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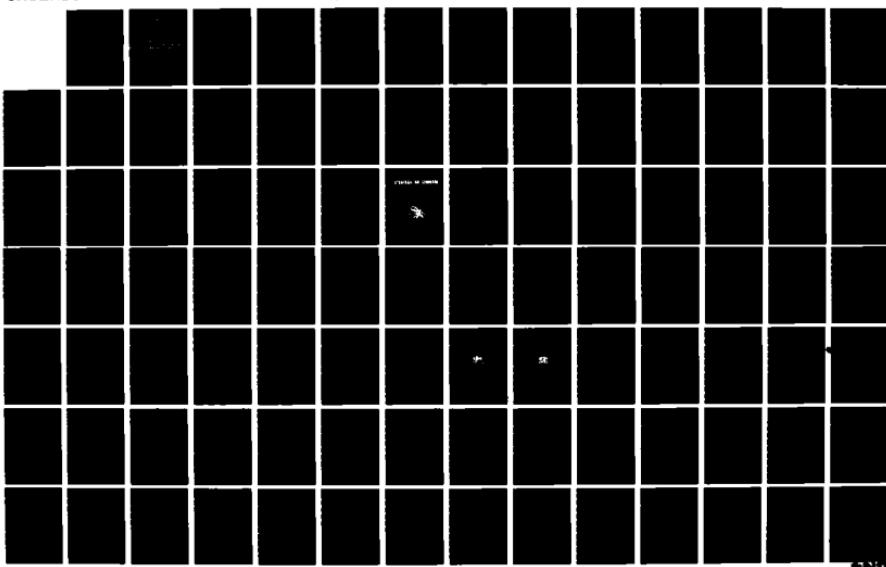
AN ANALYSIS OF THE EFFECTS OF VARYING MALE AND FEMALE
FORCE LEVELS APPENDICES 1 2 3 AND 4(U) DEPARTMENT OF
THE AIR FORCE WASHINGTON DC MAR 85

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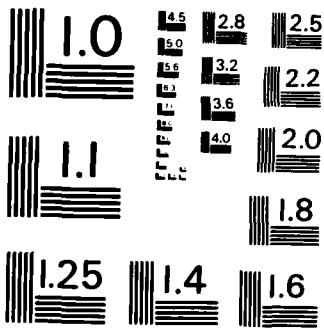
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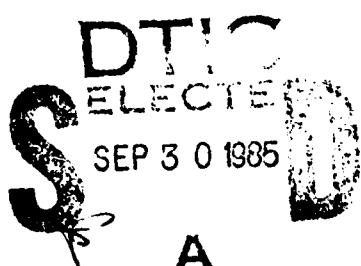
United States Air Force
Personnel Force Composition Study:

An Analysis of the Effects of Varying Male and Female Force Levels

APPENDICES:

One, Two, Three, and Four

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USAF Special Study Team
Headquarters,
United States Air Force

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APPENDIX ONE - HISTORICAL DEVELOPMENT OF USAF

POLICY ON THE UTILIZATION OF WOMEN



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APPENDIX ONE - HISTORICAL DEVELOPMENT OF USAF

POLICY ON THE UTILIZATION OF WOMEN

Introduction

Much has been written about women in the Services and the contributions they have made to our national defense. This appendix is not designed to retrace each step of history, but to highlight the major events and policies that have affected Air Force women in uniform since the Air Force was created as a separate Service.

Women's Armed Services Integration Act

In 1948, the "Women's Armed Services Integration Act," Public Law (PL) 625, authorized female enlistments and appointment of female commissioned and warrant officers in the Regular Air Force. Prior to this, women could only serve in reserve status and remain on active duty for no more than six months after cessation of hostilities.¹ PL 625 was a big milestone, creating for the first time permanent status for women in the Armed Services.

There were two underlying reasons that PL 625 came into being. One was to help ease a feared shortage of manpower with the end of conscription in 1947. It was well known that women had served with distinction during World War II, and it was clear they could continue to contribute in many areas. The other reason was that there would likely be a requirement for women to serve in any future conflict. PL 625, by granting women regular status, established an internal framework to ease the assimilation of women into the military structure.

The law stipulated that female enlisted members were not to exceed two percent of authorized Regular Air Force strength. A two percent ceiling was chosen because it represented about the same percent that participated during World War II; and there was no apparent need for greater numbers to get the mission done. Female commissioned officers could serve in grades second lieutenant to lieutenant colonel with not more than 10 percent of the female officers serving as permanent regular lieutenant colonels and not more than one woman serving in the temporary rank of colonel. The Air Force chose to reserve the temporary colonel position for the Director of Women in the Air Force (WAF). Upon leaving the director's position, the director reverted

¹Public Law 78-110

to her previous rank (if she did not retire). PL 625 also stated that women would not be assigned to aircraft engaged in combat missions. (This was the forerunner of the current combat exclusion in Title 10 USC 8549.) In addition, the law contained two conditions which were different for men and women:

a. No woman under eighteen years of age could enlist and parental consent was necessary for women under twenty one. Men could enlist at 17 with parental consent, 18 without it. This was not a change but a confirmation of Service policies in effect at that time.

b. Husbands of military women had to demonstrate dependency, while wives of military men did not. Children of military women were not classified as dependents unless the father was deceased or the mother provided chief support.

Public Law 845 (End of All-Male Militia)

In 1956, PL 845 authorized female reserve officers of the Army and Air Force appointed as nurses or women medical specialists to be members of the Army and Air National Guard of the United States. Prior to enactment of this law the National Guard of the United States had been an all-male militia. As a matter of Secretarial policy the same provisions were applied to reserve enlisted women medical technicians.

Management of Air Force Women

The Directorate of Women in the Air Force (WAF) was established in 1948. The Director served on the Air Staff as the advisor for matters concerning Air Force military women.

Air Force military women were never managed as a separate corps. From the outset they were fully integrated into the Air Force personnel system and, as such, they were assigned against common Air Force manpower requirements. In practice this meant that women competed for the same promotions as men. Geographically, women could be assigned wherever adequate housing and facilities existed. Careers were made available in job specialties considered "suitable" for women. Women officers were assigned in exactly the same manner as men with two exceptions: they could hold neither flying positions nor positions involving hand-to-hand combat.

Organizationally, women officers were treated the same as men. However, until 1975, active duty enlisted women were simultaneously assigned to a duty organization and attached to a WAF squadron section. The duty organization commander had command authority on matters relating to duty assignment, job performance, training, promotion, and demotion; the WAF squadron section commander, who was a woman officer, had command and administrative responsibility for general off-duty supervision, housing, discipline, counseling, health and welfare. These WAF squadron sections were especially useful as support systems when there were few women in the Air Force. However, with increasing numbers of enlisted women¹, the WAF squadrons were phased out. Accordingly, measures were taken in 1975 to normalize base level administration of enlisted women by removing the dual structure system. The commanders of organizations to which enlisted women were assigned were given the entire responsibility for both the men and women in their units. However, base commanders did appoint a woman line officer or NCO as a 'resident consultant' to advise and consult with all installation unit commanders and enlisted women as required. These consultants were subsequently phased out. Normalization was completed in 1976 when the Directorate of Women in the Air Force was abolished and each of its functions absorbed by the appropriate staff agency.

Pregnancy and Parenthood

In 1951, Executive Order 10240 provided authority to the Secretary of the Air Force to terminate the commission or enlistment of any woman who became pregnant or became a parent. This confirmed what had been stated Air Force policy all along. This policy continued until 1970. At that time, the Air Force modified the policy to allow women with minor dependents to remain on active duty. Considering an impending court case, the policy was further changed in March 1971. The revised policy cancelled discharge action if pregnancy was terminated, permitted pregnant women to request a waiver of discharge, and permitted women discharged for pregnancy to apply for reentry to active duty within 12 months of discharge in the grade held at time of discharge. Beginning in 1975, pregnancy was no longer considered a basis for automatic discharge. Since that time pregnant women who desire discharge must request separation from the Air Force for reason of pregnancy.

¹To illustrate, there were 5,050 enlisted women in 1966. By 1975, the number had risen to 25,232 and the number was projected to continue increasing rapidly.

Enlistment Age and Dependent Equity

In 1972 the US Supreme Court, Frontiero vs Richardson (411 US 677), determined that military women could claim their spouses as dependents without justification of dependency, declaring the differential treatment of the 1948 law unconstitutional. In the same year, with the passing of Public Law 93-290, the Congress also lowered the enlistment age of women to eighteen (equal to that of men). These two acts were instrumental in contributing to equality of opportunity and treatment for women in the Armed Forces.

Equality in Enlistment Standards

Standards concerning mental, physical and procedural aspects of enlistment were different for men and women prior to 1974. The most notable difference was the WAF selection board requirement for women applicants. In order to enlist, a woman applicant needed a picture, an interview by a WAF Recruiting Squadron Coordinator, a qualifying score on the Armed Forces Qualification Test (AFQT) and the Airman's Qualification Examination (AQE), a physical examination and a Women's Enlistment Screening Test (AFWST).¹ Men needed only the AQE, the AFQT and the physical. The WAF selection board was discontinued in June 1973. Mental qualifications were equalized in 1974 with the discontinuance of the Women's Enlistment Screening Test and application of the same AFQT score minimums. That same year educational standards for men and women were also equalized.²

Public Law 90-130 (Numbers and Rank Limits)

On 8 November 1967, PL 90-130 removed personnel strength and rank limitations on military women. While the two percent strength ceiling in PL 625 was never reached from 1948 to 1967, removing the ceiling and providing for the promotion of women through the total grade structure eliminated legislative bars to the increased utilization of military women. The Air Force took advantage of the removal of the grade limitations to promote qualified women to colonel and general officer grades. This law also opened the door for appointment of women in line positions authorized within the reserve components.

¹AFWST was administered in lieu of AFQT to female applicants from 1956 to 1974.

²Prior to 1974, women had to possess at least a high school diploma; no similar restriction existed for men.

Southeast Asia

From 1964 to the withdrawal of forces in 1973, Air Force women served in the Republic of Vietnam and Thailand. The numbers reached a high of 239 in South Vietnam in 1968 and 376 in Thailand in 1972. All told, 771 women served in South Vietnam and 1,098 served in Thailand.

Growth in The Numbers of Military Women

Except for the Korean War period, the numbers of Air Force women remained relatively stable during the 1950s and 1960s. In 1972, the Secretary of Defense directed the Services to double their numbers of women by 1978. After thorough review, the Air Force Chief of Staff approved a plan to triple the number of active duty line women in the Air Force by 1978. This decision was made because women were obviously a valuable resource; in addition, ratification of the Equal Rights Amendment was expected and there was Congressional debate over the All Volunteer Force (AVF). Both the Senate and the House of Representatives were urging greater use of women to enable the AVF to work.

In 1979, the Air Force announced a plan to double the number of women by FY 1985. This was viewed as a logical extension of the increases from 1972 - 1978. The Air Force planned to have 85,000 enlisted women and 12,800 officers on board by 1985. The strength of enlisted women for FY 1985 was projected to be approximately 18 percent of end strength.

In building toward that objective, however, complex utilization questions surfaced as a result of recruiting women at almost 20 percent of enlisted accessions in 1978, 1979, and 1980. Women were migrating between career fields at rates higher than men. For a time, women were given less choice than their male counterparts concerning which specialties they could enter. This was part of a concerted effort to distribute women into nontraditional areas and may explain some of the migration which occurred. In addition to the migration, attrition rates were higher for women than men in both Basic Military Training (BMT) and Technical Training (TT) courses. In 1981, because of these and related concerns, the women's end strength goal was modified to 11.4 percent for FY 1985.

The number of women in the Air Force has grown from 9,858 in 1967 (the year PL 90-130 was enacted) to over 66,500 at end FY 1984 (see Table 1.1). Line women accessions are at Table 1.2. Women serve in all career fields except those expressly prohibited by law and policy. As a group, more than 90 percent of Air Force women have

10 years of service or less. Because expansion programs began in 1972 and because the Air Force has a personnel system where virtually everyone comes in at the bottom of the structure, women tend to be more junior than their male counterparts. However, they are assuming positions of increased responsibility and higher rank as they move through the force structure. With reasonably comparable reenlistment rates for men and women, the distribution of women will likely become less skewed over time.

**Table 1.1. Active Duty Strength By Fiscal Year
(Total and Women)**

END OF FISCAL YEAR	FEMALE OFFICERS	TOTAL OFFICERS	ENLISTED WOMEN	TOTAL ENLISTED	TOTAL WOMEN	TOTAL STRENGTH
1948	733	48,957	1,433	337,435	2,166	386,392
1949	973	57,851	2,347	359,636	3,320	417,487
1950	1,532	57,006	3,782	352,085	5,314	409,091
1951	2,735	107,099	7,514	678,806	10,249	785,905
1952	3,827	128,742	10,943	847,737	14,770	976,479
1953	4,139	130,769	11,779	837,667	15,918	968,436
1954	3,558	129,752	9,728	809,094	13,286	938,846
1955	3,080	137,149	8,282	818,478	11,362	955,627
1956	3,334	142,093	7,853	764,541	11,187	906,634
1957	3,700	140,563	7,458	776,507	11,158	917,070
1958	3,608	132,939	7,212	735,738	10,820	868,677
1959	3,630	131,602	6,371	704,543	10,001	836,145
1960	3,675	129,689	5,651	680,639	9,326	810,328
1961	3,680	128,793	5,296	689,556	8,976	818,349
1962	3,954	134,908	4,822	746,183	8,776	881,091
1963	3,909	133,763	4,804	732,626	8,713	866,389
1964	4,031	133,389	4,845	720,372	8,876	853,761
1965	4,100	131,578	4,741	690,177	8,841	821,755
1966	4,189	130,724	5,050	753,477	9,239	884,201
1967	4,670	135,485	5,188	758,648	9,858	894,133
1968	4,991	139,691	6,123	761,507	11,114	901,198
1969	4,858	135,476	7,407	722,936	12,265	858,412
1970	4,667	129,803	8,987	657,402	13,654	787,205
1971	4,718	125,919	10,132	624,980	14,850	750,899
1972	4,766	121,674	11,725	599,774	16,491	721,448
1973	4,727	115,036	15,023	571,790	19,750	686,826
1974	4,767	110,491	19,465	529,067	24,232	639,558
1975	4,981	105,161	25,232	503,176	30,213	608,337
1976	4,965	99,961	29,235	481,214	34,200	585,207
1977	5,381	96,040	34,610	469,878	39,991	570,479
1978	6,008	95,242	40,711	469,862	46,719	569,491
1979	7,272	95,900	45,954	458,953	53,226	559,220
1980	8,508	97,649	51,397	455,909	59,905	557,969
1981	9,106	99,367	53,838	466,520	62,944	570,302
1982	9,942	101,890	53,985	476,472	63,927	582,845
1983	10,560	104,556	54,777	483,022	65,337	592,044
1984	11,234	106,239	55,335	486,410	66,569	597,125

SOURCE: FY 1948-1975: Department of Defense, Selected Manpower Statistics, Directorate for Information, Operations and Reports Fiscal Year 1983. USAF Academy Cadets not included.

FY 1976-1984 USAF Audited Budget. Total Strength Column includes USAF Academy Cadets.

