas throughout the plant, places were established so that benches, shelves, stools, chairs, and so forth, could be dismantled and prepared for shipment. It has to be an over-all plant operation. This material went to the shipping area as fast as space became available.

One of the biggest jobs--and this could happen to any plant--preliminary to the move was the conversion of all electric motors, motor-driven equipment, heat-treating equipment, and spot welders from the 220-volt system, which we had used in Stratford, to the 440-volt system in Dallas. It was a sizable undertaking and was shared by the Vought people and the subcontractors.

Another big job was the handling of 50,000 special tools, jigs, and templates which had to be tabulated, crated, shipped, received in Dallas, checked in at predetermined crib locations, inventoried, and made ready for production use when required.

The largest single machine, to give you some idea of the difficulty involved, was a 5,000-ton Erie press, weighing about 245 tons and capable of exerting a 5,000-ton pressure. This machine, which was three stories high, required six weeks to dismantle. After it was dismantled, it was taken to the railroad station and sent on five freight cars to Edgewater, New Jersey. The freight cars were loaded on to a sea train and went by sea around Florida to New Orleans. There they went ashore again and proceeded by railroad to Dallas. They did not go all the way by freight because the railroad people were afraid that the weight of these parts would cause hot boxes. When the equipment arrived in Dallas, another month was required to reassemble it; this was one machine. We had several--not all that large, however.

As the material was prepared for removal from Stratford to Dallas, a shipping schedule naturally had to be made up to insure a sufficient supply of freight cars and ample personnel for the maintaining and loading of these cars. As fast as material could be crated in the shipping area, it was carried 1.6 miles by company truck to the Stratford railroad yard. That, again, was another reason why we were interested in the Dallas locality, which already had a railroad siding built in. In Stratford we

had tried to get a railroad siding for a good many years without success. The plant at Stratford is still unoccupied partly because of that lack. Vought was fortunate in that it could fly away its products. But most manufacturers would have to truck in their materials 1.6 miles and then truck the finished products out the same distance.

In the Stratford railroad yard we kept ten to fifteen freight cars on hand at all times to receive the material as it was prepared for shipment. When this material arrived at the railroad station in Stratford, a shipping foreman designated the freight car in which it should be loaded. This method proved satisfactory in combining the heavy dies and machinery with the lighter equipment so that freight cars could be loaded as nearly as possible to their maximum capacity. This was important in controlling the cost as freight rates are based on 40,000 pounds per carload regardless of the weight actually carried in any one freight car. The nearer we could come to that actual capacity, the more money we could save on the transportation cost.

Materials which the company urgently needed in Dallas were sent in boxcars by the most direct route. However, other cars containing material which was not required so soon were sent over slower routes. The reason for this was that a special commodity rate was available to the company if cargo could be sent over a number of different railway systems. An early estimate that the peak capacity of this shipping system would be twenty carloads per week was doubled during one week in October.

Although most of the material went by railroad, some shipments were made by company trucks, and a few essential materials were sent in a leased C-46 and in the company's Beechcraft.

As each machine and crate left Stratford, shipment and receiving memoranda were airmailed to Dallas. This procedure permitted the area engineers in Dallas to prepare reinstallation order cards for all major items. These cards then went to the maintenance department and served as work orders for the actual installation of the equipment when it arrived.

Before the freight cars arrived in Dallas, the area engineers, working from detail layout drawings, painted on the plant floor the tag numbers of the equipment which was to be placed there. After the equipment was ready for installation, the maintenance crews informed industrial engineering, and the machines were installed. Status reports kept industrial engineering informed of progress and aware of any delays in installation and of any damage incurred en route.

Because personnel transferred from Stratford often reported in Dallas before their desks and office equipment arrived, a pool of office

equipment was set up in the Dallas plant, largely from government-owned material that was already there. From this pool the newly arrived employee drew whatever he needed and later turned it back to the pool when his own equipment arrived. In this way we prevented a complete redistribution of office equipment. We also prevented a lot of personal gripes because, apparently, nothing so upsets a man as losing his desk.

The transfer of people posed more delicate problems, as I am sure you can appreciate, than the transfer of machinery. The machine does not worry about leaving its mother. It is not concerned with the school system. It does not care anything about the cost of living in its new environment--people do!

