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BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Chairman,
Subcommittee On Manpower And Personnel,
Committee On Armed Services,
United States Senate

Navy Management And Use Of The Selective Reenlistment Bonus Program

The Navy is managing its Selective Reenlistment Bonus program well. The Navy uses this program to retain personnel needed to meet projected future personnel needs. Although this program is expensive, costing \$182.9 million in fiscal year 1984, it can cost less than recruiting and training new personnel or encouraging retention through other alternatives, such as across-the-board pay raises. The Navy does sometimes pay bonuses to people who reenlist in occupational specialties that are overstaffed or where reenlistment rates are already high, but it does so in order to meet the future manpower needs of the specialties.

GAO believes that this program could be even more cost-effective if the Navy would pay bonuses in lump sum at the time of reenlistment instead of paying them in installments. Paying bonuses in lump sum would save the program \$8 million to \$13 million in fiscal year 1986 alone. The Department of Defense concurs.



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UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

NATIONAL SECURITY AND
INTERNATIONAL AFFAIRS DIVISION

B-219898

The Honorable Pete Wilson
Chairman, Subcommittee on Manpower
and Personnel
Committee on Armed Services
United States Senate

Dear Mr. Chairman:

This report is in response to a request by the Subcommittee that we evaluate the overall management of the Navy's selective reenlistment bonus (SRB) program in light of that service's extensive use of the program. The Subcommittee expressed concern about whether the Navy's SRB program was managed, and bonuses awarded, on the basis of a larger enlisted force than annually authorized by the Congress, and whether bonuses were being paid for occupations¹ that were already overstaffed or where reenlistment rates were already high.

Because the Department of Defense (DOD) and the Navy believe that the method of SRB payment--lump sum or installment--can increase or decrease the total cost of the program, we also evaluated whether the current method of paying half of the bonus in a lump sum with the remainder in annual installments is the most cost-efficient approach for the government.

SUMMARY OF OBSERVATIONS

The purpose of the Navy's SRB program is to enable it to retain personnel to meet its manpower² needs; however, determining the validity of those manpower needs is a separate function and not part of the SRB program management. The SRB program

¹Enlisted military occupational specialties are called "ratings" in the Navy. The terms "rating," "occupation," and "skill" are sometimes used interchangeably. Ratings are subdivided by Navy Enlisted Classification codes, and some ratings are managed at the subrating level for purposes of the SRB program.

²In the context of military personnel management, "manpower" refers to requirements or billets (positions), whereas "personnel" refers to individuals.

managers³ accept the statements of manpower needs as valid, and the program is directed toward meeting those needs. It is within this context that we found the Navy's SRB program to be well-managed. This overall assessment assumes, of course, that the Navy's projections of future manpower needs are accurate. We are presently examining the Navy's processes for determining manpower requirements, and work already completed has raised questions about the credibility of the Navy's stated needs. While changes in the Navy's stated manpower requirements would not affect the Navy's methodology for managing the SRB program, fewer requirements could reduce SRB program costs.

The Navy employs several interactive computer simulation models that, along with other information, help the SRB managers make informed judgments about bonus award levels needed to achieve desired retention results. The SRB managers monitor the program throughout the budget execution year and adjust the program at least semiannually.

The Navy bases its annual award level plan on projected future personnel needs. Therefore, because the Navy is currently expanding its fleet, the annual SRB award level plan is based on a larger projected enlisted force than actually authorized by the Congress for the same year. For example, the fiscal year 1984 bonus award level plan was directed toward achieving the larger projected needs for fiscal year 1987.

We agree with the Navy that using projections of future manpower needs to develop its annual SRB award level plan is necessary in order to retain the increased number of experienced personnel the Navy says it needs to man the new ships and squadrons as they enter the fleet. However, this management procedure, as applied by the Navy, presumes that the future personnel strength levels, upon which the SRB program is based, will be approved. This has not been the case for fiscal years 1983 through 1986. According to the Navy, the reductions in its personnel requests is causing the pool of potential future petty officers to shrink, and consequently, it will need even higher retention rates in the future. As an alternative, the Navy could limit reenlistments by providing lower bonuses and thus maintaining a larger pool of first-term personnel; however, the Navy believes that this alternative would be poor management because it considers the requirements for experienced personnel to be sound.

