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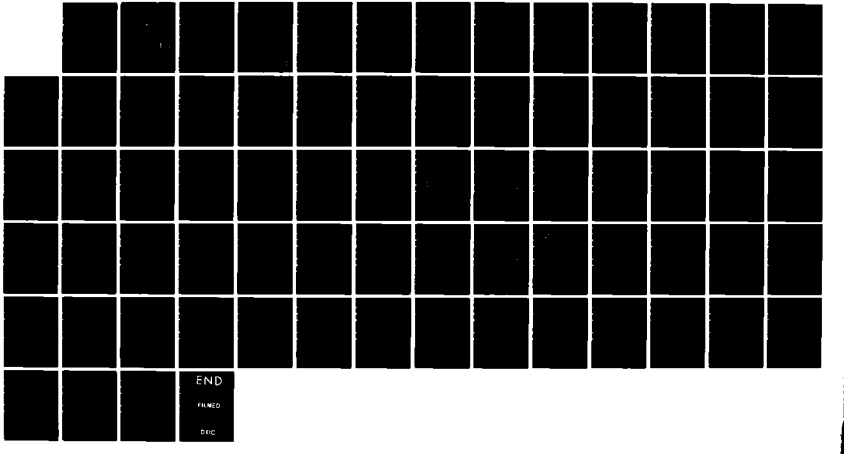

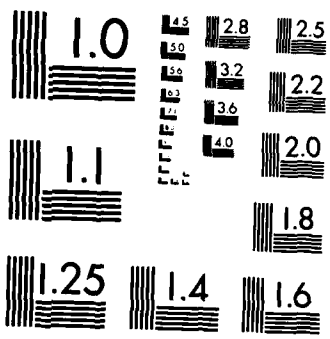

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AIR COMMAND AND STAFF COLLEGE

STUDENT REPORT

IMPACT OF THE B-1 DRAW ON SAC BOMBER RATED MANNING 1986-1989

MAJOR LEE W. STONE 85-2625

"insights into tomorrow"

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REPORT NUMBER 85-2625

TITLE IMPACT OF THE B-1 DRAW ON SAC BOMBER RATED MANNING 1986-1989

AUTHOR(S) MAJOR LEE W. STONE

FACULTY ADVISOR MAJOR MARK M. WARNER

SPONSOR MAJOR JAMES L. BACHMANN, HQ SAC/DPXP

Submitted to the faculty in partial fulfillment of
requirements for graduation.

AIR COMMAND AND STAFF COLLEGE
AIR UNIVERSITY
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19. ABSTRACT *(Continue on reverse if necessary and identify by block number)*

The B-1 is scheduled to begin entering the SAC inventory in 1986 and will continue force growth through 1988. The rated personnel that will be required to man this system are projected to come from existant resources. SAC bomber coded personnel will be the primary source to man the B-1 weapon system. This report evaluates bomber rated manning and projects the impact of the B-1 draw against the B-52 and FB-111 based on current trends. The study indicates that alternative actions will be necessary and provides a projection framework that may be utilized to continually assess future manning objectives against current personnel

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IMPACT OF THE B-1 DRAW

ON

SAC BOMBER RATED MANNING

1986 - 1989

A RESEARCH PAPER

Presented to

the faculty of the Graduate Division

Troy State University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science in Personnel Management

by

Lee W. Stone

Fall 1984

PREFACE

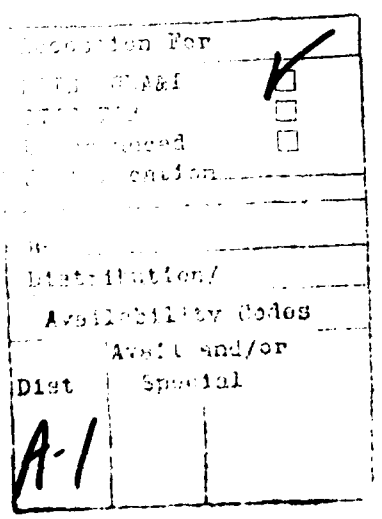
The B-1 will be integrated into the SAC inventory from 1985 through 1988. The addition of these aircraft will provide significantly greater capability for the manned bomber leg of the U.S. TRIAD. However, as with the introduction of any new weapon system, there will be significant turmoil.

This report will identify major problems and shortfalls that can be expected to occur within the rated personnel resource. This will be accomplished by establishing a set of assumptions about the next 4 years, combining them with current personnel trends and applying them to the future. These factors will project where the manning levels of the particular resource should be if no changes occur. This study provides a framework which can be updated to give an accurate manning assessment throughout the entire B-1 program. This paper also provides general recommendations for actions to be taken to prevent problem areas. This work is not meant to be all inclusive. It does, however, provide a starting point for more continued and detailed analysis. The focal point for this ongoing work is HQ SAC/DPXP. Inquiries on B-1 personnel planning updates should be directed to that office.

CONTINUED

Additionally, this material is being submitted to the faculty of Troy State University in partial fulfillment of the requirements for the Master of Science Degree in Personnel Management.

I would like to express my gratitude to my sponsor, Major James Bachmann, for his assistance throughout the preparation of this work. Without his efforts this report would not have been possible.



ABOUT THE AUTHOR

Major Stone is a 1970 graduate of Xavier University in Cincinnati, Ohio. He received his commission in June 1972 from Officer Training School (OTS) and entered Undergraduate Navigator Training (UNT) in July of that year. After graduation from UNT and Navigator Bombardier Training (NBT) in 1973, he was assigned to the 320 Bomb Wing at Mather AFB, California. There he served as a B-52 Navigator, Stan/Eval Navigator and Radar Navigator. He was then assigned to the 43 Strategic Wing at Andersen AFB, Guam in 1978. There he served as a B-52 Radar Navigator, Stan/Eval Radar Navigator and as Wing Target Study Officer. In August of 1981, Major Stone was assigned to the DCS Personnel at Headquarters SAC. His first duty was as Chief of the Bomber Career Development Section. In 1982 he was assigned as Chief, Aircraft and Support Analysis Branch in the Directorate of Personnel Plans. There he served as the SAC focal point for Rated Personnel Distribution and Training. He was responsible to determine future force structure and needs for both officer and enlisted personnel. He was a member of both the SAC B-1 working group and SAC B-1 Cadre Team.

CONTINUED

Major Stone is a graduate of SOS and will complete his Master of Science Degree in Personnel Management concurrently with Air Command and Staff College.

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EXECUTIVE SUMMARY

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REPORT NUMBER 2625

AUTHOR(S) MAJOR LEE W. STONE, USAF

TITLE IMPACT OF THE B-1 DRAW ON SAC RATED MANNING 1986-1989

I. Problem: One hundred B-1 aircraft will be added to the Air Force inventory from FY 85 through FY 88. Rated personnel to man these aircraft are planned from SAC bomber resources. Early and specific sizing of this impact is necessary to adjust personnel planning in order to man the B-1 with minimal impact on sourcing weapon systems.

II. Objectives: It is necessary to establish the numbers and training of B-1 force, training and staff authorizations that will be added to SAC during the B-1 growth. Current and projected status of the SAC core requirement manning must be determined. To arrive at these figures it is necessary to establish a framework for personnel projections that will best show the impact of these requirements from FY 85 through FY 89. Assumptions must be made concerning retention, personnel movement, upgrade and career movement that will be consistent throughout the projections. These projections combined with the B-1 authorization growth will show the projected status of SAC rated manning, and the associated impacts of the B-1 growth on their respective resources.

Chapter 4

B-52 PROJECTIONS

PILOT/CO-PILOT

In order to project manning beyond FY 85, loss rates and Total Active Rated Service (TARS) data had to be established through the period. Retention for all crew positions is currently the highest in recent history, yet it has begun to show a decline. Pilot retention has been the most volatile of all crew positions. The major retention indicators such as unemployement, pay comparability, and airline hires emphasize this decline in retention rates (14:10-1 - 10-19). For these projections a TARS rate of 13 years versus the current 15 years is used throughout. This provides a middle ground projection that is more closely aligned to a 5 year historical average (13:4-7). Losses to the support of core requirements also include promotions to colonel (O-6), and groundings which are viewed as a loss and must be balanced by an input to maintain [illegible] within the system.

[illegible] will be the critical year for B-52 resource [illegible]. This will be especially true for the co-pilot and [illegible] positions (graph size represent twice the [illegible]). Increased UPT rates begin to significantly impact [illegible] positions in FY 87 and continue through the end of [illegible] initial B-1 draw. Shortages in each crew position, during this time frame, can also be attributed to rebasing actions which should be complete by end FY 87. Additionally, problems [illegible] in the experience levels of the B-52 resource.