Table 1.2. Total Line Accessions

YEAR	OFFICER		ENLISTED	
	WOMEN	TOTAL	WOMEN	TOTAL
1951	239	48,319	4,478	231,550
1952	441	22,938	6,029	217,921
1953	260	23,090	4,872	130,881
1954	55	18,082	2,736	101,673
1955	15	16,720	3,293	158,183
1956	32	17,986	3,323	116,670
1957	73	9,716	2,850	110,032
1958	125	7,737	3,236	62,420
1959	116	6,254	2,405	64,511
1960	51	7,184	2,084	85,143
1961	53	6,936	2,107	114,252
1962	66	11,595	1,559	108,361
1963	122	12,851	1,957	94,043
1964	92	9,693	2,016	89,262
1965	91	8,492	1,998	83,781
1966	98	7,699	2,071	161,652
1967	135	13,731	2,001	111,439
1968	229	12,128	2,906	90,543
1969	244	9,565	3,894	116,864
1970	193	10,501	4,379	72,877
1971	219	9,062	4,289	96,163
1972	255	8,582	4,584	86,048
1973	266	8,086	6,172	93,917
1974	348	6,344	8,031	73,754
1975	380	5,099	10,041	75,569
1976	213	3,799	8,887	72,942
1977	455	4,440	9,857	72,510
1978	651	4,991	12,715	68,025
1979	1,183	7,866	13,445	66,615
1980	1,221	7,389	13,917	71,838
1981	771	6,400	10,957	76,918
1982	703	6,856	8,745	67,538
1983	822	7,444	8,883	60,489
1984	879	7,443	8,854	60,009

SOURCE: Force Programs Division, Directorate of Personnel Programs, HQ USAF

There was also growth of women in the reserve components at this time (see Table 1.3). Recruiting processes differ from active duty recruiting in that recruiting is localized without specific male or female goals.

Table 1.3. Air Reserve Forces Strength
(Air National Guard and Air Force Reserve)

END OF <u>FISCAL</u> <u>YEAR</u>	<u>FEMALE</u> <u>OFFICER</u>	<u>TOTAL</u> <u>OFFICER</u>	<u>ENLISTED</u> <u>WOMEN</u>	<u>TOTAL</u> <u>ENLISTED</u>	<u>TOTAL</u> <u>WOMEN</u>	<u>TOTAL</u> <u>STRENGTH</u>
1975	566	24,208	5,382	122,287	5,948	146,495
1976	1,414	22,952	7,103	116,410	8,517	139,362
1977	1,486	23,160	9,387	119,069	10,873	142,229
1978	1,548	23,657	11,197	121,901	12,745	145,558
1979	1,639	24,176	12,622	125,858	14,261	150,034
1980	1,761	24,570	14,234	130,634	15,995	155,204
1981	1,897	25,158	15,831	134,740	17,728	159,898
1982	2,096	26,141	17,312	138,959	19,408	165,100
1983	2,454	26,780	18,419	142,621	20,873	169,401
1984	2,869	27,812	20,022	147,517	22,891	175,329

Source: National Guard Bureau and Headquarters Air Force Reserve

Hostile Fire Policy

An Air Staff working group was formed in 1974 to review the utilization of women in light of their increasing representation. Policy developed by this working group was first stated in a 17 Dec 74 letter from the Deputy Chief of Staff for Personnel to the major commanders: "The Air Force policy...a prudent extension of the statute (10 USC 8549)...is that women will not be assigned to positions where there is a high risk of capture or injury due to hostile fire." The "high risk" premise was prime in determining the types of non-aircrew positions to which women could be assigned. The policy letter further stated that women were not to be excluded from mobility positions or deployment locations based on the speculation that they might become subject to hostile fire. The policy of hostile fire exclusion was included in an April 1975 change to the regulation on management of military women (AFR 35-30). A subsequent 1975 review by functional managers and major commands identified certain positions within otherwise open career fields to which women would not be assigned, for example, portions of the Tactical Air Control System (TACS), special weather operations teams, combat control teams and Red Horse combat engineering units.

Recommendations from a 1978 Air Staff working group resulted in further refinements to the policy including standards for peacetime and wartime utilization of women in aircrew and non-aircrew assignments:

Aircrew - Under existing law (10 USC 8549) women are precluded from assignment to duty in aircraft engaged in combat missions. Therefore, women will not be assigned to aircraft that participate in the direct application of force against an enemy, aircraft assessed to have a probable high risk of sustained direct exposure to the application of force by an enemy, or assigned to an aircraft where there is a sustained high risk of capture.

Non-aircrew - Women will not be trained for, or receive, assignments involving an extraordinarily high probability of risk of exposure to hostile fire or capture during the performance of their wartime mission.

This policy is included in the War Mobilization Plan (WMP).

Officer Commissioning Programs

For the most part, women officers were directly commissioned until the late fifties. Enlisted women seeking a commission could enroll in Officer Candidate School (OCS),

only. The states recruit to fill their known and projected vacancies with either prior or nonprior accessions as they are available. Since congressionally-approved strength levels are floors rather than ceilings, funding is approved based on projected average strengths.

Accession Standards

The Air National Guard and active force enlistment policies (mental, moral, and physical) are the same with minor exceptions. The Guard accesses nonprior service personnel less than age 35, vice the active duty maximum of less than 28. For an active Air Force recruit with prior military service, current age must not exceed age 28 added to creditable service time. For the Guard, a prior service enlistee must be able to complete 20 years of creditable service for retirement by age 60.

The physical qualification testing is accomplished by either the local medical unit of the Air National Guard or by a Military Entrance Processing Station (MEPS) using the same standards as the active force. Required aptitude testing is conducted by the MEPS or one of their mobile examining teams using the Armed Services Vocational Aptitude Battery. However, unlike the active force, the ANG does not use the composite score from the aptitude test to determine enlistment qualification. Rather, qualification is based only on meeting the aptitude requirement (mechanical, administrative, general, electronic) for the specific AFSC in which the individual wishes to enlist. Recruits must also have a minimum general score of 30 and a minimum AFQT score of 30.

Recruiting and Classification

The recruiting emphasis, by necessity, is on the enlisted force. The production level of recruiters is predicated on the current manning, programmed growth and projected losses of the unit within the state to which assigned. Individual recruiting goals are a function of vacancies and projected vacancies of the unit each recruiter supports.

After a nonprior service enlisted candidate has completed the physical examination and qualified on the aptitude tests, the recruiter can then address the positions currently available in the unit. Once the job selection has been made, the individual enlists in the Air National Guard against a specific authorized unit position. The assignment will not be changed unless he or she fails to upgrade to the apprentice level in that particular Air Force Specialty Code (AFSC). Even then, a change to a new AFSC and unit position will not be accomplished without the individual's concurrence. Likewise the prior service enlistees enlist against a specific unit position.

service directed duty assignments, job transfer actions, bypass specialties (those successfully passing tests showing they do not require technical training). and on-the-job training gains.

For the most part, the pipeline process is gender free. The major exceptions are the female accession goals by specialty during the recruiting process and the separation of sexes in the dormitory environment. Also, increased female accessions exacerbate the problem of obtaining a qualified, highly motivated female Military Training Instructor force.

Air National Guard

General

The National Guard of each state is constitutionally a State-administered military force. The dual State-Federal mission is set forth in public law. The State mission is to provide units organized, trained and equipped that under competent orders of State authorities will provide protection of life and property and preserve peace, order and public safety. The Federal mission is to provide units with trained personnel and sufficient and suitable equipment, capable and ready for mobilization in time of wars or national emergency.

The State Adjutants General are responsible for recruiting, retention, training and peacetime management of the Air National Guard. Because of this State control, recruiting by necessity becomes geographic in nature and the pool of eligibles is determined by the demographics for the given recruiting area. Further, the recruiting system of the various states provides equal opportunity for enlistment or appointment without regard to race, color, sex, religion, or national origin. The basic recruiting premise at all echelons of command is to fill all available and projected unit manning document vacancies.

Accession Determination

The National Guard Bureau (NGB) determines the annual nonprior and prior service elements for the budget through manual computations. They use the actual 30 September personnel strength minus anticipated losses to obtain the accession level needed to meet programmed end strength for the following fiscal year. The number of accessions that are nonprior service is based on past experience and the level that the NGB recruiting staff projects as achievable. The difference between total accessions and nonprior service accessions is the prior service target figure for the year. These calculations are used as fiscal programming objectives

to be considered involves female Military Training Instructors (MTIs). Female MTI manning is a major concern since not enough women volunteer. The number of male volunteers has not been a problem, but, male MTIs cannot be totally involved in training female enlistees. Thus, it is important to have a forecast of the number of women in any particular group of new recruits. Air Force efforts to boost female MTI manning by reducing grade and time-in-service requirements, by assigning non-volunteers, and by selecting Basic Military Training graduates for immediate instructor duty have had limited success. Many non-volunteers separated in lieu of MTI duty; others were eliminated for performance and other problems. Basic Military Training graduates utilized as MTIs do not have sufficient military experience.

Overall, using non-volunteers has resulted in high attrition and degraded Basic Military Training quality. The recent Congressionally authorized increased special duty pay will help attract more volunteers. In the long run, the number of women who volunteer for MTI duty may also increase as the number of Air Force women increase. However, in the near term, as accession rates for women increase, sufficient female volunteers for MTI duty will likely remain a difficult problem.

Technical Training

Currently the primary consideration given to gender at the technical training schools is housing and latrine facilities. Men and women are billeted separately with their own latrine facilities. Due to the physical construction of technical training dormitories, an orderly increase in female accessions would not generate negative effects. All classroom technical training is conducted without consideration for gender.

Summary

The active enlisted pipeline process, albeit complex, can be summarized as follows. Annually the Air Force examines current and projected end strength requirements to determine the required yearly accession level in the aggregate. Required accessions are then broken down by the number of nonprior service, prior service personnel, etc., needed by specialty to meet end strengths. A Trained Personnel Requirements document is subsequently developed to identify the numbers of people to be trained by specialty for the current, budget, and first planning years. The Trained Personnel Requirements document also identifies the different methods of meeting annual specialty requirements, i.e., nonprior service technical training, prior service technical training and directed duty assignments, nonprior

transpires during Basic Military Training (BMT), and explaining what to take to BMT. Probing questions concerning moral disqualifications are asked again to ensure the applicant still meets qualifications.

The applicant arrives at the Military Entrance Processing Station for active duty. A physical spot check takes place, including another pregnancy test for women. The applicant reviews enlistment documents to ensure understanding and accuracy and is questioned about any change in status with special emphasis on moral disqualification factors. If none are found, the applicant is enlisted into the regular Air Force and sent to Lackland AFB Texas, to begin Basic Military Training. Lackland AFB is the sole site of USAF BMT.

Basic Military Training

All nonprior service enlisted personnel, both active and Air Reserve Forces, receive Basic Military Training. Men and women are assigned to gender-specific flights of 45-50 individuals. Twenty flights, 10 male and 10 female, make up an integrated squadron. At least one Military Training Instructor of the same gender is on continuous duty with a flight for its first 48 hours. This is because some trainees are reluctant to discuss certain personal and military issues with a Military Training Instructor of the opposite sex. In addition, Military Training Instructors of the opposite sex are not allowed in the dormitory during the period from half an hour prior to lights out to half an hour after lights on.

An increase in female accessions would require additional women in the Female Clothing Issue Section. Military clothing issue requires approximately six hours per flight and is gender specific since both male and female recruits are required to disrobe in order to be fitted for various uniform items.

The impact of increased female accessions on Wilford Hall USAF Medical Center, Lackland AFB, TX would be minimal. It is estimated that one, but not more than two, additional technicians would be required to administer physical evaluations and tests designed for women only.

Assuming sufficient lead time to order and stock increased clothing and other supplies,¹ the last area

¹Gradual changes can be accommodated, but larger unexpected fluctuation cannot.

The second interview is very important. It indicates the applicant is sincerely interested. The recruiter explains processing procedures to the applicant, forms are filled out, and an appointment is made for the applicant to take the Armed Services Vocational Aptitude Battery -- the written entrance examination. The results of the test will determine the applicant's qualification to enlist in the Air Force and qualifications for job areas.

The applicant is notified of test scores several days after taking the test. If the applicant qualifies for general enlistment, an appointment is made to discuss the scores at the recruiting office. The applicant brings personal documents, i.e., birth certificate, high school diploma, social security card and college transcripts. At the appointment the recruiter discusses the test scores and advises the individual that he or she will see an Air Force counselor who will provide job information at the Military Entrance Processing Station (MEPS). The recruiter is not involved in the MEPS processing.

At the MEPS, an Air Force Liaison Noncommissioned Officer (NCO) gives all Air Force applicants a detailed briefing on what to expect during processing. The applicant receives a physical examination which includes a blood pressure check, blood tests, strength test, urine test, and eye and ear exams. Female applicants are given a pregnancy test and a Papaniclaou (PAP) test. Those who pass the medical exam are ready to discuss job opportunities.

The applicant is asked what job areas he or she is interested in and when the applicant would like to enter active duty. The NCO then explains how the job assignment process works, i.e., that applicant information is compared to the availability of jobs and job areas at different times. Being flexible about the date of availability is emphasized. The applicant's record and test scores are then put through a Person-Job-Match computer routine which produces a listing of available jobs.

The applicant chooses a job or job area and enlistment date and is given a computer printout with a specialty or job area reservation and description. Then the applicant reads and signs the enlistment agreement and is given an Entrance National Agency Check interview which consists of asking probing questions about any derogatory information that may not have surfaced up to this point. Emergency information is also obtained. The applicant is then given the opportunity to enlist in the Delayed Enlistment Program.

Approximately one or two weeks prior to the enlistee's active duty date, the applicant receives a final briefing. This briefing consists of answering any last minute questions, giving additional in-depth information on what

It is important to note that matching an open aptitude individual to a skill is an incremental process. While there may be theoretically over 300 skills available to each new recruit, the matching is a function of available class seats in follow-on technical training courses for specialties in the specific aptitude area. Because not all specialties in all aptitude areas have training classes starting every week, choices available to a particular individual will be fewer than the theoretical maximum.

The classification process extends through technical school. Those who are eliminated or fail technical training and who are not separated from the Air Force (currently about two-thirds of the eliminees) are reclassified by the Student Resource Division, Headquarters Air Training Command, into either another formal training program or a directed duty assignment requirement based on the needs of the Air Force and on the individual's interests and qualifications.

Recruiting

The previous sections described how accession requirements are determined and the procedures used to classify individuals into Air Force specialties. This section focuses on the recruiting process itself. It explains interactions between applicants and recruiters at Air Force recruiting offices as well as the functions performed at Military Entrance Processing Stations.

During the typical initial interview between the potential applicant and the recruiter, the Air Force is discussed at great length. The topics most discussed at this point are: (1) life style in the Air Force, (2) Basic Military Training and the pipeline process, (3) pay and allowances, (4) educational opportunities, and (5) the criteria for enlistment. Jobs are not discussed in detail since the applicant's qualifications are unknown. The applicant's questions are answered, and if he or she appears interested, the recruiter tentatively qualifies the applicant by asking pertinent questions about age, education level, physical condition, law violations and drug usage.