We found that the Navy does, on occasion, pay bonuses to people who reenlist in occupational specialties and years-of-service zones that are over 100 percent staffed. However, where

³The Navy's SRB program is managed by the Career Programs Branch within the Military Personnel Policy Division. The Division Director reports to the Deputy Chief of Naval Operations (Manpower, Personnel and Training).

this was done, the future manpower needs of the specialty, taken as a whole, were significantly understaffed. For example, bonuses were sometimes paid to induce people with less than 6 years of service (reenlistment zone A) to reenlist in a rating that was already overstaffed at that length-of-service level, but that had significant projected shortages of people at the more senior levels. This was done with the hope of retaining the number of people needed to eventually resolve the senior-level shortages.

Sometimes the Navy also authorized SRBs for ratings at experience levels where reenlistment rates were already quite high, as in the case of people in certain ratings with 10 to 14 years of service (reenlistment zone C). However, the Navy paid these bonuses when (1) staffing was considered to be critically short, and retaining even a few additional people was important to fleet operations; and (2) the marginal cost--the cost of an additional reenlistment--was less than the cost to recruit and train a replacement.

The method of paying bonuses--lump sum or installment--can affect the total program cost. On a dollar-for-dollar basis, lump-sum bonuses are more cost-efficient than bonuses paid in installments. This is because people--particularly young people--have a strong preference for current dollars rather than future dollars. Given the government's current cost to borrow money as compared to the lower bonuses people would accept to reenlist if payments were made in a lump sum, a return to the lump-sum method could result in significant SRB program savings. We estimate that, if the lump-sum method were used, savings in the range of \$8 million to \$13 million could be achieved in the fiscal year 1986 SRB program--a program that now comprises both current payments and unfunded future installment payments. A return to lump sum payments would not, however, mean an immediate budget reduction, and, indeed, the current year budget would need to increase in order to continue paying previous installment contracts. Also, the lump-sum method may result in a somewhat higher risk of paying for unearned bonuses if people leave the Navy early but these potential losses appear to be considerably less than the savings of the lump-sum method.

CONCLUSIONS

We have supported the SRB program because it provides an effective retention incentive that can be targeted to specific personnel shortfall problems and is thus a more cost-efficient alternative for solving such problems than many other alternatives, such as across-the-board pay raises.⁴ Furthermore, when recruiting and training costs are high, the payment of SRBs to keep trained personnel in the Navy can be a less expensive way

⁴GAO testimony on "Military Compensation Issues" before the Senate Committee on Manpower and Personnel, Apr. 7, 1983, (S. Hrg. 98-49, Part 3, pp. 1629 to 1644).

to meet manpower requirements than bringing in new personnel. The Navy takes these cost tradeoffs into account in managing its SRB program.

Whether the Navy actually needs the increases in personnel that it is seeking and whether its stated manpower requirements, upon which its SRB program is based, are valid is still a debatable issue. However, the validity of manpower requirements is a separate but related issue which we are currently addressing in other evaluations. The SRB program is but one tool the Navy is using to meet its stated manpower requirements. It is within this context that we have concluded that the Navy is managing its SRB program well.

With regard to the SRB payment method, we agree with DOD and the Navy that long-term SRB program savings could be achieved if the Congress would approve a return to the lump-sum method.

AGENCY COMMENTS

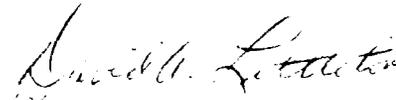
In a letter dated August 12, 1985, DOD agreed with the report. (See app. IV.)

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Appendix I provides further details on our observations, and Appendix II contains our specific objectives, scope, and methodology. Appendix III provides a brief description of the computer models that the Navy SRB managers use to assist in the SRB decision-making process.

Copies of this report are being sent to the Director, Office of Management and Budget; the Secretaries of Defense, the Army, the Navy, and the Air Force; the Chairmen, House and Senate Committees on Appropriations, and House Committee on Armed Services; and other interested parties.

Sincerely yours,



Frank C. Conahan
Director

THE SELECTIVE REENLISTMENT BONUS PROGRAM

The SRB program was authorized by the Congress in 1974 to replace the regular and variable reenlistment bonus programs.¹ SRBs are the primary monetary incentive military personnel managers have for inducing people to reenlist in occupational specialties that are experiencing chronic shortages or are hard to fill. Although the SRB program comprises only about 1.5 percent of the Navy's total compensation budget for fiscal year 1985, it is one of the few components of the system that allow Defense managers the flexibility to target pay to solve specific personnel retention problems. In contrast to most other components of the compensation system, SRBs can be applied to a specific occupation when personnel shortages develop, and the bonus can be removed when the problem is solved.