Vought decided that approximately 1,300 Connecticut employees would be needed in Dallas to provide adequate supervision, skill, and experience. Management realized also the necessity of providing sufficient information about living conditions in Dallas so that the employees could evaluate their personal situation and decide, if they were asked by their supervisors, whether they wanted to make the transfer.

Long before the move was announced, the public relations and personnel departments began collecting data to present a picture of Dallas to the employees at Vought. Information on Dallas real estate, schools, churches, recreation, cultural activities, taxes, and transportation was compiled into a booklet called "Preview of Dallas," and a copy was given to every employee of the plant shortly after the move was announced.

In this book Vought attempted to answer the big questions which people might ask, such as: Can I find a place to live in Dallas? How does the school system rank? What about higher education? What kind of weather does Dallas have? What is the personal tax situation?

We also prepared a special section which we called, "For the Ladies." It took up such things as: What is the help situation in Dallas? Is Dallas a safe place for children? How are the shops? What is the available supply of baby sitters? It went into some of the details of such cultural activities as the Dallas Symphony, the art museums, the Starlight Operetta Theater, the fact the Metropolitan Opera came down to Dallas once a year, and so forth. This was done because some of the wives of our employees were a little bit worried about this move. They seemed to have the idea that once they left the area of New York City, they were forever leaving culture. The fact that some of these people, I believe, had not been west of the Hudson could account for that. We felt it was only fair, if the employee was going to make the decision with any peace of mind--and with any peace of mind in the wife's case--that he ought to be informed of the fact that the Indians had left Dallas.

A room in the personnel department at Stratford was converted into a Dallas information booth. We covered the walls of this little room with photomurals and maps of Dallas, with posters that portrayed various aspects of living in the Dallas area. Later, as the transfers of employees progressed, the Dallas booth posted pictures of the homes bought by Chance Vought people who had already transferred.

In this Dallas information booth we had two people who had been to Dallas to try to find out everything they possibly could so they could answer all questions. But, of course, in our attempt to answer all questions we failed. It was impossible to foresee all the questions that would be asked. For example, one day one of our men came into the Dallas information booth with a worried look on his face. He said he had heard that if he moved to Dallas, bought a lot down there and dug more than a foot below the surface of that lot, he would be in state property. He was concerned about it. We assumed right away he had heard something about mineral rights; we were able to give him some assurance on that point.

Another man came in and said he owned a trailer that he wanted to take to Dallas but he had found out that the Texas highway laws restricted the total length of the trailer and the car. His car and trailer exceeded this limit. He was afraid he would have to stop in Oklahoma and buy a jeep to pull his house on down. We managed to get him in. I don't know whether we could get him out or not.

The engineers asked the most technical and, in most cases, the hardest questions. One man came in and asked quite seriously how wide Commerce Street was in front of the Adolphus Hotel. This was one fact we had forgot to get.

Another engineer came in and said that he would like to have a history of the rise and fall in real-estate values in Dallas during the past twenty years. That seemed like a good question. Although we did not know the answer right then, we found it.

In general, the questions were pretty sensible; sometimes they weren't. But regardless of whether the questions were sensible or not, we endeavored to get the answer.

Throughout the move, rumors were constantly cropping up in the plant. If any other industry ever starts such an enterprise, I suggest they appoint a committee on rumors in advance because they will have them. The rumors concerned the fact that the climate in Dallas was hot (up around 180 degrees); the fact that there was nothing down there but sand dunes; the water was undrinkable; and that Gila monsters were constantly coming into your living room.

The more serious rumors were to the effect that prices were much higher in Texas than they were in Connecticut. We found the simplest

way to combat this sort of rumor was to cut out ads covering groceries and staples and post them. From the "Dallas Morning News" or the "Dallas Times Herald" we posted the ad of the day before. People could read for themselves and judge whether or not the prices were any greater than they were in Connecticut. As a matter of fact, we found that many prices were slightly lower in Dallas than they had been in Connecticut. We checked utilities and found that gas cost less, but that water was more expensive.

In other words, we tried to present the facts. We did not try to bias our people in favor of Texas or against Texas but simply to tell them what it was like. We fully realized if we fave them an erroneous picture and they moved down, they would be greatly dissatisfied when they found out we had tricked them. By the time each employee was questioned by his immediate supervisor about his intention of making the transfer, he had been provided with information which, in most cases, enabled him to make a definite statement of his attitude toward transferring.

