This report examines two specific feasibility areas: lateral transfer of personnel between the Navy and industry, and short naval careers. During the course of the study, discussions were held with senior representatives of 38 corporations, with labor union officials and with several Navy areas, including the sections of BuPers and the Naval Training Command. The study has been exploratory in nature and has sought primarily to determine the reaction of industry and of labor to the two concepts. The following conclusions are presented: the principle of lateral transfer between industry and the Navy is acceptable to industry; Navy personnel requirements, at least as regards officers, can be fulfilled from the Naval reserve component for the foreseeable future; precedents for lateral transfer between industry and Navy exist; the lateral transfer of civilians into the Navy postulated during the discussion of the idea with industry does not appear to be workable; short term lateral transfer of Naval officers to industry appears quite workable. Summaries of the discussions with the industries approached are appended. (Author/SA)
EXPLORING LINKS BETWEEN NAVAL AND CIVILIAN CAREERS:
LATERAL TRANSFER AND EIGHT-YEAR CAREERS

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In the process, the reactions of the various Navy areas contacted (BuPers, Recruiting Command, Training Command, etc.) were solicited and their suggestions and guidance sought. Where appropriate, the views expressed are reflected in this report.
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APPENDIX A

APPENDIX B

Mandatory Distribution List
This reports the results of the study performed under ONR Contract N00014-73-C-0158, entitled EXPLORING LINKS BETWEEN NAVAL AND CIVILIAN CAREERS. Two specific feasibility areas were examined; lateral transfer of personnel between the Navy and industry, and short naval careers. During the course of the study, discussions were held with senior representatives of 38 corporations, with labor union officials and with several Navy areas, including sections of BuPers and the Naval Training Command.

The study has been exploratory in nature and has sought primarily to determine the reaction of industry and of labor to the two concepts.

In the process, the reactions of the various Navy areas contacted (BuPers, Recruiting Command, Training Command, etc.) were solicited and their suggestions and guidance sought. Where appropriate, the views expressed are reflected in this report.

The conclusions to the three sections of this report follow:

1. The principle of lateral transfer between industry and the Navy is acceptable to Industry.

   This seems clear as a result of the discussions held with the 38 companies during the study. Although a number of caveats were introduced by various of the companies, it would appear that industry as a whole would be responsive to a lateral transfer program of some sort provided it appeared to either provide help to the Navy, as postulated during the discussions, provide benefits to the participating companies, or both.

2. Navy personnel requirements, at least as regards officers, can be filled from the Naval Reserve component for the foreseeable future.

   With a better than 2 to 1 ratio of standby reserve officers to active duty officers, in addition to those officers in ready reserve status, it would appear that officer requirements can be easily met within the reserve structure. This is the stated position of those contacted in the Reserve and other areas of BuPers. Thus it would appear that personnel requirements cannot realistically be cited by the Navy as justification for a short-term lateral transfer with industry, at least as regards officer requirements. Since industry has generally taken the position that participation in a petty officer exchange program is of no interest, requirements in this area which cannot be filled from within the enlisted reserve component must be met in some other manner; perhaps through the D.P.P.O. program or some modification thereof. With some 215,000 enlisted men in the standby reserves, it seems unlikely that
foreseeable peacetime requirements cannot be handled in the reserve component barring drastic expansion of the Navy or national emergency. Thus, it would appear that petty officer requirements can also be filled from the reserve component, as is presently done. Hence the requirement for a short-term lateral transfer program to alleviate Naval personnel shortages does not appear to exist.

3. Precedents for lateral transfer between industry and Navy exist.

Although most such programs are very restricted in applicability, lateral transfer programs do currently exist or have existed in the past. The NAESU program is an example of the former and use of civilian engineers aboard Navy ships during the transition from sail to steam an example of the latter. There are, in addition, on-going programs involving transfer of personnel between government departments and industry and the reverse, of which the President's Executive Interchange Program is an example. Thus no really new ground would be broken by establishment of a Navy-industry interchange program except in so far as the particular form of the program might differ from any which preceded it.

4. The lateral transfer of civilians into the Navy postulated during the discussion of the idea with industry does not appear to be workable.

As will be noted, the legal considerations coupled with the inherent difficulties of placing untrained civilians in military billets and obtaining acceptable performance from them seem to render this approach to lateral transfer unworkable. In order to make lateral transfer work, permissive legislation would probably be required. Some companies might require "recall" rights. And a training program designed to render industrial participants at least marginally effective as Naval officers might be necessary. Such a program might require an unacceptable length of time from the point of view of program effectiveness (inasmuch as few companies expressed interest in lateral transfers of more than 12 months duration) and would serve more to create an enlarged pool of reserve-type Naval officers than to solve a personnel shortage problem.

5. Short-term lateral transfer of naval officers to industry appears quite workable.

Transfer of Naval officers to industry for periods of about a year appears to offer no major problems from the point of view of industry. The continuing success of the Air Force Education with Industry program over 25 years establishes that such a program can be quite successful in terms of implementation. The Air Force clearly feels that the program has proved beneficial to the participants and thus to the Air Force. There appears to be no reason why the Navy would be unable to establish a similar program if it chooses to do so, by expanding the
existing Navy Professional Development Program or replacing it with a new, more highly structured one. And there are clear precedents for such programs in the late nineteenth century (see Peter Karsten, *The Naval Aristocracy*, 175-77.)

6. The value of an officer 8-year program appears marginal.

7. The 8-year enlisted career should have some recruiting appeal (see pages 87, 94, 99, 101), should benefit the Navy by allowing a longer amortization of the individual's training, and should provide a more professional force.

8. Some legislative fine tuning would be necessary to develop appropriate financial incentives for such a program.

9. Many 8-year short career recruits might prove to be the kinds of 4-year enlistees who reenlist anyway for another 4 years. A recruiting office and "re-up" questionnaire might be given to enlistees and reenlistees to explore this possibility before moving to an 8-year short career program, because if an 8-year short career program were to absorb too many likely 30-year career recruits, it might increase the 5-8 year echelon only slightly and actually reduce the over 8-year population.

10. There will rarely be any dollars saved by the introduction of an 8-year career program; in the case of almost every officer and enlisted grade and rating considered, an 8-year career person would actually cost slightly more than 2 comparable 4-year-only persons, due to the higher salaries such a person would draw in the 5-8 year period.

11. Lateral transfer, "short careers," and the Navy's existing recruitment program would all be well served by the creation of a closer working relation between the Bureau of Naval Personnel and the unions. Advising a "short career" applicant, or even present-day 4-year and "re-up" candidates, that the unions are crediting much of one's naval experience towards ultimate journeyman status would have to prove attractive, especially to those whose present residence or educational level renders them ineligible for some union apprenticeship programs. The union officials with whom we spoke appeared quite willing to help the Navy, and made several useful suggestions. We encourage the Navy to approach AFL-CIO and its member unions, as well as the UAW and Teamster executives, etc., in order to formalize relations and to establish regular lines of communication for purposes of maximizing the civilian benefits of Navy service.
I. LATERAL ENTRY

The principal objective of this study phase was to investigate at the conceptual level the feasibility of and problems connected with lateral entry of individuals from industry into the Navy for short periods of time as a means of alleviating temporary personnel shortages in critical areas. A corollary investigation dealt with entry of career Navy personnel into industry for short (one year) periods as a means of broadening their experience and providing the Navy with greater insight into industrial operations.

The initial study approach anticipated selection of five or six U.S. companies
1 for in-depth discussions of the concept at management levels. In conjunction with this, discussions were planned with BuPers to identify specialty areas in which critical shortages existed or were anticipated, with a view to selecting representative MOS's. These, in turn, would be matched with industrial skills which might be made available to the Navy under a lateral entry program to develop a "package" for detailed consideration. Tours of duty in the Navy for industrial transferees were anticipated to be from two to four years in duration. A basic condition of such a program would be assurances to transferees from their companies that their participation would in no way jeopardize their careers with the companies but would, conversely, enhance their value, and hence their company status.

Initial discussions with BuPers and with industry resulted in substantial modifications of the initial approach. The Navy, in common

1 An on-going Hudson Institute study of the Corporate Environment in the 1975-1985 time period which involves nearly 100 foreign and U.S. corporations was the mechanism employed for initial company selections.
with the other armed services, has been undergoing a reduction in force for the past several years in response to statutory requirements. As a result of this and other factors, personnel requirements are not at all clear. When shortages occur or are anticipated, BuPers takes actions to alleviate the situation. Thus medical doctors, in short supply until recently, now show a surplus. Thus it did not appear practicable to select current Navy shortage areas for discussion with industry since the picture is continually changing.

Another point became clear early in the discussions; the companies contacted would have no interest in losing the services of their people for periods of time much in excess of a year. It was held that breaks in service to the parent company in excess of a year would jeopardize the careers of the individuals concerned and would seriously impair their usefulness to the company for protracted periods until they caught up to changes which had taken place in their absence.

As a result, we have decided to focus on lateral transfer with tours of duty to be restricted to one year for both industry-to-Nav, and Navy-to-industry. It was further decided to treat the two as separate, though parallel, programs because it was quickly determined that some companies might be interested in one-way transfer but not in two-way. As our focus shifted from the particular to the general, we extended the discussions from the originally contemplated five or six companies to a broader cross-section of industry. Accordingly, twenty-seven large corporations and twelve small companies were contacted. Of these, twenty-five large corporations and ten small ones took a position with regard to lateral transfer. The responding companies are listed in Table I.

Small companies as used here signify 2,000 employees or less. The majority of those contacted had 1,000 or less employees.
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1 Training Command is working with Coca Cola on training matters.
A. A Program Structure

For discussion purposes it was considered useful to develop a questionnaire for an industry-Navy exchange program. Toward this end, a "talking paper" was generated which developed the concept in very general terms on the basis of certain assumptions regarding the form such a program might take. Among these were the following:

- Civilians would occupy existing Navy billets and assume the ranks or ratings associated therewith.
- Tours of duty would be from one to two years.
- The industrial group of primary interest would be the 25-35 year age groups.
- Naval Officer transferees would be in the eight-to-ten-years-of-service bracket.
- Differentials in pay between civilian and Navy assignments would be made up in some manner.
- The Navy would pay all relocation costs.

The document also contained a representative list of Navy Officer billets compiled from PSQ CODED billets by PSQ Code as of March 30, 1972 and petty officer billets used in the Naval Personnel Research and Development Lab's study of Lateral Entry at advanced pay grades. The former were selected wherever it appeared probable that civilian counterpart jobs existed, and special NOBC ratings were not required. All the billets selected were shore posts, since it was felt that inclusion of sea assignments would unnecessarily complicate the issue by creating additional constraints to accepting Navy service. The list included specific job descriptions as well as the location and title of the assignments. The enlisted ratings included descriptions of duties and discussions of civilian
counterpart occupations. The intent was to provide sufficient information to the non-Navy reader to enable him to understand the nature of the assignments without lengthy discussions. (It was explained that although the billets listed were actual billets, they did not represent existing shortages but were merely intended to illustrate the types of assignments which exist in the Navy, the types that program participants might be asked to fill.)

In developing the questionnaire, civilians were specified for lateral transfer instead of naval reservists because the basic intent of the program was to determine industrial reaction to the concept of lateral transfer. Since many companies have long established policies regarding active duty for reservists, we sought to keep such reservist policies distinct from lateral transfer in the minds of the company spokesmen. Transfer of civilians with no military background provided a useful focus for discussion since it required consideration of company involvement in a joint Navy-industry cooperation exchange program. Thus, when company reserve policies were mentioned, we made clear that this program was to be deemed independent of existing reserve programs, and that reserves would not be included in such a program.

As has been mentioned, tours of duty were originally hypothesized to be from two to four years, to provide the Navy with personnel for normal duty tours in the billets to which they would be assigned. In initial discussions with industry representatives, however, it became clear that companies would not consider loss of services of their people for such time periods. People who were away from their jobs for such periods, it was maintained, would be hopelessly behind in their careers on their return and could not be brought back into their companies at the levels
they would have attained had they not spent time in the Navy. In many cases, such people might not even be brought back at the levels they had reached prior to their departure, due to changes which would have taken place in their absence. The people the Navy would want, i.e., the bright young "comers," would well appreciate that point and would refuse to participate in the program. Some spokesmen felt that a break of a year would be disastrous to the career pattern in their companies. This would apply more to administrative people than to engineers and scientists, but protracted absences would have adverse effects on all careers in the opinion of those with whom we spoke. Thus, the notion of utilizing civilians for normal duty tours was discarded and discussions focused on their use as short-term stop-gaps to serve until such time as the Navy could replace them from within the regular establishment, but for periods mutually agreed on beforehand. Since one of the reasons for participation in such a program would be to obtain training which might ultimately be of use to the parent company, and since in many cases, relocation would be required for participants, a year seemed to be a reasonable period of time for such assignments. It also tended to balance the program in the sense that Navy personnel were projected to spend a like period in industry. This might appear to be a minor point but the question was raised by some of those contacted who felt that industry should not be expected to provide people for longer time periods than would the Navy.

Preliminary discussions with BuPers had brought out the fact that statutory limits exist on the rank which may be assigned to individuals entering the Navy with no prior military experience. With few exceptions, Plans Division, Officer Plans Branch, Bureau of Naval Personnel.
such people cannot be brought aboard with ranks above LCDR. For the purpose of the study it was suggested that we consider that rank to be the highest which could be assigned a transferee. We also felt that individuals in the 25 to 35 year age group would be less likely to be in key positions in their parent companies and would thus be more available for transfer than older employees. For petty officers, no rating limit exists. Under the on-going Direct Procurement Petty Officer (DPPO) Program people may be brought into service as chief petty officers if their civilian skills warrant. But most of the discussions with industry centered on officer-level transferees for reasons given on pages 9 and ten of this report.

Selection of the probable age category for naval officer transferees was somewhat arbitrary. It was based on discussions with officials at several BuPers desks, all of whom stressed that naval officers with eight to ten years of service are reaching the point where they will begin to assume a variety of new and more complex administrative responsibilities. Many will have attended graduate school in preparation for their new roles. This also appears to be a time when many officers make a final decision regarding their future in the Navy. For many an industrial career seems attractive. Thus a lateral transfer program should provide valuable experience which would be most useful to the individuals in their Navy careers, and would also provide officers with an exposure to industry which could help them to plot their future. Participants in such a program would presumably not have the option of resigning at the end of their industry tour but would be obligated to a period of active duty upon completion, thus the

*The Air Force service-to-industry program carries a 3 for 1 obligation. Thus a 10 month tour in industry is followed by at least 30 months of active duty. The Air Force program is discussed later in the report.*
Navy would not immediately lose the services of those who might decide that the industrial pasture is greener. By the time the period of obligated service is completed, the participant will have sufficient service time to make it unlikely that he will sacrifice retirement pay for the uncertainty of an industrial adventure. Air Force experience over the 25 years in which they have had an exchange program in effect with industry has indicated this to be the case with their officers.

The question of pay differentials between industry and the Navy is a sensitive one and one which was frequently the subject of attention in discussions with industry spokesmen. The point was repeatedly made that people would not accept a reduction in pay to participate in an exchange program barring a national emergency. Since in many cases such a differential would indeed exist it was necessary to assure the discussants that such differential would be made up in some manner. Hudson proposed that the company make up the difference between Navy and civilian income. Some companies were quite willing to do this without reimbursement but others were not. To those we suggested that the Navy might reimburse the companies in some manner for such expenses. Subsequent discussions with Navy legal officers indicated that this type of arrangement would probably be unworkable under existing statutes, but for discussion purposes with industry it proved useful in overcoming one of the principal objections to participation. It was clear that some solution to the pay problem would have to be worked out if a transfer program were to be viable. (The point is discussed subsequently in the report and various solutions are examined.)

The final point, payment for relocation costs, does not appear to offer a major problem in that individuals participating in the program
could be placed on active duty at their home addresses and then ordered to their duty stations, as is presently done with reserves. This would permit payment of relocation costs under existing regulations. It was assumed for discussion purposes that the Navy would follow this course, thus avoiding another monetary stumbling block to participation.

B. Industry Reaction to Lateral Transfer

The principal object of the discussions with industry was to determine company reaction to the concept of lateral transfer. For this reason, as has been indicated, a general transfer scenario was employed in discussions. Where necessary, a more detailed discussion of various aspects of such a program was undertaken, but on these occasions the point was emphasized that the talks were purely exploratory and determination of the structure of a lateral transfer program would have to await the outcome of the study and the reaction of the Navy to it.

1. A Petty Officer Program

As the discussions progressed, one reaction was almost universally encountered: the companies were not interested in discussing transfer of petty officers-level personnel. The reasons for this varied to some degree from company to company but the principal ones cited were union problems and the scarcity of skilled personnel within the companies.

Of the two, possible union difficulties were more frequently mentioned. Some companies, such as Consolidated Edison, felt that union agreements

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The President's Commission for Industrial Interchange requires the companies to foot these costs under civil service regulations, a factor which has proven troublesome at times.
precluded any such participation. Others anticipated union difficulties and wished to avoid any chance of friction. These reactions bore on both industry-to-Navy and Navy-to-industry transfers, and were most frequently encountered in discussion with large corporations. As mentioned in our section on labor unions, few problems were anticipated by the unions if they were involved in initial discussions between the Navy and the companies concerned. From the company's point of view, however, it was clear that they wished to avoid any conflict with unions on these issues.

Smaller companies feared that their skilled personnel could not be spared, but large corporations sometimes made the same point. For example, Grumman, which is non-union, and which was among the companies most interested in the lateral transfer concept, took the position that good skilled labor was in short supply and that in-house people could not be spared. It was also pointed out that skilled workers involved in a transfer program would have to be replaced by the companies, thus creating a problem when they returned from the Navy, since they would very probably be in surplus but would have to be taken back under the terms of the transfer agreement. Similarly, Navy people transferring to industry could create immediate placement problems, as well as union conflicts in some cases.

A further opinion cited by several of those contacted was that nothing would really be gained by such a program in terms of experience since no new skills would be learned either way in most cases. Thus participation would involve considerable trouble for the companies.
concerned with little or no benefit deriving therefrom. It was generally agreed that service in the Navy for a short period might prove a desirable alternative to laying off skilled personnel during periods of recession, but we suggest that during such times the Navy would probably be successful in recruiting such people under the DPPO or similar programs on a long-term basis and would have little interest in short-term transferees. There was a feeling among some of the companies that lateral transfer would be a preferable alternative to laying off personnel but the need to guarantee rehiring on return from the Navy, with no assurance that a business upturn would take place in the interim, would probably rule out their participation even in that event.

In sum, a petty officer exchange program was not looked on with favor during the discussions. Consequently the focus of interest was shifted to officer-level transfer.

2. An Officer Program

Reaction to an officer transfer program varied from outright rejection to relatively enthusiastic interest, with the majority of the companies contacted taking positions somewhere between the extremes. Some of those taking a basically negative position left the impression that with further discussion, notably if a firm program existed, they might alter their position. Similarly, some of the companies who showed a positive interest in the concept attached conditions to participation which would make it unlikely that they would in fact participate. Table 1 (page 3) lists the companies contacted by their stated positions vis-a-vis lateral transfer. It will be noted that some companies are interested in both industry-to-Navy and Navy-to-industry programs, while others are interested in one but
not the other. A few have no interest in either. In general, those who expressed some interest heavily outweigh those with none (by 26 to 9).

The following sections examine some of the conditions for participation cited by the companies with interest in the program and reasons given for not wishing to participate by the others. Summaries of individual company reactions are found in Appendix A. Since we are considering two essentially separate programs—i.e., Industry-to-Navy and Navy-to-industry—the two are considered separately. The Industry-to-Navy case is examined first.

3. Principal Conditions for Participation, Industry-to-Navy

- Availability of requisite personnel at time of request.
- Desire on the part of individuals to participate.
- Individuals, companies must derive benefits from program.
- Navy must have real need.
- Companies must have the right to recall people in company emergencies.

As might be expected, the principal condition expressed by the majority of those contacted was availability of requisite personnel at the time of the Navy request. This was of particular concern to the smaller companies but was a factor with nearly all the discussants. The definition of the term "availability" varied widely, ranging from physical presence of the people within a company to willingness on the part of available people to participate. Among the larger companies the point was made that they were limited in manpower in the areas of probable interest to the Navy despite their size, since they hired only in response to company need. Their size, however, made it more probable that they would be able to respond to Navy requests, since they do encounter surpluses in various areas from time to time. In general, the point was made that interested
companies would cooperate to the degree permitted by availability of personnel, but not, in most cases, if the people were really needed at home. Desire to participate on the part of the individual is closely related to availability and was frequently mentioned as a prime problem area. In many companies it was felt that selection of individuals would prove most difficult since those selected might feel that they were considered dead wood, hence expendable. Conversely, people might be reluctant to accept the offer for fear they would appear uninterested in their jobs, thus jeopardizing their positions in the company. Various methods for avoiding these were discussed and it was clear that the situation varied widely among companies. One suggestion advanced was that the Navy ask for individuals by name, thus sparing the companies the task of selecting candidates. This implies a degree of knowledge of industrial personnel which the Navy has no means of obtaining except in those instances where Navy-industry contacts have brought individuals to Navy attention, or in the case of naval reserve officers. The latter situation is discussed in a following section of the report. The suggestion was made that selection for the program should be considered an honor, but many companies felt that it would not be so considered by their people. It was clear that in many cases companies might have qualified people available for lateral transfer but might feel that they could not find an acceptable method for providing them to the Navy.