Specific flying requirements for each crew position must [illegible] for individuals to be classified as experienced in that [illegible] system (3:6-9, 6-15). The impact of the B-1 draw on the SAC established levels of B-52 experience is shown in [illegible] 4-6 through 4-9 for each crew position (3:--). The [illegible] levels of experienced personnel necessary are depicted [illegible] straight horizontal lines and highlighted along the [illegible] axis. Pilot and co-pilot as well as radar and [illegible] are graphed in order to show the impact across the [illegible].

manpower increases shown in requirements (13:3-6 - 3-27). Two of the six months were adjusted for projected early aircraft delivery and four months were adjusted for the length of the CCTS. This factor was figured throughout the draw for each crew position. Based on training capability and information available at end FY 84, no attrition has been figured from the B-1. Entitlements for rebasing actions in FY 86 and FY 87 were figured in order to allow for personnel to be in place in the system during the re-location of the B-52's. Additionally, specific assumptions were made for each crew position affected by the B-1 draw.

Appendix 1 provides a proposed long term manning game plan. Figures 4-1 through 4-5 are the manning projections for the impact of the B-1 draw on B-52 resources. They are based on the assumptions in Chapter 3 and 4, and are reflected in Appendix 1. In each case the graph starting point is the end of FY 85. The FY dates shown across the bottom of the graph represent the end of the respective fiscal years. The zero line at the center of the graph represents the 100% manning of the SAC core requirements. The numbers along the left side of the graph represent the plus or minus manning relative to 100%. This is an aggregate look at the core force, training and staff requirements. These figures are cumulative and reflect end results if current trends are not changed.

there will be an authorization "economy of scale" as the B-1 is added. However, through the B-1 buildup there will be additional authorizations that are not currently projected. For example, as with any weapon system, the expertise and knowledge that is developed by those in the B-1 program will be required at Major Command (MAJCOM), in Research and Development (R&D) and at the Air Staff. There is no reason to believe that the B-1 will be any different. Therefore, the economy of scale authorizations saved by B-52 relocation have been figured and applied against currently unprojected B-1 authorizations. There is no aggregate increase or decrease in B-52 or B-1 authorizations over FY 85 projections. This will, in fact, lend an overall balance of optimistic UFT projections. This is necessary from the personnel perspective in order to have the necessary people available to fill requirements as they are validated.

In order to make projections that would be accurate, yet still identify when the personnel should be "in system", several assumptions had to be made. Each B-52 crew position has its own characteristics, yet certain assumptions concerning the authorization factoring were common to them all. In order to show when the impact would actually occur in the personnel system throughout the draw, the B-1 crew authorizations were phased and added six months early versus the lump sum annual

taken to manage the resource and can identify adjustments to those actions that may be necessary when applied to the future.

The specific numbers for this paper will be projected using assumptions found in the Air Force Manpower and Personnel Center (AFMPC/RORBE) FY 85 game plan. Undergraduate Navigator Training (UNT), Undergraduate Pilot Training (UPT) and Electronic Warfare Training (EWT) inputs are applied as per the September 84 rated management conference as shown in the Rated Management Document (13:7-1 - 8-6). Due to the inaccuracy of and inability to figure a consistent "washout" rate, no underproduction figure was applied to these rates. This creates a "best case" projection based solely on Undergraduate Flight Training (UFT) acquisitions. These acquisitions are somewhat balanced as the B-1 authorizations are applied.

As with authorizations for any large increase in manpower, the B-1 authorizations have been time phased from 1985 - 1988 in conjuction with aircraft delivery. Personnel to fill these authorizations will need to be in the pipeline and/or in training before these authorizations become effective. In order to plan for this discrepancy, certain assumptions have been made.

Through rebasing B-52 aircraft to establish B-1 bases,

Chapter 3

METHODOLOGY

In order to create a system of projections, certain assumptions are necessary. It is not possible to predict each nuance that may happen up to 4 years in the future. But, by analyzing today's trends, the specifics that are known, and utilizing assumptions based on the best available information, it is possible to identify trends for the future. Specifically, in order to project B-52 resources into the future, through the B-1 draw, it was necessary to take the best information available today, and combine that with a series of assumptions about the B-1 draw.

The starting point for these projections is the end FY 84 manning statistics as shown in the core requirements as well as the total Air Force manning picture (6:--). Combined with the AFMPC FY 85 manning "game plan",(2:--) the information shows where SAC was at the end FY 84 and where it should be at the end of FY 85. This data includes the proposed actions to be

primary draw will come from the bomber weapon system category (8:--).

The addition of the B-1 will create a significant impact on the B-52 and FB-111 bomber weapon systems. In the three primary years of the B-1 build, Air Force (AF) bomber pilot requirements will increase approximately 20% and aggregate AF bomber navigator requirements will increase approximately 15%. Due to other factors such as weapon system currency and population demographics, however, the major source for the B-1 has been narrowed to SAC core requirement manning. When applied to these requirements, the percentages increase to 29% pilot and 22% navigator thus showing the true impact on SAC.

This impact and its timing must be determined in order for planners to take the appropriate actions. As the primary sources of rated personnel to man the B-1, both the B-52 and the FB-111 will experience turbulence associated with this draw. Though each is part of the aggregate bomber weapon system, the problems this draw will create are unique to each crew position and therefore must be analyzed separately.

CCTS CREWS

POSITION	SOURCE	TOT HRS	YRS IN SAC
IP	SAC Bomber	2000	3
IOSO	SAC Bomber	1800	3
IDSO	SAC Bomber	1500	3

(Figure 2-1)

The follow-on selection process for unit crews will begin in the summer of 1985. Succeeding selection boards will be held at HQ SAC coincident with CCTS training availability and flow. Requirements for unit crew selection are shown in Figure 2-2 (2:--).

UNIT CREWS

POSITION	SOURCE	TOT HRS	YRS IN SAC
Acft Cmdr	SAC	1800	3
	Other	2000	N/A
CP	SAC	750	1
	Other	750	N/A
OSO	SAC	1500	3
DSO	SAC	1000	2

(Figure 2-2)

Sourcing for B-1 requirements will primarily come from current SAC weapon system resources. This includes the sourcing for force, training and staff requirements. The

Chapter 2

BACKGROUND

Starting in June 1985, SAC will receive the first B-1B of a scheduled 100 aircraft buy. Aircraft will be acquired through FY 88 with the primary growth rate from FY 86/2 through FY 88/2. The B-1B will be based at Dyess AFB, TX; Ellsworth AFB, SD; Grand Forks AFB, ND; McConnell AFB, KS. SAC rated requirements will increase approximately 365 pilots, 242 DSO's and 184 DSO's during this period due to the B-1 growth (1:--). Mannning selection for this aircraft will be in two phases. The first is selection for Combat Crew Training School (CCTS) duty and the second is the selection for follow-on crews.

The selection process for the CCTS instructor cadre took place during the fall of 1984. CCTS selection criteria are as shown in Figure 2-1 (2:--).

Specific terminology and anachronisms are used throughout this work. The glossary provided in Appendix 4 should aid the reader with term familiarization.

(HQ SAC), in conjunction with the airstaff and Headquarters Air Force Manpower and Personnel Center (HQ AFMPC), has been involved in a concerted effort to correctly size the personnel requirements that must be available for this draw. SAC has taken the associated measures necessary to insure properly trained and experienced personnel are available for the B-1, without serious adverse impacts on supplying weapon systems.

The research and projections set forth in this paper reflect an end Fiscal Year (FY) 84 "snapshot" of current and projected requirements. This work further reflects the personnel inputs, retention and movement within the Air Force for the period through FY 89. The B-1 growth is treated as a straight force add with any economy of scale gained in the B-52 resource during this period factored as unprojected requirements.

This paper provides a projection framework for SAC bomber force manning. Specific numbers are subject to change. However, based on the methodology and known factors at this time, key trends are identifiable. This paper will attempt to identify those trends and shortfalls in the manning of the B-1. Additionally, it will highlight the associated impacts on the sourcing weapon system and provide possible sourcing alternatives and their associated impacts.

Chapter One

INTRODUCTION

On September 4, 1984 the first B-1B went on display at its rollout in Palmdale, California. This aircraft was five months ahead of schedule and the indications are that Rockwell International may remain ahead of schedule throughout production of the entire fleet of 100 aircraft.(1:59-65)

Each B-1B will be operated by a crew of four officers: Pilot(P), Co-Pilot(CP), Offensive Systems Operator(OSO), and Defensive Systems Operator(DSO). The basic rated officer requirements for this aircraft have been determined to include: force, training, and staff needs. Of particular concern is not only the additional number of manpower requirements, but also the compressed acquisition schedule. This rapid growth will bring 100 aircraft and the associated manpower authorizations into the Strategic Air Command (SAC) inventory in under four years.

Since August of 1983, Headquarters Strategic Air Command

CONTINUED

for co-pilot may include UPT graduates, FAIPs, ATC returnees, T-35 pilot/co-pilots or other command experienced personnel. This mix shift will provide greater long term sustainability, broader experience base and higher B-52 experience levels. B-52 radar navigator resources are projected to be able to support the B-1 staff and training requirements draw at 95%. However, as with the pilot resource, it will be necessary to shift the force draw from 95% B-52 radar navigator to 65% B-52 radar navigator, 5% FB-111 radar navigator and 30% B-52 navigator. Additionally, it may ultimately be necessary to shift UNT accessions from other weapon systems to the B-52 resource. Shifting of these resources will allow experiencing of the radar navigator resource and lowering of the upgrade rates required to sustain the force.