GAO has endorsed the SRB program because of its management flexibility.² We also believe that the program is a cost-efficient retention incentive as compared to across-the-board and other less targeted monetary incentives for solving personnel shortfalls.

The Navy uses the SRB program to a greater extent than the other services. It spent \$182.9 million on this program in fiscal year 1984. In contrast, the Army, the next largest SRB user, spent only \$87.3 million. During fiscal year 1984, the Navy awarded bonuses to over half (20,525) of all personnel with at least 21 months and not more than 10 years of service (zones A and B) who reenlisted. This represents about 29 percent of those eligible to reenlist. These bonuses had an average contract value of \$11,340. In addition, it awarded bonuses to 7 percent (1,414) of the people with 10 to 14 years of service (zone C) who reenlisted. These bonuses averaged \$9,190.

Navy officials explained that its SRB program is larger than that of the other services for essentially three reasons.

--The Navy is committed to building a 600-ship, 15-carrier battle group fleet by 1989, up from 479 ships in 1981. To man these ships, the Navy must increase its enlisted personnel inventory. The other services either are not expanding the size of their enlisted force or are growing at a slower rate. (The Navy's initial growth projections were from an inventory of 470,247 for fiscal year 1981 to an inventory of 549,563 by fiscal year 1988; however,

¹37 U.S.C. § 308, as amended.

²GAO testimony on "Military Compensation Issues" before the Senate Committee on Armed Services, Subcommittee on Manpower and Personnel, Apr. 7, 1983 (S. Hrg. 98-49, Part 3, pp. 1629 to 1644).

this projection did not anticipate the congressional cuts in personnel growth rates imposed in fiscal years 1983 through 1986.)

- The Navy entered the decade of the 1980s with a more severe shortage of noncommissioned officers than did the other services. Overcoming these shortages by retaining experienced personnel requires high reenlistment rates.
- Most Navy SRBs are paid for reenlistments in sea-intensive ratings that involve long family separations, long work hours while on sea duty, and generally arduous duty.

THE NAVY'S OVERALL SRB MANAGEMENT

Our evaluation showed that, overall, the Navy's SRB program is well-managed. The Navy uses several interactive computer simulation models that, along with other information, help the SRB managers make informed judgments about bonus-award levels needed to achieve the desired retention goals for each rating or subrating. The program is monitored by the SRB managers throughout the budget execution year, and bonus levels are adjusted up or down at least semiannually. These adjustments must remain within the approved budget level for the year.

Because the Navy is expanding its force requirements, it develops its annual SRB award-level plan on the basis of a larger enlisted force than that authorized by the Congress for the year in which the award-level plan will be implemented. For example, its fiscal year 1984 award-level plan was based on projected needs for fiscal year 1987. However, we agree with the Navy that such an approach is necessary if the Navy is to acquire the number of experienced personnel needed to man its expanding fleet.

While we believe that the Navy's program is generally well-managed, we have two caveats:

- First, we assumed that the Navy's manpower³ requirements are correct. These requirements are the basis for the SRB program. GAO is now evaluating the Navy's processes

³"Manpower," in the context of military personnel management, is a generic term that describes the demand for workers--i.e., "spaces"; whereas "personnel" is the term used to describe the people to fill those spaces.

for determining manpower requirements, and work already completed has raised questions about the Navy's stated requirements.⁴

--Second, validating the assumptions of the five interactive computer models (see app. III) that the Navy uses to help predict what impact bonuses will have on reenlistments was beyond the scope of our review. This includes the key assumption regarding pay elasticities⁵ used to estimate changes in reenlistments due to changes in bonus levels--although we noted that these elasticity estimates are generally within the range of estimates that have been calculated and used in other econometric models. While we did not validate these assumptions, we tested and evaluated how the Navy SRB managers use the output from these models in developing and monitoring the bonus award-level plan. We found that this output was not used as a substitute for management judgment but instead was used in conjunction with other information about the needs of a particular occupation or skill level to help the SRB manager make more informed decisions about SRB award levels.

Basis for the SRB award-level plan

As the Navy builds to 600 ships by 1989, it must acquire more trained and experienced people. Thus, the thrust and underlying objective of the Navy's SRB program is to increase personnel levels each year to satisfy its statements of manpower needs for the ships and squadrons as they enter the fleet, while

⁴The first two reports in this series have been issued: Confusion Over Validity and Effects of Purported Petty Officers Shortage (GAO/NSIAD-84-30, June 27, 1984), and Navy Manpower Management: Continuing Problems Impair the Credibility of Shore Establishment Requirements (GAO/NSIAD-85-43, Mar. 7, 1985). Reviews of the Navy's ship and squadron manning documents programs and of how the Navy establishes enlisted grade requirements are underway.