Many of the companies which showed an interest in lateral transfer felt that a necessary prerequisite to participation would be assurance that the participants would derive meaningful benefits from the program. Benefits, in most cases, would center on obtaining experience which would
prove beneficial to the company and to the careers of the individuals concerned. Doubt was frequently expressed that participants entering the Navy would gain such experience if they were asked to perform the same sort of work that they had performed in industry. Since people would presumably be selected on the basis of qualification for the Navy billet they would fill, it might prove difficult to convince industry that meaningful experience would indeed be gained by participation. A considerable amount of discussion centered on this point and it proved difficult in some instances to convince company spokesmen that benefits either to the Navy or to the individuals concerned would necessarily be forthcoming. As will be noted, this point was frequently offered as a reason for a company's lack of interest in a lateral transfer program.

As has been discussed, the basic reason given for establishing a lateral transfer program would be to assist the Navy in filling critical billets which it was unable to fill from within the regular Navy establishment. Thus, by definition, a real need would exist before such a program would be contemplated. Despite this fact, several companies took the position that they would have to be convinced of real need on the part of the Navy before they would participate. This reaction was based in many cases on unhappy experiences with other programs which involved lending people to governmental agencies. Some companies cited situations in which people were requested on a critical need basis and set to doing things in no way associated with that for which they had been recruited. In other cases such people were given nothing whatever to do. Such experiences made the companies concerned very skeptical of lateral transfer programs of whatever nature and prompted them to demand positive assurances of need before they would participate.
The right to recall personnel in company emergencies was cited as a prerequisite to participation by several companies, especially the smaller ones. Although such emergencies were not generally anticipated, there was a feeling among several of those interviewed that a recall clause would be considered necessary by their management as a prerequisite to participation.

4. **Principal Objections to Participation, Industry-to-Navy**

- Can't spare people of the type needed.
- Little or no benefit to participants, companies.
- Participation would jeopardize participants' company careers.
- No interest on part of employees.
- Bad experiences with other exchange programs.
- Navy requirements remote from company functions.
- Want no association with the armed forces in peacetime.
- Too costly to company.
- Not workable.

The principal objection was company inability to spare people of the type the Navy would want. Whenever this issue was raised the point was made that Navy requirements would probably cover a broad spectrum of activities, including some where the company might be able to spare someone from time to time. Companies voicing this objection, however, in many cases were clearly using this argument to justify what they felt to be a complete lack of company interest in the program.

The second objection, little or no benefit to companies or participants, is an extension of the similar condition for participation in a lateral transfer program. In the instances where it was cited, the companies concerned simply took the position that the Navy would not be able to come up
with billets which would be of interest or benefit to them. In such situations it proved fruitless to try to alter their stand, especially inasmuch as specific billets could not be cited. It is quite possible that some of these objections could be overcome if a lateral transfer program were to be instituted and specific assignments made available.

It was very difficult to argue against the contention that participation in such a program would jeopardize the participants' company careers. Clearly this would be true in many cases. Where a dog-eat-dog climate exists within a company, it is probably quite true that to absent oneself from one's job for a year or so would indeed be hazardous if not fatal to one's career. Where such conditions exist, it is conceivable that willingness to participate in a transfer program would be interpreted by the companies concerned as a desire to change jobs. This, in any event, was the view of those who voiced this objection to participation.

We often encountered the general assertion that there would be no interest on the part of the employees in a lateral transfer program. This was hard to refute since we had little or no means of taking the pulse of the people concerned. Such assertions appear to be too broad to make realistically, but could be interpreted as meaning that "personnel will lack interest if they know what is good for their company careers." This objection was usually cited in conjunction with others and was frequently preceded by the phrase "in any case."

Bad experience with other exchange programs was sufficient reason for one company, Western Electric, to refuse to consider participation in a Navy program. Discussions centered around this factor, which proved to be an obstacle which could not be overcome in the opinions of those with
whom we spoke. The issue arose with other companies but not to the same degree. In most other cases, this objection was cited as one of several reasons for non-participation, or the issue was mentioned as a caveat which the Navy should consider in planning such a program.

Remoteness of Navy requirements from company functions was encountered primarily in talks with bank personnel, who generally took that position and could not be dissuaded. In these instances the impression was gained that the objection was a convenient device to let them off the hook, and preclude the necessity for finding more definitive objections. Other companies also posed this objection but in most cases were more responsive in discussion and frequently altered their initial position. In some of these instances, other objections were substituted but in other cases it was agreed that judgment would be withheld until specific Navy requirements became known. This was, however, a fairly common objection in initial discussions.

There were a few instances in which the statement was made that the company concerned wanted no association with the armed forces in peacetime. This was usually followed by the assertion that in times of war or national emergency the company would cooperate in every way. It was generally hard to pin down specific reasons for taking this position but in some cases it seemed to stem from the fact that the companies concerned had provided the armed forces with key personnel during the various wars and emergencies of recent times and had no desire to continue to do so. In only one instance was animosity expressed toward the armed forces and this centered on a situation in which company personnel on loan to the Navy were hired away by the Navy. This situation also falls under the previously mentioned bad experience with transfer programs.
The subject of cost to the company arose in most discussions at some point but was not generally held to be a reason for non-participation in a lateral transfer program. As has been discussed, reimbursement of company expenditures was sometimes deemed a precondition to participation. In most cases, however, money was not a major issue. There were instances, however, where any company expenditure was considered sufficient grounds for non-participation. In some cases it was held that costs to the company would be excessive no matter what repayment arrangements were made. In these instances it appeared that costs were being used as a convenient device for refusal to participate, as appeared to be the case with some other objections.

There were some who held that an exchange program simply was not workable. The reasons given for this position were generally vague and tended to fall into the "gut feeling" category. In one case this "feeling" was used as the sole reason for non-participation. As was sometimes the case with certain other objections, this appeared to reflect the personal view of the individual rather than any objective evaluation on his part of his company's position.

5. Principal Conditions for Participation, Navy-to-Industry

Participation in a program whereby industry would acquire people from the Navy proved of greater interest than the reverse, as indicated in Table 1. There were generally some conditions attached to participation however:

- No prior company commitment
- Individuals would be assets to company
- Costs to company not excessive
Right to return individuals to the Navy

No union problems

It is of interest to note that some of these conditions (particularly the second and third) don't appear to apply to the Air Force Exchange program discussed in the section on existing exchange programs.

Several of the executives contacted objected to the notion of prior company commitment. They felt that their companies might well be interested in receiving naval officers but would like to retain the option of selecting those of interest to them. Hence they would object to committing themselves to participation where such commitment would require them to accept naval officers whether or not they would be considered of use to the company. This, of course, ties in to the second condition. It was strongly stated by several of those contacted that their companies would have to have need of the types of officers available at any given time before they would accept them. This position was most strongly held by representatives of the smaller companies, who in general felt that productive Navy people would be most welcome, but that those who could not really contribute would be unacceptable.

The issue of expenses was raised by most of the companies but what might constitute excessive costs was never really made clear. It would seem that expenses would be of little consequence to industry in view of the fact that the Navy would pay the salaries and relocation costs of their own personnel. The Air Force experience would seem to indicate that costs of such a program could be higher than anticipated to both industry and the Navy, however. The issue of costs would hinge on the nature of the program and if the other conditions were met, should not become excessive. But for

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*See pp. 36-39 of this report.
the smaller companies costs would be a real issue and one which could easily preclude participation.

The right to return individuals who proved unacceptable was raised by a few companies. It would appear to be a reasonable request, however, and one which would probably arise in most cases if a Navy-to-industry program of the type discussed were promulgated. Thus it must be considered in designing conditions for participation.

The question of union problems has been discussed in connection with the petty officer exchange program and is included here because it was raised by most of the people contacted. In most situations it would not be an issue since most naval officers would be going into jobs which would be non-union. There might be situations where this would not be the case, however. There is a trend under way toward organizing professional people in some parts of the country and the situation might arise in which a company would require permission from a professional union or association to accept a naval officer. In such a case a potential problem could exist which might preclude company participation, unless officers could be found who would agree to join such unions, and the unions themselves were agreeable, which seems quite possible.

6. Principal Objections to Participation, Navy-to-Industry

- Types of people of use to company not available in the Navy
- Tour too short to benefit company
- Proprietary considerations
- No interest in Navy people

The first objection was the one most frequently encountered in discussions. Several people felt that despite the broad spectrum of activities
In the Navy, there would be no compatibility with their companies' activities. Hence Navy people would be of little or no use and their companies would have no interest in receiving them. This was a difficult argument to surmount without being able to be specific as to the types of people who might become available under an exchange program. It is quite possible that some of those taking this position could be persuaded to change their minds if an actual list of participants with qualifications could be provided.

A more difficult objection to overcome is the shortness of the tour. It is possible that the Navy would not be interested in extending an industrial tour beyond a year and equally unlikely that those who objected to short-term exchanges would change their position unless the Navy were to permit longer tours. Thus, unless it could be demonstrated that particular naval officers could step directly into jobs within the objecting companies and perform productively with little or no break-in, the objection would probably stand and would preclude participation by the companies that prefer long tours.

The proprietary protection* objection was totally unexpected and was encountered only with one company, Eastman Kodak. The fact that it was encountered at all, however, made it appear possible that it could become an issue with other companies if a broader sampling were taken. Hence it has been included here. This is an unusual objection and would appear to apply only to certain areas within a company, although it was stated to be company-wide by our Kodak discussant.**

*That is, the protection of trade secrets.

**It is of interest, however, that Eastman Kodak participates in the Air Force Education with Industry program!
The final objection noted, lack of company interest in Navy people, was encountered about 12 percent of the time. It seems to imply a rather blind prejudice and in general runs counter to the reactions of most of the company representatives toward the Navy. It is another objection which is difficult to counter since it seems to be emotionally rather than rationally motivated. As was the case with some other objections, it might represent personal biases rather than company attitudes but since the individuals who took this position are highly placed in their companies, the practical effect may be to represent company policy in these instances.

7. Responses by Category

At the completion of the discussions with companies the results were analyzed with a view to determining what response patterns, if any, were evident. It was thought possible that a relationship might exist between the type of activity in which companies were engaged and their reaction to a Navy lateral transfer program. To a degree, this proved to be true.

For purposes of analysis, the responding companies were divided into the following categories:

- Defense contractors
- Manufacturing with defense tie-in
- Manufacturing
- Banks
- Utilities (including oil companies)
- Small companies
- Others

Defense contractors were defined as those companies whose primary functions were centered in production of weapons and weapons systems.
Two such were included in the survey; LTV and Grumman. The reaction of these two companies could probably have been predicted; they both expressed support for a lateral exchange program or any other program the Navy might generate. In each case company personnel were working with and for the Navy under NAESU contracts, as technical representatives at Navy bases and on board ships, etc. In each case the Navy is a prime customer and it is not surprising that the companies were willing to cooperate. In discussions with LTV executives the statement was made that any defense contractors would fully cooperate with the Navy in this or other programs because it was clearly in their interest to do so. This is probably true, at least to a degree, and it seems probable that the defense industry would be the most fertile ground for developing a program of the type being discussed.

Manufacturers with a defense tie-in refers to those companies who do substantial business with the Defense Department but whose principal market is elsewhere. This category would include Westinghouse and Eastman Kodak. Here the defense tie-in appeared to have little or no effect on the reaction of the companies to the proposed program. In each case the companies showed interest in providing people to the Navy, subject to various conditions, but no interest in having Navy people in the company. In fact, both companies stated strong opposition to accepting Navy people, though for different reasons. If any conclusion can be drawn about the effect of the defense tie-in, it would seem to be that it has little measurable effect in these instances.

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See pp. 33-36, below.
The manufacturing category would include several of the companies approached. Eight of the major corporations and all the small companies fall in this group. Of these, five large corporations and all the small ones showed interest in at least one aspect of the program while three large corporations expressed no interest at all. On the positive side, Polaroid Corporation expressed as strong support as did the defense industries, and Ford, General Foods and Eaton, expressed some interest in both aspects of the program. The companies with no interest either way were Western Electric, Olin and Coca Cola, although the latter is currently cooperating with the naval training command in an evaluation of training devices and techniques.

Thus it appears that this group is about evenly divided in terms of expressed interest in lateral transfer. No motivational pattern appears discernible despite the relatively even distribution, since the companies reacted utterly idiosyncratically. Olin, for example, was described as being beset with internal problems and had no wish to add complications through involvement with the Navy. Western Electric cited bad experience with other exchange programs while Coca Cola felt that the board of directors would not be interested and that the president would hesitate to raise the issue. Conversely, General Foods has participated in other government exchange programs and would be willing to do so with the Navy; Ford was initially negative but reversed its position, although with reservations, and Eaton was willing to cooperate both ways but doubted that its people would be inclined to participate. The only common reaction seemed to be that the Navy, per se, did not influence their decisions— that is, there was no discernible motivation such as clearly existed with the defense contractors.
There were two banks in the group and their reactions were similar. In neither case was there any interest in participation. It was felt in both cases that further discussions or the availability of a specific program might have produced different reactions and it was not felt that the entire banking industry should be written off as participants. In this sampling, however, results were undeniably negative.

Reactions among the utilities group were mixed and about evenly divided. Exxon and Gulf were both negative while Mobil was positive. Columbia Gas was negative while ATT was positive and Con Ed was mixed. As was the case with the manufacturers there appeared to be no common pattern to the reactions in this group. Each company reacted according to its internal situation and established policies.

Almost without exception, the small companies were very well disposed toward the Navy and quite willing to do what they could to cooperate. In most cases they were too small to participate in an Industry-to-Navy transfer program but in all but one case were quite willing to take part in a Navy-to-industry operation. The high degree of agreement came as a surprise since there was no obvious reason for it and very little tie-in between the companies concerned and the Navy. Several people with whom we talked spoke highly of ex-Navy people in their employ and this may have been the key factor in their reactions. For whatever the reason, the small companies contacted were much more receptive than any other group except the defense contractors.

The "other" category was comprised of an airline, an engineering firm, an insurance company and two research organizations. No motivational commonality was anticipated in this group because of its diversity, and none was detected. The group reaction was quite positive, a factor
which would appear to be largely coincidental. The insurance company felt that it could use the organizational abilities of naval officers to good advantage; the engineering firm employed several reserve and retired Navy people with whom they were highly pleased; the airline was well disposed toward the Navy for unstated reasons, and the research firms have close tie-ins with the government in several areas and appeared willing to cooperate to the degree possible. It was not felt that the individual organizations were necessarily representative of the reactions of other companies in their field with the possible exception of the research organizations.

To summarize, it would appear that defense industries offer the greatest potential for support of a lateral transfer program and would probably cooperate fully with the Navy in implementing one. Conversely, the banks as a group appear to be the least interested in such a program. The other areas, with the possible exception of the research community, appear to react in a much more individualistic manner. Overall, the reactions of the companies contacted were more positive than negative but it was clear that in most cases the degree of participation would depend on the nature and characteristics of an exchange program when it was formulated.
C. Some Existing Lateral Transfer Programs

The concept of lateral transfer or exchange is not new. In times past the Navy has had civilians performing functions aboard Navy ships which the Navy either wasn't prepared to or did not choose to perform. Most notably, civilian engineering personnel manned the engine rooms of Navy ships during the transition period between sail and steam, and for a period of time thereafter.*

At the present time there are several internal transfer programs in existence. Some are concerned with interchange between the government and industry and some involve industry and military transfer. Four of these are briefly discussed; a government-industry executive interchange program; a program whereby the Navy contracts with industry to provide personnel, an Air Force service-to-industry program, and the present Navy "Professional Development Program" for officers.

The President's Executive Interchange Program

The President's Executive Interchange Program was authorized by President Johnson in 1968 and established by President Nixon in September 1969.**

To quote from a government booklet on the program;*** "The President's Executive Interchange Program provides an opportunity for the interchange of managerial skills between the Federal Government and private sector of

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*See Monte Calvert, The Mechanical Engineer in America, 1830-1910 (1957), 245-266; and Peter Karsten, The Naval Aristocracy (1972), 175-77, 185.

**Executive order 11451, September 1969.

our nation. Business executives, and other executives in the private sector, are selected for year-long assignments in Government. Similarly, Government executives are selected for year-long assignments in the private sector." The benefits are as follows:

Both the Federal Government and the private sector get the advantage of fresh thinking and a broader perspective on programs and problems.

Innovative and effective management practices are transferred from one sector to the other; there is an opportunity to exchange ideas and expertise.

Participants in the President's Executive Interchange Program grow professionally and personally—a growth that is of immediate benefit to the Government when Federal careerists return to their posts; a growth that is of potential value to the Government in the event private sector participants are asked to serve in governmental posts later in their careers.

The program is designed for "men and women in mid-career with high potential for advancement in the Federal Government or the private sector." The targeted age group is the 30 to 40 age bracket. Earnings of Government candidates usually vary from $22,000 to $36,000 per year. Civilian counterparts are presumably in the same category although it is stated that some may have to take salary reductions while serving in the Government.

Nominations for Federal service must be made by the chief executives of their organizations, while Government employees entering industry are nominated by the heads of their Federal agencies. Salaries are paid by the host organizations and moving expenses by the parent organizations; i.e., private sector persons entering the Government are paid by their Federal host but their parent company handles relocation costs both ways. Conversely, Government employees entering industry are paid by their host
companies but relocation costs are handled by the Government within the framework of existing civil service regulations on reassignment. Federal benefits such as health and life insurance and retirement are provided Federal employees on a leave-without-pay basis for periods of up to 365 days. Vacations, sick leave, etc. are determined by the host companies on an individual basis. Private sector people entering Government service under the program generally arrange to retain their fringe benefits with their parent companies and are permitted to do so by Federal law.

The Government selection process consists of reviews of nominations and selection of candidates for interview, generally in Washington, D.C. Travel expenses for interviews of private sector candidates for government posts, and Federal candidates being interviewed by industry are paid by the Government. Following the initial interview, industry candidates who are selected are referred to the most appropriate host organizations for additional interviews. Every effort is made to match qualifications of individuals to available jobs, and in practice job descriptions and functions are often revised to more closely fit the qualifications and desires of the successful candidates. Salary and other arrangements are made on an individual basis with the host agencies. Most jobs will fall in the GS-15 category or above. They generally will fall in the Schedule A (non-career) category under civil service regulations. Government people entering industry will do so on a leave-without-pay status, as indicated, and will make individual pay and related arrangements with their host companies.

People entering the Federal government participate in a three day structured group session designed to familiarize them with their new
environment. During their tours they participate in further group sessions for in-depth discussions with Government officials, political leaders and others. Prior to leaving Government service, participants attend a final one to two day session during which national priorities are discussed, and future private sector/Government relations are planned. A special program for spouses of Presidential Executives is provided which includes "visits to national shrines, museums, and Government agencies, talks and discussions with Government officials, observation of the operation of Congress, the Supreme Court and other portions of Government, meeting significant individuals in American public life and activities at embassies in Washington, D.C."

People entering private industry, Government people, participate in a three-day structured group session on the private sector and take part in whatever training programs the host companies provide.

Conflicts of Interest

In considering a Presidential Executive's assignment, the Commission staff carefully screens out any assignments that may lead to a conflict of interest situation.

If a question exists, the potential for conflict is explored with Federal agency officials. This could involve consultations with the agency's General Counsel, the General Counsel of the Civil Service Commission or the Department of Justice. If a question remains, the assignment is not made.

Here is a summary prepared by the Department of Justice of the main conflict of interest provisions of Public Law 97-849:

A regular officer or employee of the Government—that is, one appointed or employed to serve more than 130 days in any period of 365 days—is in general subject to the following or prohibitions; the citations are to the new sections of Title 18:
1. He may not, except in the discharge of his official duties, represent anyone else before a court or Government agency in a matter in which the United States is a party or has an interest. This prohibition applies both to paid and unpaid representation of another (18 U.S.C. 203 and 205).

2. He may not participate in his governmental capacity in any matter in which he, his spouse, minor child, outside business associate, or person with whom he is negotiating for employment has a financial interest (18 U.S.C. 208).

3. He may not, after his Government employment has ended, represent anyone other than the United States in connection with a matter in which the United States is a party or has an interest and in which he participated personally and substantially for the Government (18 U.S.C. 207(a)).

4. He may not, for one year after his Government employment has ended, represent anyone other than the United States in connection with a matter in which the United States is a party or has an interest and which was within the boundaries of his official responsibility during the last year of his Government service (18 U.S.C. 207(b)). This temporary restraint of course, gives way to the permanent restraint described in paragraph 3 if the matter is one in which he participated personally and substantially.

5. He may not receive any salary, or supplementation of his Government salary, from a private source as compensation for his services to the Government (18 U.S.C. 209).

(This summary is taken from the Department of Justice memorandum Analyzing Provisions of Public Law 87-849, etc. It was reproduced as a part of the Committee Print, Senate Judiciary Committee, 88th Congress, 1st Session, March 1, 1963, p.14. It will also be found in the note following 18 U.S.C. 201).

The Commission has been in business for three years. According to Jay Leanse, Executive Director, some 162 people have participated in the program, of whom 112 have entered the Government from industry. Results to date are regarded to have been quite satisfactory with regard to both facets of the program and it is expected to accelerate shortly.

During the three years of its existence a certain amount of working experience has been developed. Among the things which have been learned
is that promises of participation on the part of companies have very often not been kept. It has become quite evident that personal contact is essential in attempting either to recruit individuals from industry or to place individuals in industry. One of the most difficult aspects of the program to date has been that of holding companies to commitments. It has been found to be necessary to have one-on-one coverage—that is, for each individual being recruited from or being placed in industry it has proven to be necessary to assign an individual from the commission on a full-time basis to carry out the individual operation.