Our initial step in transferring people was to ascertain their personal feelings toward the move, and to get information pertinent to the transfer, such as family status, the kind of house needed, and so forth. To obtain this information, the personnel people interviewed employees approximately two months before they were scheduled to move.

Each employee was informed of his travel allowances by auto, train, or airline, and the subsistence allowances en route. The company paid personal transportation expenses and the cost of moving household goods. A household move coordinator was assigned to discuss with each employee such matters as insurance, nonshippable items, movement of special articles, and servicing of appliances. The employee was interviewed again about two weeks before his departure from Connecticut to insure his understanding of all necessary procedures.

We even went so far as to prepare a questionnaire which the employee had to check over immediately before making the move, listing items as: Did you stop the milk? Foolish as this may sound, it was necessary. We realized that our people were under considerable pressure. Many times it was hard for the man to get away from his job to handle all these items. We simply wanted to help him out--to be sure he had not forgot any of the essential closing features that are so integral a part of anybody's personal move.

Vought realized one of the most important considerations was that of housing these 1,300 employees and their families in Texas. During the period of the negotiations with the Navy we hired a former Dallas realtor to make a detailed housing survey to determine the amount and type of available housing, the amount of new construction and its approximate date of completion, and month-by-month availability of rental property.

When operations began in Dallas, a housing group was organized under the supervision of this same man who had made the survey. From the survey, from advertisements in local newspapers, and through close contact with the Dallas Real Estate Board, the Dallas Apartment Owners Association, and the Chambers of Commerce in the communities throughout the area, this group obtained listings of available housing for sale or rent. Each employee in the group was assigned to familiarize himself with a particular section of Dallas.

The housing group conducted guided orientation tours of the Dallas area each morning, giving the new arrivals an opportunity to see representative sections of Dallas. These tours covered about 70 miles. To supplement the tours, descriptions were given of the various residential districts. This information later was printed in a 20-page booklet and distributed to all the people.

As the employee arrived from Stratford, the housing group, already familiar with the employee's housing requirement, could immediately show him the available housing likely to suit his particular requirements and income.

So effective was this system, that employees coming from Connecticut were housed in an average of sixteen days after their arrival in Texas, which far exceeded our prophecy of the solution of this difficulty. An appropriate subsistence allowance was provided for the employees while they were looking for permanent housing.

The process of hiring and training new employees in Texas was one of the primary tasks the personnel department undertook. Twenty-two recent college graduates were selected and trained to be employment interviewers and job evaluation analysts. In July 1948, Vought opened an employment office in downtown Dallas to relieve the heavy work load on the employment office at the plant and to save applicants the trouble of traveling sixteen miles to our plant to obtain their initial interview. So many people applied for jobs in Texas that Vought was able to hire only one out of eleven applicants.

Employment representatives contacted near-by colleges and universities to hire specialized people, such as metallurgists and engineers. Interviewers also went to towns within a hundred-mile radius of Dallas and contacted workers in employment agencies in order to establish a large pool of applicants from which the best workers might be chosen.

In a sense, Vought set up a university in the plant, teaching courses in shop skills training, experimental training, clerical training, engineering training, and more specialized courses, such as blueprint reading and special aluminum welding.

Orientation programs were given to new employees to acquaint them with general company operations, company history, wage and salary policies, and other pertinent subjects. The transferred Connecticut people similarly received a Texas orientation course, the lecturers explaining the difference between Connecticut and Texas laws, climate, and culture.

In Stratford, the fifty-two buildings we had occupied were turned over to the Navy as soon as they were cleared of equipment and restored to their original condition. No major rehabilitation work was required, and the Navy relieved us on 30 June 1949 of our obligation to maintain the plant.

In summarizing the effect of the move, Vought found that its production schedules had suffered, although the exact effect exerted by the move was too intangible to measure. The F4U-5 program continued on schedule at Stratford and started on schedule at Dallas, but the F6U-1 program fell behind. Much of this delay can be attributed to the normal problems connected with a new type aircraft and to the employment of new workers. The resulting new learning curve caused unit costs to be affected.

During the move, days of the company's time and much energy necessarily were devoted to problems unrelated to the design and manufacture of aircraft. The problems of making layouts and schedules, of processing the employees to be transferred, of finding new homes, of packing and unpacking equipment, and of many other tasks, detracted materially from the company's effectiveness as a manufacturer. Any industry attempting a similar move would be wise to plan on this kind of inevitable loss.