⁵"Elasticity" refers to how individuals respond to pay. Bonus elasticity measures the percentage change in the reenlistment rate for each 1 percent change in military pay through the application of a bonus. The occupation-specific elasticity estimates currently used by the Navy in its SRB program were developed by Matthew S. Goldberg and John T. Warner, Determinants of Navy Reenlistment and Extension Rates, Alexandria, Va.: Center for Naval Analyses, Dec. 1982.

at the same time increasing the career content⁶ of the force and the number of petty officers (enlisted grades E-4 to E-9) needed to support the larger fleet. The Navy's career content goal for fiscal year 1987 is 51.1 percent of all personnel, up from 42.1 percent in fiscal year 1980. We noted that, as the Navy moves toward this objective, its key criterion for designing its SRB award-level plan is that the marginal cost⁷ of paying bonuses in any particular rating or year of service zone must be less than the marginal cost of recruiting and training replacement personnel.

To achieve the larger end strengths and higher experience levels that the Navy says it needs, the Navy uses as the foundation for its annual SRB award-level plan a Navy-approved statement of future manpower requirements, called an objective force profile. This objective force profile expresses both the desired grade structure and years of service of the personnel that the Navy believes necessary each year for each rating as it grows to 600 ships. The objective force profile, however, is not a static document. Instead, it is a dynamic document that is modified and adjusted throughout the planning, programming, and budgeting cycle to take into account changes or reductions in end-strength authorizations imposed at various approval levels. These possible changes include any congressionally imposed reductions to the Navy's annual personnel requests.⁸ Thus, in developing its fiscal year 1984 SRB award-level plan, for example, the Navy used the objective force profile for fiscal year 1987 as the basis. However, the 1987 objective force profile had been adjusted to reflect only the personnel growth that was considered to be achievable with the personnel inventory levels that the Congress had approved through fiscal year 1984.

⁶"Career content" refers to that proportion of the total force who are career personnel, in contrast to first-term personnel. Career personnel are those having more than 4 years of service, except for Navy personnel enlisting under the 6-year obligation program where career personnel are those having more than 6 years of service.

⁷Marginal cost is the cost to induce each additional person to reenlist who would not have reenlisted without the additional incentive.

⁸Congressional reduction to Navy end-strength requests were made in fiscal years 1983 (8,900 less than requested), 1984 (7,400 less than requested), and 1985 (4,000 less than requested) and a reduction of 5,000 below Navy's request appears likely for fiscal year 1986. These reductions were to total end-strength requests. The Navy allocates end-strength levels between officer and enlisted personnel.

The SRB program is primarily a tool for reducing personnel shortfalls as measured by the gap between manpower requirements and personnel inventory for each rating and in each years-of-service zone. Thus, if fiscal year 1984 approved strength levels had been used as the basis for developing that year's award-level plan, the total value of the SRB program would have been less than it actually was because the gap between requirements and inventory would have been smaller. However, this would have resulted in lower award levels for some occupations, and no bonuses for other occupations, and thus fewer experienced personnel would have remained in the Navy to man the ships and squadrons as they entered the fleet.

We agree with the Navy that, in order to achieve the desired personnel growth, it is necessary to base the execution-year SRB award-level plan on future manpower needs. However, this methodology, as applied by the Navy, presumes that the adjusted, achievable strength-level projections will be congressionally approved. However, the Navy's full personnel requests have not been approved in fiscal years 1983 through 1986. The Navy has stated that, as a result of these reductions, the pool of first-term personnel, from which it grows future petty officers, is shrinking. Consequently, even higher retention rates will be needed in the future. The Navy believes that using future manpower requirements as the basis for developing its annual SRB award-level plan is prudent, regardless of possible future congressional cuts in personnel requests, because it considers its manpower requirements to be sound.

The problem the Navy faces in managing the SRB program is that the congressional cuts in its requested personnel increases are made one year at a time, and are made after the SRB program, which was developed on the basis of the projected increases, has already been executed. For example, the fiscal year 1983 SRB award-level plan was developed and executed based on projected personnel-strength levels for fiscal year 1986. At the time the award-level plan was being developed and executed, it was assumed that these projected strength levels would be congressionally approved. However, it was not until about May 1985, when the House and Senate Committees on Armed Services were debating and reporting on the fiscal year 1986 Defense Authorization bill, that it became evident that the Congress would probably cut the Navy's fiscal year 1986 end-strength request by 5,000 personnel.