The applicant is provided several pieces of literature to reinforce what was discussed with the recruiter and a follow-up appointment is made. This gives the applicant time to read the literature and form an opinion as to whether enlistment in the Air Force would be a suitable course of action. The follow-up appointment is for two or three days later. This also gives applicants an opportunity to discuss the Air Force with family and friends and time to think of additional questions.

requirements change.

d. Recruiting Service has the authority, within certain limits to recruit nonprior service personnel into the Guaranteed Training Enlistment Program. Recruiting individuals into the Guaranteed Training Enlistment Program assures them the Air Force will not unilaterally reclassify them into another specialty. Currently, no more than 55 percent of the total nonprior service program may be recruited under the Guaranteed Training Enlistment Program. Limits are also set for each specialty. When Recruiting Service creates Guaranteed Training Enlistment Program jobs, they do so within the Headquarters Air Force male-female guidelines for each specialty. Individuals who do not enter under this program are guaranteed one of the four aptitude areas (mechanical, administrative, general, or electronic) and are referred to as Open Aptitude Index enlistees.

It is the responsibility of the 3507th Airman Classification Squadron at Lackland AFB to screen and classify all nonprior service personnel entering Basic Military Training (BMT). For Guaranteed Training Enlistment Program enlistees, the process is simply one of reviewing their eligibility for the specialty. For Open Aptitude Index enlistees, the procedure is more complex. Early in the BMT program, the recruits are given a description of all the specialties in their aptitude area which will be available when they graduate from BMT. This includes both technical school and directed duty assignment skills. After considering the list of specialties, the recruits are individually counseled and asked to state their preferences. All recruits who enter BMT during a given week are batched together and matched against available technical school seats and directed duty assignment requirements. (Technical school class entry dates must be within a week of BMT graduation to minimize student ineffective time.) Individual matching is done by the person-job-match algorithm in the Processing and Classification of Enlistees (PACE) system. This algorithm considers the needs of the Air Force, specialty prerequisites, individual qualifications, and individual preferences in matching people with jobs. Requirements anticipated to be filled by women are specifically identified for each available specialty prior to performing the person-job match. The anticipated male-female mix corresponds to the guidelines provided by Headquarters Air Force. To help ensure that the female guidelines are met, women are always classified before men; any unfilled requirements are then opened to men. In addition to the classification function, the PACE system also serves as the automated personnel record system for keeping track of the 7,000 to 8,000 students who are in BMT at any one time.

entry objectives are based on BMT attrition and technical training class entries. Added to the initial BMT entry objective is the number of new recruits needed to support part of the directed duty assignment program. (Other directed duty assignments are filled from technical school eliminees.) Total BMT entries reflect the nonprior service accession goal. When distributed on a monthly basis these BMT entries provide the monthly shipping objective to basic training for Recruiting Service.

b. The female accession goal established by Headquarters Air Force is broken down into monthly female objectives through coordination between Recruiting Service and Technical Training staffs. Considerations which affect the timing of monthly shipping objectives include the anticipated recruiting market, the Military Entrance Processing Stations' capacity to examine and process women, the availability of female Military Training Instructors at BMT and the monthly availability of specialties for which women are most qualified and interested.

c. Once the total monthly BMT arrival objectives for men and women have been determined, specific qualitative objectives by month are provided to Recruiting Service to ensure that not only enough people, but also the right kinds of people are shipped to BMT. These objectives reflect minimum job aptitude scores required for each technical class entry date. In sum, they identify the qualification mix needed to fill the anticipated technical school classes and directed duty assignment requirements. The qualitative objectives for a particular month are released from the Deputy Chief of Staff Technical Training to the Deputy Chief of Staff Recruiting Service in three increments. Twenty-five percent of the objectives is released eleven months prior to the shipping month; up to 75 percent is released seven months before the shipping month; and the final 25 percent increment is released four months prior to shipping. The shipping month refers to the month nonprior service personnel will be transferred to Lackland Air Force Base from the Military Entrance Processing Station. This incremental release scheme provides enough requirements to Recruiting Service to keep recruits in the Delayed Enlistment Program¹ while providing some flexibility should

¹The Delayed Enlistment Program allows an individual to enlist in the active Air Force at some specified date in the future. It serves three very valuable purposes: (1) it permits the Recruiting Service to reserve jobs in advance and to minimize training costs by more evenly flowing recruits through the training plant; (2) it helps increase recruiting productivity by offering applicants a chance to pick the best time for them to enter active duty and; (3) it affords the applicant greater job selection.

b. A Trained Personnel Requirement for each of the over 300 specialties for each year.

c. Male/female mix guidelines for each specialty for each fiscal year.

d. Air Force Regulation (AFR) 39-1 "Airman Classification," which identifies the specific mandatory and desirable characteristics for entry into each specialty in terms of aptitude levels, physical qualifications, etc.

e. AFR 33-3 "Enlistment in the United States Air Force," which contains basic Air Force accession policy and guidance for accession processing.

Within these guidelines, Air Training Command must construct and execute a detailed program of recruiting, classifying, and training the right person to be in the right skill at the right time. The key organizations within the Air Training Command staff for building and executing this program and their specific functions are provided below.

Headquarters Air Training Command, Deputy Chief of Staff Technical Training, Programs Division, co-hosts the previously discussed Training Flow Management Conference. Conferees take the technical school production requirements for each job, add a technical training attrition factor to get a class entry requirement and, using the Simulation Model for Allocation of Resources for Training, build a schedule of class start and completion dates which will most economically satisfy the production requirements. The class schedules are updated and revised continuously as requirements or planning factors change. There are no gender considerations in allocation of quotas for specific technical training classes.

The Student Resource Division, Deputy Chief of Staff Technical Training, Headquarters Air Training Command, is responsible for providing qualified people at the right place and time to meet the school entry program developed by the Programs Division and the directed duty assignment program¹ specified in the Trained Personnel Requirements document. The following procedures are used in developing and managing the nonprior service resource program:

a. Initial Basic Military Training (BMT) monthly

¹Directed duty refers to recruits, who upon completion of Basic Military Training (BMT), are assigned to an operational unit rather than assigned to a specified technical school training class.

The TPR states production requirements, i.e. both graduates from (not entries to) technical training school and those who report directly to a base for duty. Complexity is added because this year's production is the combination of last year's accessions who will graduate this year and this year's accessions who will graduate this year--and it's different for each specialty. Thus accessions and production in a given year are not identical. Once the available funding and resources are determined, they are distributed among the skills for all categories of production (prior service, nonprior service, retrainees, etc.).

A Training Flow Management Committee Meeting is convened twice a year (March and October) to establish the TPR and to develop a plan for filling the requirements. The meeting is co-hosted by Headquarters U.S. Air Force and Headquarters Air Training Command, with participation from each of the six Air Training Command training centers, the Air Force Manpower and Personnel Center skill resource managers, the Major Commands, and the Air Reserve Forces. At the March conference the budget year TPR is established. During the October conference, the planning year TPR is reviewed for those jobs requiring a long programming lead time, mainly due to long course lengths. This information is then provided to Air Force Recruiting Service to adjust appropriate recruiting goals. Some major areas considered during the review of specialties are training constraints (e.g., instructor, equipment, facility) and smooth flow. The idea of smooth flow is to accommodate relatively even annual levels of training production per job to more efficiently use instructor resources and to reduce personnel surges in the operating units which can overtax their on-the-job training loads.

In the process of developing the TPR, gender is not considered. However, gender is a consideration in the nonprior service accession process. For veterans desiring jobs open to both men and women, the process is gender free. The method the Air Force had been using to determine female nonprior service accessions was designed to provide equal opportunities for interested and qualified men and women.

Classification

Air Training Command is charged with recruiting, classifying, and training over 60,000 new active duty enlisted men and women each year. This process is conducted within the guidelines described earlier. These guidelines, as they affect the recruiting and classification of women, are received from Headquarters Air Force in the following form:

- a. A total nonprior service accession requirement for each fiscal year, and a total male and female nonprior service objective for each year.

APPENDIX TWO - THE USAF RECRUITING AND TRAINING PROCESS

Introduction

This appendix documents the current procedures used to recruit and train enlisted personnel--the personnel pipeline process. It discusses the establishment of accession goals, specific requirements for trained personnel, recruiting, classification, as well as basic military and technical training for both active and reserve components. Gender considerations are highlighted where they exist. Organizationally, the paper is subdivided into Active Force and Air Reserve Forces sections.

Active Enlisted Force

Accession Determination

First, the personnel strength at the beginning of a fiscal year is determined. This is a summation of the assigned men and women by Air Force job specialties. From this beginning strength, estimated losses for the coming year are subtracted to yield a "projected" end of year strength.

The "projected" end-strength is then compared to the "programmed" (desired) end strength for that year. The difference is the number of accessions (gains) needed. The accession level is composed of those with no prior military service and returning veterans with a break in service. It is disaggregated with the development of the Trained Personnel Requirements (TPR).

The TPR is a statement of gains to each of the approximately 300 Air Force specialties. It is developed for a three year period: the current fiscal year, the budget year (current year plus one), and the first planning year (current year plus two). The TPR is adjusted during the year for budget and program changes.

In addition to specialty totals, for each specialty the TPR delineates the following: the number of nonprior service technical training school graduates, prior service personnel, and active duty job retrainees; the desired number of gains from personnel who by-pass formal technical school due to previous job knowledge; gains from trained and fully qualified prior service personnel; gains from personnel who train or retrain via on-the-job training (no formal technical school); and gains from personnel who are reassigned to skills they previously learned.

APPENDIX TWO - THE USAF RECRUITING AND TRAINING PROCESS

This option had been discussed in 1979, but no decision had been reached pending a determination of the operational mission of the KC-10. The aircraft subsequently was coded combat-support and opened to women. The Air Force opened the security specialty to women 1 January 1985. This decision reduced the number of skills totally closed to women to four--aerial gunner, pararescue-recovery, combat control, and tactical air command and control. However, some positions within otherwise open career fields are restricted due to the combat exclusion policy and facility constraints.

the first coeducational commissioning program in any Service. OCS was eventually replaced by the Officer Training School (OTS), and for many years it was the primary commissioning source for women who wished to become line officers.

Unilaterally in 1956 the Air Force tested the ROTC concept for women at several universities, but because of lack of interest on the part of the women at these schools the concept was dropped. Another factor in the termination was the lack of agreement with the other Services concerning women in an ROTC program. However, in 1969 the Air Force again led the way and opened its ROTC program at four colleges (Auburn, East Carolina, Ohio State, and Drake) on a test basis. In the Spring of 1970, the decision was made to adopt coeducational AFROTC and the program was offered to all schools with AFROTC. By 1971 women were routinely enrolled in AFROTC. (Although not a commissioning program, Junior AFROTC was opened to young high school women in June 1972.)

The move to open the military academies to women began in 1973. It was generated by a U.S. Senator who had nominated a female constituent to the Naval Academy. Since the academies were restricted to men, she was not considered for selection. In 1974 and 1975, the possible entry of women to the service academies was debated by Congress. The Air Force position (like that of the other Services) was to reserve Academy appointments for prospective combat officers; since women could not serve in combat, they should not be enrolled. However, Public Law 94-106 was passed in 1975 opening the Service academies to women. The first integrated United States Air Force Academy (USAFA) class (class of 1980) entered the USAFA in 1976 with 157 women cadets.

Women in Flying Training

Almost concurrently with the opening of the Academy, the Air Force initiated a test program to train women pilots and navigators. Both the Air National Guard and Air Force Reserve had women in the earliest classes opened to women pilot and navigator trainees. The purpose of the test was to ascertain how women could be best utilized as an aeronautical rated resource and to determine changes that might be needed in the undergraduate flying training curriculum. The first group of ten pilot candidates entered training in August 1976. Six navigator candidates began training in March 1977. In conjunction with the decision to conduct the test, aircraft suitable for the assignment of women were identified. The primary determinant in the assignment of the future women pilots and navigators was Title 10 USC 8549.

The Air National Guard employs several incentive programs to enhance enlistments and retention. These include cash bonuses, educational assistance programs and the Student Loan Repayment Program (SLRP). Nonprior service eligibility for these programs is based on a six year enlistment in an AFSC which has been categorically placed on a National Guard Bureau eligibility list. The list is published annually and is a direct reflection of AFSCs which are critically undermanned Guard wide. Each state in turn must endorse the current national program or annually establish a state program, based on their needs, utilizing the overall parameters.

Training

The National Guard Bureau endorses the various states' basic military and technical training requirement by establishing an annual Air National Guard Airmen Trained Personnel Requirements (TPR) document. The Air National Guard TPR is then identified to the Air Training Command (ATC) at the annual Training Flow Management Conference. The Air Force TPR provides sufficient basic military training and initial skill technical training course quotas to accommodate the Air National Guard nonprior and prior service enlistee population.

Once a nonprior service individual has enlisted, the recruiter contacts a central Air National Guard Basic Military Training Control Office. This office allocates the new enlistee a quota for Basic Military Training and schedules any required follow-on technical training.

The Air National Guard Full-Time Operational Role

The full-time operational training workload in the Air National Guard is performed by two categories of personnel. The first category is the military technician which comprises 21 percent of the force, approximately 22,160 personnel. These technicians are guardsmen as well as full-time civil service employees. During the week they work as civilian employees of their respective units, while during unit training periods they participate as guardsmen with the same units. The second group is the military duty personnel who comprise 5.7 percent of the force, approximately 5,773 personnel. This group is on full time active duty with their respective Guard unit. The combination of these two programs provides training support between unit training periods as well as management continuity and equipment maintenance.

Air Force Reserve

General

The Air Force Reserve is a major component of the Air Force under the Total Force Policy. Reservists are categorized as follows: Ready, Standby or Retired. Ready Reservists may be involuntarily called to active duty by the President with a declaration of national emergency, through a declaration of war by the Congress, or when otherwise authorized by law. Air Force Reserve Standby and Retired Reserve members of the Air Force may be ordered to active duty involuntarily only by a special act of Congress. The President may mobilize up to 100,000 Selected Reserve personnel from the Air National Guard, Air Force Reserve and other reserve components for up to 90 days without declaring a national emergency. These personnel would come from that part of the Ready Reserve known as the Selected Reserve--reservists in the highest training categories who are paid for their training in unit or individual programs.

Whenever Air Force Reserve units are mobilized, command and control of most units is transferred from Headquarters Air Force Reserve (HQ AFRES) to Military Airlift Command, Strategic Air Command, Tactical Air Command, Electronic Security Command, Air Force Communications Command or Air Force Logistics Command. These major commands are known as gaining commands. When mobilized, Air Force Reserve units are absorbed by their gaining commands and managed like other active duty units.

Accession Determination

The Air Force Reserve staff assigned to the Pentagon projects aggregate accession nonprior and prior service fiscal year levels. These levels are determined using Air Force Reserve historical loss rates compared to programmed fiscal year end strength requirements. An accession level then becomes the Air Force Reserve Recruiting Objective which is forwarded to the Reserve Recruiting Group, Robins Air Force Base, Georgia.

The Reserve Recruiting Group distributes the national recruiting objective to the Reserve Recruiting Squadrons (numbered Air Forces) in the form of recruiting goals. The recruiting goals are spread over quarters of the year and allocated to each subordinate Reserve Recruiting Squadron. The number to be allocated is based on end of year current vacancies plus projected vacancies. Projected vacancies are determined by taking the average loss rate (previous fiscal year) times the actual assigned strength. This calculation is performed at the aggregate level for units assigned within a Reserve Recruiting Squadron. The same calculations are used to further distribute the recruiting goals to the unit level on a weighted basis of current and

projected vacancies. The unit goal is then broken down by nonprior and prior service objectives by Reserve Recruiting Squadron and forwarded to the unit level. The final result at unit level is a recruiting goal (number of recruits) for both nonprior and prior service personnel. This process is gender free; that is to say, there is no specific goal for men or women.