Loss of valuable personnel, as a result of the move, proved to be unexpectedly light. Although a few important people preferred not to make the move, the total loss for this reason was approximately three percent of those invited.

Of the 1,300 people who moved from Connecticut to Texas, approximately 100 had terminated when a check was made six months after the official close of the move. This number included every reason for termination--death, illness, return to college, marriage, and other things. A total of six persons gave their reason dissatisfaction with the new locality, indicating that the adjustment problem had not been of primary importance.

Except for one very serious delay on the runway extension, the tangible advantages have fulfilled the company's expectations. The new plant provides room for more efficient manufacturing. Flying weather has been excellent, averaging 93 percent of the time, despite the fact

that, for Texas, the winter was considered a bad one. Extension of the runway from 5,200 feet to 7,500 feet was delayed by prolonged negotiations, but work is now progressing and the runway will be completed this month.

Although subcontractor problems are always present to a degree, Vought has solved many of them by obtaining new machinery, which made the company more nearly self-sufficient as a manufacturing plant. No difficulty was encountered in obtaining raw materials.

Despite the slowdown in production, the expense, and the number of problems arising as a result of the move, Vought's management believes the move was successful, and that the gains resulting from it will continue to accrue in the future.

In conclusion, I have one little story I would like to tell you which illustrates some of the differences between the Texas and Connecticut people that had to be met and adjusted. One day, the wife of one of our employees was walking along with a Texan. Suddenly, a great big black bug about three inches in diameter fell on her left shoulder. She looked at the bug and studied it scientifically. Then she turned to the Texan and asked, in an interested tone, "Is this a chigger?"

QUESTION: I would like to know the over-all cost to Chance Vought and also the over-all cost to the Government of the move. Do you have that?

DR. BAKER: To give you any idea of the over-all cost is almost impossible for this reason: I don't imagine we will ever be able to figure exactly how much time was lost, how much production was lost, or how much we lost in the sense of losing people in Connecticut who were experienced and of hiring new people in Texas who were less experienced. So that it is practically impossible to give you a figure as to what it actually cost.

QUESTIONER: Well, then, how about just the outlay of money?

DR. BAKER: I can give you that. It will be included in this little booklet we are producing. It is summarized in this way: moving machinery and equipment; moving employees; travel and other expenses in connection with the new organization in Dallas; improvements made down there, such as engineering, building of the new hangar, and so on. Now, the total cost of all that runs approximately 7.5 million dollars.

I cannot tell you, as I said, about the intangibles. How much did Chance Vought lose in the way of becoming an efficient producer by taking all this time out--about fourteen months--to move all those people and to get itself into all these activities unrelated to aircraft manufacturing? That we do not know; we probably never shall.

QUESTION: Could you give us an idea of your present capacity? Also, could you tell us how long it would take you to expand, and how far you would be able to expand, in case of emergency?

DR. BAKER: I can't specifically; I could find out for you, though.

The only thing I can say which will give you an idea is that in Stratford we had approximately 1.5 million square feet of production space. In Dallas, in the "B" plant, we have approximately two million. In the "A" plant, which we have subleased to EMCO, another million. So you can see from the physical standpoint we are in much better shape in Dallas in the event we should have to expand and increase production. The time on that, I can't tell you.

QUESTION: I think Chance Vought showed extraordinary interest in its employees--in their welfare in their new location. Why did Chance Vought feel it so necessary to go into such great detail to look out for its employees?

DR. BAKER: The main reason is that in order to continue our production, to continue the sequence of company operations, we had to take along a nucleus of essential people. In order to do that, we had to persuade the nucleus to go. After all, we aren't a totalitarian organization. We couldn't say to our people, "You are going!" I mean by that the whole success of the move depended upon the cooperation of the employees. We couldn't tell a toolmaker, for instance, he had to go. We had to ask him.

We know also that there would be objections raised by some of our employees' wives, or by the families, or possibly by the employee himself. He had lived in Connecticut all his life; his parents were there; his wife's parents were there; his kids were in school; he was in the village barbershop quartet. We had to present Dallas to him as favorably and as accurately as possible.

QUESTION: I have two questions: First, what is the total number of employees you have now? Second, of those 1,300 employees, how many of those were production employees? How many are now in the Dallas operation?