The ultimate goal of the President's Executive Interchange Program is to have 75 individuals transferring into government and a like number into industry annually. It is anticipated that this goal will be reached some time in 1974. Of the number of nominees submitted to the government by their companies experience to date indicates that 85% are ultimately placed in government positions. The placement of government officials in industry is approximately the same in terms of numbers placed. Table II lists some of the companies which have participated or are currently participating in the President's Executive Interchange Program.
The President's Executive Interchange Program

Some Participating Companies

Aetna
American Can
American Standard
AT & T
Arthur Andersen
Arthur Young
Burroughs
Bendix
General Electric
IBM
Ford
Chrysler
General Motors
Litton Industries
Cummins Engine
Sears Roebuck
Marathon Oil
Kaiser
Mead Corporation
Pfizer
Sperry-Rand-Univac

Rockwell International
T.R.W. Systems
Bank of America
Smith Cline & French
Exxon
United Aircraft
ITT
Mobil Oil
Phillips Petroleum
Owens Illinois
P.P.G. Industries
Westinghouse
Mitre
Dow Chemical
Durard Bank
Rohr Industries
John Hancock
Boeing
Caterpillar Tractor
Memorex
Weyerhaeuser

Naval Aviation Engineering Service Unit (NAESU)

The Naval Aviation Engineering Service Unit was founded in 1942 to "investigate and determine the best solutions to urgent problems arising from the maintenance and operation of new airborne electronic devices."

Since its inception, its mission has been expanded "To provide field engineering assistance and instruction to Naval aviation activities in the installation, maintenance, repair and operation of all types of aviation systems and equipment." The Naval Ships Systems Command has a unit which performs a similar mission for the surface Navy.

NAESU Instruction 5400.1F, December 5, 1972, ETS Administrative Management Manual.

NAVAIRINST 5451.36B.
In performance of its mission NAESU contracts with civilian companies on an individual basis to provide personnel to the Navy for a variety of functions. Personnel so provided are paid by their parent companies and assigned to various Navy ships and stations in the continental U.S. and abroad to perform a variety of functions. The contractors who provide the personnel are reimbursed by NAESU under the terms of the applicable contract.

Personnel so provided may serve the Navy intermittently or continuously for periods up to several years. The types of service provided are classified as Contractor Engineering and Technical Services (CETS), which are defined as:

"Those services performed by commercial or industrial companies which provide advice, instruction and training to DoD personnel in the operation and maintenance of Navy and Marine Corps weapons, weapon systems and related equipment. These services include transmitting the knowledge necessary to develop among Navy and Marine Corps personnel, the technical skill capability required for maintaining and operating such equipment in a high state of military readiness. This includes but is not limited to such contract services known as "Factory Training, On-the-Job Training and On-Site Training." Contractor engineering and technical services consist of:

1. **Contract Plant Services (CPS).** Those engineering and technical services provided to DoD personnel by a manufacturer of military equipment or components. These are provided in the manufacturer's plant and other facilities by trained and qualified engineers and technicians employed by the manufacturer. The specialized skills, knowledge, experience and technical data of the manufacturer are contracted for by the Department of the Navy for the purpose of acquiring system and component knowledge, training and training aid programs, relating directly to Navy and Marine Corps personnel in order to develop technical skill capability for maintaining and operating military equipment. Formal factory training is within the scope of CPS.

2. **Contractor Field Services (CFS).** Those services that provide advice, instruction and training to DoD military and civil service personnel by contractors on site at designated military locations. CFS personnel must possess specialized knowledge, experience and have access to information covering
the operation and maintenance of Navy and Marine Corps weapons, weapon systems and related equipments. Contractors providing CFS personnel must have an adequate staff, finances, plus organizational and technical capability to assure the economical and competent performance of their contracts. "On-the-job" training is within the scope of CFS.

(3) Field Service Representatives (FSR). An employee of a manufacturer of military equipment of components who provides a liaison or advisory service between his company and DoD users of his company's equipment or components. This service is an important element in providing a technical communication of "feed back" channel between the producer and the Department of the Navy fleet or field using activity.

The ground rules for employment of CETS personnel include the following restrictions:

"...contractor personnel, in performing services, are not to be

a. placed in a position where they are appointed or employed by a Federal officer or employee or are under the supervision, direction, or evaluation of a Federal officer, military or civilian;

b. placed in a policy-making or policy-stating position;

c. placed in a position of command, supervision, administration, or control over DoD military or civilian personnel, or personnel of other contractors, or become a part of the Government organization;

d. subject to review by Government personnel before being assigned by their company to work on Government contracts;

e. subject to removal by Government personnel on the basis of their performance;

f. used interchangeably with Government personnel to perform similar functions;

g. used for the purpose of avoiding manpower ceilings or other civilian personnel rules and regulations of the Civil Service Commission, DoD or the Department of the Navy;

h. furnished by the Government their principal tools and equipment; or;

1. physically occupying desk space in the performance of functions which would normally be accomplished by a Federal officer or employee.

At the present time, NAESU has some 200 active contracts with 145 prime Navy contractors. Contracts are individually negotiated and fees vary from company to company. About 1,200 civilians are involved in the program at present.

The CETS program represents a specialized form of lateral transfer in which civilians are used to provide carefully designated services to the Navy. It is notable that the Navy exercises no direct control over CETS personnel, although in practice those who perform unsatisfactorily are withdrawn at the request of the Navy. Of particular interest here is that the Navy enjoys the use of the civilians but does not pay them directly. Their parent companies retain administrative responsibility for them and have the right to recall them if they so desire.

The Air Force Education with Industry Program

The Air Force is currently operating a lateral transfer program wherein Air Force officers enter industry for a period of ten months for the basic purpose of acquiring training which will be beneficial to them in their Air Force careers. The program entitled "Education with Industry," was initiated in 1947 and is administered through the Air Force Institute of Technology at Wright Patterson Air Force base in Ohio. Requirements for participation in the program are generated by air staff functional managers in various parts of the Air Force. Such requirements are forwarded to the Air Force Institute of Technology, which contacts appropriate areas

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*NAVAIRINST 4350.3A, February 20, 1973.*
of industry to arrange the transfer of the Air Force officers. The program manager at the Air Force Institute of Technology maintains the industry contacts and monitors the progress of the Air Force officers who are in the program. The principal area of interest to the Air Force is procurement and industrial production, which receives the great majority of the participating officers. Other interest areas include aircraft engineering, management, research, communications, cost analysis, civil engineering, computer performance measurement, and academic administration. Currently there are 120 officers involved in the program and that is presently the annual figure for participation. Of these 75 are in the first category of production and procurement.

The Air Force pays the officers while they are in training status. Industry pays all attendant expenses other than salaries and per diem. The Air Force at one point investigated the feasibility of industry paying the officers in the program. It was quickly determined, however, that the legalities of such a move would make it prohibitive to attempt. In order to carry out a program which entails industry payment to military personnel, it would be necessary to release the officer from active duty. Following his release he could not receive salary or compensation of any sort for a period of six months from any company which had any sort of government contract in effect at the time. Thus it would be necessary for the Air Force to release a man from active duty and have him remain in inactive status for a minimum period of six months before he could be picked up by any company which had a government contract. This would include most companies of interest to the Air Force. Following his tour

"Participating companies have variously estimated their costs to be between $25,000 and $50,000 per year per officer depending on the company concerned and the nature of the operation."
of duty with the company, he would have to be returned to active duty by the Air Force. Since he would be under no legal obligation to rejoin the Air Force, it seems reasonable to assume that a number of participants would elect to remain in industry.

The officers in the program generally receive V.I.P. treatment from the companies. They usually attend a series of meetings with senior company officers who explain the functions of their departments. Brief indoctrination periods are often spent in several areas before the officers settle into the department which is of particular interest to them. Efforts are made to familiarize the participants with general company functions, operating techniques and problem areas as well as to give them experience in their specialty areas.

Results of the program have been generally excellent, according to the Air Force. Originally oriented toward defense contractors, it has expanded in recent years to include a broad spectrum of industry. The program is very popular within the Air Force and there are generally many more volunteers than there are openings. Participants are said to thoroughly enjoy the experience but to return to the Air Force satisfied that their military careers are preferable to civilian ones. The individuals selected are regular career officers with 8 to 10 years of service. They are generally senior captains or junior majors. Participation in the program carries with it a three to one obligation; i.e., thirty months active service following completion of the ten month industry tour. Thus participants would have 12 to 14 years of service by the time their obligation was completed, making it unlikely that they would opt to do
other than to complete their service careers. Some of the companies currently participating in the Air Force program are listed below.

- Aerojet General
- Avco
- Lycom
- Boeing
- Booz-Allen
- Convair
- Detroit Diesel
- Eastman Kodak
- General Dynamics
- General Electric
- Grumman Aerospace
- Haskel and Sels
- Johnson and Mendenhall
- Hill and Knowlton
- Hinchman Corporation
- Honeywell
- Hughes Aircraft
- Lockheed
- Martin Marietta
- Marriott Corporation
- McDonnell-Douglas
- North American Rockwell
- Northrop
- Philco Ford
- RCA
- Statler Corporation
- United Airlines
- Westinghouse Corporation
- WGN Broadcasting Company

The Navy Professional Development Program

In comparison with its Air Force counterpart, the Navy Professional Development Program is quite small. The program has received little publicity within the Navy and its existence does not appear to be generally known. Authorized by Z-Gram #59 in 1971, it was formalized by OPNAVINST 1520.19.

The program authorizes tours of duty for Naval Officers with other government agencies or with industry for periods of up to one year. Arrangements for such tours must be made by the applicants, who then submit requests to BuPers. A BuPers selection board meets once a year to consider the applications and those with the best records are selected.

The program is administered through the Training Command in Pensacola and is open to the ranks of Lt. through Captain. Applicants must have a minimum of three years active duty and at least five years of service remaining before retirement. The number of participants authorized is
30 per year but this limit has never been reached. Total participation
to date has been 45 and 17 are scheduled for participation during FY 74.

The Navy program differs in several respects from that of the Air
Force. It is, of course, much newer and much smaller. It is also much
less structured with the initiative lying with individual officers. To
date, most applicants have applied either for tours of duty with other
government agencies or for assignments to colleges or other educational
institutes, presumably to obtain advanced degrees. Although there have
been some requests for tours with Industry, they have been in the distinct
minority and there has been no apparent effort to promote interest in
industrial transfers.

Discussions with officers administering the program in the Navy
gave us the impression that there is little interest in strengthening or
expanding it. We were advised that to do so would create officer shortages
which could become critical. It was also held that such a break in an
officer's career pattern could be detrimental to his Navy career (one of
the same objections, it will be recalled, was offered by industry to
participation in a transfer program). We are not in position to evaluate
either reaction, but with over 70,000 officers on active duty, the loss
of the services of a maximum of the thirty per year permitted under the
present program would not appear to create much of a shortage of personnel.
Similarly, tours of duty at various services and civilian schools, attaché
duties and similar non-line Navy duties do not appear to have adverse
effects on the careers of the individuals concerned.∗

∗Indeed, Morris Janowitz has argued that such "innovative" career
patterns appear to be typical of many post WWII leaders of the armed
services. (The Professional Soldier 1959.)
In any case, the program does not appear to be popular with some Naval administrators with whom we spoke and little seems to have been done to either promote it or strengthen and expand it.

D. Some Navy Lateral Transfer Alternatives

In discussing alternatives open to the Navy it is useful to consider the reasons for considering a lateral transfer program. If the principal reason is to provide an emergency source of qualified personnel, all sources for such personnel must be considered. If the principal purpose is to promote greater industry-Navy understanding of each other's functions, problems and objectives, the focus shifts to methods for promoting personnel interchange to achieve these aims. If the purpose is to achieve both these basic objectives, a composite program or mix of programs may be more appropriate.

In considering programs designed for the above purposes the factor of cost must be considered. Obviously, any program which entails bringing people into the Navy will cost money. The cost will vary with the method selected and the least expensive method which will attain the desired objective will normally be chosen. Other factors to be considered will be the effect of such a program on the normal operations of the Navy; e.g., will a program under consideration require diversion of regular Navy personnel from their normal tasks, thus bringing about some degree of inefficiency in certain areas? It is clear that establishment of some form of lateral transfer program is likely to prove costly and disruptive to some degree. The degree will, of course, depend on the
nature and scope of the program. The decision as to the desirability of such a program and selection of the form or forms it will take will be a function of the perceived need for it and the anticipated benefits deriving therefrom.

In this section, some alternatives open to the Navy are examined. They range from programs designed primarily to supply the Navy with manpower in an emergency to those whose principal function would be to promote better industry-Navy relations and understanding.

Each alternative is explored in terms of ease of implementation, probable cost, probable benefit to the Navy and special problems connected therewith. The tours of duty in all cases are assumed to be for periods of about a year. The approaches are the following:

**Industry to Navy**

- Use of Navy reserves
- Use of civilians in Navy billets
- Temporarily "civilianizing" Navy billets for use with civilians
- Permanent "civilianizing" of Navy billets for use with civilians
- Navy version of President's Executive Interchange Program
- A Navy "Fellowship" program for industry

**Navy to Industry**

- An expanded Professional Development Program.

**Use of Navy Reserves**

During the discussions with industry, industry spokesmen often suggested that if the Navy were to ask a company for specific individuals,
the problems associated with selection of people for a lateral transfer program would be greatly simplified. In order to do so, the Navy would require considerable knowledge about the employees of industry which under most circumstances it would have no way of obtaining.

The exception to this is the Naval Reserve, the members of which are widely employed throughout industry, in many cases in areas relating to their Navy MOS fields. In the normal course of events, reserve officers fill annual questionnaires which, among other data, list place of employment and type of work performed. Thus the Navy has an in-house updated file on over 180,000 reserve officers. Such data is not available for enlisted reserves; thus the Navy must rely on service records in determining enlisted reserve qualifications.

The reserve structure of the Navy consists of two basic categories; Ready Reserves and Standby Reserves. The former, some 120,000, of whom about 16,000 are officers, are on drill pay status and belong to organized reserve units. In the event of national emergency these units would be mobilized intact. The balance of the reserve force, consisting of about 165,000 officers and 215,000 enlisted men receive no drill pay and would be activated on an individual basis in an emergency. It is probably this latter group which would be utilized in a lateral transfer program, at least initially, since the Navy would prefer to keep its reserve units intact.

At the present time the Navy has a surplus of reserve officers in most specialty fields. Where shortages exist, as presently in oceanography, they generally relate to relatively new specialty categories and will usually be filled as active duty officers revert to inactive
duty status. Another way in which such shortages are made up is through assignment of new NOBC codes to reserve officers based on their civilian occupations. Thus, when officer shortages occur in the Navy and reserves are activated to fill them, the prime determinant in many cases is the civilian experience of the individual, not his Navy experience, which may date back several years and be outmoded by later developments.

At the present time, a number of reservists are called to active duty each year for various reasons. Funding for training duty is provided from Reserve funds, which are in short supply. Periods of active duty in excess of 90 days are considered to be for purposes other than training and are paid for out of regular Navy funds under the Temporary Active Duty Program (TEMPACT). Between 150 and 200 reserve officers per year are presently being activated for periods of up to one year. These officers are contacted individually and make their own arrangements with their companies regarding their status. Since many of these officers are senior commanders and captains, they generally occupy executive positions in industry or are self-employed professional people and have no problems in this regard. Junior officers may have greater problems but the plethora of reserve talent has resulted in few difficulties to date in filling Navy requirements. A factor in this success is the ability of the Navy to promote officers within broad limits where salary or other considerations are encountered. Under the reserve program the Secretary of the Navy determines which ranks may be assigned. There are no statutory limitations as is the case with direct commissioning of officers with no previous military experience. At the present time, Secretarial limitations on assignment of ranks center
on age. For example, ensigns and Lts (JG) must be less than 40 years of age, lieutenants less than 46, LCDR's under 52 and CDR's and captains 58 and under—the latter limit applies to warrant officers also. These limitations can be altered by SECNAV at his discretion.

Positive Aspects of Utilization of Reserves

There are several reasons for considering the use of reserve officers in a lateral transfer program where the principal purpose is to alleviate manpower shortages in the active duty Navy. They include:

- Knowledge of individual's background, both military and civilian (in the case of officers)
- Ability to request specific individuals from companies
- Existence of positive active duty policies for reserves in many companies
- Ability to promote individuals
- Minimal training requirements
- Mechanism exists for acquiring people; nothing new required
- Possible union conflicts avoided

Several of these have been alluded to above. Knowledge of the individual's military and civilian background is clearly an advantage when specific billets are to be filled. Since such knowledge exists in-house at present, no new mechanism is required to obtain it. Similarly, having knowledge of the civilian occupations of reserve officers enables the Navy to approach their employers and request them by name, a distinct advantage in the view of several of the corporate officers interviewed during the study. This represents an extra step not presently done by the Navy, and one considered to be unnecessary by the reserve desk of BuPers, since to date they have
been able to meet their quotas without difficulty. If the intent is to promote good will with industry and to broaden the base of available manpower, especially among junior officers, such a step may be desirable, however. Requests for military leaves of absence from individuals may be construed by their superiors as evidence of discontent with their jobs and may endanger their standing with their companies. Even where that might not be the case, many people might hesitate to take the risk and might thus pass up an active duty request which they otherwise would accept. This point appears to have little bearing on availability of reserve officers for active duty today but if conditions change, or if junior officers are sought to a greater degree than at present, it may prove of more significance. From the point of view of many of the companies contacted, requests for specific individuals would alleviate or eliminate one of the principal objections to participation in a lateral transfer program.

The existence of permissive policies regarding active duty for reserves was noted in several instances during company interviews. As might be expected, defense contractors had quite liberal policies. Non-defense oriented companies, such as Bethlehem Steel, also have such policies and others have indicated that they may institute them. The activities of the National Committee for Employers Support of the Guard and Reserve appear to have stimulated such thinking on a broad basis;

*In much the same way, as has been discussed, if companies are asked by the Navy to select individuals for Navy service, many of them fear that the people chosen will feel that they are considered expendable by the company.

**Created by Presidential order in June, 1972 in support of the all-volunteer forces concept.
some 120,000 private employers representing 35.2 million employees (43% of the total U.S. work force) signed a pledge in support of the Guard and Reserves which promised that participation in reserve activities by employees will in no way jeopardize their status and that military leaves of absence will be granted without sacrifice of vacation time. Although the pledges are not legally enforceable and although they basically refer to annual training and weekend drills, they nevertheless indicate that wide segments of industry may be willing to support the armed forces in reserve matters.

The ability of the Navy to promote people as desired has been alluded to. This is clearly an advantage in situations where pay inequities would result if individuals were placed on active duty at their existing ranks or rates. Although not presently considered to be an issue because of the depth of reserves in most specialty areas, it could become so in the future, especially in connection with a formal lateral exchange program.

One of the principal objections to a lateral exchange program cited by Navy contacts during the study was the problem of training civilians with no prior military experience if they are to be used to fill existing Navy billets. Under the DPPO program six to twelve months are required to build up sufficient familiarity with Navy methodology and regulations to be able to function even minimally as a petty officer for persons enlisted into the Navy at pay grades E-5 or E-6. The same observations would doubtless apply to officers receiving direct commissions with no prior military experience. Thus such individuals would require extensive indoctrination and orientation training to function effectively as naval officers and petty officers, which could significantly dilute their usefulness in their assigned billets. The use of reserves, however, should largely alleviate the problem.
Most reserves have had tours of active duty during which they received the types of training required to function adequately in their ranks or ratings. Those few who haven't have attended drills and taken correspondence courses during which such training was provided. Moreover, tests have been administered to establish qualifications for promotion. The cumulative effect of this has been to qualify reserves at least to the point where minimal orientation training should enable them to assume active duty billets calling for the rates and ranks they currently hold.

If the Navy were to establish a lateral transfer program a mechanism would be required to carry it out. In the case of utilization of reserves, such a mechanism already exists. Certain alterations would be indicated to fit it for the role, but these should be relatively minor. The reserve section of BuPers under the direction of the Assistant Chief for Naval Reserve maintains up-to-date records of all reserve personnel. When requirements are laid on it, its files provide a breakdown of qualified personnel by military experience and in the case of officers, civilian experience, employer, family status, etc. Thus it is relatively simple to provide a list of qualified candidates for just about any requirements which might arise.

In any situation where people are removed from their jobs and later returned to them there arises the possibility of conflict with cognizant labor unions. Although perhaps less of a problem with officers, it would probably be a significant factor with petty officer candidates. Discussions with labor officials indicate that such problems might be resolvable (see the final section of this report), but use of reserves would go far toward eliminating them entirely. Nearly all unions have military leave
policies which protect the status of members while on active military duty. Thus reserves entering the Navy under a lateral transfer program would be protected during their period of active duty and would suffer no loss of status, seniority or benefits as a result of participation. Civilians entering active duty with no prior reserve status might have greater problems, since they would have to establish their military status with their union locals, which might prove difficult in periods when the unemployment rate is high and union members are out of jobs. In such a situation, locals might be reluctant to permit non-veteran members to obtain veteran status and seniority rights. Thus non-veteran union members might shy away from a program which could damage their standing and seniority whereas reserves would be protected and thus more apt to respond favorably.