V. Conclusion: This work and these projections are based on end FY 84 data. Throughout the B-1 draw it will be necessary to update personnel plans and actions. By constantly updating projections and actions that can be taken, the B-1 will be manned by the best qualified personnel from the B-52 and FB-111, without serious adverse impact to those weapon systems.

CONTINUED

III. Findings: The draw against the B-52 will create a significant impact on each crew position. Even by drawing down the SAC bomber support of Air Force requirements, there will be difficulty maintaining SAC manning at 100% and still supplying the B-1 with 95% B-52 personnel. Based on the most optimistic upgrade capability, FY 87 still shows all bomber crew positions going below one hundred percent manning for SAC force, training and staff requirements. Lowered UNT and UPT rates prevent significant recovery through FY 89 for the pilot/co-pilot and radar navigator/navigator resources. The projected experience levels of the pilot/co-pilot resource will receive the greatest impact during this draw. The mid FY 87 projection shows the aggregate pilot experience below command established minimums and not going above during the rest of the period studied. Based on current policies and projections, radar navigator/navigator manning will also be significantly impacted. Current measures, such as decreasing career broadening and prioritization for the SAC staff, will remain necessary. Each of the measures necessary to curtail career broadening and limit upward mobility of pilots and navigators can create additional adverse impact on retention further compounding the problems forecast. The least impact is projected on the Electronic Warfare Officer position. Prior front loading of personnel, no internal upgrade to another crew position and smaller resource size, all allow greater flexibility manning this resource. Every projection year except FY 87 shows SAC EWO resources able to be manned at or above one hundred percent. Experience levels of this resource are also projected to remain well above desired levels. The projected 5 percent draw against the FB-111 pilot and radar navigator resource will be supportable. However,close monitoring of FB-111 resource levels within SAC and throughout the Air Force will continue to be necessary.

IV. Recommendations: In order to support the B-1 without serious adverse impact on the B-52, crew sourcing will need to be shifted starting in FY 87. B-52 pilot resources will be able to support the B-1 staff and training requirement drawn at ninety-five percent. However, based on these projections accomplished at the end of FY 84, it will be necessary to shift B-52 pilot force support closer to 70% with 5% FB-111 and other support of 25%. This other category may include 13S, ATC, FAIP or other command experienced personnel. Co-pilot support will need to be shifted from 100% support to a maximum shift that may be necessary of 50% B-52, 50% other. The other category

The primary source of inputs to the B-52 pilot position is through upgrade of B-52 co-pilots. The projections shown in Figures 1-1 and 1-2 depict the most optimistic upgrade capability of 110 co-pilots (PUPs) per year. Additional pilot inputs are comprised of First Assignment Instructor Pilot (FAIP)/others and those B-52 pilots returning to core requirements from Air Force positons outside the core. One hundred and eighty-one returns were figured annually to SAC core requirements. This begins to draw down SAC's support of the overall Air Force requirement during the B-1 draw (2:--).

Each year, part of the SAC crew force is career broadened into areas outside of core force, training and staff requirements. Starting in FY 86, these projections have figured a flow to non-core requirements of 160. These include positions in Air Force Institute of Technology (AFIT), Air Staff Training Research Associate (ASTRA), Professional Military Education (PME), Rated Supplement, other aircraft crossflow (B-1 figured separately), Joint/Departmental and Special Officer Personnel Requirements (SOPRs) to the Special Operating Agency (SOA)/other areas. This outflow is dependent on the returns, but these projections figure a decline in support of 10-20 per year over FY 85 levels. In a macro view, normal movement and loss rates affect the ability to sustain

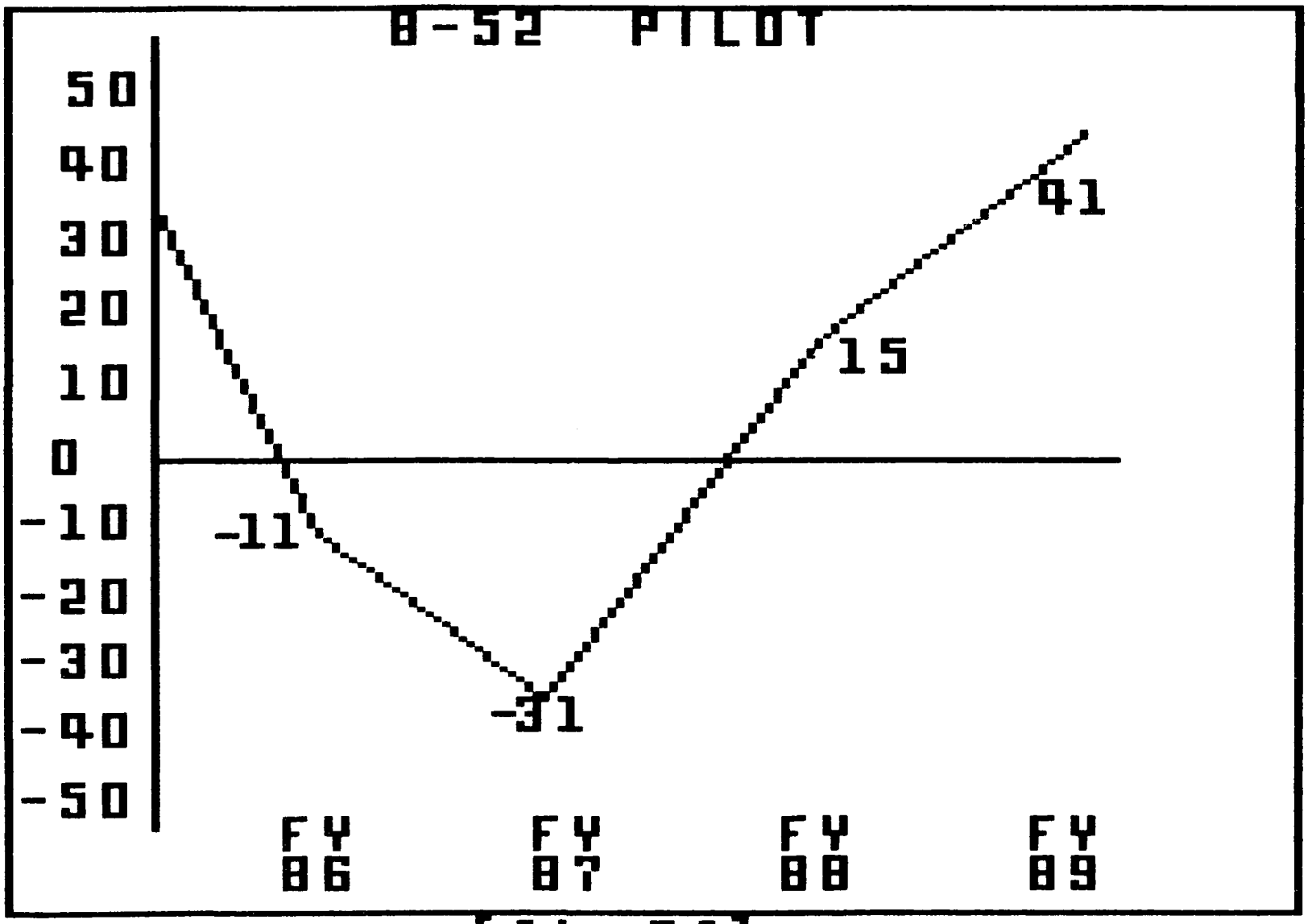
pilot manning. Additionally, the B-1 will create an even more significant impact to this resource. Based on the maximum upgrade capability of the B-52 pilot resource as shown, current levels of pilot outflow are not sustainable through the B-1 growth.

The specific annual draw from the B-52 is still to be determined. However, as previously stated, the general impact on the SAC core can be estimated. These projections utilize the authorization time phasing previously described, and figure 95% B-52 pilot support of B-1 requirements. These include known force, training and staff requirements for aircraft commanders, and exclude co-pilot requirements.

B-52 co-pilot support is figured at 100% of B-1 co-pilot requirements starting in FY 86. This crew position is not as volatile to project as the pilot position. There is little movement of this resource from the core due to initial flying commitments, lack of experience and the limited positions available for non - aircraft commanders.

Retention and outflow of co-pilots is relatively stable. There is no significant change in the loss rates, cross-flow to Air Training Command (ATC) and outflow reflected in these projections (2:--). In addition, these projections reflect 110

upgrades to pilot annually and the UPT inputs are rates figured without attrition.


B-52 PILOT
50
40
30
20
10
0
-10
-20
-30
-40
-50
-11
-31
15
41
FY 86
FY 87
FY 88
FY 89

[Fig.4-1]

B-52 CD-PILOT
100
80
60
40
20
0
-20
-40
-60
-80
-100
FY
89
FY
88
FY
87
FY
86
-90
-52
-41
15
[Fig.4.2]
17

RADAR NAVIGATOR/NAVIGATOR

Historically, radar navigator loss rates and promotion rates to colonel have been relatively stable. Even though overall retention has been high and has peaked, TARS data for the radar navigator position has not reflected great changes. These projections, then, reflect TARS of 13 years versus the current TARS of 13.2 (13:4-7). Changes have occurred, however, in navigator upgrade (NUP) rates.