Accession Standards

The Air Force Reserve and active force policies (mental, moral and physical) pertaining to enlistment criteria are the same with minor exceptions. However, the maximum age for enlistment of nonprior service enlistees is less than age 28 for the active Air Force and less than age 35 for the Air Force Reserve. A prior service enlistee's age in the active Air Force must not exceed age of 28 added to creditable service time. For the Air Force Reserve, a prior service enlistee must be young enough to complete 20 years of creditable service for reserve retirement by age 60.

Recruiting and Classification

There are a few differences between the Air Force Reserve and active duty recruiting. First, the Air Force Reserve is prior service oriented; approximately 75 percent of today's Air Force Reserve enlisted recruits have prior military service. The Air Force Reserve recruiter is tasked with finding the prior service person with the right grade, the right technical background and the desire to maintain a second career in the Air Force Reserve. These criteria become significant when recruiting for hard-to-fill specialties. Second, Air Force Reservists are recruited to fill a specific unit vacancy; the applicants know exactly where they will work. Last, Air Force Reserve unit recruiting is based on the needs of the local unit. Air Force Reserve units are generally manned by personnel from within a 100-mile radius of the unit. There is no travel pay for inactive duty training periods. Basically, the job of the Air Force Reserve recruiter is to find the right person to fill an actual vacancy of a reserve unit or Individual Mobilization Augmentee position. Once applicants have been successfully tested and screened, they can be classified and accessed into actual vacancies. For nonprior service applicants the recruiter must then schedule individuals for Basic Military Training and immediate follow-on technical training. Prior service applicants may also need to be scheduled for technical training. Agreement as to availability of the applicant with the available training dates must be reached.

The recruiter finds candidates for recruitment through a variety of programs. One is the Air Force Opportunity

Center, North Hollywood, California. National media responses by individuals interested in the active or the Reserve of the Air Force are forwarded directly to unit recruiters of potential recruits in the unit's local area. A second source is the Recruiter Automated Program; this program is maintained by HQ AFRES. It captures responses to national media advertising and provides leads to unit recruiters. In addition, Air Force Reserve recruiters stationed at large active force units screen potential recruits from those who are leaving the active force. Local advertising at the unit level and walk-ins also produce potential recruits. People of stature within the community can also influence an individual's decision to join the Reserve. Finally, members of the unit attract individuals to the Air Force Reserve by their own contacts and by word of mouth.

Training

Members of the Selected Reserve perform their training through unit or individual programs. In the unit program, administered by Headquarters Air Force Reserve, a reservist is assigned to a specific reserve unit. If assigned to an individual program, a reservist trains on an individual basis with an active duty organization. During 1984, 58,196 people served in the unit program, and 12,122 served in individual programs.

A large and versatile training program for individual reservists is the Individual Mobilization Augmentee program. Individual Mobilization Augmentees are assigned to specific wartime positions throughout the Air Force, where they work and train side-by-side with their active duty counterparts in nearly every career field. They are prepared to step into these positions in the event of mobilization. As a by-product of training these individuals perform valuable services to the active force. While each member of the Selected Reserve is paid for training, some individuals in the Ready Reserve receive only retirement points for training.

Formal technical training is provided by the active force via the Air Training Command. The Air Force Reserve provides their technical training requirements to the Air Training Command at the annual Trained Personnel Requirement Conference.

The Air Reserve Technician Role

The full-time operational training workload in an Air Force Reserve unit is performed primarily by Air Force Reserve Technicians. Air Reserve Technicians are reservists as well as full-time civil service employees. During the week they work as civilian employees of their respective units, while during unit training periods they participate as reservists with the same units. This program provides

training support between unit training periods as well as management continuity and equipment maintenance. Approximately 7,700 of the reservists in flying and support units are Air Reserve Technicians.

APPENDIX THREE - A STUDY OF FEMALES ON
MINUTEMAN/PEACEKEEPER CREWS

STRATEGIC AIR COMMAND

A STUDY OF FEMALES
ON
MINUTEMAN/PEACEKEEPER CREWS
31 JANUARY 1985



HEADQUARTERS
STRATEGIC AIR COMMAND

Offutt Air Force Base, Nebraska



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS STRATEGIC AIR COMMAND
OFFUTT AIR FORCE BASE, NEBRASKA 68113

4 FEB 1985

Duane H. Cassidy
Lieutenant General, USAF
Deputy Chief of Staff, Manpower
and Personnel
Headquarters United States Air Force
Washington, D.C. 20330

Dear General Cassidy

We have concluded our in-depth study of the possible introduction of females on gender-specific (all-female/all-male) Minuteman/Peacekeeper crews. The study concentrated on impacts on mission effectiveness, cost, equal opportunity in career progression, scheduling, and morale. Written surveys, telephone interviews, and one-on-one interviews were accomplished with 1400 officers to obtain overall perceptions of the gender-specific crew concept. Included in these perceptions were significant comments on mixed crews. These comments reaffirmed the results of the 1980 AFMPC survey. We concluded that introducing additional stress into an already demanding missile crew environment was not considered prudent. Therefore, we continue to support previous findings that did not recommend the mixed crew concept. The details of these and other factors bearing on the introduction of female crews in the Minuteman/Peacekeeper force are discussed in the attached study report.

We have determined that introducing females onto gender-specific crews is feasible and have initiated plans to implement this concept beginning this year. The optimum female representation at the first wing will be determined in a detailed implementation plan that I have directed my staff to develop for my approval. Our staffs must work together to insure the introduction of females into Minuteman/Peacekeeper operations is accomplished in the most expeditious, efficient manner possible.

Since their introduction in 1978, women have performed admirably in the Titan weapon system. I'm pleased to expand the opportunity for women to serve in our nation's deterrent force.

B. L. Davis
B. L. DAVIS
General, USAF
Commander in Chief

1 Atch
Formal Study Report

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INTRODUCTION

In Jun 1984, a HQ USAF Special Study Team (HQ USAF/MPZ) was formed to examine the current and future utilization of females in the Air Force. As part of the overall effort, the Special Study Team requested Headquarters Strategic Air Command (HQ SAC) investigate the implementation of gender-specific (i.e., adding all-female crews to the current all-male crew force) crews in the Minuteman/Peacekeeper crew force. (Any reference to "Minuteman" includes Peacekeeper due to the equivalent nature of Minuteman and Peacekeeper duties.)

The HQ USAF Special Study Team and HQ SAC felt that the mixed crew concept should not be formally investigated at this time. In a survey conducted in 1980, AFMPC found that there was a generally negative reaction to the mixed crew concept by missile crew members and their spouses. It was logically construed then that implementing mixed crews would add significant crew member stress. The added stress would arise from the strong negative spousal reaction to mixed crews as well as the concerns voiced by the crew members themselves. Adding this factor to the already demanding missile crew environment was not considered prudent.

The basic framework of the HQ SAC study was to investigate the possible implementation of female crews on an equitable basis and in a manner that would be least disrupt-

tive to the current crew environment. Because of these factors, it appeared the best approach was to investigate gender-specific first. Provided a positive outcome would result from gender-specific crew implementation, it would be feasible that mixed crews be investigated at a later date.

The HQ SAC Chief of Staff established a HQ SAC Study Team on 26 Dec 84. Each team member was chosen to provide special expertise. The designated team chief was Colonel Lee Forbes, Assistant Deputy Chief of Staff/Personnel. Colonel Forbes had extensive experience in personnel management and design and use of survey instruments. The secretary was Lt Colonel John Ficklin (HQ SAC/DPXP) who had both Titan and Minuteman missile experience and had worked this issue in the past. Lt Colonel James Webb (HQ SAC/XOKM) was chosen because of his Minuteman missile experience, particularly as a Minuteman squadron commander. Major Russell Anarde (HQ SAC/DPROM) had both Titan and Minuteman missile experience and was the Chief of HQ SAC missile officer assignments. Major Ibra January (HQ SAC/DPZ) had Minuteman missile experience and was the HQ SAC Chief, Equal Opportunity and Treatment Division. Major Glen Outlaw (HQ SAC/XPMR) had Minuteman missile experience and was the HQ SAC Chief, Manpower Requirements Division. Captain Patricia Fornes (HQ SAC/DOMM) had Titan missile experience and was the HQ SAC Missile Evaluation and Training representative. Captain Emi Vishoot (HQ SAC/DPXYA) was chosen because of her

expertise as an analyst and was a HQ SAC Command Personnel Analyst.

To provide further insight, members from outside of HQ SAC were also chosen. Major J. David Pesterfield (15AFCOS/DOXM) had Minuteman missile experience and was the 15th Air Force representative. Major Deborah Jermunson (2ACCS/DOCX) brought her Titan missile experience and air-borne command and control expertise and was the first operationally ready female Titan crew commander in SAC. Captain James Mackin (HQ 8AF/MNOT) had Minuteman missile experience and was the 8th Air Force representative. Captain Bonnie Schwartz (381 SMW/CCE) had very recent Titan crew experience and was the 1984 missile combat crew commander of the best Titan crew in SAC. Captain Martin Pellum (HQ AFMPC/MPCY) was also involved as a special consultant because of his expertise in devising/conducting surveys.

The Study Team began its formal efforts at its organizational meeting 2 Jan 85. Timelines were determined and basic objectives were formulated. The driving deadline was to provide the final HQ SAC Study Team results to HQ USAF/MPZ by 31 Jan 85.

This study is divided into five chapters. Chapter One explains the basic objectives pursued by the HQ SAC Study Team as well as the timelines involved. Chapter Two is devoted to explaining how the data for this study was

collected. The methods used to compile the data and numerical results are examined in Chapter Three. An assessment of the overall study effort is provided in Chapter Four. A summary appears in Chapter Five.

females available for Minuteman duty from each major input source. As the graph shows, it will take approximately three fiscal years to reach a stable output level ('steady state) of approximately 68 female officers annually. This production level assumes no additional recruitment above current levels. If larger numbers than those projected are desired, a concerted recruitment effort would be necessary. Lead time for full production for the major input sources vary from three years in the case of ROTC and one year for the USAFA to a matter of months for OTS and crossflow officers. Availability of Titan female officers to retrain to Minuteman will be governed by the Titan deactivation schedule and volunteer status (assuming a policy of volunteers only). Approximately 65 Titan female officers remain at McConnell and Little Rock AFBs and some of those at McConnell are scheduled for assignment to Little Rock as part of Titan deactivation. Any decision to curtail present Titan crew tours to support a gender-specific crew must be weighed against potential impacts on Titan deactivation.

In sum, any decision to implement gender-specific crews must carefully consider the lead time required to reach full production (steady state) levels. The next area examined manpower analysis.

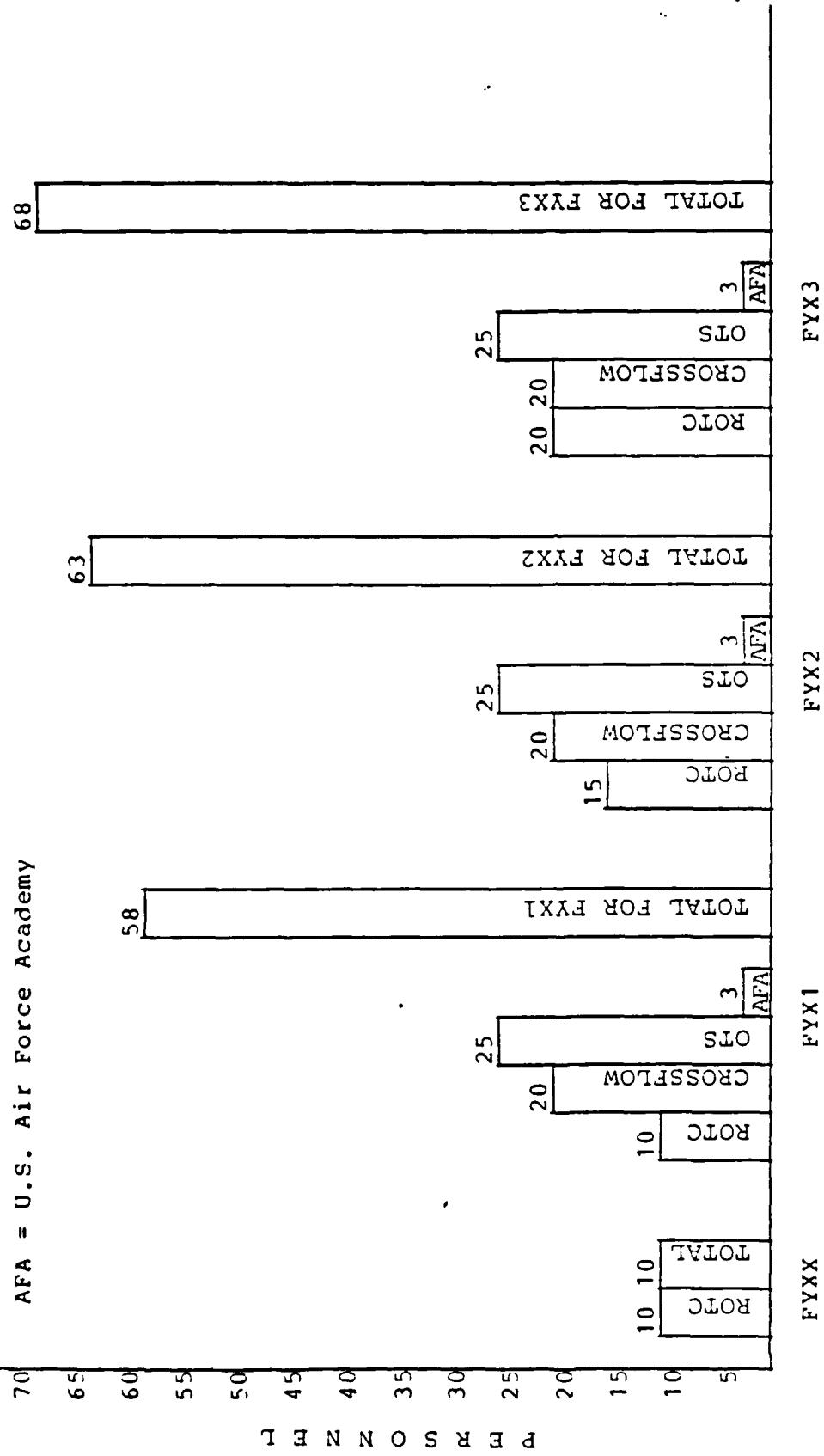
Manpower Analysis

In order to assess the potential manpower impact of placing females on Minuteman crews, information was soli-

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OTS = Officer Training School

AAFA = U.S. Air Force Academy



1. NOTE: FROM FYX3 ON, TOTAL REMAINS CONSTANT AT 68
 2. NOTE: THESE FIGURES REPRESENT LOW-END PRODUCTION ESTIMATES PROVIDED BY HQ AFMPC
 3. NOTE: NUMBERS MAY VARY SLIGHTLY BASED ON TIMING OF IMPLEMENTATION DECISION. DATA LEVELS BASED ON NOMINAL FYXX START DATE
 4. NOTE: CROSSFLOW NUMBERS INCLUDE TITAN FEMALE VOLUNTEERS.