Negative Aspects of Utilization of Reserves

There are several considerations which might limit use of reserves under a lateral transfer program, some of which are unique to reserves and some of which would apply in any case. Among these are:

- Statutory limitations on numbers of active duty personnel
- Possible morale problems among regular personnel
- Conflict of interest considerations
- Critical civilian occupations

The matter of statutory limitations on numbers of active duty personnel is, of course, applicable in any situation where people are placed on active duty. As of June, 1973, the Navy was reported to be at 99% of authorized strength, thus leaving little room for expansion. In a lateral

exchange program consideration would have to be given to the existing strength levels in determining how many reserve personnel could be activated or non-reserves brought aboard in military billets. Under some conditions it might prove impossible to implement such a program without upward revision of existing limitations, a task which might prove extremely difficult in the present Congressional climate. In situations where strength levels are declining and enlistment and officer procurement rates are unable to fill the gap, this would be much less of a consideration. If the Navy were to embark on a planned program of lateral exchange with industry, a percentage of allowable strength might be set aside for such a program, thus reducing the problem. It should be noted that transfer of Navy people to industry under an exchange program would not ease the problem since such people would still be on active duty, albeit not working for the Navy.

Morale was mentioned frequently in discussions with a number of naval officers in connection with lateral transfer. They pointed out that increasing the number of people on active duty dilutes the promotion prospects for regular Navy personnel, a factor which they felt to be particularly troublesome. The degree to which morale would in fact be affected would be largely governed by the scope of the program. Another aspect mentioned was possible jealousy on the part of regular personnel engendered by the fact that reserves with relatively little comparable Navy experience would be serving at the same rank or rating and receive comparable pay. That this may be a valid position is evident in reviewing the reactions of regular military personnel during the Korean War when large numbers of reserves were ordered to active duty. There was
considerable friction between regulars and reserves in many instances. and considerable attention was paid to the problem at higher command levels. Although the scope of reserve activation would be considerably less under a lateral transfer program than was the case with Korea, the possibility of internal friction exists and should not be dismissed.

The question of conflict of interest arises in connection with any transfer of persons from industry to the Navy or other military or govern-ernment agency. In this regard care would have to be taken that the statutes governing conflict of interest are not violated. This can, in fact be a multi-edged sword in that it could affect assignment of civilians or reserves to Navy billets, naval personnel to industry, and utilization of civilians by their parent companies on their return to civil life. It is not probable that conflict of interest situations will prove to be a major obstacle to lateral transfer but they will arise on occasion and should be considered.

The question of "critical civilian occupations" poses a complex problem. NAVPERS 18529F, dated February 22, 1972, lists critical military specialties and civilian occupations which were once considered to be critical in the event of national emergency or war, and members of the Naval Reserve who work in these fields are generally exempt from call-up. In normal times it is the stated policy not to activate such individuals.

The list of critical civilian occupations was compiled by the U.S. Department of Labor in 1961 and amended in 1965. Since that time, no review has taken place. In view of the rapid growth in technology and its accompanying modifications of many jobs, some BuPers desks consider

*SECNAVINST 5370.2E provides conflict of interest guidelines.
the list to be relatively meaningless. It appears possible that the list may be dropped altogether, eliminating this particular obstacle to activation of certain reserves, but until it is, the list remains in effect and could preclude activation of people engaged in the occupations it lists. (The list is appended as Appendix B.)

Use of Civilians in Navy Billets ("Lateral Entry")

This was the subject of discussions with industry officials outlined earlier in the report. Briefly, it envisions use of civilians in Navy billets, with the rank associated with the billet being assumed for the tour of active duty. Under this program, industry would be approached with a list of requirements and individuals solicited to fill the requisite billets. Selection of individuals would take place within the participating companies and the candidates would be made available to the Navy. Those selected would be placed on active duty and would assume the ranks associated with the billets they would occupy. On completion of their duty tours they would return to their parent companies. Relocation costs would be handled by the Navy, which would also pay them in accordance with established pay rates for the ranks assumed. Pay differentials, where they existed, would be made up in some manner, possibly by supplemental payments from the parent companies which would in turn be reimbursed by the Navy.

Under this program the individuals would revert to civilian status on completion of their tours in the Navy and would not acquire any
military obligation in connection therewith, although reserve commission
might be offered in some cases.\

If this approach were to be adopted, a mechanism would be required
for contacting industry, selecting candidates, arranging for relocation
where necessary, and carrying out the numerous other functions associated
with the program. Such a mechanism exists in the Navy Recruiting Command,
which operates throughout the country. When Navy requirements become
known, the recruiting districts could be notified and quotas assigned to
particular districts much as is done with recruiting today. If it is
desired to minimize relocation of industrial candidates, billets in given
recruiting districts could be assigned those districts to be filled
locally if at all possible. The district recruiting staff would then
contact industries in the district and endeavor to obtain the requisite
personnel locally. Where this could not be done, headquarters would be
notified and the billets farmed out to other districts for placement.
This would require that the local recruiting staffs have the additional
duty of contacting industry in their area, soliciting industrial support
for the transfer program and maintaining liaison with local industry, a
task which would be burdensome in the beginning but less so as the program

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The Selective Service Commission was contacted to determine what
effect, if any, participation would have on participants' draft status.
It was learned that after serving six months, an individual released at
government option would have filled his active duty obligations under
existing legislation, although he would remain in a reserve status for
a further five and a half years. Thus program participants would satisfy
any active duty requirements under current selective service regulations,
which might prove appealing in situations such as existed during the U.S.
Involvement in Vietnam. On a practical basis, however, this would have
little meaning, not only because the draft is currently dead but also
because most of the participants would be above the age (26) at which
they would normally be draftable.
developed. The task could perhaps be eased if a special task force were established by BuPers to make initial industrial contacts throughout the country and establish a reasonable degree of support before the program was initiated. In this manner, local recruiting district staffs could be provided with lists of cooperating companies in their areas, making their jobs considerably easier. It is probable that companies would respond more readily to such a taskforce operating from Washington than they would to local Navy recruiters.

**Positive Aspects of Use of Civilians in Navy Billets**

There are several potential advantages to employing this approach to lateral transfer. Among these are:

- Availability of a large manpower pool
- Selection of candidates by companies
- No Navy organizational changes
- Pay rates fixed—no negotiation necessary
- Broader industrial exposure to Navy

With over 80 million people employed by U.S. industry, there is clearly a large manpower pool available for a program of this nature. If cooperation could be obtained from only a relatively small segment of industry, say 10 percent, a pool numbering several millions would still be available. In the industrial sampling carried out during the study, 26 of 35 responding companies, or about 75 percent, indicated a willingness to cooperate in some aspect of lateral transfer. Of these, 19, or 54 percent of the total were willing to consider supplying people to the Navy. Just how representative of industry at large these figures might be
is not possible to establish with a more thorough survey than was conducted. It does indicate, however, that a significant degree of industrial interest in a transfer program may exist and sufficient manpower should be available to fulfill any foreseeable Navy needs.

Selection of candidates by companies relieves the Navy of the necessity for so doing, a not insignificant factor. Were the Navy required to select industrial candidates, a mechanism of considerable size would probably be necessary if any significant industrial coverage were to be obtained. Such coverage would probably be beyond the means of the Navy (with the exception of the reserves), making such a program impossible to carry out unless a large-scale and costly recruiting campaign were to be implemented. With candidates selected by industry, the only task facing the Navy would be final selection from among those made available. Since the numbers involved are not likely to be very great, this should impose no significant burden on the Navy.

With existing Navy billets being filled, it would not be necessary to make organizational changes to implement this type program. Selected candidates would assume the billets in the same manner as would regular Navy officers, since they would also assume the ranks called for by the billets.

With pay rates fixed, the necessity for negotiating salaries is eliminated. This could be a factor of some significance if the program were of large scale. Whatever the size of the program, candidates can be notified of the pay associated with the rank concerned and be made aware that it is fixed by statute, thus obviating negotiations. That this can also prove to be a disadvantage is clear, as is noted below.
If the Navy goes to industry in the manner discussed and industry selects people with no prior military experience to participate, there will clearly be a broader exposure of industrial personnel to the Navy than would be the case if reserve personnel are utilized. Indeed, one purpose of such a program might well be to promote industrial understanding of Navy functions, problems, and operating methods.

**Negative Aspects of Use of Civilians in Navy Billets**

The disadvantages of using civilian personnel in Navy billets are several. Those cited for use of the reserves apply here. Additional problems include the following:

- Pay differential problems
- Training problems
- Rank restrictions—limited flexibility
- Possible alienation of candidates by requiring assumption of military rank

The pay differential problem may be the single most important one and may of itself rule the approach out. Under the provisions of Title 37, United States Code individuals entering on active duty with no previous military service must be paid the lowest rate provided for the rank or rate held. Thus participants may find themselves earning considerably less than their regular Navy counterparts of equal rank and experience. In addition, in many cases they would earn less than they made in civil life. Thus participation in the program might bring about such losses in pay as might preclude participation by the majority of candidates.

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For example a LCDR with over ten years experience would earn $1,187.70 per month base pay while a civilian participant with equal rank would earn $805.20.
It was assumed for study purposes that the parent companies would supplement the Navy pay, being reimbursed in turn by the Navy. The legality of such an arrangement is open to considerable question, however. As was noted in discussing the President's Executive Interchange Program, Civil Service regulations are quite clear on the point; it is forbidden. Regulations governing the military are less clear, however. The Navy reimburses industry for use of industrial personnel under the NAESU and similar programs and the personnel concerned are paid by their parent companies, although working for the Navy. Their duties are, however, carefully spelled out and they cannot be used in a manner not described. They are also prohibited from performing certain types of duties. Neither of these conditions would apply to a lateral transfer program. Discussions with BuPers legal people indicated that there appears to be no statutory prohibition to supplementary industrial payments to active duty Navy personnel in the manner envisioned, nor to Navy reimbursement of industry. It was felt, however, that such arrangements would raise real conflict of interest possibilities which would require serious examination. In general, it was felt that consideration of such arrangements would require formation of a legal task force to study the implications and seek possible violations of existing statutes. If it were found to be technically legal, political considerations would probably dictate the necessity for permissive legislation which would spell out under what circumstances such arrangements would be allowed. Otherwise, misconduct charges would probably emanate from many quarters once the arrangements became known. It was the consensus of the various BuPers officers contacted that permissive legislation would be extremely difficult
to obtain in the present and foreseeable Congressional climate, unless a clear manpower emergency could be shown to exist within the Navy.

The issue of training problems was touched on in the discussion of use of reserves. As was indicated, it would be necessary to provide sufficient training to enable the transferees to function, at least minimally, as Navy officers. In civilian transfer programs, it usually suffices to provide a week or two of indoctrination to enable the transferees to fit into their new roles. The transition from civilian to military roles, however, would require more time. Unless participants receive sufficient military indoctrination to enable them to function as Navy people in addition to carrying out their technical work, their utility may have to be restricted to a degree which might render them of little use to the Navy. If an officer, for example, cannot stand a watch, issue orders in a proper manner, direct and supervise subordinates, read and understand official documents, etc. his usefulness is somewhat restricted and it may prove necessary to assign personnel to him to carry out these functions. This would clearly defeat the purpose of the program if it is to provide the Navy with needed manpower. An adequate training program might prove both too lengthy and too costly to justify use of inexperienced civilians in military billets.

The rank restrictions to direct commissioning imposed by statute (LCDR) clearly limit the flexibility of the program. Thus a large amount of industrial experience is denied the Navy. If the intent is to provide personnel to fill critical Navy shortages, the program is quite limited since such shortages occur with greater frequency in more senior ranks, as evidenced by the call-up pattern of reserve officers at the present
time and the career patterns discussed in the short career section of this report. This reduction in flexibility brings into question the basic utility of such a program, hence its justification as a device to meet Navy manpower needs. Statutory revision might be necessary.

Some industry spokesmen suggested that some candidates might be offended by requiring them to assume military rank. It was felt correctly, we think, that the prevailing anti-military sentiment of young college graduates today might preclude their participation in such a program. It was also felt by some that people would shy away from active duty for fear of incurring additional military obligations in the process; a sort of forced reserve status. The fear was expressed that once a rank was held, the holder would be on record and could be recalled at a later date despite assurances to the contrary. It could be argued that such sentiment would prevent those who entertain it from participating as civilians as well. With regard to fear of incurring additional military obligations, a clear exposition of the legal terms of such lateral transfer contracts should alleviate that particular objection.

Temporarily "Civilianizing" Navy billets for use with Civilians

This approach to lateral transfer would be designed to alleviate some of the principal objections associated with the use of civilians in Navy billets. It is essentially similar to the previously discussed

*See Peter Karsten, "Anti-ROTC: Response to Vietnam or 'Consciousness Ill'," in John Lovell & Philip Kronenberg, eds, The New Civil-Military Relations (Rutgers University Press, Winter '73-'74), and Jerald Bachman, Values, Preferences and Perceptions Covering Military Service, (Michigan Survey Research Center, June, 1973) for discussions of the reasons that many ROTC students have been leaving ROTC, and why the military is disliked by young college graduates.
program except that the military billets would be temporarily "civilianized," i.e., converted to Civil Service status for purposes of the transfer program, reverting to military billets again on completion of the civilian tour of duty. Thus such problem areas as salary inequities, military training requirements, restrictions in rank with associated limits of experience levels, and possible alienation of candidates brought about by requirements to assume military rank would be eliminated or sharply reduced. An additional benefit would be avoidance of the statutory limitations on the number of active duty personnel. Thus positive aspects of the program would include some of those associated with use of civilians in naval billets plus the elimination of many of the negative aspects of that program as follows.

- Availability of a large manpower pool
- Selection of candidates by companies
- Broader industrial exposure to Navy
- Negotiability of salaries
- Military training not required
- Greater flexibility of choice—no rank restrictions
- Avoidance of statutory limitations on active duty personnel
- Reduction of alienation of candidates by eliminating military ranks

The first three have been discussed and would apply to this approach essentially as they would to the previous program. The ability to negotiate salaries is an important advantage, as was noted in the section on use of reserves. Elimination of the requirement for military training reduces training costs and times significantly and simplifies the process of adjustment to the new environment. Elimination of rank restriction makes
it possible to fill almost any billet in the Navy without being limited to a particular industrial age and experience group. The avoidance of statutory limitations on active duty personnel permits billets to be filled in instances where the Navy might be at 100 percent authorized strength but still have vacant billets. Some degree of alienation based on dislike of all aspects of the military may be present in industry, and where it exists, the affected personnel presumably would refuse to participate in an exchange program of any nature, but in situations where the objection centers on assumption of military rank, this approach would eliminate that problem. Thus, in general, there appears to be many benefits accruing from this approach to lateral transfer.

There are, however, negative aspects to this approach which must be considered. Those associated with use of reserves also apply here with the exception of the statutory limitation on active duty personnel. Of much greater significance, however, is the possibility (certainty, in the view of several BuPers contacts) that billets thus converted to civilian status could not be reconverted to military ones. This is based on past experience in converting billets under the CIV-SUB Program whereby Navy billets are converted to civilian on a permanent basis. In the past few years several thousand military billets have been converted to civilian, largely on the support side. This year the process is continuing. In view of this trend, it was held unlikely that billets would be returned to military status once made civilian.*

*There is a counterpart program to CIV-SUB whereby a limited number of civilian billets are converted to military. Known as Mil-SUB, this program is designed to provide shore billets for so-called "deprived" ratings who have sea billets but for whom no shore billets exist. The program, which is very small, has met heavy resistance from unions.
If this were to be the case, the Navy would be highly unlikely to adopt such a cause, thus ruling out this approach to lateral transfer.

**Permanent Civilianizing of Navy Billets for Lateral Transfer Purposes**

This alternative might be considered as a means of providing permanent billets which the Navy would use on a rotating basis for a transfer program. In this approach, the principal thrust would be to promote interchange of experience with industry, rather than to alleviate Navy personnel shortages, except in so far as civilianization of these particular billets reduced Navy personnel requirements on a permanent basis as is the case with the CIV-SUB program. This would differ from the CIV-SUB program in purpose, however, since the objective here would be to create billets to be manned by industrial personnel on a rotating basis. The billets selected would presumably be ones which would be of interest to industry for training purposes.

**A Navy Version of the President's Executive Interchange Program**

The President's Executive Interchange program has been operating for several years and its mechanics are established and well understood. If the Navy were to follow this approach, a working example is available. Under such a program, the industrial target group would be much broader than would be the case with some of the other concepts discussed, since there would be considerable flexibility in choosing candidates and selecting jobs for them. If the President's program were followed closely, fairly senior people would be recruited to work in various areas of the Navy as civilians. The areas would be basically chosen by the participating companies, subject to conflict of interest considerations, and the Navy
would endeavor to find places for the candidates which would satisfy the individuals and their companies. Salaries could be negotiated individually as is done under the President's Interchange program. If a two-way exchange were contemplated, the present Navy Professional Development program could be modified and expanded as necessary.

The reasons for following such a course would presumably be basically similar to those of the President's Interchange program, i.e., promotion of closer ties with the private sector and mutual transfer of skills. The Navy would gain the services of civilian transferees but would not be able to use them where they really might want them in many cases, thus diluting their contributions to some degree. Naval officers transferring to industry would presumably have a similar choice in where they went and what they did, which should prove beneficial. The program would not serve to provide emergency manpower to the uniformed Navy, however, and would probably do so on the civilian side only in a limited way, since a continuous match-up between Navy needs and civilian desires is not highly probable.

One potential problem with this approach is the competition offered by the President's Interchange program. The Navy would have a much more narrow field of choice than does the President's program, which offers an across-the-board choice of all government agencies. In the matter of prestige the Navy might not prove competitive in those areas of industry in which the President's program was operating. Thus, rather than launching such a program on its own, the Navy might wish to join forces with the President's program in the sense that the Congress might be asked to permit the Navy Department to offer assignments of certain types of interest to the Navy to appropriate areas in industry through
the President's Commission. Naval officers wishing industrial assignments might also employ the mechanism of the President's Commission in locating suitable openings, assuming that the Commission would be willing to offer the requisite degree of support to the Navy.

A Navy "Fellowship" Program

The basic purpose of a "fellowship" program would be to promote greater understanding between the Navy and industry by providing industrial personnel with an education in Navy operations. Assuming its legality, the program might have the following characteristics:

- Tours ten months to a year in duration
- Centered in and around Washington, D.C.
- Orientation which covers many aspects of Naval operations
- Participants selected by companies; salaries and expenses paid by them

The length of tour would be determined by the amount of education the Navy wished to impart coupled with the length of time industry was willing to have its people invest in such a program. If a real indoctrination program is the objective, tours of the indicated length would seem appropriate. They should permit the participants to spend sufficient time in the Navy environment to acquire a feel for Navy operations and the problems connected therewith. Participants should also have enough time to do meaningful work in areas of particular interest to them and to their companies.

The program would probably be centered in the Washington area because Navy headquarters is there. The intent of the program would probably be to impart knowledge of overall Navy operations and this is the only location where this can be reasonably done. Some participants might spend part of
their tours outside the area pursuing fields of special interest but they would presumably spend the initial part of their tours in Washington.

The program syllabus would be designed to provide as broad an education as would be practical in the available time. It would probably consist of two basic parts; a general period designed to impart overall knowledge of Navy functions and operations, and a period during which participants would work in areas of particular interest to them. The general period might consist of an initial indoctrination for perhaps a week during which an overview of the Navy would be presented, followed by short tours in several Navy bureaus and departments. Depending on the numbers of such tours and the time periods deemed necessary to produce the desired education, this phase might last two to four months.

The second phase would presumably consist of assignment to that area of the Navy of particular interest to the individual participant; thus some people might work in areas of NAVSHIPS, others in OPNAV, some in NAVSUP, etc. The intent during this phase would be to provide on-the-job training which would be of use to the participants in their civilian careers and which would also benefit the Navy.

Under such a program, the participants could remain on their company payrolls, since they would be undergoing training and not working for the Navy. Thus the Navy would be spared the expense of salaries, although other expenses associated with the program could be quite high. From the company point of view, the participants would be in the same status as would be the case if they were attending a university academic program under company sponsorship.

The program would be in many respects a counterpart of the Air Force Education with Industry program. Here industrial participants would be
spending a year or so acquiring military experience instead of the reverse, with the difference that they would not wear uniforms or perform military duties. The costs associated with such a program would be a function of several factors such as requirements for full time staff members to operate the program; part-time participation by Navy personnel; the degree of disruption of normal activities the program would engender. If costs cited by industrial participants in the Air Force Education with Industry program can be transposed, it might cost the Navy between $25,000 and $50,000 per participant, although per capita costs might be much lower with a fairly large program.

An Expanded Navy Professional Development Program

Several alternatives are available to the Navy in considering methods for bringing industrial personnel into the Navy environment for short tours. The reverse situation, transfer of Navy personnel to industry, is much more limited. Although the activities of participants may vary widely from company to company, a single Navy policy would be in effect which would establish the ground rules for participation. Thus, if the decision is made that larger scale industrial transfer is desirable, the existing program would logically be modified to produce the desired effect.

The form such a program would take would depend on such factors as program objectives, desired number of participants, industrial areas of interest, and qualifications for participation. If the decision is made that such a program is desirable, and if the basic objective is to provide training which will be beneficial to career development, the Air Force Education with Industry program offers an interesting precedent for study. With 25 years operational experience, the Air Force could provide
extremely valuable inputs to the Navy in planning a transfer program. Examination of results obtained from the Air Force operation could assist the Navy in reaching a decision as to its desirability and practicability to the Navy. The legalities of the situation have been extensively explored by the Air Force over the years and an acceptable modus operandi developed which could serve as a model for a similar Navy program. There would doubtless be many differences in detail between the two versions, since the services differ in many ways, but it seems clear that the Navy could readily establish an industrial transfer program on a much larger scale than the existing one if it chooses to do so.
II. SHORT CAREERS FOR THE NAVY
II. SHORT CAREERS FOR THE NAVY

This section reports on Hudson's exploration of the notion of short careers (six to twelve years) for naval personnel as an element of the solution of various problems connected with the all-volunteer force.