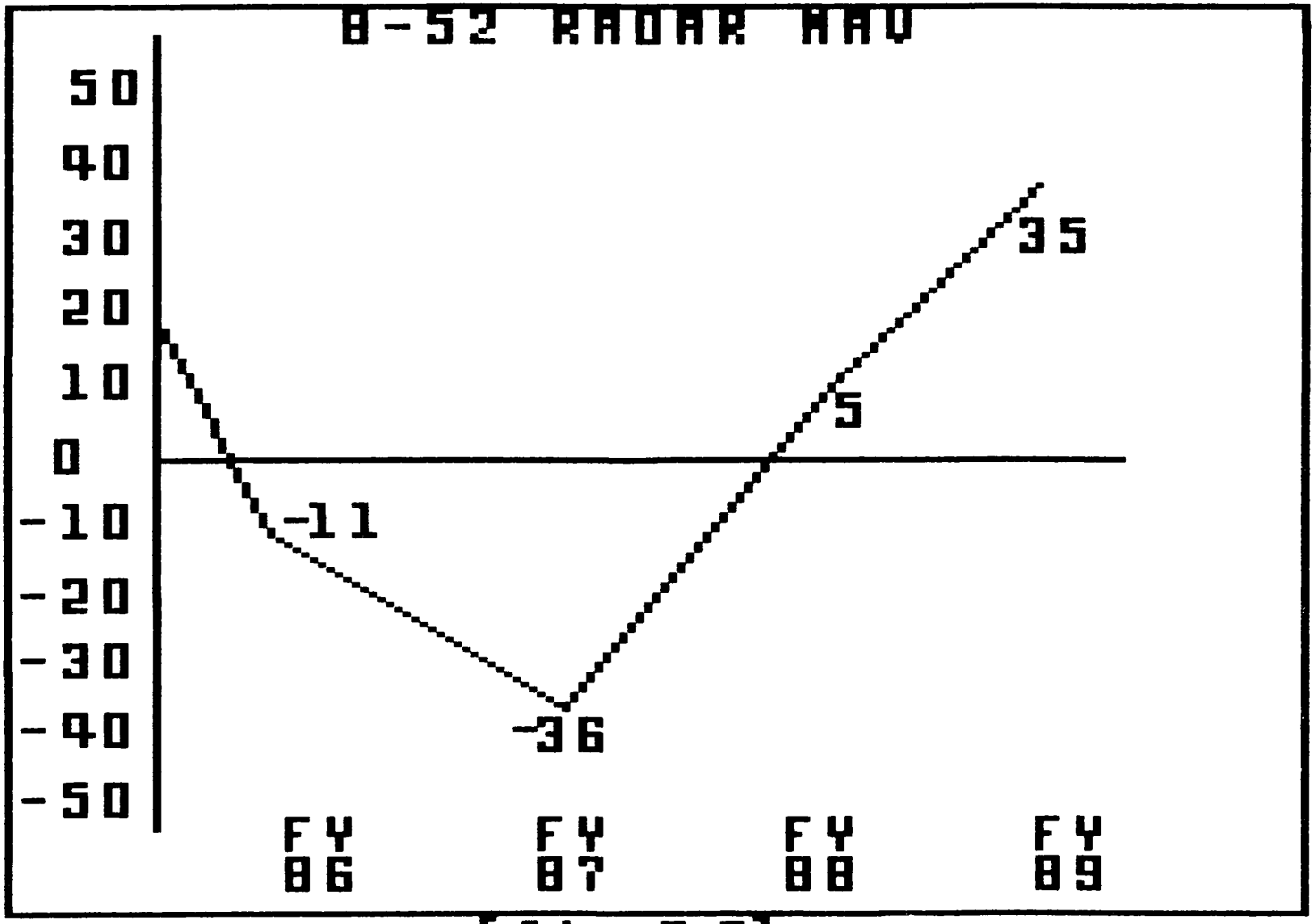
Recent changes in training capabilities have shown a significant increase in upgrades from navigator to radar navigator. As with the pilot upgrade rates, these projections reflect the maximum capability, and show 150 NUPs per year to radar navigator. Currently, there is a deficit in core radar navigator manning and career broadening has been limited (7:--).

Outflow from core radar navigator positions is limited. The SAC staff has been prioritized at 90% (10% of positions unfilled) (10:--). These projections reflect the vacancies throughout the B-1 draw. In addition, outflow to non-core requirements is figured at 70 per year versus 79 returns. This figure, as with B-52 pilots, also reflect a drawdown of SAC

support of Air Force requirements. The specific outflow per year is dependent on the returns, but the basic trend will remain through the [illegible] draw.

The B-52 radar navigator will be the primary source for the B-1 Offensive (OSO) position. These projections reflect 95% B-52 RN and 5% FB-111 RN support of OSO force, training and staff requirements (8:--). Backfills for the radar navigator position come through the previously mentioned navigator upgrade.

These initial projections, shown in Figures 4-3 and 4-4, reflect no direct navigator support of the B-1 requirements. As with the co-pilot, there is little movement of this resource from core requirements and retention and outflow of navigators is relatively stable. There is no significant change in the loss rates, cross flow to ATC and outflow reflected in these projections (2:--). In addition, these projections reflect the maximum capability of 150 upgrades to radar navigator per year and the programmed UNT input rates reflect no attrition (5:--).


B-52 RADAR NAV
50
40
30
20
10
0
-10
-20
-30
-40
-50
-11
-36
5
35
FY 86
FY 87
FY 88
FY 89

[Fig.4-3]

B-52 MAU
100
80
60
40
20
0
-20
-40
-60
-80
-100
39
-11
-25
-43
FY 89
FY 88
FY 87
FY 86
Fig. 4.4]
21

ELECTRONIC WARFARE OFFICER

The B-52 Electronic Warfare Officer (EWO) will be the major source for Defensive Systems Operators (DSO) for the B-1. The graph shown in Figure 4-5 reflects 100% support from this position. As with the rest of the bomber navigator force, retention and promotion to colonel have been relatively stable. Historical TARS data does not vary significantly and the aggregate navigator TARS data of 13 years is used for the projections (13:4-7).

The projections further reflect an outflow of 50 EWOs per year to non-core requirements (including AFIT, ASTRA, PME, etc.) and returns of 55 per year, again drawing down SAC support of Air Force requirements. Losses due to Date of Separation (DOS), grounding and promotion to colonel (O-6) have been figured at 81, in line with the FY 85 MPC Game Plan (2:--). Inputs to support this system are from EWT and reflect no under production figures.

B-52 EAD
100
80
60
40
20
0
-20
-40
-60
-80
-100
25
16
-17
17
FY 89
FY 88
FY 87
FY 86

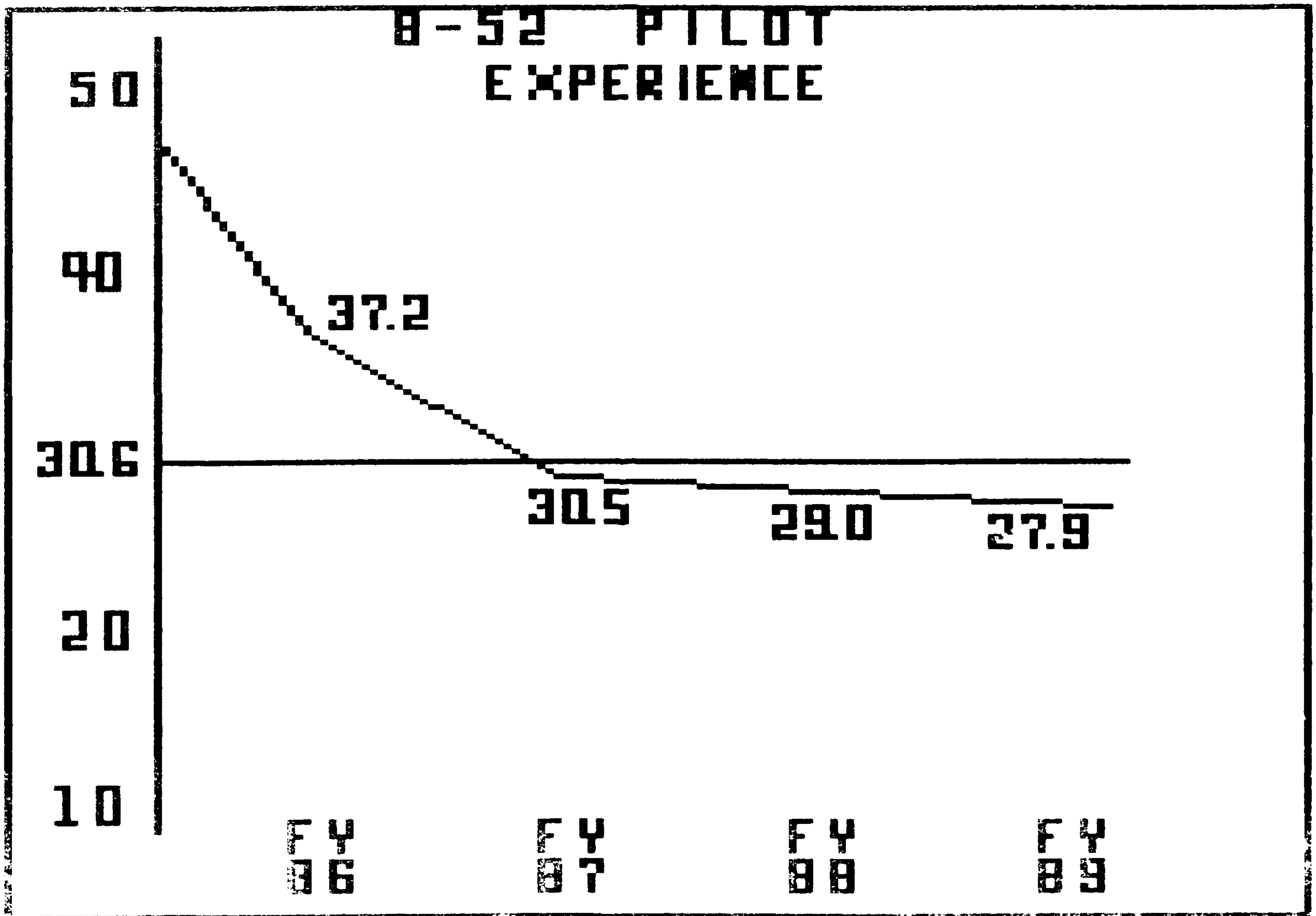
Fig. 4.5]