FIGURE 3-1

specific may require an entire standby crew be utilized when changes to the daily alert schedule are made. Career progression poses significant equal opportunity concerns. Serious difficulties for progression to alternate command post/squadron command post (ACP/SCP), flight commander, and instructor/evaluator crew positions have been identified. This latter condition provides a clear avenue for possible equal opportunity and treatment (EOT) violations that may result in adverse litigation. Each of these areas, in addition to other pertinent topics, are discussed in the following sections.

Resource Availability

The current pipeline for missiles is made up chiefly of direct accessions and crossflow officers (officers levied by other support career fields for four year missile crew tour). Direct accessions include Reserve Officer Training Corps (ROTC), Air Force Academy (USAFA), and Officer Training School (OTS) graduates. If gender-specific crews were introduced into Minuteman/Peacekeeper, these sources along with the current Titan female crew force would supply the bulk of personnel resources.

The number of female officers available to support gender-specific Minuteman/Peacekeeper crews depends, in large part, on the timing of an implementation decision. Figure 3-1 summarizes by notional fiscal year, the number of

Although voluntary crossflow onto Minuteman/Peacekeeper operational crews was not considered an attractive career option, 57% males and 35% females indicated that they would accept a Minuteman/Peacekeeper assignment if involuntarily selected. Only 7% of the male officers stated they would separate from the Air Force, while 27% of the female officers stated they would separate. The overall perceived spousal reaction to gender-specific crewing was positive.

Implementation Committee

Overview

The results of Minuteman and Titan wings, 4315 CCTS inputs, HQ AFMPC data, manpower analysis, and the SAC Surgeon General and Judge Advocate opinions indicated a gender-specific crew concept can be implemented; however, certain problem areas must be recognized and dealt with. Implementation would begin with an 80/20 male female mix at one wing over an 18 month period. Adequate training capacity at 4315 CCTS exists to support this schedule. An 80/20 mix will increase crew manpower requirements at the selected Minuteman wing by two authorizations at an estimated cost of \$60,000 (2 x \$30,000) annually. The SAC Surgeon General determined, as with female Titan crew members, pregnancy would result in an automatic profile change to duty not involving alert status for female crew members. Some problems exist in alert scheduling. For instance, gender-

Responses to perceived spousal reaction and unit morale questions were mixed. Sixty-five percent felt gender-specific crewing would not cause any perceptible spousal reaction, while 14% anticipated some initial problems which would be eventually resolved. Unit morale was perceived to be less affected by the gender-specific crew concept: 35% felt there would be no effect on morale; 21% foresaw a positive effect; and 14% anticipated some initial problems which would eventually be rectified as women gained experience and credibility.

In terms of impact on missile career field retention, 65% stated male retention rates would not be affected; 47% felt it would have no impact on female retention.

One-on-One Interviews

A total of 80 one-on-one Titan officer crew member interviews were conducted at Little Rock and McConnell AFBs. The results indicated considerable support for the gender-specific crew concept. While 77% of those crew members interviewed accepted the gender-specific concept, 61% preferred the mixed crew concept. However, there was a strong reluctance on the part of the Titan crew members to crossflow onto the Minuteman/ Peacekeeper crew force: 65% of the male crew members and 70% of the female crew members stated they would not volunteer.

A majority of the females (71%) and just under one-half of the males (46%) felt their spouses currently did not favor their continuance in missiles. Respondents indicated this support/lack of support would change very little under the gender-specific scenario.

Slightly under one-half of the missile officers felt there would be some preferential treatment toward women, although more males (55%) than females (11%) felt it would exist.

Finally, the perceived impact on Minuteman unit morale was split, with about one-third believing it would go up, one-third believing it would go down and one-third being undecided. Few Titan officers (19%) or Minuteman officers (29%) felt their personal morale would be enhanced.

Telephone Interviews

Fifty-seven senior missile staff officers participated in unstructured telephone interviews 8 - 14 January 1985.

The results indicated a general acceptance of the gender-specific use of females on Minuteman/Peacekeeper crews. Of the senior officers surveyed, 56% favored the concept while 40% were opposed. Most staff members questioned the decision to discount the mixed crew concept and in fact 40% commented they would prefer mixed crews.

service, and students in Initial Qualification Training (IQT). Overall, 1310 surveys were completed during 8 - 11 January 1985.

A majority of the support officers (82%) and missileers (70%) felt the Air Force should afford women the opportunity to work in the Minuteman/Peacekeeper weapon systems. Fewer of the missileers (52%), however, favored the gender-specific crew concept as a method for implementing such a policy change. Unsolicited written comments indicated that at least a portion of this difference was attributable to a feeling that officers should be assigned to crew duty regardless of gender.

While about one-half favored gender-specific crews, over one-third did not. This dichotomy was characterized by a considerable portion of the respondents at the extremes of the scale -- 51% of those who agreed said "strongly agree" and 48% of those who disagreed said "strongly disagree."

Currently, slightly over one-third of the male missileers said they intend to remain in the missile career field while only about one-tenth of the females expressed similar intentions. One might expect, however, that more females would consider remaining in the missile career field if allowed to crossflow into Minuteman, since 60% indicated this change would improve their career opportunities.

CHAPTER 3

DATA COMPILATION

Survey Committee

The results of the written surveys, telephone interviews, and one-on-one Titan crew member interviews generally supported the acceptance of the gender-specific use of females on Minuteman/Peacekeeper crews. A majority of the officers felt that the Air Force should afford women the opportunity to serve in the Minuteman/Peacekeeper missile operations career field. The gender-specific crew concept was viewed as a viable means of accomplishing that goal. However, the written surveys clearly pointed to widely differing views concerning gender-specific crews versus mixed crews. In the area of spousal reaction, results of the three survey methods showed that the majority of spouses would be supportive of gender-specific crews. Lastly, most officers predicted that unit and crew morale would not suffer with the introduction of females into the Minuteman/Peacekeeper crew force.

Written Surveys

Separate surveys were developed for officers in each of four target groups: Minuteman operations, Titan operations, nonrated line with under seven years active commissioned

cept were explored and policy and procedure impacts identified. The HQ SAC Judge Advocate provided legal opinions on equal opportunity and treatment implications.

Finally, the committee concentrated on how a gender-specific assignment and utilization policy would be implemented. Initial crew compositions, sequence of wing implementation, and prospective build up schedules were developed and analyzed. 4315 CCTS training parameters, female officer resource availability and unit training requirements were included into this review.

Officers' Training Corps (ROTC), USAFA, and Officer Training School (OTS) resources.

Second, a manpower analysis of a gender-specific crew policy was conducted. As part of this analysis, all Minuteman unit training divisions (DOT) were requested to prepare monthly crew schedules using various percentages of females, provide demographic and duty not involving alert (DNIA) data, and outline current wing operations policies (e.g., leaves, number of alerts per crew per month, etc.). These inputs served both as an impact measurement of gender-specific crews on unit scheduling and as a baseline for determining potential requirements for additional manpower authorizations. A HQ SAC Surgeon General medical opinion on DNIA status for pregnant female missile crew members was also included in the analysis.

Third, potential training impacts were investigated. Requests were sent to the 4315 CCTS and Minuteman unit DOTs. The 4315 CCTS was asked to identify their maximum training capacity under current/increased instructor manning and what curriculum modifications would be needed to train initial cadre female gender-specific crews. Further, Minuteman unit DOTs were asked to determine additional unit training requirements for initial female gender-specific crews.

Fourth, career progression was examined. Career progression problems unique to a gender-specific crew con-

Team member interviewed ten male and ten female Titan crew members. Like the senior staff telephone interview, this interview used an interview guide to direct the discussion. These interviews were also conducted on a non-attribution basis. These interviews were also designed to add corollary information to the written surveys.

Implementation Committee

The implementation committee focused on five primary areas: resource availability, manpower impacts, training considerations, implementation management, and career progression. First, the potential personnel resources available to implement and maintain female gender-specific crews were examined. These data were requested from several external sources. One request was sent to the Air Force Manpower and Personnel Center (AFMPC) seeking data from the missile officer assignments section (PALACE MISSILE). PALACE MISSILE provided data that identified the potential number of experienced female officer resources which could be available to cross-train into Minuteman. They also submitted information on the historical manning of our Titan units. Other requests were sent to the HQ AFMPC Directorate of Personnel Procurement, the Air Force Academy (USAFA), and HQ Air Training Command (ATC) Officer Commissioning Program Analysis Office (ATCOC). The latter was necessary to gain information about the size and pipeline impacts of Reserve

veyed to gain information on the number of male and female crew members willing to voluntarily cross-train into Minuteman. Support officers were surveyed to gain an insight into the potential pool of officers who might cross-train into Minuteman. Finally, IQT students were surveyed to gain insights from personnel who were familiar with missile crew duty, but who were not yet influenced by operational experience in Minuteman units.

Telephone interviews were conducted with 57 senior missile staff personnel stationed at Minuteman units, Titan units, and Vandenberg AFB, CA. Senior staff interviewed ranged from squadron commanders through wing commanders. The interviews began with an opening statement and used an interview outline to guide the discussion. Two interviewers were on the telephone at all times, one to ask questions and one to record. The persons interviewed were advised that two people were on the line and that the interviews were being conducted on a non-attribution basis. This interview was designed to provide corollary data comparing senior staff opinions with those of more junior staffs and crew members.

One-on-one interviews were conducted with 40 male and 40 female Titan crew members at McConnell AFB, KS and Little Rock AFB, AR. Two male/female interviewers from the HQ SAC Study Team conducted these interviews. Each Study

CHAPTER 2

DATA COLLECTION METHODS

Survey Committee

The survey committee developed three methods of data collection: written surveys, telephone interviews, and one-on-one interviews. A total of 1310 officers were surveyed. The written survey had four versions. Version one was a survey for 40 Titan unit missile operations staff officers, 100 male crew members and 50 female crew members. Version two was designed for 150 Minuteman operations staff officers and 600 crew members. Three hundred forty support officers (e.g., finance, personnel, transportation, etc.) were surveyed using the third version. The fourth version was developed for 20 missile students going through Initial Qualification Training (IQT) in the 4315th Combat Crew Training Squadron (CCTS), Vandenberg AFB, CA.

While the overall purpose of each method was to measure perceptions about gender-specific crews, each of the written surveys was designed to obtain unique data. Minuteman missile operations staff officers and crew members were surveyed for their perceptions of how gender-specific crews would impact the current Minuteman organization. Titan missile operations staff officers and crew members were sur-

CHAPTER 1

OBJECTIVES AND COMMITTEES

The HQ SAC Study Team was formed to provide an assessment of the feasibility of introducing gender-specific (all-female and all-male) crews in Minuteman/Peacekeeper. The HQ SAC Study Team assessment was to be developed for inclusion in the HQ USAF Special Study Team report on current and future utilization of females in the Air Force.

Two committees were formed within the HQ SAC Study Team. The objective of the survey committee was to determine perceptions of introducing females on gender-specific Minuteman/Peacekeeper crews. The objective of the implementation committee was to examine factors bearing upon the introduction of female crews in Minuteman.

cited from Minuteman wing scheduling offices and the SAC Surgeon General. Wing schedulers were asked to construct monthly schedules using gender-specific crews assuming female populations of 10, 20 and 30 percent. The object was to determine the impact of gender-specific crews on alert averages, standby crew call outs, usable crew rates, and scheduling workload. The SAC Surgeon General provided an opinion on how pregnancy would affect a female crew member's availability for alert duty. How these inputs influenced manpower requirements determination are discussed in the following pages.

Wing Scheduling Impact: Apart from career progression management, wing scheduling is the biggest challenge. The study team was concerned with the impact gender-specific crews would have on the mechanics of developing and managing the wing schedule.

To explore this perceived impact, the study group tasked each Minuteman unit to model schedules using a 90/10, an 80/20, and a 70/30 male/female crew ratio. The scheduler used the present wing rates for duty not involving alert (DNIA), leaves, and Personnel Reliability Program (PRP) decertifications when developing the schedules. The schedulers also estimated the amount of extra time needed to develop schedules with gender-specific crews. The results were consistent: all wings said they could support gender-specific crews.

Most of the wings' alert rates (how many alerts per month the average line crew performs) became equitable at 20 percent female manning, although, it appears 10 percent can be managed (Figure 3-2). The standby alert rate (how often a crew goes on alert from standby status) closely affected the outcome of the wings' alert rate. Four of the six wings were able to balance this affect while the other two wings dealt with this factor differently. One had an alert imbalance in favor of males, the other wing had an imbalance in favor of the females. The wings were, for the most part, uniform in their estimates of time needed to develop gender-specific crew schedules. Five wings reported increases of zero to eight hours per month while one reported needing 16 - 20 hours. Based on this information, no manning increases appear necessary for the scheduling function. Wing scheduling will be more complicated but can support gender-specific crews.

Current missile operations concepts require an extra crew on standby status each day to be used in case a crew or crew member scheduled for alert must be replaced. Currently, if only one crew member must be replaced, only the corresponding member of the standby crew is dispatched. The second crew member remains on standby status. Under the gender-specific crew concept, occasions will arise where the gender of the standby crew is different from the crew member needing replacement. In these cases, the entire standby

GENDER-SPECIFIC SCHEDULING STUDY

BASE	CREWS AUTH	CREWS AVAIL.	MALE/FEMALE CREW RATIO	AVERAGE ALERTS		WING BACK-UP ALERT RATE	ADDITIONAL SCHEDULING TIME NEEDED	COMMENTS
				LINE CRFWS	MALE/FEMALE			
44SMW Ellsworth	92	91	10 ⁸ 20 ⁸ 30 ⁸	82/10 74/18 64/28	6.5 / 5.5 6.2 / 6.0 6.3 / 5.7	24 ⁸	5 hrs	
90SMW FE Warren	121	120	10 ⁸ 20 ⁸ 30 ⁸	109/12 97/24 85/36	6.7 / 6.7 6.6 / 6.9 6.6 / 6.9	19 ⁸	None	
91SMW Minot	89	76 ¹	10 ⁸ 20 ⁸ 30 ⁸	80/9 71/18 62/27	6.4 / 5.8 6.5 / 5.4 6.4 / 5.6	45 ⁸ ²	None	1 15% reduction based on PRP/DNIA rates
321SMW Grand Forks	90	81	10 ⁸ 20 ⁸ 30 ⁸	80/9 72/18 63/27	6.5 / 6.3 6.6 / 6.5 6.4 / 6.2	25 ⁸	5 hrs	2 45% based on monthly schedule; 25-29% based on weekly schedule
341SMW Malmstrom	123	112	10 ⁸ 20 ⁸ 30 ⁸	111/12 99/24 83/40	5.6 / 5.1 5.6 / 5.5 5.6 / 5.6	28 ⁸	8 hrs	"
351SMW Whiteman	88	87	10 ⁸ 20 ⁸ 30 ⁸	79/9 70/18 61/27	5.9 / 7.0 5.2 / 7.0 6.0 / 6.5	25 ⁸	16-20 hrs	

FIGURE 3-2

crew will be dispatched to replace the entire alert crew. Figure 3-3 shows how often this is likely to occur. Inputs from Minuteman wing schedulers show that, on the average, the standby crew is used 23.7% of the time. This is an aggregate figure and does not separate single crew member replacement from whole crew replacement. The calculations in Figure 3-3 assume 23.7% to be a single member replacement rate after publishing the weekly alert schedule. The calculations also assume a uniform gender distribution throughout the schedule. In other words, given 10% females, on any given day 10% of the crews going on alert would be female. Likewise, of the 30 standby alerts normally scheduled in a month, 10% would be female crews. At 10% females, this would happen about once a month. At 30% it would happen about three times a month.