DR. BAKER: We have in Dallas now roughly 6,000 employees. And of the 1,300 who were moved down, practically all were supervisory people. A good 60 percent of them were production people. The answer to your question is contained in this book. I don't know it in terms of percentage.

QUESTION: Sir, it seems to me that the experience of your company would indicate that when the pressure is on, as in the period just before or just after an outbreak of war, such a move couldn't be organized the way in which you did it and might, as a matter of fact, even be an impossibility.

Would you comment on that, please?

DR. BAKER: In this sense I certainly would agree that the move imposed upon the company a tremendous difficulty in the way of scheduling, of keeping production schedules going, particularly at both ends of the line.

If the armed forces required a company to meet high production schedules, I don't see how that company could do it and still transfer its people and its equipment. For example, on this trip an average freight car required about a month—that is, going over this indirect route, which was less costly—to get from Connecticut to Texas. During that month the machines were out of production. However, some reporters asked us, since we held to our schedules as well as we did, if we had sent men to work on the machines while they were on the freight cars. We assured them we hadn't done that.

I'll grant you, it is a little difficult. But I would say that, in a period of emergency, any company attempting this sort of move could not in any way maintain maximum production. In fact, I would say a company would have to count on a tremendous loss, perhaps 50 percent. Although, by scattering the move over a period of time, as we did, it could cut that down. In other words, as soon as a unit was finished in Connecticut, we transferred it immediately to Dallas where it was set up and production started again. But there is lost time even in that. That doesn't count the lost time in absenteeism, while people are looking for housing, attending to family problems, and that sort of thing.

QUESTION: This is sort of a minor point, but you mentioned the problem of converting electrical equipment from 220 to 440. Was it more economical to do that and operate at that voltage than it would have been to step down to 220?

DR. BAKER: I can't answer that; I'm sorry. I know that the decision was made to change.

COMMENT: I think I can answer that in part. In general, Texas Power and Light Company and Texas Electric Service Company are allowed to give 440-volt operation. I believe that would be a prevailing factor that probably encouraged Chance Vought to convert to 440 because that is a normal industrial distribution voltage.

DR. BAKER: That's true. I am sure that North American had used that. We are advised very strongly to do it.

QUESTION: I have two "quickes:" First, referring to the seven million dollars, did the Navy give you any assistance on that? Second, the "A" plant lease, is that available to Chance Vought in time of emergency?

DR. BAKER: I'm trying to think what the arrangement with TEMCO is. I'm afraid I don't know. I do know TEMCO was leasing the "A" plant from the Navy before we went to Dallas. When we took over the lease, then they subleased from us. Whether there is a clause requiring a 90-day or a 120-day availability, I don't know. I assume there is.

MR. SARTORIS: I think I can answer that. There is a clause in that lease which provides that the Navy or Chance Vought can cancel that lease in 120 days.

DR. BAKER: Thank you.

Mr. Sartoris, would you care to comment on the cost to the Navy?

COMMANDER NEEL: The cost to the Navy of the portion of that seven million dollars.

MR. SARTORIS: There is no direct cost to the Navy whatsoever. It is borne entirely by the United Aircraft Corporation. Of course, certain aspects of it are recovered through Chance Vought Aircraft's overhead.

QUESTION: In answer to a previous question, it makes me wonder how you decided who to take with you. Did you try to sell everybody on the idea? Or did you chop them off at certain levels and say, "Nobody below this level will be bothered with?" How did you handle that?

DR. BAKER: We tried to handle it in this way. In the first place, the sheer cost of trying to bring everybody down was prohibitive. What the company was faced with was an attempt to select the people without whom operations could not be carried on efficiently. In other words, a manufacturing nucleus and a training nucleus had to go down.

We felt we could not go below certain levels for two reasons: One, if we went below certain levels, it would cost us even more in lost time, because of a lack of people for training purposes and a lack of good supervision to build up to the production levels we needed.

In the second place, to take hourly workers below a certain level was considered inadvisable because we found, in going down, that the housing situation in Dallas, while it was improving, was still fairly costly. We couldn't, we felt, subject people below a certain income level to econimic conditions beyond their control.

A third factor was that not all the people we asked to go wanted to leave that area; we expected that. We actually expected about 10 percent; however, it later turned out that only about 3 percent refused to go.

QUESTION: I have two questions I would like to ask, Doctor. One of them is this: Were you a Good Samaritan back in Connecticut? In other words, did you help these people sell their houses? Did you help the people find jobs when you moved out?