23

EXPERIENCE LEVELS

Experience levels will also be a problem that will primarily affect the pilot and co-pilot positions. Figures 4-6 through 4-8 show the sourcing impacts as reflected in experience levels of the resource (3:--). They are displayed on the graphs as the minimum experience level percentages established by HQ SAC, and the projected experience level percentage of the particular resource. The bomber pilot force is impacted the greatest due to the large sourcing problem and the fact that the pilot/co-pilot resource is the primary draw for two crew positions (P/CP) in the B-1. This aggregate resource will supply the B-1 pilot force, training and staff as well as the co-pilot crew force.

The pilot and navigator graphs show the aggregate impact of this draw on the combined pilot/co-pilot and the combined radar navigator/navigator resources. The EWO experience graph shows the least impact. This is primarily due to the early "front loading" of the resource, and the fact that this is a single seat position without an in system upgrade to another crew position.


B-52 PILOT
EXPERIENCE
50
40
30.6
20
10
37.2
30.5
29.0
27.9
FY 86
FY 87
FY 88
FY 89

[Fig.46]

B-52 MHD
EXPERIENCE
42.8
42.9
38.6
34.1
50
40
31.3
20
10
FY 89
FY 88
FY 87
FY 86

Fig. 4.7]
26

[illegible] of the system will remain through the B-1 draw. By end FY 94, 39 FB-111 coded pilots and 45 FB-111 coded radar navigators currently in the Air Force will become retirement eligible. From the end of FY 94 through the end of FY 98, approximately 96 additional FB-111 pilots and 40 additional FB-111 RNs currently in the Air Force will fall into this category or promoted to colonel(O-6). This will create a total of 87% of pilots and 75% of RNs of the current and previously qualified resource that will be eligible to leave the Air Force or be promoted out of the core requirement system (9:--). This will limit the support of these year groups for the B-1 and will ultimately begin to reduce the FB-111 support of overall AF requirements outside of the SAC core.

This population shift in the FB-111 will eventually provide greater long term sustainability for the weapon system. However, close control of the resource will continue to be necessary in order to maintain desired manning levels and be able to support the B-1 at a 5% rate for both pilots and RNs (8:--). The proposed long term game plan shown in Appendix C, depicts force structure and force movement based on certain assumptions at the end of FY 94.

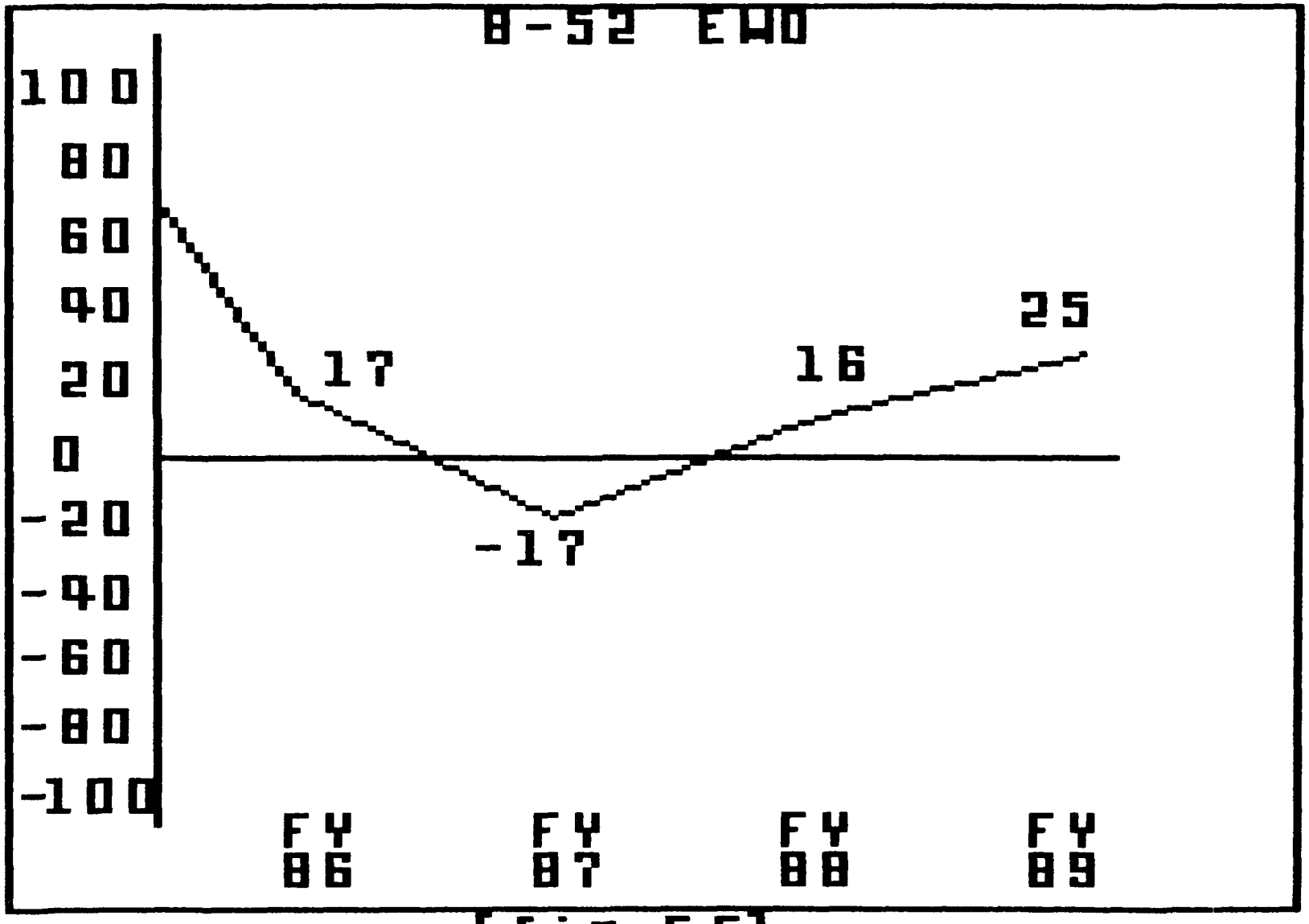
The overall management of the FB-111 resource is based on the [illegible] (9:--). Throughout the period, inputs to [illegible] on TCTS capability. Returns are changed

Chapter 6

FB-111

The problems facing the FB-111 in support of the B-1 are significantly different than those of the B-52. The force size is significantly smaller than the B-52, as is the training capability of the weapon system. Currently, the FB-111 system is able to train 14 initial qualification pilots and RNs as well as six requalification pilots and RNs per year (5:--). This total training capability of 40 per year limits the ability to supply personnel to the B-1 as well as sustain the weapon system on a day to day basis. This training problem will further be compounded during the Avionics Modernization Program (AMP) starting in FY 85 as the aircraft are upgraded. In addition to these problems, the seniority of the personnel associated with the FB-111 further compounds any manning or sourcing plan.