Medical Considerations: It is the SAC Surgeon General position that no medical restrictions would prohibit assigning women to Minuteman/Peacekeeper crews. The Surgeon General did state that women should be placed in duty not involving alert (DNIA) status at first confirmation of pregnancy until 30 days after delivery.

The complications associated with pregnancy support this decision. The problems of Titan propellants which may produce birth defects, do not exist in the Minuteman system. However, there is controversy over whether or not the noise

ADDITIONAL STANDBY ALERT USE

		FEMALE 10%	POPULATION 20%	30%
1. Probability of replacing a crew member (note 1)		.237	.237	.237
2. Probability of male crew	.9	.8	.7	
3. Probability of female crew	.1	.2	.3	
4. Probability of replacing male (line 1 x line 2)	.213	.190	.166	
5. Probability of replacing female (line 1 x line 3)	.024	.047	.071	
6. Male sick and male standby (line 4 x line 2)	.192	.152	.116	
7. Male sick and female standby (line 4 x line 3)	.021	.038	.050	
8. Female sick and female standby (line 5 x line 3)	.002	.009	.021	
9. Female sick and male standby (line 5 x line 2)	.022	.038	.050	
10. Probability of gender mismatch (line 7 + line 9)	.043	.076	.100	
11. Standby crews scheduled each month (note 2)	30	30	30	
12. Whole standby crews used (line 10 x line 11)	1.29	2.28	3.00	

NOTES:

1. Average use rate of standby crews is based on wing scheduler inputs (Ellsworth, 24; FE Warren, 19; Grand Forks, 21; Malmstrom, 28; Minot, 25; Whiteman, 25). Based only on substitutions after monthly alert schedule is published.
2. Assumes only one standby crew scheduled each day.

FIGURE 3-3

and vibration of the Minuteman capsule is miscarriage-producing. Miscarriages occur in up to 25% of all pregnancies during the first 12 weeks. This risk doubles for females who have had a previous miscarriage. Additionally, incapacitating morning sickness occurs in about 20% of all pregnancies.

In the event of a miscarriage, a female must be examined and treated as soon as possible by appropriate medical authorities. A miscarriage often occurs without warning and is accompanied by several hours or days of abdominal cramps. These discomforts of a typical miscarriage are not compatible with alert duty.

A commander must also address Personnel Reliability Program issues that may arise from the emotional responses to a miscarriage. The specific circumstances and support mechanisms for the female involved will determine the time required to resolve the emotional impact.

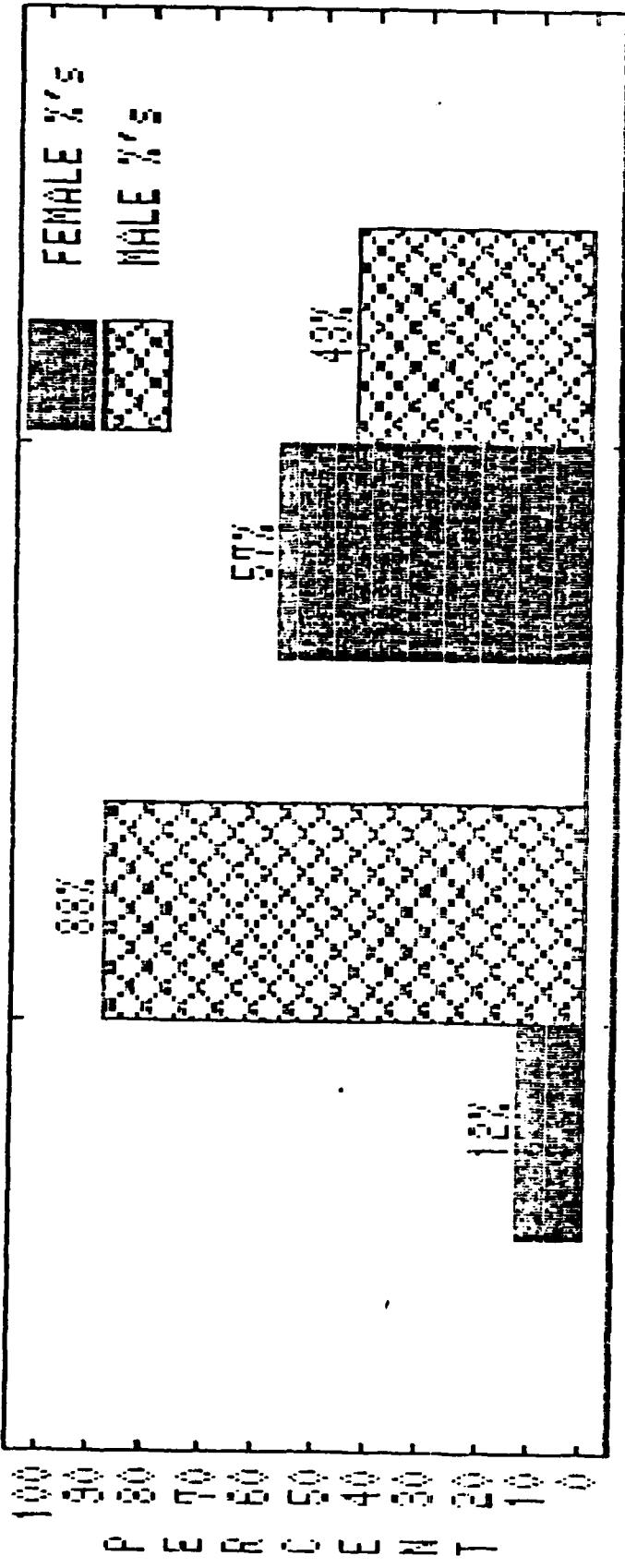
Of course, females whose pregnancies are at or near completion cannot be considered for alert duty. Some pregnancies deliver at 36 weeks and some at 42 weeks. The prospect of labor and delivery in a Minuteman launch control facility (LCF) is medically unacceptable.

We also examined Titan duty not involving alert (DNIA) rates for calendar years 1983 and 1984. We found that women

contributed a disproportionately higher share of the DNIA rate. In 1983, females composed 12 percent of the Titan force but contributed 57 percent of the DNIA days (Figure 3-4). For 1984, females composed 17 percent of the Titan force but provided 47 percent of the DNIA days (Figure 3-5). It appears that pregnancies are the principal cause of these higher rates, since the Titan officer pregnancy rate was 4.4% compared to overall Air Force officer average of 2.4%. While the Titan II data infers female crew members are not available for alert duty at the same rate as their male counterparts, explanations for the differing rates were not conclusive enough for extrapolation to the Minuteman weapon system. Our review suggests that close monitoring of manning trends would be required if females were to enter Minuteman/Peacekeeper crew duty.

Weapons System Description: As shown in Figure 3-6, Minuteman is currently deployed at six bases in four different configurations. The Boeing-built ground support system (WS-133A-M), commonly referred to as "Minuteman Mod," is deployed at five locations in three configurations: Command Data Buffer (CDB), using the Minuteman III missile; Improve⁷ Launch Control System (ILCS), using the Minuteman II missile; and Software Status Authentication System (SSAS), also using the Minuteman II missile. The Sylvania-built ground support system is commonly referred to as "Minuteman II" and is deployed at two bases. Each system

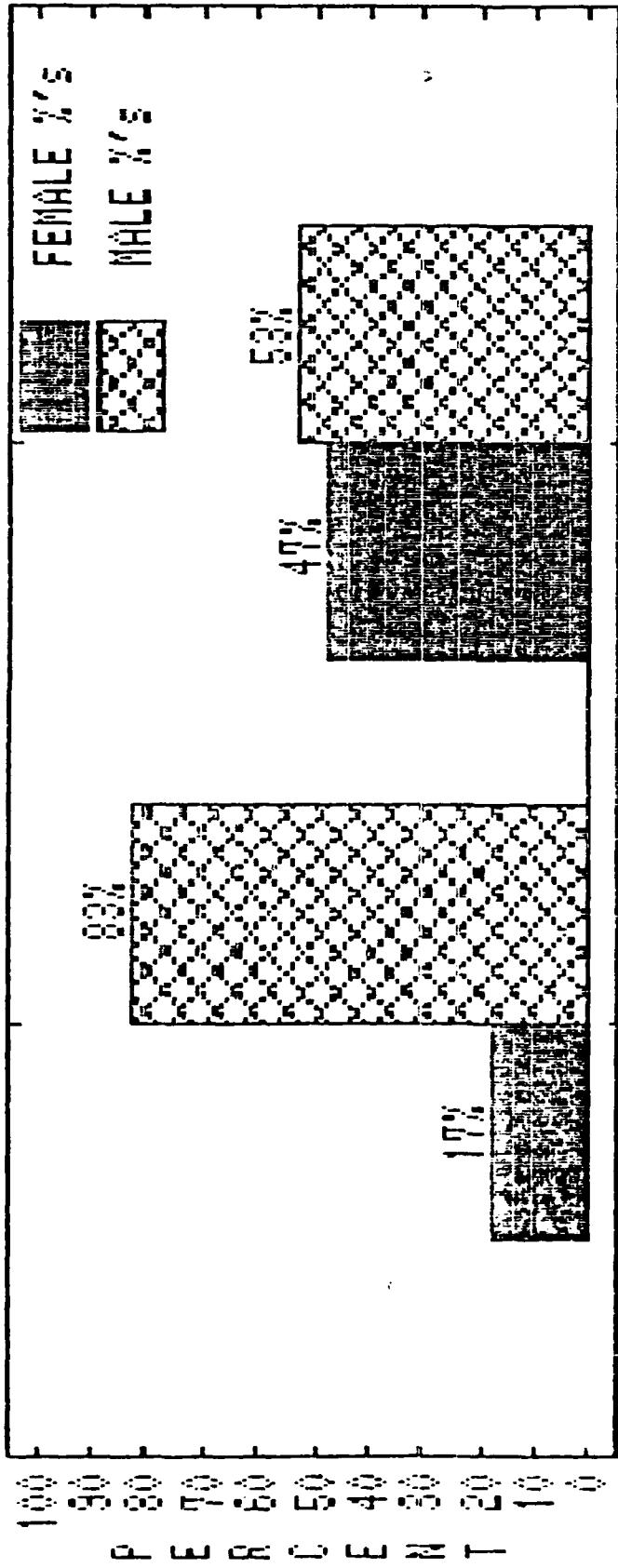
1963 TITAN CREW MEMBER POPULATION/UNIT RATES
LITTLE ROCK AND MCQUEEN



	MEN	WOMEN	TOTAL
POPULATION	377(88%)	52(12%)	429
DNIA DINGS	1399(43%)	1757(57%)	3096

*DNIA: DUTY NOT INVOLVING ALERT - PERSON IS NOT AVAILABLE FOR ALERT DUTY. CAUSES
MAY BE INJURY, MEDICATION, PREGNANCY, ETC.

1984 TITAN CREW MEMBER POPULATION/DNJA RATES
 (LITTLE ROCK AND MCCONNELL)



POPULATION DNJA (%)	MEN	WOMEN	TOTAL
	POPULATION	DNJA (%)	POPULATION
332 (83%)	69 (17%)	220 (53%)	401
220 (53%)	155 (41%)	155 (41%)	4152

*DNJA: DUTY NOT INVOLVING ALERT - PERSON IS NOT AVAILABLE FOR ALERT DUTY. CAUSES
 MAY BE INJURY, MEDICATION, PREGNANCY, ETC.

UNIT DESCRIPTION

<u>AIR FORCE BASE</u>	<u>MINUTEMAN CONFIGURATION</u>	<u>NUMBER OF SQUADRONS</u>	<u># OF LAUNCH CONTROL CENTERS</u>
Ellsworth, SD	WS-133A-M (SSAS)	3	15
FE Warren, WY	WS-133A-M (CDB)	4	20
Grand Forks, ND	WS-133B (CDB)	3	15
Malmstrom, MT	WS-133A-M (ILCS)	3	15
Malmstrom, MT	WS-133B (CDB)	1	5
Minot, ND	WS-133A-M (CDB)	3	15
Whiteman, MO	WS-133A-M (ILCS)	3	15

FIGURE 3-6

has unique operating requirements demanding a dedicated training program. Crew members trained in one system cannot perform alert duty in another system without extensive retraining. For this reason, the 564th Strategic Missile Squadron (SMS) at Malmstrom AFB was treated as a separate wing in computing manpower impacts.

Manpower Impact: Mathematical analysis shows a potential requirement for additional manpower authorizations to support the use of females on Minuteman crews. The size of the impact will depend upon the size of the female crew member population (see Figure 3.7).

The occasional need to use the entire standby crew to substitute for an individual crew member because of a gender mismatch will not increase manpower requirements. Use of the first standby crew member is accounted for in current manpower levels. Use of the second standby crew member would be offset by the availability for duty of the second member of the crew being replaced. In many cases, scheduling changes could be made to assign the replaced crew to an alert scheduled later in the month for the standby crew.

The use of gender-specific crews will also likely require additional manpower authorizations to compensate for the potential extended loss of female crew members because of pregnancy. This impact ranges from 1 additional authorization to support 10% females at one wing, to 19 for 30%

MANPOWER IMPACT SUMMARY

ADDITIONAL MANPOWER NEEDED

<u>BASE</u>	GENDER SPECIFIC (% FEMALE)		
	<u>10%</u>	<u>20%</u>	<u>30%</u>
Ellsworth	1	2	3
FE Warren	1	2	3
Grand Forks	1	2	3
Malmstrom	1	2	3
Malmstrom - 564th SMS	1	1	1
Minot	1	2	3
Whiteman	1	2	3
TOTALS	7	13	19
PERSONNEL COST (\$1,000)*	210	390	570

*Assuming additional authorizations in grade of O-1 (second lieutenants) at \$30,000/year.

FIGURE 3-7

fleet-wide (six wings) (Figure 3-8). In the opinion of the SAC Surgeon General, females should be relieved of alert duty as soon as pregnancy is determined and remain off alert duty through delivery and a 30-day convalescent leave. This extended loss (nine to ten months) of a crew member is not accounted for in current missile manpower authorizations. The impact will be greatest on gender-specific crews because of very limited flexibility in pairing spare crew members for alert duty. Titan II historical data on female officer crew members shows a 4.4% average pregnancy rate for 1983 and 1984, the only years for which the data was available. This is 2% higher than the average Air Force female officer pregnancy rate used in the latest Air Force Man-Hour Availability Factor study. Applying the Titan II rate to Minuteman produces the manpower impacts shown in Figure 3-9. The actual impact could be higher or lower and vary from year to year as an uncontrolled variable. As noted in Figure 3-9, nearly 27% of the female launch officers at McConnell AFB were pregnant sometime in 1983. While no explanation was available for this high rate, it serves to illustrate the potential for wide fluctuations in female crew losses.