Payment of bonuses for overstaffed rating zones

We noted that during fiscal year 1984 the Navy paid bonuses to individuals reenlisting in 20 rating zones that were over 100 percent staffed as measured by the projected requirements for 1987. While such payments would seem unnecessary at first glance, we found that, where this occurred, the occupation, taken as a whole, was understaffed. For example, for several ratings the Navy paid bonuses to people with 6 or fewer years of service (zone A), even though the rating in that zone was overstaffed.

It did this to counteract shortages of personnel with more than 6 years of service in that rating. By this means, the Navy hopes to induce a sufficient number of personnel to remain in the Navy and eventually resolve deficiencies at the more senior levels. We found that, in making decisions to pay SRBs in these circumstances, the SRB managers determine that this is more cost-efficient than recruiting and training replacements.

Payment of bonuses where reenlistment rates are high

Questions are sometimes raised about the cost-efficiency of paying SRBs to those with 10 to 14 years of service (zone C) since reenlistment rates for these people are usually above 90 percent even without the payment of bonuses. During fiscal year 1984, the Navy awarded 1,414 of these bonuses, in 20 different ratings,⁹ for a total contract value of \$13 million. These ratings or subratings frequently had retention rates of less than 90 percent and were characterized by chronic shortages. Moreover, most of the ratings or subratings where such bonuses were paid contained only a small population of personnel in this years-of-service zone, and the number eligible to reenlist was small, sometimes as few as one or two people. Consequently, the Navy considered the retention of even a few additional experienced personnel in these ratings important to fleet operations.

Using its computerized econometric models, the Navy estimated that, for this \$13-million expenditure, 157 individuals reenlisted in these 20 ratings who would not have done so without the bonus offering. Thus, over the period of the SRB contracts, the Navy will pay about \$82,800 for each of these additional reenlistments gained during fiscal year 1984.

While the marginal cost of bonuses paid to those with 10 to 14 years of service is high as compared to the marginal cost of bonuses paid to those with fewer years of service--an average of \$20,000 to \$25,000, it is less than the estimated training and replacement cost for an individual with 10 to 14 years of experience in these ratings. The marginal cost of paying bonuses and the marginal training and replacement costs are calculated separately for each rating. These costs vary; however, we found that, in all instances where zone C bonuses were paid during fiscal year 1984, the marginal bonus cost was less than the training and replacement costs. In some instances, the training and replacement costs exceeded \$600,000. Thus, if the requirements for personnel with this level of experience are valid, the use of bonuses to induce those with 10 to 14 years of service to reenlist in these 20 ratings was cost-effective.

⁹Only individuals with specific subratings were eligible for a bonus in 6 of these ratings.

METHOD OF BONUS PAYMENT

Since 1974, when the current SRB program was authorized, the bonus-payment method authorized by the Congress has changed several times, alternating between lump-sum and installment payments. Since February 1982, half of the bonus award has been paid in a lump sum at the time of reenlistment with the remainder being paid in equal installments on the reenlistment-contract anniversary date. While this payment method has both advantages and disadvantages, DOD and the Navy have said that returning to a lump-sum method could result in long-term program savings, and that the disadvantages of the current method generally outweigh the advantages. Our evaluation indicates that their point of view is correct.

Advantages of the lump-sum method

On a dollar-for-dollar basis, lump-sum bonuses are more cost-efficient than bonuses paid in installments. This is because people--particularly young people--have a strong preference for current dollars rather than future dollars. As a result, they are willing to reenlist for a smaller amount of money today rather than for a larger amount in the future. A 1982 study by the Center for Naval Analyses estimated that Navy enlisted personnel have a real discount rate¹⁰ of about 17 percent, an estimate within a reasonable range of those made by others.¹¹ This means, for example, that a person who would agree to a 4-year reenlistment today for \$10,000 under the current partial lump-sum with annual installment method would also agree to reenlist for \$8,420 if the entire amount were paid in lump sum. As illustrated in the following table, as long as the government's real discount rate is less than the individual's real discount rate, the payment of lump-sum bonuses would be more efficient than installment payments.

¹⁰The "real" discount rate does not include an individual's expectation for an inflation rate, whereas the "nominal" discount rate includes such considerations as tax differences and expected inflation rates.