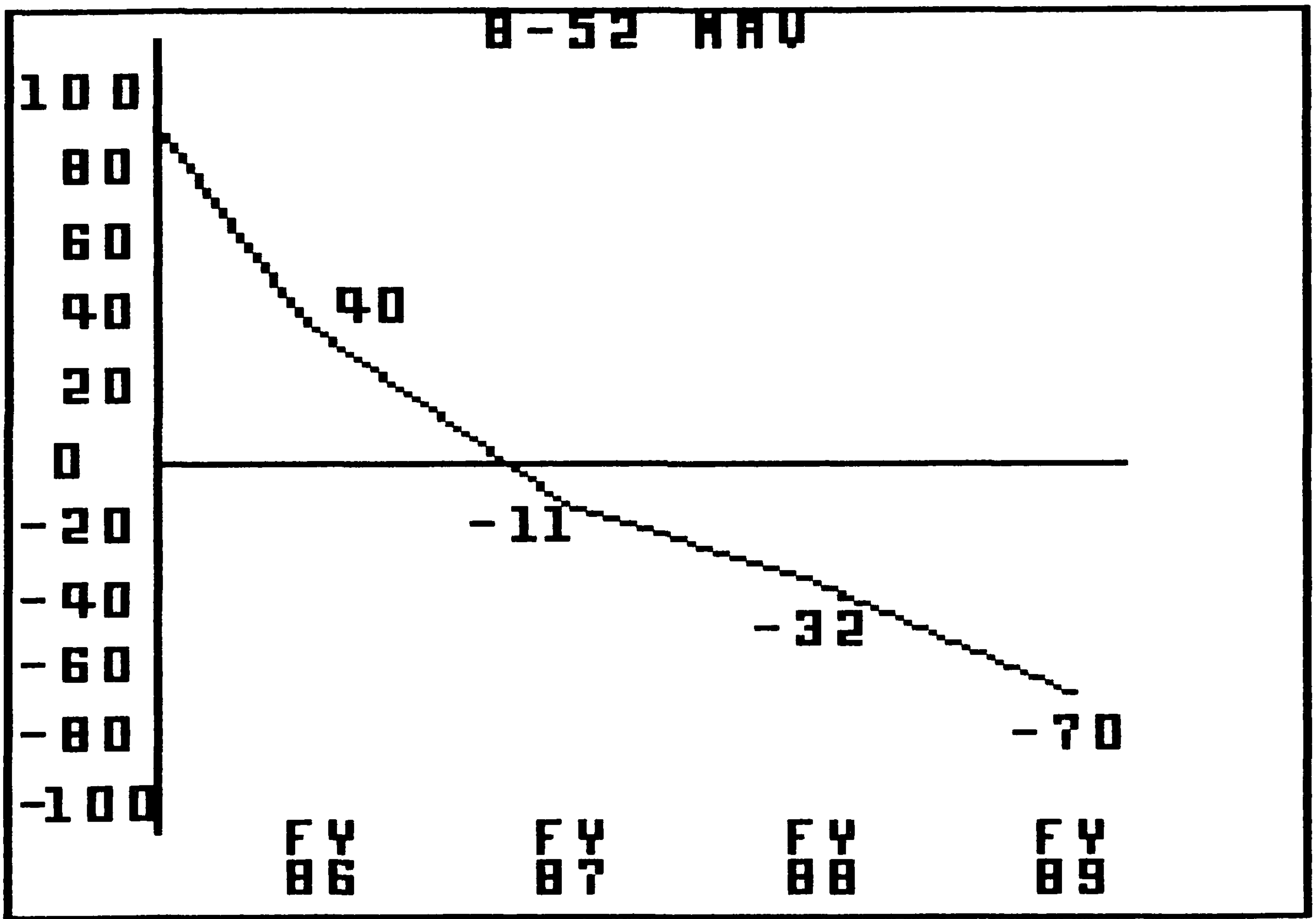
Until 1982 the average new input to the FB-111 ranged [illegible] from mid-level captain to junior major. The entry criteria have been lowered (12:2-2) but the problem of the


8-52 EMD
100
80
60
40
20
0
-20
-40
-60
-80
-100
17
-17
16
25
FY 86
FY 87
FY 88
FY 89

[Fig.5-5]

EWO

The Electronic Warfare Officer provides SAC's most flexible position from which to source the B-1. Through the projections in Chapter 4, and repeated in Figure 5-5, show 1987 being the most critical year for B-52 manning, any shift in outflow, return to the core or EWT production can alleviate that situation. As with the other crew positions, careful monitoring will be necessary through the entire draw. However, the fact that this is a single seat position supplying a single B-1 DSO position greatly simplifies the sourcing problem. Additionally, actions taken in 1984 that internally shifted accessions to the EWT line, provide a larger source of trained EWOs to draw upon for the B-1 (10:--).


B-52 MAV
100
80
60
40
20
0
-20
-40
-60
-80
-100
40
-11
-32
-70
FY 86
FY 87
FY 88
FY 89

[Fig.5-4]

B-52 RADAR RAU
100
80
60
40
20
0
-20
-40
-60
-80
-100
FY89
FY88
FY87
FY86
3
-6
42
72

[Fig. 5.3]

B-52. The more junior navigator sourcing will provide greater long term sustainability of the B-1 OSO position.

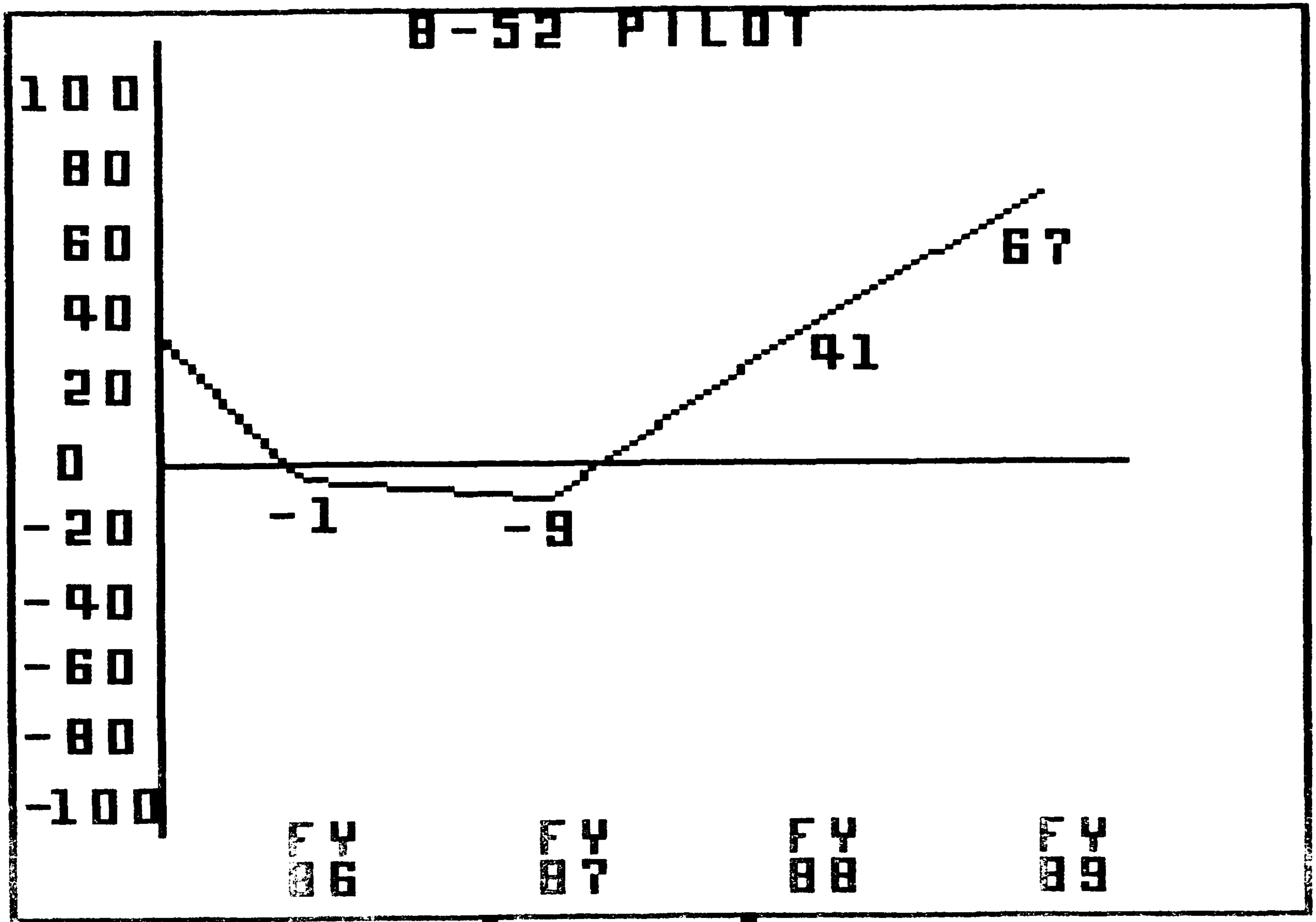
These actions will lead to a balanced RN and Nav force through the draw. As shown in these graphs, by 1989 there should be sufficient B-52 RN resources to begin to cut back on the increased upgrade rates or possibly accept an overall core navigator deficit and begin to fully man the staff. It must further be remembered, that these are recommended actions. However, any further decrease in outflow to career broadening assignments could create a significant impact on retention and limit the future potential of these officers for long-term senior Air Force leadership.