These additional manpower costs are estimates based on several assumptions about crew force composition and alert schedules. These assumptions may or may not prove valid in the dynamic environment of the real world. Actual manpower

MANPOWER IMPACT DETAIL
GENDER-SPECIFIC CREWS

		FEMALE POPULATION		
		10%	20%	30%
1.	Three-Squadron Wings (90 crews)			
a.	Pregnancy impact	.792	1.584	2.376
b.	Whole manpower	1	2	3
2.	FE Warren AFB (4 squadrons, 121 crews)			
a.	Pregnancy impact	1.056	2.112	3.168
b.	Whole manpower	1	2	3
3.	564th SMS, Malmstrom AFB (33 crews)			
a.	Pregnancy impact	.264	.528	.792
b.	Whole manpower	1	1	1
4.	Total impact			
a.	Ellsworth	1	2	3
b.	FE Warren	1	2	3
c.	Grand Forks	1	2	3
d.	Malmstrom - 3 squadrons	1	2	3
e.	Malmstrom - 564th SMS	1	1	1
f.	Minot	1	2	3
g.	Whiteman	1	2	3
h.	GRAND TOTAL	7	13	19

FIGURE 3-8

bypassing the normal progression from DMCCC to MCCC. To support this demanding requirement, initial classes should include former Titan crew members and crossflow officers. Based upon inputs from AFMPC and the survey results, these resources are adequate through 1987 from various support career fields and from Titan. After 1987, however, there will no longer be any Titan officers available. The volunteer crossflow resource may supply only the minimum number (according to the support officer survey data) necessary to sustain. If operating on this narrow of a margin any hiccup in the system would necessitate identifying non-volunteers. In sum, resource availability will ultimately determine the scope of implementation.

Training of these new crew members received close scrutiny by the 4315 CCTS and unit training offices. The 4315 CCTS determined training females in current Minuteman operations would require essentially no modifications to schedules or procedures. Unit training offices stated there would be no new additional training for female DMCCCs and an average of one week of additional training for females directly upgrading to MCCC. Thus training would be no impediment.

As with training, additional costs do not appear to be unduly restrictive. A 20% female representation at a three squadron wing would require an increase of two authoriza-

process. The Study Team identified several significant factors, including how to begin, personnel resources, training, costs, wing management and career progression. Considering the resources available, the 4315 CCTS capacity, and unit upgrade requirements, the Study Team determined a phased implementation would be optimum. Phased implementation would begin with one wing. The wing would be built to a 20% female crew population before proceeding to a second wing. This approach enables female officers to enter the system at a rate which shouldn't seriously disrupt current crew manning policies/procedures. In addition, it allows initial Deputy Missile Combat Crew Commanders (DMCCCs) to upgrade to Missile Combat Crew Commander (MCCC) in the normal time rather than force them into MCCC status early.

The ability to extend implementation across Minuteman was also examined. The implementation committee studied female force sizes of 10%, 15%, and 20%. Ten percent female officer representation equals a force-wide total of approximately 120, 15% equals 180, and 20% equals 240. Based upon data provided concerning potential resources from ROTC, OTS, USAFA, and the crossflow program, it appears that 10% to 15% is attainable using essentially all volunteers. Above 15% would very likely require bringing in non-volunteers which was viewed by the Study Team as an unattractive option. In addition to the numbers required, some of the initial female crew members would have to upgrade directly to MCCC,

Another area of potential concern would be additional stress on the crew members caused by an adverse spousal reaction. With the gender-specific concept, this does not appear to be a problem. Sixty-five percent of the senior staff felt there would be no perceptible spousal reaction and 45% of the Titan crew force interviewed felt their spouses would be supportive. Another indication of positive spousal reaction was reflected in the written survey. Of the 31% (234) of the Minuteman officers who felt their spouses supported their continuing in the missile operations career field, only 20% (47) felt their spouses would encourage them to change career fields if gender-specific crews were introduced.

Closely related to spousal reaction and its impact is the potential effect of gender-specific crews on morale. In the telephone interviews with senior staff officers, 35% felt there would be no effect on morale while 21% foresaw a positive effect. In the written surveys, Minuteman officers were split in their opinions: 34% felt there would be a negative impact, 31% thought the impact would be positive, and 35% felt there would be no effect. Overall it appears that the influence of implementing gender-specific crews would range from little effect on morale to a slightly positive effect.

Although it appears gender-specific crews would have little effect on morale, implementation would be a complex

viability of gender-specific crews pointed toward a preference for mixed crews (a male and a female on the same crew). Sixty-four support officers and 187 missile officers provided written comments favoring mixed crews and 23 of the 57 senior staff officers interviewed voiced preference for mixed crews.

No matter which crew concept is used in Minuteman, a portion of the female crew members should include crossflows from other support career fields. Currently the all-male Minuteman crew force is sustained with a yearly input of 80% accessions (2nd Lieutenants) and 20% crossflow officers, most of whom are volunteers. Crossflow officers are normally 1st Lieutenants or Captains who come into Minuteman from a support career field such as finance, personnel, etc. These crossflow officers provide an invaluable source of Air Force experience and maturity to the crew force. If gender-specific crews were implemented, highly qualified, motivated female crossflows would be essential, particularly in the initial cadre. The survey results indicate this could be a problem in the future. Only 9% (14) of the female support officers indicated they would volunteer for gender-specific crew duty, while 77% (119) said they would not. In the Titan female crew force, only 20% (8) would volunteer. Because Titan missiles are being deactivated, there will be no female Titan crew members by Oct 87. Thus, by 1988, it is possible that the volunteer female crossflow resource would fall short of requirements.

CHAPTER 4

ASSESSMENT

A number of considerations are pertinent to the possible introduction of females on gender-specific Minuteman crews. The survey data highlighted the perceptions of unit personnel and provided a strong indication of the potential number of female volunteers willing to retrain into Minuteman. Implementation study results indicated the concept could be initiated, but special management actions would be necessary. Additionally, concerted management by HQ AFMPC and HQ SAC, and strong leadership by the wing staff would be required.

One factor which was clearly apparent in all of the surveys was the strong interest shown in this subject. The verbal comments received during the interviews and the unusually high number (over 45%) of optional written comments indicate that this is apparently an emotional issue and should be considered as such if the concept is implemented.

The majority of officers surveyed felt women should be given the opportunity to serve on Minuteman crews. How they should serve was a point of contention. Forty-three percent of the Titan personnel favored the gender-specific concept whereas 44% opposed it. For Minuteman personnel, the split was 54% in favor, 35% opposed. Unsolicited comments on the

ties will be a mixture of both active duty officers and new accessions through the build-up period. The active duty officers will continue to upgrade after several months to provide experienced commanders for new accessions. Once the build up is complete and self-sustaining, new crew members assigned to the wing will be mostly new accessions. By this time, however, the wing will be "growing" its own crew commanders from the accessions assigned earlier.

results analyzed to validate 20% as the optimum level. Implementation of gender-specific crews at the other five Minuteman bases will be based upon this optimum population in conjunction with available personnel resources.

Experience and maturity in the initial increments of female crew members is considered crucial to the successful implementation of gender-specific crews. Half of these females will become crew commanders without having any Minuteman crew experience. To minimize the adverse impact on wing proficiency, the first four to five female crew commanders and deputy crew commanders will have prior Titan II crew experience. While specific operation of the Minuteman system is completely different from Titan, the general experience with checklist discipline, crew coordination, and emergency action message processing will provide a solid foundation for Minuteman weapon system training. Additional female deputy crew commanders will be active duty officers with three to seven years commissioned service from other Air Force career fields. While they will not have any missile operations experience, they will have a level of maturity not available in new accessions. After several months these initial crews will be split, the deputies upgraded to commanders, and both crew members will be assigned new deputy crew commanders. This effectively doubles the number of female crews where at least one member has experience in the weapon system. These follow-on depu-

tored to guarantee that "separate, but equal" segregation does not develop.

Implementation

The question of how to introduce gender-specific crews into the Minuteman force was particularly challenging. The concept of gender-specific crews is without precedent. There is no experience to validate many of the assumptions made in this study. Because of the large number of unknowns, the high risk of a six-wing, fleet-wide implementation is unacceptable. A gradual implementation, starting with one Minuteman wing, will provide a learning curve, allow validation of manpower impacts, make optimal use of limited available volunteer personnel resources and minimize the impact of unforeseen problems. Lessons learned can be applied to follow-on implementation at other Minuteman wings.

While gender-specific appears workable at female populations as low as 10%, wing scheduling and career progression problems become easier to manage as the female crew member population increases. Based upon wing inputs and study group analysis it appears that a 20% female crew population will provide the most equitable and efficient operation. Therefore, the first wing should be built to a 20% female crew population before proceeding to the second. This build up will take approximately 18 months and at that time

bers irrespective of their race, color, religion, national origin, sex, or age." As men and women progress to select positions, such as evaluator (DOV) or instructor (DOT), Alternate Command Post or Squadron Command Post crew members, and flight commanders, the gender-specific concept must be carefully monitored to ensure progress on a par with their abilities. Historically, these select positions have been performed in the context of an integral crew. If an individual is selected for a DOT or DOV crew position and cannot be paired due to gender-specific alert restrictions, that person will perform all instructor or evaluator duties with another DOT/DOV crew member. Alerts would be scheduled with a line crew member of the same gender. This would require changes to SACR 50-16, Vol I, ICBM Training, and SACR 55-16, Vol II, ICBM Combat Crew Standardization and Evaluation. However, this approach would contradict the Command philosophy on integral missile crew alerts. Inherent in the integral crew concept is, "Train the way you fight!"

At this juncture, the problems that may arise as a result of gender-specific crews are dependent on the specific facts of a case. Programs and procedures may cause litigation that requires a decision by a court. However, though there is the risk of litigation, this should not be viewed as an absolute ban to the use of gender-specific crews. What it does imply is that programs must be closely moni-

members with the local emergency war order assignments and procedures. The additional training would focus on increased field training tours with emphasis on alert-peculiar items and emergency action procedures. Five of the six Minuteman units indicated this additional training could be accomplished in 5 to 7 work days. One unit projected 60 days which included additional time for study and successful completion of a standardization evaluation. This evaluation is a unit policy established by the wing staff for any crew with a new commander.

Future classes arriving at the unit will not require this additional time for upgrade since the new female crew members will be paired with current experienced combat ready female crew members.

Career Progression

In the review of factors that would impact career progression, equal opportunity issues become critically important. Using gender-specific crews, there is a possibility that programs and procedures may be viewed as a form of "separate, but equal" segregation. It is important that these plans guarantee that selection or nonselection not be based solely on sex. As stated in AFR 30-2, para 5-3a, "It is Air Force policy to conduct its affairs free from arbitrary discrimination, according to United States laws, and to provide equal opportunity and treatment for all mem-

however, the trained personnel requirement (TPR) has room for sizable expansion/adjustment. Unless manpower requirements are significantly higher under the gender-specific crew concept, training capability is not a limiting factor.

In the area of curricula, similar positive results were obtained. Students undergoing 4315 CCTS initial qualification instruction are trained to the level necessary for direct assignment to the crew commander position, if required. As such, no adjustments to 4315 CCTS curricula are necessary to begin training all female crews, and more specifically, the initial group of female crews. The "bottom line" of this phase of study is that the 4315 CCTS can begin training of gender-specific crews at any point, within current capabilities and curricula structure. After initial qualification training, crew officers report to the missile wings for additional training. This additional training was reviewed next. Two different circumstances were examined: training of initial group of female crews and unit training requirements after the initial build up of female crews.

Upon arrival at their assigned unit, the initial crews will be required to accomplish additional training, over and above the normal 15 - 21 day unit orientation program. This is required since neither of the crew members will have ever been alert qualified in the weapon system. The normal unit orientation course is designed to familiarize the new crew

4315 CCTS CLASS LOADING FACTORS

FY85

WEAPON SYSTEM	BASES ¹	TPR ²	MAX LOAD ³	OPT LOAD ⁴	CLASSES/COURSE LENGTH
MMM CDB	FW/MP	143	168	144	8 classes x 15 wks
MMM ILCS	MB/WT	129	136	121	9 classes x 13 wks
MM II CDB	GM/MB	90	96	90	8 classes x 15 wks
MMM (SSAS) EJ		<u>65</u>	<u>90</u>	<u>72</u>	9 classes x 12 wks
TOTAL		427	490	427	

FY86

WEAPON SYSTEM	TPR	MAX LOAD	OPT LOAD
MMM CDB	139	168	144
MMM ILCS	120	136	121
MM IICDB	92	96	90
MMM SSAS	<u>65</u>	<u>90</u>	<u>72</u>
TOTAL	416	490	427

NOTES:

1. Base Code:

FW - FE Warren	MB - Malmstrom	WT - Whiteman
MP - Minot	GM - Grand Forks	EJ - Ellsworth

2. Trained Personnel Requirement

3. Maximum Load - The largest number of students the 4315 CCTS can train without degrading quality of training.

4. Optimum Load - The number of students the 4315 CCTS can train maintaining ideal student to instructor ratios.

INSTRUCTOR MANNING AUTHORIZATIONS

MMM CDB - 26 MMM ILCS - 23 MMII CDB - 16 MMM (SSAS) - 12
 Emergency War Order Instructors - 5
 Courseware Developers - 20

FIGURE 3-10

additives in support of female crew members will have to be validated through experience.

Training Considerations

Training of gender-specific crews focused on 4315th Combat Crew Training Squadron (CCTS) impacts and supplemental unit training requirements. Information provided by 4315 CCTS and Minuteman wing training divisions formed the basis for assessment. The 4315 CCTS segment looked at maximum student production capability and explored required adjustments to curriculum to train an initial group of female officers, some of whom would enter wing crew duty directly as a crew commander. The wing training segment examined current requirements to certify missile crew members combat ready and looked at additional training necessary to prepare initial female cadre crews for alert duty.

The 4315 CCTS maximum production capability exceeds current requirements. Figure 3-10 summarizes class loading factors by type weapon system. As shown, the maximum production level is 490 students. This load assumes 1) instructor manning at 100% or higher; 2) minimum simulator maintenance and 3) minimum simulator scheduling for Air Training Command simulator maintenance training. Changes to any of these factors will likely impact production capability. At the current level of approximately 420 students,

PREGNANCY IMPACT

HISTORICAL DATA

FEMALE LAUNCH OFFICERS

<u>BASE</u>	1983		1984		TOTAL	
	# PREG	# ASGND	# PREG	# ASGND	# PREG	# ASGND
McConnell	8*	30*	2	38	2	38
Little Rock	1	22	1	31	2	53
		TOTAL		4		91
		% PREGNANT		4.4		

*1983 McConnell data excluded from computations to prevent distortion

MANPOWER IMPACT

FEMALE POPULATION		
10%	20%	30%

Three-Squadron Wings (180 crew members)

a. Number female crew members	18	36	54
b. Pregnancy rate	.044	.044	.044
c. Females lost from alert duty	.792	1.584	2.376

FE Warren AFB (242 crew members)

a. Number female crew members	24	48	72
b. Pregnancy rate	.044	.044	.044
b. Females lost from alert duty	1.056	2.112	3.168

564th SMS, Malmstrom AFB (66 crew members)

a. Number female crew members	6	12	18
b. Pregnancy rate	.044	.044	.044
c. Females lost from alert duty	.264	.528	.792

FIGURE 3-9

tions or approximately \$60,000 a year. The cost of training would also be negligible because the small increase in crew members will not increase annual student production quotas.