¹¹Steven Cylke, et al., Estimation of the Personal Discount Rate: Evidence from Military Reenlistment Decisions, Professional Paper 356, Alexandria, Va.: Center for Naval Analyses, Apr. 1982; Harry Gilman, Determinants of Implicit Discount Rates: An Empirical Examination of the Pattern of Voluntary Pension Contribution of Employees in Four Firms, Center for Naval Analysis, Alexandria, Va., 1976; and Matthew Black, Personal Discount Rates: Estimates for the Military Population, Systems Research and Applications Corp., Arlington, Va., 1983.

Illustrative Example of Lump-Sum
Versus Installment SRB Payment Method

Bonus payment under current partial lump sum (\$5,000) with three equal installments (\$1,667 each).	<u>\$10,000</u>
Government's present value of \$10,000 bonus under current partial lump sum with installments. ^a	9,180
Amount needed to induce the same reenlistment, but with full lump-sum payment--based on 17-percent personal discount rate. ^b	<u>8,420</u>
Potential savings on illustrative reenlistment by changing to lump-sum payments.	<u>\$ 760</u>

^aPresent-value analysis is a generally accepted practice, but selecting an appropriate interest rate for discounting is subject to much controversy. We used a method that calls for calculating the average yield of Treasury notes and bonds over the period of the reenlistment. This calculation resulted in a 9.5 percent nominal discount rate. The Office of Management and Budget requires federal agencies to use a 10-percent rate and constant dollars for this type of an analysis. This method would also produce savings, but at a lower estimated amount.

^bThe present value of the bonus payment was computed using a 17-percent real discount rate and an assumed 4-percent inflation rate.

We applied the same type of analysis and discount rate assumptions to the Navy's fiscal year 1986 budget request as illustrated in the above table. Based on this analysis, we estimate that the total cost of Navy SRBs awarded during fiscal year 1986 could be reduced by about \$13 million--from \$297.6 million to \$284.6 million--if the lump-sum method were to be used, and the same reenlistment result would be achieved. Navy officials correctly point out that the savings estimate will vary, depending upon the personal and government discount rates used, and they believe that our estimate represents the high end of the

potential savings range. We made a similar calculation using assumptions required by the Office of Management and Budget and on this basis estimated that a lower savings of about \$8 million could be achieved; but, this is, nonetheless, a significant savings.

A second advantage of the lump-sum payment method is that it makes the true budgetary cost of the SRB program more readily visible to congressional and DOD decision-makers. For example, the Navy's fiscal year 1986 SRB budget request of \$269.6 million includes \$120.8 million in anniversary payments for those reenlisting under the installment method in previous years. However, the value and true cost of SRB contracts to be awarded during fiscal year 1986 will be \$297.6 million. Of this amount, \$148.8 million is not reflected in the fiscal year 1986 budget, though it must be included in future budgets. Recognizing the full value of SRB awards in current budgets, as would be done under the lump-sum method, would, of course, increase the current year budgets until the existing anniversary payment commitments have been satisfied, even though the long-term costs would be less.

A third advantage of the lump-sum method is that it does not limit, to the same extent that the installment method does, the options of both congressional and DOD decision-makers when they have to reduce the SRB budget for purely fiscal reasons. The options are now limited because any budgetary reduction must be taken totally from new SRB awards which presently represent only about one-half of the SRB budget. Budgetary cuts cannot easily be taken from anniversary payments since these are contracted obligations and must be paid. Thus, for example, if the Navy's fiscal year 1986 SRB budget request (\$269.6 million) were to be cut by 10 percent, the entire \$27 million would have to be cut from the \$148.8 million available for new bonus payments. Such a reduction could potentially hurt reenlistment rates to a greater extent than if the reductions were spread over the entire SRB budget.

Advantages of the installment method

One advantage of the installment method of paying bonuses--and a possible disadvantage of the lump-sum method--is the reduced risk of loss if members do not complete their reenlistment contracts. Such members are generally supposed to refund the unearned portion, but the services historically have been less than fully successful in recouping unearned bonuses. For example, the Defense Audit Service, now part of the DOD Inspector General's office, reported in 1982 that an estimated \$69 million was paid in bonuses (by all services, not just the Navy) for unrealized service over the 5-year period, fiscal year 1978 through 1982.¹² Since that time, the Navy has improved its

¹²Report on the Review of the DOD Enlisted Bonus Program,
Defense Audit Service, Report No. 82-101, June 8, 1982.

recoupment procedures and success rate. For example, during the period of June 1983 through May 1984, the Navy recouped almost 70 percent of unearned bonuses, and had losses of less than \$1 million. The Navy believes that, because of its improved recoupment procedures, the potential loss rate under a lump-sum payment method would be very low.