We approached the problem with the hypothesis that there are many potential recruits to a Navy life who view a short (3-4 year) enlistment as a needless interruption to career development, and who at the same time find the distant benefits resulting from a 20-30 year career hard to visualize at entry age. We then explored the possible alternative of a short career which would be viewed by the recruit as a desirable alternative to the present one-term twenty-year dilemma. In this model both the individual and the Navy would consider the short career as the entire naval commitment of the individual. At the completion of the career the individual would terminate with appropriate benefits (to be examined later). He would still be young; he would have successfully completed a naval career; and he would have been available to the Navy for the agreed period. During the course of this short naval career he would have acquired skills which would be marketable in business and industry. He would now be ready to undertake his "real" career as a civilian.

For its part, the Navy would benefit by having personnel available to it for longer periods of time; it would be able to amortize its investment in training and recruiting over a longer period, and it would reduce the number of people to be recruited in the period of the all-volunteer force where competition from the other services and the lack of a "draft prod" tends to make recruiting more difficult. Although not designed for the purpose, it would also give the Navy a pool from which could be
selected outstanding individuals for retention on a "head and shoulders" basis to become part of the officer and enlisted leadership of the Navy. The program is largely geared to the more complex and high cost skills in which more extended service would have benefit for the Navy. The package can be made attractive by offering the individual in-service and termination benefits designed both to prepare him for a civilian career and to give him an incentive to undertake the longer commitment.

The original proposal to ONR suggested that the range of careers to be examined might be six to twelve. In this study the focus is on an eight-year career because:

(a) Most officers and most enlisted men have an average retainability of about six years at the present time. (This refers to enlisted men in the career fields studied subsequently in the study.) This beyond-4-year retainability results from increased commitment due to special training in the career field.

(b) The ten-year point represented a turning point in individual motivation as a point at which an individual would feel that he has so much time invested that it would be more worthwhile to continue to twenty years in order to realize his retirement benefits.

We focused on three officer communities (surface warfare, aviation, and submarines) and twelve enlisted ratings. The officer communities selected are central to the Navy mission and constitute the bulk of the officers in the Navy.
The following enlisted ratings were selected for examination:

- Electronics warfare technician (EW)
- Data Systems technician (DS)
- Instrumentman (IM)
- Opticalman (OM)
- Data processing technician (DP)
- Radioman (RM)
- Engineman (EN)
- Machinery repairman (MR)
- Aviation electricians mate (AE)
- Air controlman (AC)
- Aerographer's mate (AG)
- Aviation anti-submarine warfare operator (AW)
- Construction electrician (CE)

These ratings were selected from a candidate group of about twice the size of the selected group. The ones eliminated included those on which for one reason or another no data was available either concerning length of schooling or costs; those on which data was not typical since the rating had been revised or reorganized recently; and those which represented only a very small portion of the total Navy strength. The remaining fields examined in the study are believed to be representative of the types of careers for which the short career concept is potentially applicable from a standpoint of the transferability of skills to civilian life.*

A. The Navy's Need for a Short Career

1. Officers

Available data on officer requirements are contradictory. One set of data tends to show retention rates to be below goals set by the personnel manager, but retention rates have risen in recent years (Table 3).

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*Hudson Institute staff members were unable, however, to learn from any of the BuPers officials with whom we talked precisely which ratings or, officer programs were experiencing recruitment difficulties! This apparent unwillingness on the part of BuPers officials to confess to any personnel problems made it difficult for us to know which ratings deserved our attention. Ultimately we were compelled to draw up a list of what appeared to us to be critical ratings and officer programs (based on officer retention and enlisted reenlistment data), which list BuPers officials then gave their approval to.
TABLE 3
OFFICER RETENTION STATISTICS
(At Minimum Service Requirement + 2 Years, in Percent)

<table>
<thead>
<tr>
<th>WARFARE COMMUNITY</th>
<th>FY-70</th>
<th>FY-71</th>
<th>FY-72</th>
<th>FY-73*</th>
<th>GOAL FY-73</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nuclear Submarine</td>
<td>33</td>
<td>33</td>
<td>41</td>
<td>47</td>
<td>50</td>
</tr>
<tr>
<td>Pilots</td>
<td>25</td>
<td>27</td>
<td>34</td>
<td>42</td>
<td>52</td>
</tr>
<tr>
<td>Surface</td>
<td>16</td>
<td>17</td>
<td>14</td>
<td>14</td>
<td>30</td>
</tr>
</tbody>
</table>

*Projected

A recent pilot retention study (PRS), undertaken to recommend an Annual Pilot Production Requirement (APPR) (Table 4), would indicate a rather serious shortage of officers against requirements of approximately 700 officers in the 6-1/2-8 year period and the 10-1/2 to 13-1/2 year period. However, more recent studies in process in BuPers (Table 5) indicate that by shifting some billets and reclassifying others no problem emerges until after the eight year point, when a 35 percent retention rate appears, a rate which is lower than that experienced in FY 73.* The same is true about surface warfare officers if certain internal billet adjustments can be made—that is, even with a lower than expected retention rate, the annual flow of officers is sufficient to handle the requirements with minor exceptions throughout a 20 year period and in fact produces a slight surplus in the 6-8 year period (Table 6). Other data show continuation data which would support the annual flow predicted in Table 5.

Table 7, an examination of the length of service of various groups as of June 30, 1973, shows a pattern comparable to the patterns shown in Tables 5 and 6. That is, Tables 5, 6, and 7 indicate that many officers already engage in seven or eight-year careers, and that officer availability for the first 8 years adequately fills naval requirements. From the standpoint of amortization of training and of personnel turbulence, the greater numbers of officers in the first five years of service, compared to those in the 5-8 years of service, seem undesirable. The shaded area suggests that this short-fall is, however, but a small percentage.

*See Pers-B42d-dd/1900/B42/71-73 dated June 21, 1973, entitled "Pilot Retention Study Summary Report, and "Pilot Inventory Management" (Chapter IV of an unnamed BuPers report supplied to Hudson researchers by a BuPers officer), which recommends a "eight to 10 year 'flying-only' contract" plus fringe benefits to prospective naval aviators in order to eliminate 8-year short-fall.
TABLE 4

TOTAL PILOT REQUIREMENTS FY 75
CONDITIONAL MANNING

MANNING AVAILABILITY

NAVAL REQUIREMENTS

YEARS COMMISSIONED SERVICE (YCS)

CDR 16

LCNR 13

LT 7

LTJG 4

ENS 2

500 1000 1500
TABLE 5

AVIATION OFFICER REQUIREMENTS
VERSUS EXPECTED AVAILABILITY
FY 1975

TABLE 6

SURFACE WARFARE OFFICER REQUIREMENTS VERSUS EXPECTED AVAILABILITY
FY 1975

TABLE 7
PERCENTAGE OF TOTAL UNRESTRICTED LINE OFFICERS
BY YEAR GROUP, 30 JUNE 1973
(NUMBERS ROUNDED)

YEARS OF SERVICE
MORE THAN 8
7
6
5
4
3
2
1

PERCENT
60 50 40 30 20 10

Source: Officer Management Simulation Model, Current Inventory, 30 June 1973,
Computer Printout BuPers.
PERCENTAGE OF SELECTED OFFICER GROUPS BY LENGTH OF SERVICE, 30 JUNE 1973

SOURCE: OFFICER MANAGEMENT SIMULATION MODEL, CURRENT INVENTORY
Table 8 shows the same type of data for various categories of officers specialties. In general, but with the notable exception of that of the non-nuclear sub officer, these histograms show a length of service pattern compatible with Tables 5 and 6, indicating availability against requirements even in the current time frame. On balance it appears from the data that the officer community does not require an eight year program to match availability against requirements. The minor imbalances are believed to be of short term nature and are the results either of the prolonged conflict in Southeast Asia with its attendant lengthy deployments and family separations, of war-engendered antipathy (or indifference) to the military among the younger elements of society,* or of domestic economic activity (and in the case of pilots increased airline recruiting). Also contributing is the short-term corrective action taken to fill shortages during the period of the Southeast Asian conflict. The draft, with its stimulation to Navy officer recruiting, undoubtedly accounts for a large part of the resignation rate and the low requirements.

An eight year career would enable the Navy to reduce its APPR for naval aviators. This would undoubtedly be desirable since the pilot training represents a tremendous investment; however, it is believed that current planning in BuPers with a view to reassigning and reevaluating certain aviation billets would reduce the requirement, and that even with lower retention rates than presently desired would satisfy the needs of the Navy in the fiscal year 75 and beyond.

On balance, it seems that an eight-year career for the officer community, while desirable from some points of view, would be of only marginal value in meeting the Navy's needs. According to BuPers officials themselves, the

*See Karsten, loc. cit., and Bachman, loc. cit., (cited on p. 59).
much-feared "shortages" will not exist. Examination of the latest available data tends to support this view.

B. Enlisted Personnel

The situation for enlisted personnel is somewhat different. Table 9, showing the length of service at separation in FY 71 of all the voluntarily separated enlisted men of the Navy, demonstrates that 76 percent were separated with 0-4 years service. An eight year program might enable the Navy to make better use of the training provided by its enlistees. (The enormous imbalance between those with four or less years service and those with service between five and eight years, as shown on Table 3, is largely the result of the short retention of Navy enlisted personnel in the basic ratings such as seamen and firemen. The picture for those ratings is shown in Table 10.)

Table II shows similar data for personnel in the categories considered for possible application of the short career. The data here were from a later year (FY 1972) when the all-Navy picture looked better. However, in nearly every one of the selected ratings there was a large imbalance between the 0-4 year group and the 5-8 year group. An 8-year enlistment program for highly skilled technicians, in whom a considerable training investment is to be made, would appear to be worth considering.

Another good indicator of the value of an 8-year career is the data shown on Table 12, which shows first-term enlistment rates for the ratings under examination. This indicates that in three-fourths of these cases the reenlistment rate is less than the all-Navy rate, and that in two-thirds of these specialties the overall reenlistment rate is less than the overall Navy reenlistment rate. Table 13 shows the average and median length of service of the selected ratings as compared to the all-Navy
# Table 9

## Length of Service (Years) at Separation, All Voluntary Enlisted Separates USN FY 1971 (Percentage)

<table>
<thead>
<tr>
<th>PERCENT</th>
<th>76</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td></td>
</tr>
<tr>
<td>5-8</td>
<td>12</td>
</tr>
<tr>
<td>MORE THAN 8</td>
<td>12</td>
</tr>
</tbody>
</table>

TABLE 10

PERCENTAGE OF SEAMEN AND FIREMEN
IN SELECTED LENGTH OF SERVICE GROUPS

<table>
<thead>
<tr>
<th>YEARS OF SERVICE</th>
<th>SEAMAN (SN)</th>
<th>FIREMAN (FN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>99</td>
<td>98</td>
</tr>
<tr>
<td>4-8</td>
<td>&lt;1</td>
<td>2</td>
</tr>
<tr>
<td>8 or less</td>
<td>1</td>
<td>&lt;1</td>
</tr>
<tr>
<td>over 8</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

TABLE II

PERCENTAGE OF ENLISTED MEN IN SELECTED OCCUPATIONS

<table>
<thead>
<tr>
<th>Occupation</th>
<th>0-4</th>
<th>5-8</th>
<th>Over 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALL NAVY</td>
<td>55</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td>ELECTRONICS WARFARE TECHNICIAN (CEW)</td>
<td>34</td>
<td>18</td>
<td>52</td>
</tr>
<tr>
<td>INSTRUMENTMAN (IM)</td>
<td>61</td>
<td>11</td>
<td>28</td>
</tr>
<tr>
<td>DATA PROCESSING TECHNICIAN (DP)</td>
<td>51</td>
<td>16</td>
<td>33</td>
</tr>
<tr>
<td>RADIONIAN (DM)</td>
<td>58</td>
<td>9</td>
<td>67</td>
</tr>
<tr>
<td>MACHINERY REPAIRMAN (MR)</td>
<td>55</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>AIR CONTROL MAN (AC)</td>
<td>48</td>
<td>13</td>
<td>61</td>
</tr>
</tbody>
</table>

SOURCE: "ENLISTED PERSONNEL ON ACTIVE DUTY (PEBD)," 30 JUNE 1972, COMPUTER PRINTOUT, BuPers.
<table>
<thead>
<tr>
<th>TABLE 11</th>
<th>IN SELECTED LENGTH OF SERVICE (GROUP 5)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPTICAL MAN (OM)</strong></td>
<td></td>
</tr>
<tr>
<td>0-4: 53</td>
<td></td>
</tr>
<tr>
<td>1-4: 12</td>
<td></td>
</tr>
<tr>
<td>5-8: 65</td>
<td></td>
</tr>
<tr>
<td>OVER: 35</td>
<td></td>
</tr>
</tbody>
</table>

| **AVIATION ELECTRICIANS MATE (AE)** |
| 0-4: 44 |
| 5-8: 6 |
| OVER: 26 |

| **ELECTRICIANS MATE (EM)** |
| 1-4: 48 |
| 4-8: 17 |
| 5-8: 65 |
| OVER: 35 |

| **ENGINEER (EN)** |
| 1-4: 41 |
| 4-8: 15 |
| OVER: 56 |

| **AEROGRAPHERS MATE (AG)** |
| 0-4: 42 |
| 5-8: 13 |
| OVER: 55 |

| **CONSTRUCTION ELECTRICIAN (CE)** |
| 0-4: 48 |
| 5-8: 13 |
| OVER: 61 |

| **AVIATION ELECTRICIANS MATE (AE)** |
| 0-4: 44 |
| 5-8: 6 |
| OVER: 26 |

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TABLE 12

FIRST TERM AND OVERALL REENLISTMENT RATES, FY 72, SELECTED RATINGS

* RESULTS NOT TYPICAL: A NEW RATING FY 72

NEW RATING: DATA NOT TYPICAL

### TABLE 13

**AVERAGE AND MEDIAN YEARS OF SERVICE, SELECTED RATINGS, AS OF 30 JUNE 1972**

<table>
<thead>
<tr>
<th>Rate</th>
<th>ALL NAVY MEDIAN (3.4)</th>
<th>ALL NAVY AVERAGE (6.1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW</td>
<td>6.7</td>
<td>7.8</td>
</tr>
<tr>
<td>DS</td>
<td>4.9</td>
<td>5.9</td>
</tr>
<tr>
<td>ET</td>
<td>11.4</td>
<td></td>
</tr>
<tr>
<td>IM</td>
<td>3.4</td>
<td>6.3</td>
</tr>
<tr>
<td>OM</td>
<td>3.0</td>
<td>7.2</td>
</tr>
<tr>
<td>AE</td>
<td>3.5</td>
<td>7.4</td>
</tr>
<tr>
<td>DP</td>
<td>3.9</td>
<td>6.7</td>
</tr>
<tr>
<td>RM</td>
<td>3.5</td>
<td>6.7</td>
</tr>
<tr>
<td>EM</td>
<td>3.5</td>
<td>7.5</td>
</tr>
<tr>
<td>EN</td>
<td>4.3</td>
<td>8.6</td>
</tr>
<tr>
<td>MR</td>
<td>3.7</td>
<td>7.1</td>
</tr>
<tr>
<td>AC</td>
<td>4.3</td>
<td>8.1</td>
</tr>
<tr>
<td>AG</td>
<td>4.6</td>
<td>8.6</td>
</tr>
<tr>
<td>CE</td>
<td>4.2</td>
<td>7.6</td>
</tr>
<tr>
<td>AS</td>
<td>5.2</td>
<td>8.1</td>
</tr>
<tr>
<td>AN</td>
<td>5.2</td>
<td>8.1</td>
</tr>
</tbody>
</table>

**Legend:**
- AVERAGE
- MEDIAN

**Source:** "ENLISTED PERSONNEL ON ACTIVE DUTY (PEBD)," 30 JUNE 1972, COMPUTER PRINTOUT, BUPERS
average and median. This chart suggests that in a majority of cases the 8-year career might raise the length of service in these ratings to a more economical level. The picture presented by Table 13 is not intolerable, but officers responsible for enlisted personnel management in the Bureau of Naval Personnel feel that any increase an 8-year enlistment program might offer would be desirable.

The data presented in the preceding five charts suggest that for the specialties considered an 8-year program would be beneficial to the Navy by allowing a longer retention and increased utilization of costly training. At least one study\(^{9}\) suggests that 4-year enlistees show a greater propensity to reenlist than enlistees with shorter commitments; many of these 4-year enlistees (as well as others who presently find the 4-year enlistment contract insufficient and are consequently not in the service) might prefer an 8-year package.

C. Content of Proposed 8-Year Careers

1. Officers

While we have concluded that there was no urgent requirement for an 8-year career program for officer personnel (or at best a marginal requirement), we nonetheless suggest such careers for pilots, surface warfare officers and nuclear submarine officers. These careers are designed to get the maximum operational benefit from new officers. The flying career is designed for maximum appeal of a "cockpit only" career as a recruiting device for those who are strongly attracted to flying and would prefer an all-flying career to the more rounded training designed to fit individuals

for high rank in the Navy. (An ideal assignment for pilots might be all-fleet duty broken by some sizable shore period for schooling and replacement training.) All three careers would feature attendance at either naval or civilian post-graduate school (or baccalaureate completion if the individual is a Nav-Cad without a degree). This seems to be an essential internal incentive to the acceptance of a longer commitment by the individual. The advanced schooling would also be a welcome break between operational duties, especially in those cases where a second sea tour is required following post-graduate schooling.

The 8-year careers are designed to stress the officer's utilization in operational duties in connection with the Navy's principal missions. It is believed that the ideal short career officer program will not assign this type of officer to non-professional billets, so many of which are required in all the officer communities. Our study supports the current proposals to establish surface warfare officers school at the basic and advanced levels in order further to professionalize the surface warfare officer specialty. Table 14 is a design of the short careers proposed for officers.

2. Enlisted Personnel

Table 15 shows our proposed 8-year career for the ratings chosen. The careers focus on the maximum operational utilization of the enlisted man during his 8-year career; they also provide for the individual's internal incentives to accept the lengthened commitment. Among their features are remedial civilian educational training on government time

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*Table 15 is derived from the Pensacola Naval Training Command’s proposed "Enlisted Professional Navy Career Development Program," a schematic of which appears as Table 151.
### TABLE 14
PROPOSED EIGHT-YEAR CAREERS FOR SELECTED OFFICER GROUPS

<table>
<thead>
<tr>
<th>Years of Service</th>
<th>PILOTS</th>
<th>SURFACE WARFARE OFFICERS</th>
<th>NUCLEAR SUBMARINE OFFICER</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>FLEET OR SHORE FLYING ASSIGNMENT</td>
<td>SHORE DUTY OR SEA DUTY (IF REQUIRED)</td>
<td>SEA DUTY</td>
</tr>
<tr>
<td>7</td>
<td>FLIGHT TRAINING INSTRUCTOR</td>
<td></td>
<td>POST GRADUATE SCHOOL</td>
</tr>
<tr>
<td>6</td>
<td>REPLACEMENT AIR GROUP</td>
<td></td>
<td>NUCLEAR SUBMARINE TRAINING</td>
</tr>
<tr>
<td>5</td>
<td>POST GRADUATE SCHOOL (BACCALAUREATE COMPLETION)*</td>
<td>ADVANCED SURFACE WARFARE OFFICERS SCHOOL**</td>
<td>SEA DUTY</td>
</tr>
<tr>
<td>4</td>
<td>FLEET AIR DUTY</td>
<td>POST GRADUATE SCHOOL</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FLEET AIR DUTY</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>REPLACEMENT AIR GROUP</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>FLIGHT TRAINING</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>**IF ESTABLISHED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>**IF NAW-CD W/O DEGREE</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*IF NAW-CD W/O DEGREE
**IF ESTABLISHED
TABLE 15
PROPOSED EIGHT-YEAR CAREER, SELECTED RATINGS
(LENGTH OF "A" SCHOOLS AND TOURS PROVIDED BY SUPERS)

<table>
<thead>
<tr>
<th>AIR CONTROLMAN (AC)</th>
<th>DATA SYSTEMS TECHNICIAN (DS)</th>
<th>CONSTRUCTION ELECTRICIAN (CE)</th>
<th>AVIATION ANTI-SUBMARINE WARFARE OPERATOR (AV)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SHORE DUTY</strong></td>
<td><strong>TRADE UPGRADE AND SEPARATION</strong></td>
<td><strong>TRADE UPGRADE AND SEPARATION</strong></td>
<td><strong>TRADE UPGRADE AND SEPARATION</strong></td>
</tr>
<tr>
<td>36 MONTHS</td>
<td>E7</td>
<td>E7</td>
<td>E7</td>
</tr>
<tr>
<td><strong>NEW EQUIPMENT SCHOOLS</strong></td>
<td><strong>REMEDIAL OR TRADE UPGRADE</strong></td>
<td><strong>REMEDIAL OR TRADE UPGRADE</strong></td>
<td><strong>REMEDIAL OR TRADE UPGRADE</strong></td>
</tr>
<tr>
<td>E6</td>
<td>E6</td>
<td>E6</td>
<td>E6</td>
</tr>
<tr>
<td><strong>SEA DUTY</strong></td>
<td><strong>SEA DUTY</strong></td>
<td><strong>SEA DUTY</strong></td>
<td><strong>SEA DUTY</strong></td>
</tr>
<tr>
<td>36 MONTHS</td>
<td>42 MONTHS</td>
<td>45 MONTHS</td>
<td>45 MONTHS</td>
</tr>
<tr>
<td><strong>&quot;A&quot; SCHOOL (ACE)</strong></td>
<td><strong>RECRUIT TRAINING</strong></td>
<td><strong>&quot;A&quot; SCHOOL (ACE)</strong></td>
<td><strong>&quot;A&quot; SCHOOL (VAAM)</strong></td>
</tr>
<tr>
<td>E2</td>
<td>E2</td>
<td>E2</td>
<td>E2</td>
</tr>
</tbody>
</table>