And the other question is: Did you use this move as an opportunity to clean up your organization?

DR. BAKER: I will take them in order, the Good Samaritan first. We did this: When word got out that Chance Vought was moving, the personnel department began to get calls from various industries in that area asking us when certain kinds of people would be available—toolmakers, diemakers, and so on. We kept all those inquiries on file, and as the time approached for the move, we informed the companies and the employees and got them together.

Similarly, we asked United Aircraft to keep in mind the people we couldn't take with us and to absorb whatever number it could. I know a number of our people did go. Some of the prople that we wanted to go to Texas, and who refused to go, joined other divisions of United Aircraft.

I served on a committee which was called the Chance Vought Plant Occupancy Committee. On this committee were members of the Bridgeport Chamber of Commerce and the Stratford Town Council. The purpose of the committee was to find a new tenant for the plant. Chance Vought printed several thousand brochures, giving the statistics on the plant. These brochures were given to the Chamber of Commerce to pass out to possible occupants of the plant. I served on this committee which attempted to find a new occupant.

Those were the sort of things we did in trying to alleviate the situation.

Now, your second question was whether we tried to clean out the organization.

QUESTIONER: Did you use this as an opportunity to clean up the organization, to streamline it, in any way?

DR. BAKER: Of necessity, in choosing the most effective people to carry on the new operation, that must have happened. Whether it happened deliberately in every case, or whether it was just, so far as the company was concerned, an "opportunity," I couldn't say.

I would be willing, personally, to assume that advantage was taken of that situation, because I think a company, making a change into a new plant, would be foolish not to make its operation as efficient as possible, internally as well as externally, in the case of getting a new plant.

QUESTION: Doctor, no doubt you set a precedent in moving an industry as large as yours from one strip of the country, you might say, to the other. However, did your move attract any attention by other industries in the New England area toward moving to the southwestern part of the United States? That is, have you received direct inquiries from other large manufacturers?

DR. BAKER: I have received some inquiries, but not from New England, interestingly enough. I received one from a plant in Canada, which was planning to move to another part of Canada. I received inquiries from Louisiana, from a plant which was planning to open a branch.

I believe some of the other executives in the company have received inquiries wanting to know if we put out any kind of blueprint or history. I don't know how many of those have been received. Perhaps some of those have been from New England. I don't know of any, personally.

Of course, you know the situation that came up about clothing mills in New England. That, I think, started before we came into the picture, so we wouldn't have had any influence on it. So far as I know, we haven't had any definite influence.

I do know this has happened: There has been some discussion of the fact that some states are offering tax-free privileges for a period of perhaps ten years. That was not true of Texas. There has been some talk of that in New England, with the idea that other states are attempting to persuade New England industries to move out.

But, so far as I know, while our move may have been watched with considerable interest by anybody planning a branch move, I know of no one else who has plans for the same sort of thing.

QUESTION: Are you in full production now?

DR. BAKER: Yes. The move officially ended on 30 June 1949. As of that date, all of the move was over. I think perhaps two or three people had yet to arrive, or something of that sort. But as of that date we had everything in place in the Texas plant and we were in production.

QUESTIONER: However, you could have moved a great deal faster had there been an immediate stoppage of production and you had moved all your equipment at one time.

DR. BAKER: Possibly.

QUESTIONER: I am thinking now of a mobilization condition. There are other aircraft industries, for example, in that general area of New England--I'm just thinking out loud, now. Suppose it was necessary to move Republic, say, from Long Island to the aircraft factory at Tulsa, which is presently vacant. Would you, from your past experience, recommend that such move be made all at one time, or would you prefer to make it in planning stages, where you finish production at one end and start at another?

DR. BAKER: This is all contingent on two factors. The first one is, if you decided on the move, could you get enough freight cars? Remember, during an emergency the railroad situation would be tough. That was one of the things that faced us. The second thing is, could you get enough housing for your people? You could not take people down there unless you had some place to put them.

Now, if you could possibly solve those factors, get everything done in a hurry, I should say probably it would be the best way to do it. But those are big "ifs" we found in our investigations into which was the better way to do it.

COMMANDER NEEL: Dr. Baker, on behalf of the college and its Commandant, I want to thank you for this excellent account of the move your company made.

DR. BAKER: Thank you very much.

(23 June 1950--650)S.

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