A second advantage of the installment method is that the bonus component of compensation is more visible to the recipient throughout the period of the reenlistment than when a lump-sum payment is made. According to one analyst,¹³ people tend to forget about their lump-sum bonus when asked about the value of their compensation package, particularly in the later years of the reenlistment period. Annual installments tend to remind people that the bonus is part of their pay for working in the occupation for which they reenlisted. However, the evidence is inconclusive on the extent to which bonus visibility in later years has any impact on morale, job performance, or subsequent reenlistments, thus bringing into question whether continued SRB visibility over the term of the reenlistment is really an advantage of the installment method.

¹³John T. Warner, "Issues in Evaluating Military Compensation Alternatives," Defense Management Journal, Fourth Quarter 1983, pp. 23-25.

OBJECTIVE, SCOPE, AND METHODOLOGY

As requested, our objective was to evaluate the Navy's management process for determining which ratings or subratings--called Navy Enlisted Classifications--warrant the use of SRBs and for establishing the size of the SRB awards as reflected by the selected basic pay multiplier.¹ In particular, we focused on whether

- the Navy's SRB program is managed, and bonus levels determined, on the basis of a larger enlisted force than annually authorized by the Congress;
- bonuses were paid for ratings or in years-of-service zones² that were overmanned or where reenlistment rates were already high; and
- bonuses should be paid in a lump sum or in annual installments.

We examined the Navy's SRB management process to determine whether bonuses are being efficiently and effectively used; however, the scope of our evaluation was limited in two respects.

- First, the Navy's SRB program and the annual award-level plans rest on the basic assumption that the Navy's stated manpower requirements are correct. We did not validate the Navy's manpower requirements.
- Second, the Navy SRB manager uses a series of interactive computer models to help predict what effect a bonus of any particular level will have on reenlistment rates. (See app. III for a brief description of these models.) We evaluated how the SRB manager uses these models to assist in making more informed judgments about the most appropriate award level plan, but a validation of the assumptions upon which the models operate was beyond the scope of this review.

In conducting our evaluation of the Navy's SRB program, we interviewed officials and examined program documentation at the Office of Assistant Secretary of Defense (Manpower, Installations and Logistics) and at the Office of the Deputy Chief of

¹The SRB award level is based on a multiple of monthly basic pay times the number of years obligated by the reenlistment up to a maximum of \$20,000 (up to \$30,000 for not more than 10 percent of SRB recipients in a few critical ratings). Multiples range from 0 to 6, and fractional multiples are used.

²Reenlistment year-of-service zones are as follows:
 Zone A--At least 21 months but not more than 6 years-of-service.
 Zone B--At least 6 but not more than 10 years-of-service.
 Zone C--At least 10 but not more than 14 years-of-service.

Naval Operations (Manpower, Personnel and Training). We also interviewed analysts at the Center for Naval Analyses (CNA) and reviewed studies of the SRB program that had been done by CNA, the Rand Corporation, the Defense Audit Service (now part of the DOD Office of the Inspector General), and the Fifth Quadrennial Review of Military Compensation. We also reviewed DOD and Navy guidance³ for managing the SRB programs, and tested the Navy's compliance with the criteria specified in the guidance concerning the selections of ratings and zones to receive bonuses and the basic pay multiplier to be applied. Because the guidance necessarily allows for considerable flexibility and judgment on the part of the program manager, we evaluated the reasonableness of the decisions made.

As part of our evaluation of the Navy's SRB program management, we analyzed trends concerning the use of SRBs--in terms of SRB value, number of awards, changes in award levels, and additions to and deletions from the program. This analysis was done by observing how the SRB multiplier changed over time, in aggregate and for individual ratings. This analytic method was used rather than using SRB dollar values because bonuses are directly linked to basic pay--which changes annually--and because the payment method--lump-sum versus installments--has changed several times since the SRB program was authorized in 1974. This trend analysis was useful in observing what management actions were taken in response to varying situations such as basic pay adjustments, SRB budget cuts, and changes in personnel inventory.

Although we analyzed historical data to obtain an overall perspective of the Navy's SRB program-management strategy, our primary analysis dealt with the Navy's development of the fiscal year 1984 award level plan. During the development of the plan, we made a step-by-step evaluation of the process for determining which ratings or subratings should be targeted for bonuses--and in which years-of-service zones--and what the basic pay multiplier should be for each rating and zone. This included an evaluation of how the SRB program manager uses the output from the various computer models and other sources of information, such as from the enlisted community managers, that influence the SRB award level.