*INDICATES LENGTH OF SEA TOUR OR SHORE TOUR IS LESS THAN CURRENT POLICY
<table>
<thead>
<tr>
<th>Years of Service</th>
<th><strong>Ensign (E7)</strong></th>
<th><strong>EM2</strong></th>
<th><strong>EM1</strong></th>
<th>**EM0, *<em>EM1 <strong>(AB)</strong></em></th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td><strong>Engineer's Mate</strong></td>
<td><strong>Machinery Repairman</strong></td>
<td><strong>Engineer</strong></td>
<td><strong>Mechanic</strong></td>
</tr>
<tr>
<td></td>
<td>Trade Upgrade and Separation</td>
<td>Trade Upgrade and Separation</td>
<td>Trade Upgrade and Separation</td>
<td>Trade Upgrade and Separation</td>
</tr>
<tr>
<td></td>
<td>Shore Duty 33 months</td>
<td>New Equipment Schools</td>
<td>Sea Duty 36 months</td>
<td>New Equipment Schools</td>
</tr>
<tr>
<td></td>
<td>Remedial and Trade Upgrade</td>
<td>Remedial and Trade Upgrade</td>
<td>Sea Duty 36 months</td>
<td>Remedial and Trade Upgrade</td>
</tr>
<tr>
<td>1</td>
<td>&quot;A&quot; School (SSA)</td>
<td>&quot;A&quot; School (SSA)</td>
<td>&quot;A&quot; School (SSA)</td>
<td>&quot;A&quot; School (SSA)</td>
</tr>
<tr>
<td></td>
<td>Recruit Training</td>
<td>Recruit Training</td>
<td>Recruit Training</td>
<td>Recruit Training</td>
</tr>
</tbody>
</table>

*Months*
ELECTRONICS WARFARE TECHNICIAN (Ew)

TRADE UPGRADE AND SEPARATION

SHORE DUTY
18 MONTHS

NEW EQUIPMENT SCHOOLS

REMEDIAL SCHOOLING OR TRADE UPGRADE

SEAW DUTY
45 MONTHS

"A" SCHOOL (AEW)

RECRUIT TRAINING

ELECTRONICS TECHNICIAN (ET)

TRADE UPGRADE AND SEPARATION

SHORE DUTY
21 MONTHS

NEW EQUIPMENT SCHOOLS

REMEDIAL SCHOOLING OR TRADE UPGRADE

SEAW DUTY
42 MONTHS

"A" SCHOOL (AET)

RECRUIT TRAINING

INSTRUMENT MAN (IN)

TRADE UPGRADE AND SEPARATION

SHORE DUTY
15 MONTHS

NEW EQUIPMENT SCHOOLS

REMEDIAL SCHOOLING OR TRADE UPGRADE

SEAW DUTY
45 MONTHS

"A" SCHOOL (AIM)

RECRUIT TRAINING

OPTICAL MAN (OM)

TRADE UPGRADE AND SEPARATION

SHORE DUTY
15 MONTHS

NEW EQUIPMENT SCHOOLS

REMEDIAL SCHOOLING OR TRADE UPGRADE

SEAW DUTY
45 MONTHS

"A" SCHOOL (AOE)

RECRUIT TRAINING
at government expense to allow an individual to gain high school equivalency or to take college level training if he already has high school. They also provide a final six-month period to allow the individual to upgrade and modernize his trade skills so that he will have a more salable product in the employment market on separation. There is a mid-career alternative for trade upgrading for those who do not need the remedial training or who can complete it in less than the time allotted. This should benefit the Navy and could be in the form of B schools or modified B schools, allowing the Navy to get a higher quality of duty in the last three and a half years of the individual's service.

All of the careers are based on the length of the A schools. Each of the proposed careers has, as is currently the custom, an initial period of sea duty. The length of this has been governed by the BuPers current policy for initial sea duty tour. In a few cases our recommendations are that the length of this be shortened for two reasons; (1) to increase the attractiveness of the package, and (2) to allow for both the schooling required and some shore duty utilization of the recruit. While there may be some resistance within the Navy to shortening the initial sea duty tour in some of these ratings, to make the package attractive it may be necessary to ensure that the enlistee have an opportunity to experience shore duty.

Time is allowed for new equipment schools prior to the second duty tour for the purpose of updating Navy-usable training.

Guaranteeing the enlistee substantial formal schooling and on-job training is clearly of great importance to the success of any recruitment effort. Recent studies of potential enlistees, enlistees, and veterans all demonstrate the importance of such training (see Tables 16, 17, 18 and 19).
**TABLE 16**

**PAY VS. OTHER INCENTIVES TO ENLIST**

<table>
<thead>
<tr>
<th>INCENTIVE WHICH WOULD INDUCE ENLISTMENT*</th>
<th>PERCENT OF ALL RESPONDENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>More Money/Better Pay</td>
<td>14</td>
</tr>
<tr>
<td>Skills/Job Training</td>
<td>12</td>
</tr>
<tr>
<td>Educational Benefits</td>
<td>9</td>
</tr>
<tr>
<td>Travel</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>INCENTIVE WHICH WOULD EXERT A STRONG INFLUENCE**</th>
<th>PERCENT OF RESPONDENTS WHO &quot;MIGHT ENLIST&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall Benefits, e.g., Pay, Room and Board</td>
<td>24</td>
</tr>
<tr>
<td>To Learn a Trade or Skill</td>
<td>49</td>
</tr>
<tr>
<td>G.I. Bill</td>
<td>19</td>
</tr>
<tr>
<td>Travel</td>
<td>46</td>
</tr>
</tbody>
</table>

*Open-ended question where respondents wrote in their choice.

**Structured question given to respondents who indicated some possibility of enlisting at some time.

TABLE 17

POSITIVE FACTORS AFFECTING THE ENLISTMENT DECISION
OF THOSE MEN WHO HAVE DECIDED TO ENLIST (STUDY I)

<table>
<thead>
<tr>
<th>NAVY FACTORS</th>
<th>PERCENTAGE OF INDIVIDUALS CITING AS A FACTOR (TOTAL N = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Training</td>
<td>75%</td>
</tr>
<tr>
<td>Travel</td>
<td>49</td>
</tr>
<tr>
<td>Educational Benefits</td>
<td>47</td>
</tr>
<tr>
<td>Financial/Security</td>
<td>32</td>
</tr>
<tr>
<td>Maturity</td>
<td>28</td>
</tr>
<tr>
<td>Sea/Ship Image</td>
<td>24</td>
</tr>
<tr>
<td>Draft</td>
<td>19</td>
</tr>
<tr>
<td>Guarantees</td>
<td>19</td>
</tr>
<tr>
<td>Buddy System</td>
<td>6</td>
</tr>
<tr>
<td>Patriotism</td>
<td>4</td>
</tr>
<tr>
<td>Military Life Style</td>
<td>2</td>
</tr>
<tr>
<td>PERSONAL INFLUENCES</td>
<td></td>
</tr>
<tr>
<td>Male Peers</td>
<td>60%</td>
</tr>
<tr>
<td>Father</td>
<td>49</td>
</tr>
<tr>
<td>Mother</td>
<td>45</td>
</tr>
<tr>
<td>Family in Navy</td>
<td>43</td>
</tr>
<tr>
<td>Other Relatives</td>
<td>36</td>
</tr>
<tr>
<td>Recruiter</td>
<td>18</td>
</tr>
<tr>
<td>Female Peers</td>
<td>13</td>
</tr>
</tbody>
</table>

TABLE 18

POSITIVE FACTORS AFFECTING ENLISTMENT DECISION
AS SEEN BY RECRUITERS (STUDY I)

<table>
<thead>
<tr>
<th>NAVY FACTORS</th>
<th>PERCENTAGE OF INDIVIDUALS CITING AS A FACTOR (TOTAL N = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Training</td>
<td>70%</td>
</tr>
<tr>
<td>Educational Benefits</td>
<td>55</td>
</tr>
<tr>
<td>Travel</td>
<td>35</td>
</tr>
<tr>
<td>Financial/Security</td>
<td>30</td>
</tr>
<tr>
<td>Opportunity to Get Away</td>
<td>25</td>
</tr>
<tr>
<td>Opportunity to Mature</td>
<td>5</td>
</tr>
<tr>
<td>PERSONAL INFLUENCES</td>
<td></td>
</tr>
<tr>
<td>Parents</td>
<td>15%</td>
</tr>
<tr>
<td>Peers</td>
<td>15</td>
</tr>
<tr>
<td>Relatives</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Same as in Table 17, p. 39.
TABLE 19

ASPECTS ENJOYED MOST ABOUT ARMED SERVICE

"What did you like most about your service experience?"

<table>
<thead>
<tr>
<th>Aspect</th>
<th>TOTAL</th>
<th>WWII</th>
<th>KOREA</th>
<th>VIETNAM</th>
<th>IN COLLEGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel</td>
<td>43</td>
<td>42</td>
<td>47</td>
<td>38</td>
<td>33</td>
</tr>
<tr>
<td>Comradeship/friendships</td>
<td>15</td>
<td>15</td>
<td>14</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>Satisfaction of serving my country/patriotism</td>
<td>7</td>
<td>8</td>
<td>5</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Training/education</td>
<td>7</td>
<td>7</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>I liked my job/work</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>11</td>
<td>15</td>
</tr>
<tr>
<td>Nothing/none/didn't like it</td>
<td>6</td>
<td>7</td>
<td>4</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Getting discharged</td>
<td>5</td>
<td>6</td>
<td>4</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Character development/self-confidence</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>The general experience</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Developed sense of responsibility</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

*Open, free-response question

It is also important, as these tables suggest, to maximize the degree to which one can guarantee location and unit, and this is deemed a central feature of our 8-year career designs. Location should be guaranteed the 8-year career candidate as a recruiting incentive.

The hope of advancing to high petty officer rate should be continuously available to the recruit, and the normal progression, as shown on the career layout, should be pointed out to him during the recruiting process.

Further study might indicate other naval fields in which the 8-year career would be applicable, both from the standpoint of its desirability for the Navy and for its applicability to lateral transfer to the individual's civilian career. Examining these candidate careers has indicated the feasibility for the Navy of profitably utilizing such a program.

D. Costs of the 8-year Career

Table 20 displays the average per capita training costs of A and C school training programs for the ratings under analysis, and indicates the obvious—that amortization of these training costs for 8 rather than 4 year career patterns appears to save money. What must be added to the picture, however, is the differential in salaries paid to those serving 8, and those serving for only 4 years. Assuming that the enlistee spends 6 months in pay grades E-1 and E-2, 6 to 12 months in grade E-3, 12 to 24 months in grade E-4, and 24-36 months in pay grade E-5, the average annual salary of a 4-year-only enlistee would be about $6,825.00, while the average annual salary of an 8-year career person would be about $8,300.00, a difference of about $1,500.00 per year.* Only 2 of our ratings, EW and

<table>
<thead>
<tr>
<th>RATE</th>
<th>A. ESTIMATED PER CAPITA TRAINING COSTS FOR A&amp;C SCHOOLS, FY 74</th>
<th>B. ANNUAL PER CAPITA TRAINING COST 4 YR. CAREERS</th>
<th>C. ANNUAL PER CAPITA TRAINING COSTS 8 YR. CAREERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>EW</td>
<td>15715</td>
<td>3929</td>
<td>1964</td>
</tr>
<tr>
<td>DS</td>
<td>2648</td>
<td>662</td>
<td>331</td>
</tr>
<tr>
<td>IM</td>
<td>4780</td>
<td>1195</td>
<td>596</td>
</tr>
<tr>
<td>OM</td>
<td>2375</td>
<td>594</td>
<td>297</td>
</tr>
<tr>
<td>DP</td>
<td>1260</td>
<td>315</td>
<td>158</td>
</tr>
<tr>
<td>RM</td>
<td>2665</td>
<td>666</td>
<td>333</td>
</tr>
<tr>
<td>EM</td>
<td>2400</td>
<td>600</td>
<td>300</td>
</tr>
<tr>
<td>EN</td>
<td>1525</td>
<td>381</td>
<td>191</td>
</tr>
<tr>
<td>MR</td>
<td>1860</td>
<td>465</td>
<td>233</td>
</tr>
<tr>
<td>AC</td>
<td>12045</td>
<td>3011</td>
<td>1506</td>
</tr>
<tr>
<td>AE</td>
<td>7360</td>
<td>1840</td>
<td>920</td>
</tr>
<tr>
<td>AG</td>
<td>4915</td>
<td>1229</td>
<td>614</td>
</tr>
<tr>
<td>AW</td>
<td>5205</td>
<td>1301</td>
<td>651</td>
</tr>
<tr>
<td>CE</td>
<td>6245</td>
<td>1561</td>
<td>781</td>
</tr>
</tbody>
</table>

Note: Per capita training costs include:

- Military and civilian instructor salaries
- Training materials
- Maintenance and repair of buildings
- Logistics support
- Military travel

SOURCE: Fred Mann, Naval Training Command, Pensacola, Florida.
AC, have average annual per capita cost differentials for the 4 and 8 year patterns of over $1,500.00. For all others a single 8-year career person would therefore appear to cost more than 2 4-year enlistees, when only training costs and salaries are considered. If the proposed 8-year career separation bonus (see below) is factored in, the 8-year career program would appear to be slightly more expensive than 2 comparable 4-year-only enlistments, except for extremely expensive officer pilot training programs. But the costs may still be deemed necessary if enlistments drop off. Moreover, an 8-year career person is presumed to be worth the increase in salary for the latter 4 years of his career. That is, the higher cost of the 8-year program is presumed to purchase a higher quality of service.

E. Incentives for the 8-year Career

The discussion in the previous section covered the incentives internal to the 8-year career which are principally location guarantees, on-duty education, and the development of a salable trade or skill useful in making the transition to the civilian sector. In addition to these incentives, external incentives are essential to make the program attractive and to distinguish it from the normal recruitment offer. One possible incentive might be the payment of a large separation bonus to enable the "graduate" of the short career to found a small business (such as a TV repair business), to buy a home, or to make an investment which would provide security as he entered a salaried civilian career. To be competitive with the four-year enlistment with its selective ("variable") reenlistment bonus feature, this sum would have to be quite large since under present policies many enlisted men gain reenlistment bonuses of up
to $8,000. Otherwise an enlistee would tend to ignore the eight-year commitment in favor of accepting the four-year commitment; he would prefer to see how he likes the Navy before committing himself for a second four years. This poses a dilemma since a very high terminal bonus would offset the savings expected to be achieved by the institution of the eight-year system. If the Navy were to abandon the selective reenlistment bonus in favor of the separation bonus, many four-year enlistees would fail to reenlist, again with losses offsetting the potential gains of the eight-year system. It would seem that an 8-year separation bonus would have to be set perhaps 20-25 percent higher than the selective reenlistment bonus in order to attract recruits (many of whom would probably "re-up" after 4 anyway) to the 8-year package.

Part of the separation bonus might well be established as a deferred annuity payable at age 60 or some similar age, and might be used to appeal to the desire of certain individuals to attain ultimate security for their old age. Studies have shown that few young men are particularly concerned about this point at enlistment time. However, for those who are, this option might prove attractive.

Another alternative or possibly one which could be used in combination with the first might be the use of an enlistment bonus similar to the combat arms enlistment bonus (CAEB) paid to Army and Marine Corps enlistees going into combat MOS's. This system was tried as an experiment since June 1972, but it does not appear to have been effective.*

Presumably, however, these high-skill career fields we have been discussing would be more attractive to many potential enlistees than the combat arms. Consequently, the results of the Army/Marine Corps experiment may not have a close correlation to possible Navy experience under a similar system.

Another option might be an improved GI Bill for eight-year men with the GI Bill entitlement for shorter terms remaining roughly as at the present time. A differential GI Bill for the eight-year men might well prove attractive.

For officers it is believed that the separation bonus should be the main feature of the incentive package.

F. Legislative Aspects of the Incentive Package

There are two pieces of legislation pending before Congress which have applicability to the proposals made in this study. They are: (1) the uniformed services special pay bill, and (2) a non-disability retirement bill.

The uniformed services special pay bill has a number of provisions bearing on the 8-year proposal. It contains a flexible enlistment bonus comparable to the combat arms enlistment bonus currently authorized for experiment, and it eliminates automatic reenlistment bonuses thereby enabling the Secretary of the Navy to apply the reenlistment bonus to certain skills in short supply. This provision would have obvious application to an enlistment bonus for the 8-year career. Another feature alters the variable reenlistment bonus. The amount of the bonus payment would vary depending on the severity of the retention problem, and the particular skill, and members who reenlist in the skill when no shortage
exists would receive no selective reenlistment bonus. As the Navy's present allocation of variable reenlistment bonuses (and, for that matter, the Navy's present allocation of proficiency (pro) pay has recently been shown to be out of synchronization with actual Navy needs (represented in Table 21 by low career manning ratios), a change of the rules would appear appropriate. If this extremely sensible provision is enacted, reenlistment bonuses could be held down for normal four-year enlistees and these monies might then be shifted into a separation bonus which could be offered as a part of the eight-year package. Another feature is an officer-continuation payment, which is an expansion of an idea used in the nuclear force. Again, this bonus could be shifted to the end of the eight-year period and perhaps "sweetened" to make it a more attractive package. The legislation would have to be "fine-tuned," either during the current consideration of the legislation or later, after an eight-year program was implemented. However, since the precedents would seem to be well established if a bill is enacted, great difficulty is not foreseen in later refinement of the legislation.

The other pending bill of interest is a non-disability retirement bill which has a number of features applicable to this proposal. The basic feature of the non-disability retirement bill is to divert personnel from less efficient 20-year retirement patterns and to encourage them to serve a full 30 years, while providing equity payments or deferred annuities to those leaving the service prior to the completion of careers. One of the provisions of the bill is that a voluntary separatee with ten or more years' service would be eligible for an equity payment. An involuntary separatee with five or more years of service would be eligible
**TABLE 21**

PERCENT OF RATINGS WITH LOW CAREER MANNING RATIOS (CMR), WITH A VARIABLE REENLISTMENT BONUS (VRB), AND WITH PROFICIENCY PAY (PRO PAY) BY DOD OCCUPATION GROUP, 1971

<table>
<thead>
<tr>
<th>DOD GROUP</th>
<th>PERCENT OF RATINGS IN DOD GROUP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LOW CMR</td>
</tr>
<tr>
<td>Electronics equipment repairmen (11)</td>
<td>82</td>
</tr>
<tr>
<td>Communication and intelligence specialists (6)</td>
<td>83</td>
</tr>
<tr>
<td>Medical and dental specialists (2)</td>
<td>50</td>
</tr>
<tr>
<td>Other technical and allied specialists (5)</td>
<td>100</td>
</tr>
<tr>
<td>Administrative specialists and clerks (9)</td>
<td>56</td>
</tr>
<tr>
<td>Electrical/mechanical equipment repairmen (17)</td>
<td>76</td>
</tr>
<tr>
<td>Craftsmen (12)</td>
<td>75</td>
</tr>
<tr>
<td>Service and supply handlers (4)</td>
<td>0</td>
</tr>
</tbody>
</table>

a/Number of different ratings in each DOD group shown in parentheses. 
b/Percent of ratings with a career manning code of A or B. 
c/Percent of ratings providing a Variable Reenlistment Bonus. 
d/Percent of ratings providing Proficiency Pay.

for a readjustment payment equal to 5 percent of annual basic pay plus an equity payment. In this case the individual could elect an equity payment in the form of a deferred annuity at age 60, or an additional payment of 5 percent of his final annual basic pay times the number of years service. Under current pay scales, an E-5 separating after eight years would get approximately $8,000 if he elected to take all his entitlements in cash. However, this applies under the current conditions to an involuntary separatee, the voluntary separatee being held to ten years' service. The voluntary separatee would not be eligible to receive an equity payment until ten years of service, and this equity payment would be a deferred annuity at age 60. Some change in the non-disability retirement bill would be required to implement a separation bonus if it was felt necessary to proceed under this bill rather than the Special Pay bill.

These trends in compensation schemes do not fit precisely the proposed incentive package for the 8-year career, but they would provide a precedence that would facilitate future modifications of such legislation in order to permit this type of package to be offered to enlistees. All of the features of the pay incentives are available either in existing legislation or the proposed bills, and at the time of implementation proposals for legislative modification could be forwarded to Congress.

One other point is that in order to get such legislative provisions out of the Department of Defense, it might be necessary to secure the concurrence of other services either to a uniform 8-year program for all the services or to the Navy's adopting one by itself. Whether or not this type of concurrence could be obtained has not been examined in this study.
During the course of the study contacts were made with representatives of various labor unions to discuss lateral transfer and our notion of "short careers." The basic purpose of the discussions was to ascertain the reaction of labor organizations to such programs—to determine to what degree the unions would be willing to cooperate in terms of accepting people into the unions who came out of the Navy with short-term careers, and to gage their reaction to the lateral transfer concept where it might involve members of labor unions.