Once gender-specific crews have been implemented, continuous special attention and actions will be necessary to sustain it. Determining the annual trained personnel requirement (TPR) would be twice as involved with gender-specific crews as it is today. Currently, TPR criteria includes rank, experience, and past performance. With gender-specific crews these same three criteria must be applied to both sexes, thus creating two distinct TPRs.

Wing management of these new resources would provide the greatest challenge. On a day-to-day basis, standby crews are provided in the event a scheduled crew member cannot go on alert. These crew members are currently replaced on a one-for-one basis. With gender-specific crews, if there is a gender mismatch, instead of replacing one crew member, the whole crew would need to be replaced. Although this would normally present no serious challenges, it could periodically become a major obstacle to efficient scheduling.

Duty not involving alert (DNIA) is the term used to denote all reasons why a crew member might not be available to perform alert duties. According to the data provided by the two Titan units (Figures 3-4 and 3-5), the DNIA rate for females has historically been higher than for males.

Additionally, the SAC Surgeon General position is that female crew members who might be in Minuteman should be placed on DNIA as soon as pregnancy is diagnosed.

Consequently, it can reasonably be expected that the female DNIA rate in Minuteman would be higher than the male DNIA rate. The HQ SAC Study Team recommends an analysis of DNIA rates be performed within three years of gender-specific implementation to determine if additional manpower authorizations are required.

The most complex problem with gender-specific crews rests in the area of career progression. There are distinct positions of progression within each squadron and within the wing. In the squadrons, crew members aspire to be promoted from line crew to squadron command post (SCP), alternate command post (ACP), and flight commander crews. In the wing, the highest positions sought by the crews are those of instructors and evaluators. Each of the squadron and wing positions require special qualifications. Currently, these positions are filled on a "best-qualified" basis (i.e., the most highly qualified crew member is chosen first). Gender-specific crews would seriously complicate this procedure, particularly if the female representation were small.

Within the squadron, female crew members would sometimes have to be moved to SCP, ACP, or flight commander positions based upon gender rather than qualifications. This practice could raise serious legal and/or equal opportunity issues.

Equal opportunity issues also surface when considering instructor/evaluator integral crew alert duty. The integral crew concept has been the foundation of crew duty, since it promotes crew cohesion and proficiency on alert. Command regulations and policies could be changed to allow instructors and evaluators to perform their shop duties on a mixed crew basis, and their alert duties with a different person of the same sex, if necessary. However, this would cause non-integral crew alerts. Non-integral crew alerts within the two most prestigious crew functions (instructor/evaluator) in the wing could have an impact on morale and mission readiness. If the regulations/policies are not changed, progression to instructor or evaluator duties would have to be done on a gender basis, once again raising legal and equal opportunity and treatment issues.

The SAC Judge Advocate stated that there is no legal reason why females could not be placed on gender-specific crews. However, the use of such crews may be viewed as a form of "separate, but equal" segregation. It is Air Force policy that selection or nonselection for duties not be based solely upon sex (AFR 30-2). While the introduction of gender-specific crews may increase the risk of adverse litigation, it should not be considered as an obstacle to implementation.

CHAPTER FIVE

SUMMARY

In summary, the concept of gender-specific crew implementation in Minuteman/Peacekeeper is feasible. Missile senior staff and crew member reactions to the gender-specific scenario were generally favorable, with some reservations, and apparently will cause little adverse spousal reaction or morale problems if the concept were implemented. Bringing women into the Minuteman/Peacekeeper weapon systems on a gender-specific basis would not cause any significant cost or training problems.

While cost and training problems are not a factor, several other issues raised by the gender-specific-concept require consideration. The resources necessary to implement this concept are available initially, but could become a problem in the future, due in part to the expected low volunteer rate indicated in the support officer surveys. Managing the trained personnel requirement would be more complicated since manning requirements for males and females would have to be considered separately. Additionally, once implemented, gender-specific crewing would require special management actions at the wing level. Standby and alert scheduling would be constrained by gender-specific crews requirements. Furthermore, career progression within the wing will be complicated by legal and equal opportunity

treatment issues raised by the selection on the basis of "gender-qualified" vs "best-qualified." Finally, manpower increases may be required in the future based upon a recommended analysis performed three years after implementation.

GLOSSARY

Accessions: Newly commissioned officers from OTS, ROTC, or USAFA.

ACP/SCP Crews (Alternate Command Post/Squadron Command Post Crews): Crews designated to serve alerts at sites with additional wing/squadron command, control, and communications responsibilities. These sites have the capability to assume command of the wing if the normal command post is destroyed. Requires additional specialized training.

AFMPC (Air Force Manpower and Personnel Center): Located at Randolph AFB, this organization is responsible for managing all personnel and manpower programs in the Air Force.

Alert: Time spent at a launch control center; usually 24 hours. A line crew will normally perform eight alerts each month.

CDB (Command Data Buffer): Weapon system deployed by Minot, F.E. Warren, Grand Forks AFBs and one squadron at Malmstrom AFB.

Crossflow: A program in which support officers with 3 - 7 years active service spend a four-year tour of duty as a missile combat crew member.

DMCCC: Deputy Missile Combat Crew Commander.

DNIA (Duty Not Involving Alerts): Crew member unable to serve on alert due to illness, injury, pregnancy, etc.

DOT (Deputy Commander for Operations, Training Division): Division which is tasked to perform operational training functions at a wing. Assigned crews act as instructors.

DOV (Deputy Commander for Operations, Standardization Evaluation Division): Division which evaluates the crew's capability to perform the assigned mission. Assigned crews act as evaluators.

EWO (Emergency War Orders): Policies and procedures for executing the Single Integrated Operations Plan (SIOP).

Flight Commander: Missile Combat Crew Commander responsible for the management of one launch control facility/launch control center and its assigned crews.

Gender-Specific Crew Concept: Adding all-female crews to the current all-male Minuteman crew force.

ILCS (Improved Launch Control System): Weapon system deployed at Whiteman AFB and Malmstrom AFB.

Integral Crew: Crew members who are paired and assigned to a specific crew by formal personnel action and who perform all crew actions as such.

IQT (Initial Qualification Training): Formal missile officer technical training conducted at Vandenberg AFB by the 4315th Combat Crew Training Squadron.

LCC (Launch Control Center): An underground facility which contains the equipment used to monitor and, if necessary, launch missiles. Geographically separated from base by a distance normally of 30 to 140 miles.

Line Crew Member: A Missile Combat Crew Commander or Deputy Missile Combat Crew Commander not assigned to instructor or evaluator duty. Normally pulls eight alerts per month.

MCCC: Missile Combat Crew Commander.

Mixed Crew Concept: Missile crew comprised of one female and one male member (gender-mixed).

OTS (Officer Training School): A comprehensive military training program for Air Force officer candidates located at Lackland AFB. One of the three Air Force officer commissioning sources.

PALACE MISSILE: Missile officer assignments section at the Air Force Manpower and Personnel Center.

Pipeline: Term used to describe process of identifying and assigning students to formal missile school.

PRP (Personnel Reliability Program): Program designed to monitor crew member's ability to control nuclear weapons (Air Force Regulation 35-99).

ROTC (Reserve Officers' Training Corps): Two- or four-year military training program for officer candidates operated in conjunction with American universities and colleges. One of the three Air Force officer commissioning sources.

Simulator: Computerized training device used to duplicate an actual launch control center. Used for hands-on weapon system and emergency war order training.

SSAS (Software Status Authentication System): Weapon system deployed at Ellsworth AFB.

Support Officer: Officer assigned support duties, i.e., transportation, supply, etc.

TPR (Trained Personnel Requirement): The number of students entering initial qualification training annually to replace crew members completing four year missile crew tours.

USAFA (United States Air Force Academy): Four-year Air Force administered military training program and accredited academic curriculum for officer candidates. One of the three Air Force officer commissioning sources.

4315 CCTS (Combat Crew Training Squadron): Training squadron located at Vandenberg AFB responsible for providing formal technical missile training. All missile launch officers are graduates of the squadron.

APPENDIX FOUR - SUMMARY OF THE FORCE PROJECTION MODEL

APPENDIX FOUR - SUMMARY OF THE FORCE PROJECTION MODEL

Introduction

This appendix provides a summary of the Force Projection Model (FPM) referenced in the body of the report. A brief overview on the general operations of the model is presented first, followed by a more detailed discussion of each aspect of the model.

Overview of the Force Projection Model

The Force Projection Model (FPM) ages the active enlisted force by year-of-service based on a user-specified set of continuation rates. The model segments the enlisted force into four groups--men and women in two groups of Air Force Specialties (AFSs). The FPM uses a different set of continuation rates for each of the four groups. Also, crossflow, or migration, between the AFS groups is allowed for each gender, but this migration is regulated by USAF manning constraints.

For each year, the FPM first ages the existing inventory of men and women in each AFS group and allows the crossflow between groups to take place. The overall accession levels for each AFS group are then determined to be the difference between the resulting inventory after losses and a fixed, specified end strength. The mix of male and female accessions for each group can be specified as desired. After the accessions are added into the inventory, the FPM calculates different descriptive statistics of the force structure, such as the amount of crossflow between AFS groups. The resulting force structure is then used to project the number of individuals in certain subgroups of interest. This process of aging the force with separations and migration and then filling the vacancies with accessions is accomplished on a year-to-year basis until the steady state is achieved. The FPM also has the capability to examine any particular year between FY 1984 and the steady state. The remainder of this appendix discusses each main facet of the FPM in more detail.

Air Force Specialty (AFS) Groups

The FPM divides the active enlisted force into two AFS groups called high concentration and low concentration based on the female representation in each AFS. This was done because the retention and migration of personnel differ widely based on their AFS. Due to the lack of data on female retention in many of the AFSs and the amount of computer modelling required, the AFSs were aggregated to two

groups. The high concentration AFSs are those whose percentage of women in FY 1984 exceeded the total USAF enlisted percentage of 11.4 percent. Approximately 42 percent of the FY 1984 Air Force enlisted authorizations were in the high concentration group. Table 4.1 lists the AFSs in the high concentration group. The remainder of the AFSs, those whose percentage of women was below the USAF average, was defined as low concentration and are listed in Table 4.2.

Table 4.1. High Female Concentration Enlisted AFSs

<u>AFS NUMBER</u>	<u>TITLE</u>
20XXX:	Intelligence
23XXX:	Audio-Visual
25XXX:	Weather
27XXX:	Command Control System Operations
29XXX:	Communication Operations
39XXX:	Maintenance Management Systems
51XXX:	Computer Systems
56XXX:	Sanitation
60XXX:	Transportation
61XXX:	Services
62XXX:	Food Services
64XXX:	Supply
65XXX:	Contracting
66XXX:	Logistics Plans
67XXX:	Accounting and Finance
69XXX:	Management Analysis
70XXX:	Administration
73XXX:	Personnel
74XXX:	Morale, Welfare, and Recreation
75XXX:	Education and Training
79XXX:	Public Affairs
87XXX:	Band
90XXX:	Medical
91XXX:	Medical
92XXX:	Medical
98XXX:	Dental

Table 4.2. Low Female Concentration Enlisted AFSs

<u>AFS NUMBER</u>	<u>TITLE</u>
10XXX:	First Sergeant
11XXX:	Aircrew Operations
12XXX:	Aircrew Protection
22XXX:	Geodetic
24XXX:	Safety
30XXX:	Communications Electronics Systems
31XXX:	Missile Electronic Maintenace
32XXX:	Avionics Systems
34XXX:	Training Devices
36XXX:	Wire Communications Systems Maintenance
40XXX:	Intricate Equipment Maintenance
42XXX:	Aircraft Systems Maintenance
43XXX:	Aircraft Maintenance
44XXX:	Missile Maintenance
46XXX:	Munitions and Weapons Maintenance
47XXX:	Vehicle Maintenance
54XXX:	Mechanical Electrical
55XXX:	Structural/Pavements
57XXX:	Fire Protection
59XXX:	Marine
63XXX:	Fuels
81XXX:	Security Police
82XXX:	Special Investigations

Continuation Rates

The men and women within each AFS group are aged by year of service using historical continuation rates. A continuation rate is that percentage of the people in an AFS group at the beginning of a year who are also present in that AFS group at the end of the year. People who crossflow out of the AFS group are counted as a loss in the calculation of the continuation rates. The rates used in the FPM were historical five year averages over the period of FY 1980 through FY 1984. This period of time encompasses both extremely good and very poor retention years.

Deriving the female rates for the year groups with more than ten years of service required additional work. The cell sizes of these year groups were too small to use in the continuation rate calculations. To compensate for small cell sizes, these year group rates were extrapolated using the following method. First, the women's rates for those year groups with sufficient cell sizes were compared to the men's rates for the same year groups, and a factor was derived that defined the relationship between the male and female rates. For example, if the female rates exceeded the

male rates by five percent, the factor was 1.05. Then, for those year groups without a sufficient number of women, the male rates for those year groups were adjusted by the year group factors to obtain the female rates.

Migration

The FPM allows for the crossflow, or migration, of men and women between the high and low concentration AFS groups. The migration rates used in the model were calculated by year group and derived as the average of the historical rates over the FY 1980 to FY 1984 period. For those female year groups whose cell sizes were insufficient to calculate a migration rate, the same procedure that was used to extrapolate the continuation rates was employed with the female migration rates. The FPM regulated the migration flow into the AFSC groups so that a group did not become overmanned in the top five enlisted grades (Staff Sergeant through Chief Master Sergeant). The model allowed migration up to the point where the top five grades were manned at 100 percent. The total number of authorizations for the top five grades was determined with the use of the USAF sliding scale methodology. Those individuals prevented from migrating were then assumed to be subject to the applicable continuation rates. A more detailed discussion on migration is contained in chapter 6 of this report.

Starting Year Groups

The FPM required starting inventories, by year of service, for each combination of gender and AFS group. The end of FY 1984 inventories were used.

End Strength

The FPM maintained the active enlisted end strength at 500,000 to the steady state. However, the growth in the end strength to this level from the FY 1984 starting point was assumed to be what is stated in the FY 1986 President's Budget. That is, the FY 1985 end strength was 489,493, and the FY 1986 end strength was 497,442. For FY 1987 out to the steady state, the end strength was held fixed at 500,000. The total authorizations for the two AFS groups at each end strength were held proportional to the FY 1984 enlisted force structure.

Accessions

The annual total accession levels for the two AFS groups were calculated as the difference between the total

authorizations for that group and the existing inventory after removing losses. That is, the FPM allowed for enough accessions to keep each group manned at exactly 100 percent for each and every year. All accessions were assumed to be nonprior service accessions. The mix of male and female accessions for each AFS group was an input to the FPM and defined in chapter five of this report.

Projections of the Subgroups of Interest

The numbers of enlisted male and female single member parents (SMP), enlisted members married to other enlisted USAF members, and enlisted members married to USAF officers were projected using equations derived through the use of stepwise multiple linear regression. The data set was obtained from the historical airman and officer files. The data points were end-of-month observations ranging from September 1981 through October 1984. The data past this range were used to judge the accuracy of the different candidate equations for each of the subgroup projections. Because the number of pregnancies is largely dependent on the age of the women, the projection equation for the number of pregnant women in the active enlisted force was based on the FY 1984 year-of-service profile of pregnant women.