RADAR NAVIGATOR/NAVIGATOR

The most critical bomber resource through the B-1 draw is the radar navigator/navigator position. Actions were initiated in 1984 to align the resource for the B-1 draw. These actions include staff prioritization, increases in UNT accessions and careful monitoring of RN outflow to non-SAC requirements (10:--). However, as the projections in the previous chapter show, other actions will be likely.

As with the B-52 pilot, adjustments in the B-1 draw from the RN position can have a significant effect. Experience required and the single nature of the OSO position will not allow direct accession from UNT during the initial B-1 draw. However, as shown in Figures 5-3 and 5-4, by shifting the crew draw from 95% B-52 RN and 5% FB-111 RN to 65% B-52 RN, 30% B-52 N and 5% FB-111 RN, the impact on the aggregate B-52 navigator manning levels is significantly lessened. Additionally, the graphs also show an increase of 15 basic navigator accessions over FY 84 projected levels starting in 1986. This will require additional accessions through increased UNT production, a shift from production scheduled for other commands, or internal SAC shifting of UNT or EWT pre-pipeline accessions. Further, by sourcing from the navigator as well as the radar navigator position, the overall impact will be less on the

B-52 CD-PLOT
100
80
60
40
20
0
-20
-40
-60
-80
-100
15
-19
-20
-48
FY
89
FY
88
FY
87
FY
86
Fig.5.2]
32


B-52 PILOT
100
80
60
40
20
0
-20
-40
-60
-80
-100
-1
-9
41
67
FY 86
FY 87
FY 88
FY 89

[Fig.5-1]

necessary.

Other areas for study are prioritization of the pilot staff requirements and reduction of broadening assignments. Each of these reduces career progression options and may ultimately impact on retention and promotion. Further, these options will ultimately limit SAC's capability to provide proper experience for the Air Force's future leaders.

Pilot experience and seasoning begins as a co-pilot. The projections shown in Figure 5-2 reflect a shift in the B-1 crew draw from 100% B-52 co-pilot to 50% B-52 co-pilot, 50% other. This shift may ultimately provide the long term sustainability both systems will require. By changing the mix, the draw will be less against the B-52. Additionally, the change to 50% other will allow various experience from other aircraft to enter the B-1 at an earlier point. This other category may include UPT graduates, FAIPs, ATC returnees, 135 pilots/co-pilots and resources from other weapon systems. This varied mix may provide long term sustainability and will further provide a higher experience level for the B-1 with less impact on the B-52. Further shifting of UPT accesssions from other weapon systems will increase the overall B-52 co-pilot manning. However, any additional influx of UPTs will further compound an already critical bomber pilot training problem (4:--).

ultimately man the B-1. This chapter updates the projections using the assumptions previously outlined except as indicated below. Appendix 2 provides a revised long term game plan using data and changes outlined in this chapter.

PILOT/CO-PILOT

Figure 5-1 reflects a shift in the B-1 draw from the B-52 aircraft commander resource. Rather than the previous 95% B-52, 5% FB-111 mix, this projection reflects a change to 95% B-52, 5% FB-111 manning of the B-1 staff and training requirements and a 70% B-52, 5% FB-111 and 25% other force mix (8:--). The "other" category may include other aircraft experience, including ATC, FAIP, 135, etc. This small sourcing shift brings the manning levels closer to 100% and within manageable levels for the personnel system to maintain by individual assignment actions. The specific actions to be worked must be carefully monitored and worked in 1985, in order to insure that the proper resource is placed in other than SAC core requirements to be drawn upon at a later date.

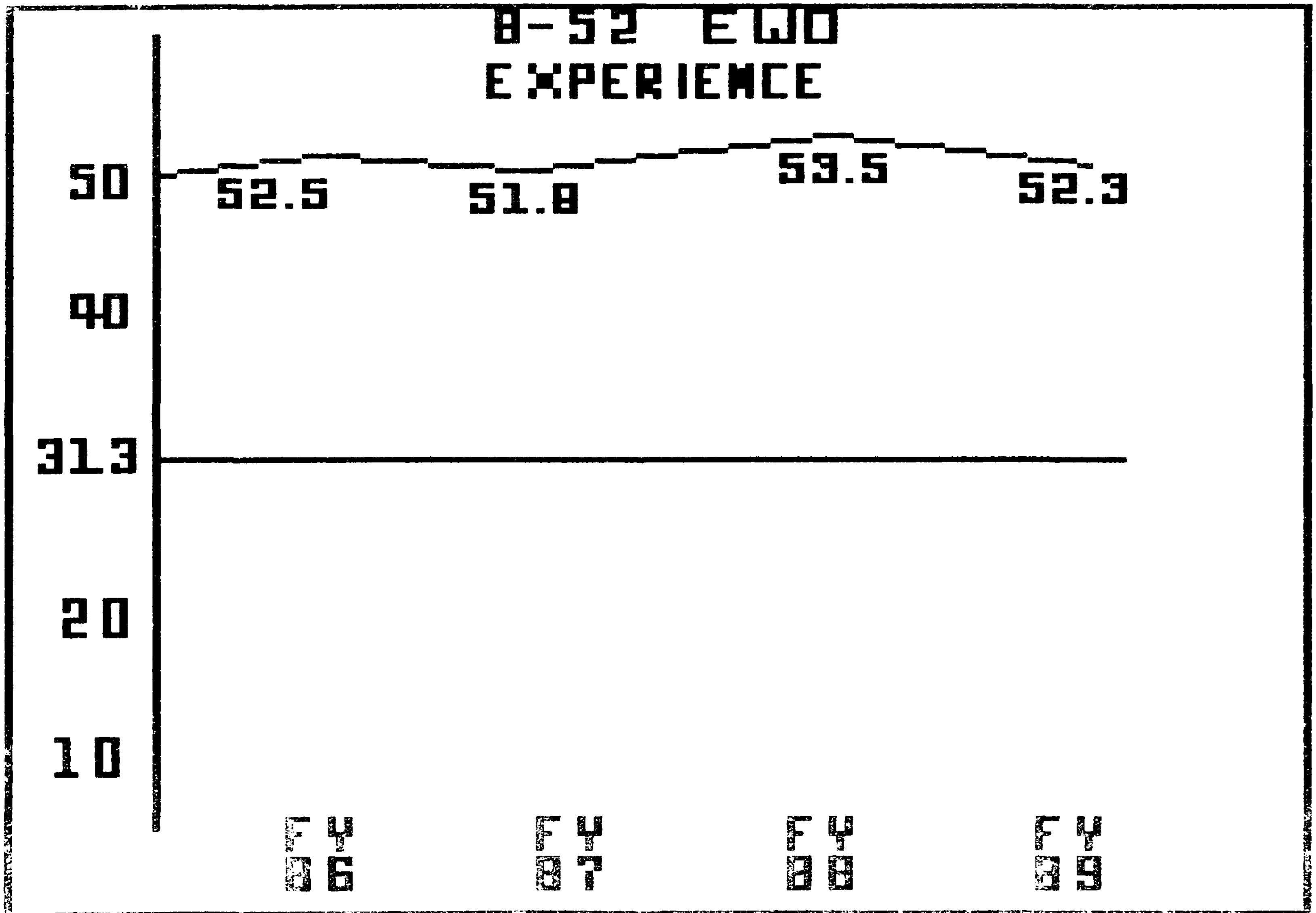
Other options that remain available include increasing the rate of return of resources outside core requirements. However, year group demographics and careful study may show that those available in large numbers are not the type of resource that can provide the experience and sustainability

Chapter 5

B-52 RECOMMENDATIONS

As previously stated, the projections set forth in this paper are based on a series of assumptions. They reflect the effect of today's trends that, left unchanged, will impact through the B-1 draw. However, small changes in the input from UFT and the controlled outflow to non-SAC requirement/return to SAC requirement ratios will enable SAC to man the B-1 without additional significant manning impact to the other bomber weapon systems. The author makes the following recommendations based on an end FY 84 look. These recommendations provide a series of options that are not meant to be all inclusive, but rather to show the flexibility that is available to man the B-1 from current and projected rated resources.

Several options are available to the planners at HQ SAC. All or any combination of increased UFT rates, staff prioritization, a shift in B-1 sourcing mix, shifting of UFT production from tanker to bomber aircraft, or an even further decrease of support of AF requirements may be used to



B-52 EWO
EXPERIENCE
50
40
31.3
20
10
52.5
51.8
53.5
52.3
FY 86
FY 87
FY 88
FY 89

[Fig.48]

to reflect a 25% turnover of personnel in non-SAC requirements per year. These personnel will be returned both to flying duty based on requalification capability and direct to staff positions. The support of the B-1 is based on the current 5% rate. The B-1 draw has been adjusted consistent with the assumptions in Chapter 3. DOS rates were adjusted from 1985 rates to more accurately reflect the demographics of the year groups involved (2:--). Finally, support of non-SAC requirements is reflective of the available personnel above 100% manning. Throughout the period, based on these assumptions, it is possible to maintain the FB-111 at 100% manning (shown as 0 in annual total row).