Union officials whom we visited included Reginald Newell, Associate Director of Research for the International Association of Machinists and Aerospace Workers, Alex Bauer, Administrative Assistant to the President of this same union, Robert Crum of the Federal Employees of the International Brotherhood of Electrical Workers, and Kenneth Edwards, Director of the Skill Improvement Training Department of I.B.E.W. (The I.A.M.A.W. and I.B.E.W. constitute prime job markets for Navy veterans.)

Labor and the Short Career

Among the individuals contacted was Charles E. Bradford, Assistant Director of the Human Resources Development Institute at the AFL-CIO Headquarters in Washington. Mr. Bradford, whose work at HRDI involves job development and placement, manpower planning, building trades programs, veterans assistance programs, and the like, explained that HRDI cooperates with Job Opportunities in the Business Sector (JOBS). Of the various functions performed by HRDI, the Veterans Assistance Program is most germane to the present study. Its function is to help vets leaving the service find
jobs. With a headquarters in Oakland, California, it operates through fifty-two HRDI offices throughout the country. Last year, the program succeeded in placing over 2,300 veterans in jobs. To date, they have placed some 9,000 returning veterans. Many of the veterans processed by the Veterans Assistance Program are non-union. Such individuals, who have obtained or acquired training in service which would make them eligible for union membership are assisted first in obtaining such membership and then in obtaining work.

The apprenticeship credit which unions offer such individuals will vary with geographic location, the crafts concerned, etc. In this regard some geographical areas are better than others. Mr. Bradford made the point, as have others with whom we spoke, that in most cases membership in the unions is handled at the local level. The local union membership board, which often meets with members of management of the companies with whom it deals, makes the determination on an individual basis as to whether or not the individual applying for membership meets the requirements for membership, if so as to what degree, how much credit will be extended the individual in lieu of having worked under the union apprenticeship program, and what his status will be—that is, will he be qualified as a journeyman or classified as an apprentice. In most cases, people coming out of the service with no prior union experience, will be brought in as apprentices. In such cases, however, the individuals can and generally do receive credit for the time they spent in service working at the trade for which they are applying. For example, if the apprenticeship for a carpenter's union should be 4,000 man hours, and a veteran has worked for 2,000 man hours in service at his trade, he can and generally will be extended credit for those 2,000 hours and will have to complete the other 2,000 on
the job prior to reaching journeyman status. With regard to the Navy's short career program, Bradford stated that the unions would be very willing to cooperate fully with the Navy concerning placement of the individuals when they complete their careers and return to civilian status. The unions would also be very happy to sit down with the Navy and plan training programs for such persons to increase their qualification for union membership upon release from active duty. Bradford indicated that the unions would be glad to provide union instructors, in fact, for such Navy training programs, wherever the Navy might wish to utilize them. He felt that under the veterans assistance program presently in existence, the mechanism exists for the processing of Navy short-career (or other) persons and he is sure that no problems would be involved in arranging with the Navy for whatever joint cooperation might be required.

AFL-CIO officials noted that the Veterans Assistance Program maintains records of job openings across the country. These records are maintained on an up-to-date basis and are used in the placement of veterans coming out of the service. Thus the unions have access to job data which is not available through other channels such as employment agencies.

I.A.M.A.W. and I.B.E.W. officials said that in addition to (or instead of) contacting HRDI's Veterans Assistance Program, the Navy veteran seeking union membership can (as he presently often does) approach the union directly. In fact if he is only interested in a particular trade, this may be the better route. Some unions, like the International Brotherhood of Electrical Workers, apparently have a more centralized coordination of apprenticeship programs, along with ways of processing requests for membership applications, than other unions like the International Association of
Machinists and Aerospace Workers, who use a more decentralized process, but in all cases the naval applicants are eventually referred to local union business representatives, local union apprenticeship program directors, or local union membership committees. The primary difference from the point of view of the Navy Bureau of Personnel in their efforts to help the Navy man who is about to leave the service, would be that in the case of the Machinists Union, BuPers would initially have to contact nine regional vice-presidents and/or their Grand Lodge representatives in charge of apprenticeship programs. The union officials with whom we spoke all expressed a desire to help such naval applicants; they all agreed that the Navy could help such applicants by taking the following steps:

1. Advise all petty officers leaving the service that they must specify the areas of the country where they are interested in working and the types of work they would like when applying to unions. Some areas have an excess of carpenters, machinists, maintenance electricians, etc., while other areas have dire shortages. By indicating preferences, the job-seeker enables the union HQ's (or HRDI's VAP) to direct the applicant to areas or trades where union membership will be relatively easy to obtain, and away from areas or trades where it will be difficult to obtain.

2. Advise all petty officers leaving the service that they should ask unions to give them apprenticeship credit for their service-acquired experience and expertise, and to request for and read local "Apprenticeship and Training Standards." (Indeed, some 2nd class, 1st class, and chiefs with sufficient experience [over 4 years] should ask to be given full journeyman status). Many separated petty officers do not ask for such credit; the unions cannot give credit unless it is requested.

3. Provide all petty officers leaving the service with their practical factors check-off forms, their school certificates, and a one- or two-page resume-recommendation letter, prepared by their CPO or division officer, which specifies their areas of expertise and their job and supervisory experience.

Items 2 and 3 above are quite important, particularly for unions covering the more specialized types of work in the civilian sector. The requirements
vary from union to union, and from one type of work to another. For example, the more general type of machinist's work seems to be covered fairly well in the present Navy job description. A man coming out of the service with the type of experience indicated there could be accepted into the machinists union at the apprenticeship or journeyman level, depending on how much experience he had. In fact, it is written into the constitution of the International Association of Machinists and Aerospace Workers that comparable experience in other jobs or in the military will be applied to the level of employment of a new member as he comes on the job. But it was not as clear that the descriptions as they now stand (or the actual experience in the Navy) would necessarily meet the requirements for certain jobs covered by the International Brotherhood of Electrical Workers. This union has a membership comprised of 675 active job descriptions. It has 394 apprenticeship programs covering 4 years of study active in the United States today, with about 100 full-time apprentices per program. It includes jobs in electronics manufacturing, maintenance work, and electrical workers in building construction, to name but a few. In the construction side of that union (that is, electrical workers used in building construction), there are between 14 and 16 applicants for each apprenticeship job today. One hundred seventy-one apprenticeship openings in Chicago this year brought out 6,000 applicants, for example. In the 20 percent of its jobs which require formalized training, this union obviously covers some jobs that are in great demand. The reason is obvious, when one considers that an electrical worker in the construction industry makes as much as $14. an hour, and apprentices make anywhere from $4.50 to $7. an hour. This is an important union to deal with on the construction side because it works
out of the hiring halls. In other words, the union actually runs the apprenticeship programs, and the requests for electrical workers come into the union hiring hall, which supplies the men as the construction jobs require.

The importance of a union is not limited to the "hiring hall" type of operation, however, where the union comes first and the industry second. Unions are also important in the type of operation where the industry runs the apprenticeship programs. The union is still important because it is aware of what is needed on the job, and oftentimes companies will accept the union recommendations about what apprentices should do and who should be hired. Industry often has no reason to argue with them over these recommendations and will normally accept them. Many large manufacturing and utilities industries follow this process. Navy electricians may well find that they fit the requirements for maintenance electricians in large industrial and utilities companies quite well, where the companies themselves run the apprenticeship programs.

Clearly it is important that there be coordination between the Bureau of Naval Personnel in the Navy and the unions as well as industry, and careful attention to detail when the job descriptions and recommendations mentioned in Item 3 above are being drawn up. Furthermore, regarding Item 2 above, it would be beneficial for BuPers to deal closely with the unions to draw up clear, specific recommendations to veterans as to how they should request credit, and how much credit each should claim for his Navy experience, when he is about to take a specific job and join a union. It should always be kept in mind that information such as that mentioned above must be meaningful to very busy men at the union local level. In fact if the Navy would
coordinate with national and regional headquarters, it might even be possible to get circulars sent to locals from these headquarters to expedite the utilization of such information there.

This coordination with unions as well as industry would seem well advised not only because it could avoid problems later on when a young man begins work, but because the unions have such a central file of important information, such as the thousands of job descriptions, which might be difficult to gather industry by industry. It is also apparent that if union cooperation is sought initially, their attitude about the entire program would be much better than if they were brought in after the programs were well under way. The criticisms we heard of Project Transition in the services from union people give the impression that had union officials been involved earlier, some of the problems with Project Transition might have been avoided. Instances of no credit being given by unions for in-service training were brought to light by union execs, who want to avoid this in the future.

This is not to say that there was excessive criticism of service training programs or that much of this training was not applicable to positions in civilian life. But it seems clear that closer cooperation with the unions in describing the experience (or even in setting up the training) of service personnel would benefit the discharged veteran considerably in many cases, particularly since union people said they would be "delighted" to become involved in such cooperation.

**Labor and Lateral Transfer**

With regard to lateral transfer, Mr. Bradford and Michael Arnold of HRDI, as well as the other union representatives of individual unions
with whom we spoke, all made the point that unions would be quite willing
to cooperate with the Navy and with industry in arranging for lateral
transfer of union members from industry to the Navy with the provision that
the union locals concerned be brought into the discussions at the beginning.
We suspect that if management and the Navy meet and make arrangements for
such lateral transfer and, after reaching agreement, notify the unions of
their decision, the unions will prove to be uncooperative. The AFL-CIO
position is that they will cooperate with any and all such programs pro-
vided the programs are created in good faith and that they are included
in all discussions.

With regard to the question of the standing of union members in their
own local unions during and following participation in a lateral transfer
program, some union officials felt that existing laws governing military
service for persons drafted or called up for reserves might be applicable
in this situation. Such laws require that the unions permit such individuals
to retain their seniority in their locals, and their jobs in industry. Some
union officials felt that the same regulations should apply to individuals
involved in a lateral transfer program and that their positions both on the
job and in their unions would thus be protected. Others felt that this
might not be possible. The problem of seniority for union members is
comparable to that of young executives fearful of getting out of step with
career promotion patterns. Union workers acquire local seniority numbers
based on the time spent working as a union member; dropping out for a year
or 18 months to take the family to sunny Guantanamo as a lateral transfer
chief machinist's mate might result in one's loss of local seniority, as
those with less seniority earn more local union employment time and pass the
lateral transfers by.
The problem with the seniority issue is the question of injustice to the other union members who stay behind on the job. Unions, however, have traditionally tended to be patriotic and very lenient with those members who are felt to be making sacrifices for their country.*

One union official suggested that many union officials are themselves qualified to fill naval commissioned (or warrant) officer billets (in administration, training, etc.) and that unions should therefore be included among those companies approached if the Navy adopts a lateral transfer program. Given the general tendency, which Seymour Lipset has frequently commented on, for American union leadership to seek to adopt the kinds of managerial and administrative mores of their industrial counterparts, we feel that the Navy might find some union execs a ready, willing, and able (if possibly status-motivated) pool of potential lateral transfer officers.

*For example, the railroad operating brotherhoods allowed their members in the service during World War II (including those who "snaked" in from high priority, draft-exempt jobs) to keep their seniority and roster numbers not only while in the service, but also while they attended school under GI Bill provisions. Such men could, and did, return, "bump" a job during the summer, and leave again in the fall with full seniority rights to take a job which their roster numbers entitled them to later on.
APPENDIX A

COMPANY: Bethlehem Steel

LEVEL OF CONTACT: Vice President, and Manager of Industrial Relations

SUMMARY OF DISCUSSION: Bethlehem has provisions for salaried people to take leave for periods of up to two years for government service. Individuals requesting such leave are subject to approval by their department heads and subsequently up the line. Criteria for participation would include acquisition of experience not otherwise obtainable, and the ability of the company to spare the individual for the period of service. Among the questions raised where the status of people in such a program in a national emergency; whether the Navy would reimburse the company for any salary the company paid the individual, whether the Navy would pay relocation costs both ways. Bethlehem is not interested in taking Navy people into the company but indicated they would participate in a company-to-Navy exchange program.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): Willingness of the people to participate and right to recall people in emergency.

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Negative
COMPANY: American Airlines

LEVEL OF CONTACT: Director of Corporate Organization

SUMMARY OF DISCUSSION: American Airlines was extremely receptive to the basic concept, subject to their ability to provide the requisite people when the Navy needed them. They felt that the program as postulated was perfectly straightforward and is a concept now being practiced by other areas in the Federal government. They have recently participated in a cross transfer of personnel between government and industry, presumably the President's Interchange Program. It would appear that American will participate to whatever degree possible in any program which may develop.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated beyond availability of people.

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive
Navy-to-Industry: Positive
COMPANY: Columbia Gas

LEVEL OF CONTACT: Vice President, Corporate Planning

SUMMARY OF DISCUSSION: Columbia Gas takes a very negative view of all such programs. They do not see any possibility of company participation. Their position may be summarized as follows: 1) Business community does not receive any lasting benefits from such a program; 2) If the Navy does its job properly it won't need outside help; and 3) In their view it is not a workable plan. It appears that Columbia will not be swayed in their position but a suitable program might make them change their approach.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative
Navy-to-Industry: Negative
COMPANY: Ford Motor Company

LEVEL OF CONTACT: Corporate Planning

SUMMARY OF DISCUSSION: Initially, Ford reaction was very negative. The feeling was that Ford people participating in such a program would gravely risk their careers at Ford by losing their position in the pecking order. This was seen to be essentially a kiss of death to a company career. Follow on conversation, however, indicated Ford could be interested in such a program but actual delivery of personnel might never be accomplished since they thought it was not too likely that requirements and available qualified people would be matched up. They cited a critical shortage in engineering and other areas of Navy interest. They were, however, more optimistic than they started out being.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated.

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Conditionally positive

Navy-to-Industry: Conditionally positive
COMPANY: Exxon

LEVEL OF CONTACT: Vice President, Personnel

SUMMARY OF DISCUSSION: Exxon is not interested in participation in such a program either way. Follow on discussion elicited a similar position. Exxon feels that the program offers nothing to the company or to its employees. They stated that they would cooperate with the Navy in any manner indicated in times of national emergency or war, but do not feel they would be able to participate otherwise.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): National emergency or war

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-Industry: Negative
COMPANY: AT&T

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Initially favorably inclined but sees possible conflict with the President's Executive Exchange Program. Subsequent position was more cautious. Bell Systems is mainly interested in career development for their personnel and it was not clear that a Navy program such as postulated would be useful in that regard. They also foresee the possibility of union problems. The company at this point is not convinced that providing such services to the Navy would result in a real return to the company. In war-time, however, this would not be an issue. With regard to Navy people entering AT&T, there is no objection to this. It was stated that a mix of technical and general managerial types would be very useful. AT&T does not rule out participation in either aspect of the program but further discussion would be required regarding specifics of such participation.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Conditionally positive

Navy-to-Industry: Positive
COMPANY: Western Electric

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Initially, Western Electric appeared friendly and cooperative. However, they have had negative experiences with loan programs to New York City and to New York State during which the personnel concerned were not used in the manner that had been indicated. As a result, they are reluctant to consider participation in another exchange program. It would appear, however, that they would be more receptive if approached with an actual program which contained guarantees which would make it acceptable to them.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-Industry: Negative
COMPANY: Consolidated Edison

LEVEL OF CONTACT: Vice President, Employee Relations

SUMMARY OF DISCUSSION: Con Ed engages presently in exchange programs with various government and civilian operations. The company has a high regard for the Navy and would probably support any exchange program to whatever degree possible. The initial discussions were quite positive, but follow on discussions after company review were less so. In sum, at this time Con Ed could provide training to Naval personnel in an exchange program but doubts that its own people would ask for a tour in the Navy. With regard to the Petty Officer Exchange Program, it was stated that union agreements would preclude participation. Despite the rather negative reaction to an industry-to-Navy exchange program, Con Ed has some areas in common with the Navy, particularly in the field of nuclear power generation, and it seems probable that they would in fact participate in a two-way exchange if the proper program were to be offered.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): The Navy having need, and their people willing to go.

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative
Navy-to-Industry: Positive
COMPANY: Bell Laboratories - Defense Space Group

LEVEL OF CONTACT: Director

SUMMARY OF DISCUSSION: The Defense Space Group in general would be interested in an exchange program of some sort. The one discussed was individuals coming into the Navy and assuming Navy ranks. This, the Director believes, would be illegal if it entailed any form of government reimbursement of industry. In general, the defense space group would like to pursue the subject when a firm program has been established.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:
- Industry-to-Navy: Positive
- Navy-to-Industry: Positive
COMPANY: Polaroid Corp.

LEVEL OF CONTACT: Operations Manager

SUMMARY OF DISCUSSION: Polaroid was very receptive to the program and stated that it would participate both ways, subject to the availability of people within the company at the time the request was made. The only other condition which Polaroid attached to participate was that they be given sufficient lead time to enable them to select people or to prepare to receive Naval personnel. In this instance, sufficient lead time was specified as six months.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): Six months advance notice and willingness of individual to participate.

STATED POSITIV RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Very positive

Navy-to-Industry: Very positive
COMPANY: Grumman Aerospace

LEVEL OF CONTACT: Director of Advanced Planning, Deputy Director of Service Department, Member of Advanced Systems Group

SUMMARY OF DISCUSSION: Grumman foresees no particular problem in participating in either Industry-to-Navy program or Navy-to-industry program. At the present time Grumman has people with NASA and with the Navy Aviation Engineering Service Unit, operating from Philadelphia. They are most interested in cooperating with the Navy in any type of exchange program which might evolve.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive
Navy-to-Industry: Positive
COMPANY: General Foods

LEVEL OF CONTACT: Vice President, Director of Personnel

SUMMARY OF DISCUSSION: General Foods has participated in other government exchange programs and would do so here, circumstances and personnel strength permitting. They could not, however, guarantee delivery of a body on request, since at the moment they are experiencing severe personnel shortages in many critical areas. They would, however, be quite happy to participate at some future time when their personnel situation is less critical. In general, reception was quite favorable and General Foods will probably participate in any program which might evolve.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): Availability of personnel at time of request.

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: Olin Industries

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Very negative reaction to either Navy-to-Industry or Industry-to-Navy exchange. It was stated that Olin has problems with internal transfers and would not contemplate participation in such a program, particularly with the armed services. There is a distinct possibility, however, that further discussion in other areas of the company would result in more positive reactions. At the moment, however, Olin must be considered a negative factor.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

- **Industry-to-Navy:** Negative
- **Navy-to-Industry:** Negative
COMPANY: Bechtel Corporation

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Bechtel is presently engaging in the President's Executive Exchange Program. In principle, there appears to be no problem in participating in a Navy program. It was suggested that a good approach to Bechtel would be to request specific individuals within the company for such a program, since otherwise people selected by the company might feel that they were considered dead wood or otherwise held in low regard. It was also suggested that the Navy approach the company at a high level to discuss specific programs. In general, Bechtel is quite interested in such a program and would probably participate when and if approached.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: Chemical Bank

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Chemical Bank states that it has no interest in such a program due to personnel shortages at the moment and also due to inability to find a parallel between banking operations and Navy operations.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-Industry: Negative
COMPANY: Westinghouse

LEVEL OF CONTACT: Vice President, and Personnel Director

SUMMARY OF DISCUSSION: In general, Westinghouse is favorably disposed toward an industry-to-Navy exchange program. It is presently engaging in such programs with other government agencies, although would not specify which. They foresee a possibility of problems with regard to compensation, but believe that these would not necessarily be serious. With regard to Navy-to-Industry, Westinghouse is very much opposed. It was stated that this could not be made to work at Westinghouse, primarily because it would involve too much trouble to try and find billets which the Navy personnel could usefully fill in the company for such a time period.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

- Industry-to-Navy: Positive
- Navy-to-Industry: Negative
COMPANY: Eastman Kodak

LEVEL OF CONTACT: Vice President, and Personnel Director

SUMMARY OF DISCUSSION: Initial discussions were rather negative. Eastman Kodak has not been able to find much use for government exchange programs, it was stated. Proprietary areas in the company must be protected, which tends to negate participation by the company. Further discussion, however, resulted in a shift of position to the point that it was stated that Eastman Kodak would probably be willing to participate on a small scale or individual basis. It developed subsequently that Eastman Kodak is at the present time engaged in the Air Force Exchange Program so that there is a precedent within the company. It would appear that Eastman Kodak would in fact go along with an Industry-to-Navy exchange program. They state however that they would not go along with a Navy-to-industry program primarily because of their fear of proprietary disclosures. Since they are engaged in the Air Force Exchange Program, it seems reasonable to believe that they would also cooperate in a similar Navy program. For the record however, they say they will not.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Negative
COMPANY: First National City Bank

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Initial discussions seemed rather favorable, but follow on discussions were less so. Following the initial meeting the idea was explored at different levels of the bank and the general consensus seemed to be that there would be no interest on the part of the bank in such a program. First National City does participate in other exchange programs, however, but they seem to feel that the remoteness of Navy requirements from their field of expertise would preclude their participation in the Navy program. There is a sense, however, that they could change their position if presented with a specific program.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None Stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative
Navy-to-Industry: Negative
COMPANY: The Mitre Corporation

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Mitre would be willing to participate in a program on an informal basis, i.e. they would respond to individual Navy requests where feasible. They would not be interested in formal participation in a structured program particularly where such participation in effect committed Mitre to provide people on request. Mitre presently participates in other government exchange programs where and as able and would do so in a Navy program subject to the stated caveats.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): Availability of personnel at time of request.