To determine whether bonus payments are being made for ratings which were already over 100 percent manned or where reenlistment rates are already very high, and whether paying bonuses in such situations was reasonable, we obtained data that

³This guidance is contained in DOD Instruction 1304.22, "Administration of Enlisted Personnel Bonus and Proficiency Pay Programs," April 20, 1983, and Office of Chief of Naval Operations (OPNAV) Instruction 1160.3A, "Selective Reenlistment Bonus (SRB) Program," Oct. 27, 1982.

specified which ratings were over 100 percent manned based on Navy's stated requirements in a particular zone but still eligible for an SRB. We also obtained and evaluated data from the Navy that quantified the cost of paying SRBs in zones exceeding 100 percent manning and what the training and replacement costs were for those zones. We also obtained data on the overall career manning levels for these ratings.

We performed our evaluations from June 1983 through January 1985 in accordance with generally accepted government auditing standards, except that we did not review the general and application controls of the computer-based systems that the Navy uses to generate predictions of reenlistment responsiveness to varying bonus levels. Also, we did not validate the estimation of personal discount rates calculated by the CNA and used in our estimate of potential savings that could be achieved by returning to the lump-sum payment method. However, we compared these personal discount rates with those published in other studies and found them to be consistent with estimates made by other economists.

AUTOMATED MODELS USED IN THE
DEVELOPMENT OF THE SRB ANNUAL AWARD-LEVEL PLAN

The SRB cost/yield estimation system is a series of interconnected computer programs that allows the SRB program manager to explore the budget costs and reenlistment yields of a wide variety of policy initiatives. At the present time, the system basically consists of five programs, but other programs feed information into this process. These five programs are as follows:

1. B/REFT (Bonus Reenlistment Force Transition Model): A multi-year forecasting model which adjusts FAST¹ projections of inventories, eligibles, and reenlistments for changes in SRB levels and other compensation initiatives. B/REFT includes an optimization routine which chooses the award levels that bring inventories in the outyears closest to the objective force. B/REFT is particularly useful for determining future SRB program budget requirements.
2. ROGER: A program which focuses on the cost and reenlistment yield of the SRB program in a single fiscal year. ROGER is an interactive program which allows the user to display bonus level, reenlistment, and cost data for any rating/zone in the Navy. The user can change bonus levels and observe the impact on reenlistments, contracted man-years and costs both for the particular rating/zone and in a running-sum all-Navy total. Inputs to ROGER are FAST eligibles, extensions, and reenlistments. Cost data is generated by computing estimated average bonus cost. The user inputs average basic pay for zones A, B, and C. The heart of the program is the elasticities used to generate changes in reenlistments due to changes in bonus levels. These elasticities forecast occupational specific behavior. Additionally, the model has reenlistment rate-adjustment factors to permit the user to accept ACOL² generated changes to reenlistment rates if unemployment and pay assumptions are different than those used to generate the FAST.

¹FAST--or Force Analysis Simulation Technique model--projects personnel flows (gains, losses, and advancements) by paygrade, rating, and length of service, and provides estimates of future inventory at the end of the year by grade and length of service.

²ACOL--or Annualized Cost of Leaving model--evaluates the impact of such factors as changes in pay, housing allowances, or unemployment conditions on the career inventory. It is not a rating-specific model.

3. BONUS: A data file manager which allows the user to create, manipulate, and store any number of SRB award programs. The main use of BONUS is to allow B/REFT and ROGER to "talk" to each other by exchanging the SRB program files created by each model.
4. BUDGET: An adjunct model to ROGER, BUDGET calculates the multi-year budget impact of the overlapping, time-phased payments of SRB awards for each fiscal year.
5. COMP: An adjunct model to B/REFT, COMP allows the user to create any number of compensation program files. These files are used by B/REFT to account for changes in reenlistment rates due to compensation initiatives other than SRBs.



THE ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D. C. 20301-4000

~~MANPOWER~~
~~INSTALLATIONS~~
~~AND LOGISTICS~~

Force Management
& Personnel

12 AUG 1985

Mr. Frank C. Conahan
Director, National Security and
International Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "Navy Management and Use of the Selective Reenlistment Bonus Program", dated July 15, 1985 (GAO Code No. 967108, OSD Case NO. 6798).

DoD concurs with the report.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry L. Calhoun".

Jerry L. Calhoun
Principal Deputy Assistant Secretary of Defense
(Force Management & Personnel)

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