There are significant problems that face the FB-111 resource through the B-1 draw. Limited training capability further impacted by the AMP program significantly constrains personnel movement within and to outside the weapon system. Yet, the FB-111 will be able to support the B-1 at a 5% rate. Close planning and monitoring of this resource throughout the B-1 draw will continue to be necessary. However, based on the information available at the end of FY 84, the FB-111 will be able to be manned at 100%, support outside the core requirements and the associated career development, though at a reduced rate, and still support the necessary B-1 draw with minimal impact on core requirement manning.

Chapter 7

CONCLUSION

Manning of the B-1 will not be a simple task. There will be no one simple solution to the many and complex problems that lie ahead for the Strategic Air Command. The bomber pilot position is projected to be short in overall manning and experience. The already short bomber radar navigator manning picture is not projected to improve significantly. The only crew position that should survive the B-1 draw with minimum impact is the electronic warfare officer position. However, actions have been and can be taken to further improve this outlook. Recently, increased co-pilot and navigator upgrade capability, close monitoring of losses to SAC core requirement manning and increased UFT accession levels have all improved the manning outlook for the B-1's primary sourcing aircraft, the B-52. However, close scrutiny of this resource will remain necessary.

As the Air Forces newest weapon system, the B-1 must be manned with the most qualified rated officers available. The B-52 will provide the largest portion of those officers. Any

draw of the magnitude proposed, against a weapon system without aircraft concurrently scheduled to phase out of the inventory, will create serious impacts. The potential of these impacts has been and will continue to be lessened.

FB-111 support of the B-1 will be limited based on its training capabilities. However, consistent with manning problems within that system, close resource management will continue to be necessary in order to maintain manning levels, supply personnel for the B-1 and still provide significant career opportunities.

As shown through this paper, there are options available to both man the B-1 and still maintain viable, experienced B-52 and FB-111 forces. Each of the projections shown here will change many times between now and the rollout of the last B-1. However, any adverse trend identified early enough can be counteracted.

Options such as a shift in UFT rates or production, outflow from or return to core requirements, and changes in upgrade rates can all be adjusted and meshed to provide an optimum manning picture for the weapon systems affected. The key to proper manning during the rapid B-1 growth is the continued in depth knowledge of the resource and future requirements by the SAC staff, AFMPC staff, and the air staff.

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APPENDICES

APPENDIX I

B-52 PROJECTED GAME PLAN

	PILOT	CO PILOT	RAD/NAV	NAV	EWO
FY 85					
FY84 INP	0	68	-5	127	48
INPUT	306	150	229	150	157
PUP/NUP		-110		-150	
RBSG ENT	0				
To B-1	-18		-39		-8
DOS	-85	-15	-99	-15	-81
NON-SAC	-171	-25	-70	-23	-50
'85TOT	32	68	16	89	66
FY 86					
FY85 INP	32	68	16	89	66
INPUT	306	150	229	150	165
PUP/NUP		-110		-150	0
RBSG ENT	-12	-12	-12	-12	-12
TO B-1	-92	-41	-75		-71
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
'86TOT	-11	15	-11	39	17

FY 87

FY86 INP	-11	15	-11	39	17
INPUT	306	150	229	150	165
PUP/NUP		-110		-150	
RBSG ENT	-12	-12	-12	-12	-12
TO B-1	-69	-44	-73		-56
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
'87TOT	-31	-41	-36	-11	-17

FY 88

FY87 INP	-31	-41	-36	-11	-17
INPUT	306	135	229	150	165
PUP/NUP		-110		-150	
RBSG ENT	24	24	24	24	24
TO B-1	-39	-20	-43		-25
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
'88TOT	15	-52	5	-25	16

FY 89

FY88 INP	15	-52	5	-25	16
INPUT	306	132	229	150	165
PUP/NUP		-110		-150	
RBSG ENT					
TO B-1	-35	-20	-30		-25
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
*89TOT	41	-90	35	-63	25

APPENDIX 2

B-52 REVISED PROJECTED GAME PLAN

	PILOT	CO PILOT	RAD/NAV	NAV	EWO
FY 85					
FY84 INP	0	68	-5	127	48
INPUT	306	150	229	150	157
PUP/NUP		-110		-150	
RBSG ENT	0				
To B-1	-18		-39		-8
DOS	-85	-15	-99	-15	-81
NON-SAC	-171	-25	-70	-23	-50
'85TOT	32	68	16	89	66
FY 86					
FY85 INP	32	68	16	89	66
INPUT	306	150	229	165	165
PUP/NUP		-110		-150	0
RBSG ENT	-12	-12	-12	-12	-12
TO B-1	-82	-41	-61	-14	-71
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
'86TOT	-1	15	3	40	17

FY 87

FY86 INP	-1	15	3	40	17
INPUT	306	150	229	165	165
PUP/NUP		-110		-150	
RBSG ENT	-12	-12	-12	-12	-12
TO B-1	-57	-22	-57	-16	-56
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
'87TOT	-9	-19	-6	-11	-17

FY 88

FY87 INP	-9	-19	-6	-11	-17
INPUT	306	135	229	150	165
PUP/NUP		-110		-150	
RBSG ENT	24	24	24	24	24
TO B-1	-35	-10	-36	-7	-25
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
'88TOT	41	-20	42	-32	16

FY 89

FY88 INP	41	-20	42	-32	16
INPUT	306	132	229	150	165
PUP/NUP		-110		-150	
RBSG ENT					
TO B-1	-35	-10	-30		-25
DOS	-85	-15	-99	-13	-81
NON-SAC	-160	-25	-70	-25	-50
'89TOT	67	-48	72	-70	25

APPENDIX 3

FB-111 PROJECTED GAME PLAN

	PILOT	RAD/NAV
FY 85		
FY84 INP	-8	-10
INPUT	14	14
RETURNS	26	26
To B-1	-4	-3
DOS	-9	-16
NON-SAC	-19	-11
'85TOT	0	0
FY 86		
FY85 INP	0	0
INPUT	14	14
RETURNS	18	12
TO B-1	-6	-3
DOS	-14	-12
NON-SAC	-12	-11
'86TOT	0	0

FY 87

FY86 INP	0	0
INPUT	14	14
RETURNS	18	12
TO B-1	-3	-4
DOS	-14	-12
NON-SAC	-15	-10
'87TOT	0	0

FY 88

FY87 INP	0	0
INPUT	14	14
RETURNS	18	12
TO B-1	-2	-2
DOS	-14	-12
NON-SAC	-16	-12
'88TOT	0	0

FY 89

FY88 INP	0	0
INPUTS	14	14
RETURNS	18	12
TO B-1	-2	-2
DOS	-14	-12
NON-SAC	-16	-12
'89TOT	0	0

GLOSSARY

Acft Cmdr - Aircraft Commander/Pilot

AFIT - Air Force Institute of Technology

AFMPC/RORSE - Bomber Assignments Branch of HQAFMPC

ASTRA - Air Staff Training Program

ATC - Air Training Command

CCTS - Combat Crew Training School/Squadron

Core Requirements - Requirements in the MAJCOM specific structure. (e.g. SAC)

CP - Co-pilot

DOS - Date of separation from the Air Force

DSO - Defensive Systems Operator

Economy of scale - Authorizations savings through larger rather than miltiple organizations.

EWO - Electronic Warfare Officer

EWT - Electronic Warfare Training

FAIP - First Assignment Instructor Pilot from ATC

Force - Aircrew positions plus flying squadron commanders and operations officers (13:3-5).

FY - Fiscal Year

Game Plan - One year manning plan for a specific rated resource

HQAFMPC - Headquarters Air Force Manpower and Personnel Center

HQSAC - Headquarters Strategic Air Command

CONTINUED

IDSO - Instructor Defensive Systems Operator

IOSO - Instructor Offensive Systems Operator

IP - Instructor Pilot

MAJCOM - Major Command

NUP - Navigator in upgrade to radar navigator

OSO - Offensive Systems Operator

PME - Professional Military Education

PUP - Co-pilot in upgrade to pilot

RBSG Ent - Rebasing Entitlements - Additional personnel figured for aircraft rebasing actions.

RN - Radar Navigator

Rated - A pilot or navigator qualified officer not in grounded status

Rated Supplement - Rated Officers serving in non rated career fields

R & D - Research and Development

SOA - Special Operating Agency

SOPR - Special Officer Personnel Requirements

Staff - Supervisory/overhead positions excluding flying squadron commanders and operations officers (13:3-5)

TARS - Total Active Rated Service

Training - Instructor positions plus flying training squadron commanders and operations officers (13:3-5)

CONTINUED

UFT - Undergraduate Flight Training

UNT - Undergraduate Navigator Training

UPT - Undergraduate Pilot Training

END

FILMED

8-85

DTIC