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive (conditionally)

Navy-to-Industry: Positive (conditionally)
COMPANY: The Insurance Company of North America

LEVEL OF CONTACT: Vice President, and
Vice President, Marketing

SUMMARY OF DISCUSSION: INA might be interested in participation in an exchange program. The principle determinant of such participation would be the availability of suitable people at the time of the Navy request. It was felt that if the people could be used by the Navy in their home area, that is they did not have to relocate, company participation would be much more likely, since in the course of a normal career at INA the people are required to move quite a bit and one more move would not sit too well in many cases. With regard to Navy personnel entering the company they felt that the proper individuals could indeed be useful and that they have several areas where a one-year assignment would be quite appropriate. It would appear that INA will cooperate with some form of exchange program, depending upon the situation within the company at the time of the request.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: Eaton Corporation

LEVEL OF CONTACT: Vice President, and
Vice President Employee Relations

SUMMARY OF DISCUSSION: In general, the Eaton Corporation is favorably inclined toward an exchange program. There are some doubts, however as to the interest in participation of individuals within the company. Primarily, it is felt that the available Navy assignments would have to be both interesting and likely to enhance the individual’s career in the company if much interest were to be sparked among their people. The company would participate however, subject to the willingness of the employees at the time of the request.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: LTV

LEVEL OF CONTACT: Assistant to the Board Chairman, and Vice President, Administration

SUMMARY OF DISCUSSION: LTV has participated in exchange programs with the Air Force and would certainly do so with the Navy. They see no basic problems with the concept and feel that it could be beneficial to both the Navy and to the company. They stated they would go along with two way exchange. Certain potential problems were discussed such as the occasional individual not liking his assignment after a few months and wanting out. This could be either way, of course, and LTV feels that some provision should be made to release such individuals. In general, LTV was most favorably inclined toward an exchange program and feels that the Navy should target young career Officers, the future program manager in particular, and put them in industry for a year. They feel that such industrial experience would be most valuable for the Officers and what they could bring to the company would prove of considerable value there also.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: Mobil Oil Corporation

LEVEL OF CONTACT: Vice President, Personnel, and Long-Range Planning Group

SUMMARY OF DISCUSSION: Mobil is presently participating in government exchange programs and would probably be willing to do so with the Navy. Basic reason for such participation would be to promote the interchange between government and industry and an awareness of mutual problems. The only stated potential difficulty with participation would be the availability of personnel at the time the request were made, but they did not feel that this would be a significant problem. They seem favorably inclined toward Naval officers coming into the company for the reasons discussed.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: Automatic Timing and Controls Incorporated

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: The company is a very small organization and has very few people of the type the Navy would be interested in. Loss of one person, such as a data processor or engineer, would be severely felt by the company and the individual would have to be replaced, which would cause problems when the man returned from the Navy. They were, however, interested in having Navy people in the company, depending upon the background of the individual and his knowledge of industrial methods. The individual coming into the company would be expected to pull his oar or the company would not be able to use him. Careful selection of such individuals was indicated.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative
Navy-to-Industry: Positive
COMPANY: Simmonds Precision Products Incorporated

LEVEL OF CONTACT: Vice President

SUMMARY OF DISCUSSION: Simmonds would endorse the program and would participate to whatever degree feasible. Participation would of course depend on availability of people at the time of the request. Regarding Navy people to industry, Simmonds would be interested in this aspect subject to the background of the individuals who would be coming in. In general, although a small company, Simmonds would be interested in participation to whatever degree possible.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): Availability of personnel

STATED POSITION RE LATERAL ENTRY PROGRAM:

- Industry-to-Navy: Positive conditionally
- Navy-to-Industry: Positive
COMPANY: The Raymond Corporation

LEVEL OF CONTACT: President

SUMMARY OF DISCUSSION: The Raymond Corporation would be interested in participation assuming that they have the requisite personnel available at the time of the request. They see educational benefits to participants and on their part they could use Navy people. If they are in a down-trend at the time of the request from the Navy they could probably supply some people under an industry-to-Navy program. There is no policy within the company which would prevent such participation. They expressed a distinct interest in the program and would like to be kept informed of developments.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: Ohmart Corporation

LEVEL OF CONTACT: President

SUMMARY OF DISCUSSION: The company is far too small to participate in an industry-to-Navy exchange program. They would be interested in so doing but they simply do not have the people. They might however be interested in a Navy-to-Industry program provided the individuals concerned had the proper background, which in their case would be basically electronics. The company uses outside resources routinely and feels that Navy personnel would probably fit in very well.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-Industry: Positive
COMPANY:  Joseph Dyson & Sons Incorporated

LEVEL OF CONTACT:  President

SUMMARY OF DISCUSSION:  The company is too small and has too few employees to participate in an industry-to-Navy exchange program. Additionally the company is too small to absorb Navy personnel. The President has a very regard for the Navy and will cooperate to whatever degree possible but because of company size, with only 250 employees, participation is not likely.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S):  None

STATED POSITION RE LATERAL ENTRY PROGRAM:

   Industry-to-Navy:  Negative

   Navy-to-Industry:  Negative
COMPANY: Tennant Company

LEVEL OF CONTACT: President and Executive Vice President

SUMMARY OF DISCUSSION: Company is too small to provide people for an exchange program under any foreseeable circumstances. It would, however, be interested in receiving Navy people. In general the feeling was an exchange program might be too cumbersome for the degree of good it might do. Despite this the Tennant Company would be interested in receiving Navy personnel should such a program evolve. In general, discussions were most friendly and it was clear that the Navy is held in high regard by the company.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-Industry: Positive
COMPANY: Ammco Tools Incorporated

LEVEL OF CONTACT: President

SUMMARY OF DISCUSSION: Ammco is not in a position to cooperate because of staff shortages. They are presently short in personnel in critical areas. They feel, however, that some companies are overstaffed and would welcome such a program. With regard to Navy-to-Industry, they would be interested in participation provided people with the proper background were made available. In their case they would particularly be interested in people with automotive engineering backgrounds and people who by nature were inventive. They have had Navy enlisted personnel working in their shops in the past with very good results. They would be particularly interested in acquiring Chief Petty Officer type people under an exchange program.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-Industry: Positive
COMPANY: Wagner Casting Company

LEVEL OF CONTACT: President, and
Director of Personnel

SUMMARY OF DISCUSSION: Wagner is a very small company with few employees and none in excess. They would like to participate however, if it were possible to do so at the time of the request. They would be very interested in having Navy people in the company and will be very happy to cooperate to whatever degree possible.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None stated

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-industry: Positive
COMPANY: The Yodor Company

LEVEL OF CONTACT: President, and Personnel Manager

SUMMARY OF DISCUSSION: Great enthusiasm for the concept was expressed by both contacts. Principal problem is small size of company, limited personnel. They believe that they could work around this, however. Would be delighted to have Navy personnel aboard company. They feel that an exchange program would be most beneficial for the Navy, for the companies participating and for the people concerned.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Positive

Navy-to-Industry: Positive
COMPANY: Shepherd Chemical Company

LEVEL OF CONTACT: President

SUMMARY OF DISCUSSION: The small size of the company would probably preclude participation in industry-to-Navy program since almost anyone participating would leave a large hole in the organization which would have to be filled. This would cause problems when the participant returned to the company. Feels the idea is quite interesting for larger companies. The company might be interested in receiving Navy Officers with the proper background, however. In general, the concept is somewhat interesting but the company is not sure it would be able to get involved.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S): None

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-Industry: Positive (conditionally)
COMPANY:  Coca Cola Corporation

LEVEL OF CONTACT:  Corporate Planning,
Vice President

SUMMARY OF DISCUSSION:  Although Coca Cola is interested in cooperating with the government and with the Navy, the age group affected by the proposed lateral transfer exchange program is considered to be critical and of more use to the company on the job than in the Navy. Acceptance of Navy personnel might be possible if properly handled. An area of possible joint interest would be training, which both Coca Cola and the Navy do considerable of, and environmental scanning. Possibility of a low-profile test project or pilot program being acceptable to company for trial run. Suggestion made to sell concept to middle-management and let them sell front office. Discussions very friendly. Believe Coca Cola would cooperate with proper form of Navy-to-industry program and, possibly, with industry-to-Navy exchange at a later date.

PREREQUISITES TO PARTICIPATION IN PROGRAM(S):  Ability to return people to Navy if they didn't work out.

STATED POSITION RE LATERAL ENTRY PROGRAM:

Industry-to-Navy: Negative

Navy-to-industry: Some possibility but no commitment
LATERAL ENTRY - INDUSTRY-TO-NAVY

NEGATIVE

Coca Cola
Columbia Gas
Exxon
Olin
Chemical Bank
First National City Bank
(A might change position)
Automatic Timing & Controls
Ohmart
Dyson & Sons
Tennant Co.
Ammco Tools
Shepherd Chemical
Western Electric

POSITIVE

Bethlehem Steel
American Airlines
Ford (conditionally)
AT&T (conditionally)
Con Ed (officers only)
Bell Labs
Polaroid (very positive)
Grumman (very positive)
General Foods
Bechtel Corporation
Westinghouse
Eastman Kodak (conditional)
Mitre
Ina
Eaton Corporation
LTV (very positive)
Mobil Oil
Simmonds
Raymond Corporation
Wagner Castings
The Yodar Co.

(14)

(21)
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<thead>
<tr>
<th>NEGATIVE</th>
<th>POSITIVE</th>
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<tbody>
<tr>
<td>DYSON &amp; SONS</td>
<td>OHMART</td>
</tr>
<tr>
<td>FIRST NATIONAL CITY BANK (MIGHT CHANGE)</td>
<td>TENNANT CO.</td>
</tr>
<tr>
<td>EASTMAN KODAK</td>
<td>AMMCO TOOLS</td>
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<tr>
<td>WESTINGHOUSE</td>
<td>WAGNER CASTING</td>
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<td>CHEMICAL BANK</td>
<td>YODOR CO.</td>
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<tr>
<td>OLIN</td>
<td>SHEPHERD CHEMICAL</td>
</tr>
<tr>
<td>EXXON (EXCEPT IN NATIONAL EMERGENCIES)</td>
<td>RAYMOND CORP.</td>
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<td>COLUMBIA GAS</td>
<td>SIMMONDS</td>
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<tr>
<td>BETHLEHEM STEEL</td>
<td>AUTOMATIC TIMING &amp; CONTROLS</td>
</tr>
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<td>WESTERN ELECTRIC</td>
<td>MOBIL OIL</td>
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<td></td>
<td>EATON CORPORATION</td>
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<td>BELL LABS</td>
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<td>CON ED</td>
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<td></td>
<td>AMERICAN AIRLINES</td>
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<td></td>
<td>AT&amp;T</td>
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<tr>
<td></td>
<td>FORD</td>
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<tr>
<td></td>
<td>COCA COLA</td>
</tr>
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(11) (24)
APPENDIX B

LIST OF CRITICAL CIVILIAN OCCUPATIONS


Definitions are contained in the U.S. Department of Labor List of Critical Occupations (For Screening the Ready Reserve) dated September 1961 as amended March 1965.

<table>
<thead>
<tr>
<th>Title</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acidizer (petrol production)</td>
<td>930.782</td>
</tr>
<tr>
<td>Agronomist (profess. &amp; kin)</td>
<td>040.081</td>
</tr>
<tr>
<td>Aircraft and Engine Mechanic (aircraft mfg; air trans) (must hold license)</td>
<td>621.281</td>
</tr>
<tr>
<td>Assembler, Aircraft, Power Plant (aircraft mfg)</td>
<td>621.381</td>
</tr>
<tr>
<td>Airplane Pilot, Commercial (air trans.)</td>
<td>196.168  thru 196.283</td>
</tr>
<tr>
<td>Air Traffic Control Specialist, Tower (gov. ser.) (must hold license)</td>
<td>193.168</td>
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<tr>
<td>Astronomer (profess. &amp; kin.)</td>
<td>021.088</td>
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<tr>
<td>Bacteriologist (profess. &amp; Kin.) (see Microbiologist)</td>
<td>041.081</td>
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<tr>
<td>Biochemist (profess. &amp; kin.)</td>
<td>041.081</td>
</tr>
<tr>
<td>Biophysicist (profess. &amp; kin.)</td>
<td>041.081</td>
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<tr>
<td>Blacksmith (forging)</td>
<td>610.381</td>
</tr>
<tr>
<td>Boilermaker (boilermaking) I</td>
<td>805.281</td>
</tr>
<tr>
<td>Boilermaker (boilermaking) II (see Metal Fabricator)</td>
<td>619.380</td>
</tr>
<tr>
<td>Boilermaker Fitter (boilermaking)</td>
<td>805.381</td>
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<tr>
<td>Boilermaker Loftsman (boilermaking, ship &amp; boat bldg. &amp; rep.)</td>
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<tr>
<td>Boring-Machine Set up Operator, Jig (mach. shop.)</td>
<td>606.280</td>
</tr>
<tr>
<td>Cable Driller (petrol. production)</td>
<td>930.280</td>
</tr>
<tr>
<td>Occupation</td>
<td>Code</td>
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<tr>
<td>---------------------------------------------------------------------------</td>
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<tr>
<td>Cable Splicer (const; light, heat &amp; power)</td>
<td>829.381</td>
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<tr>
<td>Cementer, Oil Well (petrol. production)</td>
<td>930.281</td>
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<tr>
<td>Chemist (profess. &amp; kin.)</td>
<td>022.081 thru 022.281</td>
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<tr>
<td>Coremaker (found.)</td>
<td>518.381</td>
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<tr>
<td>Cryptanalyst (gov. ser.)</td>
<td>199.288</td>
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<tr>
<td>Dentist (medical ser.)</td>
<td>072.081 thru 072.108</td>
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<tr>
<td>Designer and Template Maker, Coverings (aircraft mfg.)</td>
<td>781.381</td>
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<tr>
<td>Die Designer (mach. shop.)</td>
<td>007.181</td>
</tr>
<tr>
<td>Die Maker, Die Casting, and Plastic Molding (mach. shop.)</td>
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<tr>
<td>Die Maker, Stamping (mach. shop.)</td>
<td>601.280</td>
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<tr>
<td>Die Setter (forger)</td>
<td>612.380</td>
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<tr>
<td>Dispatcher (air trans.)</td>
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<tr>
<td>Draftsman, Civil (profess. &amp; kin.)</td>
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<tr>
<td>Draftsman, Engineering Design (see Special Definition)</td>
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<tr>
<td>Draftsman, Electrical (profess. &amp; kin.)</td>
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<td>Draftsman, Mechanical (profess. &amp; kin.)</td>
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<td>Drop Hammer Operator (forging.)</td>
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<tr>
<td>Electrical and Radio Mock Up Man (aircraft mfg.)</td>
<td>825.381</td>
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<tr>
<td>Electrical Instrument Repairman (any ind.)</td>
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<td>Electrician (any ind.)</td>
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<td>Electronics Mechanic (any ind.)</td>
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<tr>
<td>Electronics Technician (profess. &amp; kin.)</td>
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</tr>
<tr>
<td>Engineer, Professional (profess. &amp; kin.) (General definition)</td>
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</tr>
</tbody>
</table>
Engineer (water trans.) 1st, 2nd & 3rd Assistant (must hold U.S. Coast Guard license) 197.130

Entomologist (profess. & kin.) 041.081

Experimental Mechanic (aircraft mfg.) 1 693.281

Farm-Equipment Mechanic (agric.) 1 624.281

Farmer, Contract (agric.) 409.883

Farmer (Special Definition) ------

Field Engineer (electronics) 829.281

First Helper (iron & steel) 512.782

Foreman (Critical Occupations Only) (Special Definition) ------

Foreman, Blast Furnace (iron & steel) 519.132

Formation Testing Operator (petrol production) 930.281

Form Builder (aircraft mfg.) 693.280

Geologist (profess. & kin.) 024.081

Geophysicist (profess. & kin.) 024.081

Glass Blower, Laboratory Apparatus (glass prod.; inst. & app.) 772.281

Health Physicist (profess. & kin.) 079.021

Heat Treater (heat treat) 1 504.782

Heavy Forger (forging) 612.381

Instructor, Vocational Training (education) 097.228

Instrument Maker (any ind.) 11 600.280

Instrument Man (aircraft mfg.; air trans.) (must hold FAA license) 710.281

Instrument Repairman (any ind.) 1 710.281

Intelligence Specialist (gov. ser.) 059.088

Jewel-Bearing Maker (jewelry.) 770.381
Job Setter (mach. shop.) 600.380
Lay-Out Man (any ind.) 809.381
Lay-Out Man (mach. shop.) 600.381
Lead Burner (welding) 815.281
Lineman (const., light, heat & power) 821.381
Lineman, Repair (const., light, heat & power) 821.381
Loftsman (aircraft mfg.) 693.381
Loftsman (ship & boat bldg. & rep.) 661.381
Loom Fixer (asbestos prod; narrow fabrics; textile) 683.280
Machine Repairman Maintenance (any ind.) 626.281
Machinist (mach. shop.) 600.280
Machinist, Outside (ship & boat bldg. & rep.) 623.281
Maintenance Machinist (any ind.) 600.280
Maintenance Mechanic (any ind.) 638.281
Manager, Farm 409.168
Managerial Occupations, Key Positions (Special Definition) ------
Master, Ship (water trans.) (must hold U.S. Coast Guard license) 197.168
Mate, Ship, First and Second (water trans.) (must hold U.S. Coast Guard license) 197.133
Mathematician (profess. & kin.) 020.088
Metal Fabricator (boilermaking) 619.380
Metallurgist, Extractive (profess. & kin.) 011.081
Metallurgist, Physical (profess. & kin.) 011.081
Microbiologist (profess. & kin.) 041.081
Millwright (any ind.) 638.281

NAVPERS 18529F
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<tr>
<th>Occupation</th>
<th>Pay Grade</th>
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<tr>
<td>Miner (mining &amp; quarrying.)</td>
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<td>Mock-Up Man (aircraft mfg.)</td>
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<tr>
<td>Model Maker (aircraft mfg.)</td>
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<td>Model Maker (firearms)</td>
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<td>Molder (foundry.)</td>
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<td>Molder, Pattern (foundry)</td>
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<td>Molder, Punch (aircraft mfg.)</td>
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<td>Mold, Finisher (mach. shop.)</td>
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<td>Mold Finisher &amp; Repairman - see - Machine Molder (foundry)</td>
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<td>Navigator (air trans.)</td>
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<td>Nurse, Professional (medical ser.) (must hold State license)</td>
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<td>Orthopedic - Appliance and Limb Technician (surg. appl.)</td>
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<td>Osteopathic Physician (medical ser.)</td>
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<td>Parasitologist (profess. &amp; kin.)</td>
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<td>Patternmaker, Metal (foundry.)</td>
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<td>Patternmaker, Plaster (aircraft mfg.)</td>
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<td>Patternmaker, Plastics (fabric, plastics prod.)</td>
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<td>Patternmaker, Wood (foundry.)</td>
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<td>Perforator Operator, Oil Well (petrol production.)</td>
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<td>Pharmacologist (profess. &amp; kin.)</td>
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<td>Physician and Surgeon (medical ser.)</td>
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<td>Physiologist (profess. &amp; kin.)</td>
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NAVPERS 18529F
Pilot, Ship (water trans.) (must hold U.S. Coast Guard license) 197.133
Pipefitter I (const.) 862.381
Pipefitter (ship & boat bldg. & rep.) 862.281
Plant Pathologist (profess. & kin.) 041.081
Plumber (const.) 862.381
Powerhouse Repairman (light, heat, & power) 631.281
Power Plant Operator (any ind.) I 952.782
Precision - Lens Grinder (optical goods.) 675.380
Precision - Lens Polisher (optical goods.) 711.781
Production Planner (profess. & kin.) 012.188
Programmer, Engineering and Scientific (profess. & kin.) 020.188
Psychologist, Clinical (profess. & kin.) 045.108
Psychologist, Engineering (profess. & kin.) 045.088
Rigger (ship & boat bldg. & rep.) 806.281
Rolling Mill Operator (nonfer. metal alloys.) 613.782
Rotary Driller (petrol. production) 930.782
Sample Body Builder (auto mfg.) 693.380
Saw Maker (cut tools,) (Industrial only) 601.381
Scientific Linguist (profess. & kin.) 059.088
Serviceman, Oil Well (petrol. production.) 931.781
Sheet-Metal Worker (any ind.) 804.281
Shipfitter (ship & boat bldg. & rep.) 806.381
Shipwright (ship & boat bldg. & rep.) 860.381
Shooter (petrol. production.) 931.381
Signal Maintainer (r. & r. trans.) 822.281

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Spinner, Hand (any ind.)

Stationary Engineer (any ind.)

Steel Pourer (iron & steel.)

Stillman (petrol ref.)

Still Operator, Batch or Continuous (chem.)

Switchboard Operator (light, heat, & power)

Teachers (See Special Definition 2nd amendment MAR 65 U.S. Department of Labor List of Critical Occupations (For Screening the Ready Reserve).

Teacher, College (education) (See Faculty Member, College or University)

Teacher, Secondary School (education)

Teacher, Technical Education (education)

Teacher, Vocational Training (See Instructor, Vocational Training)

Technician, Engineering and Physical Sciences (See Special Definition 2nd amendment MAR 65 U.S. Department of Labor List of Critical Occupations (For Screening the Ready Reserve)

Template Maker (any ind.)

Tool and Die Maker (mach. shop.)

Tool Designer (profess. & kin.)

Tool Maker (mach. shop.)

Tool Planner (any ind.)

Train Dispatcher (r. & r. trans.)

Treater (petrol refin.)

Turbine Operator (light, heat, & power)

Veterinarian (medical ser.)

Wire Weaver, Cloth (wirework.)

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