

## DISTRIBUTION FOR AFSC 272X0 OSR AND SUPPORTING DOCUMENTS

4

•

	<u>OSR</u>	ANL <u>EXT</u>	TNG <u>EXT</u>	JOB <u>INV</u>
AFIA/IM	2			
AFMPC/DPMYCO3	2			
AFMPC/DPMRA	1			
AL/HRMM	2	1		
AL/HRTE	1	l	1	
ARMY OCCUPATIONAL SURVEY BRANCH	1			
CCAF/AYX	1			
DEFENSE TECHNICAL INFORMATION CENTER	2			
HQ ACC/DPEA				
HQ ACC/DPTTFF	3		3	
HQ AETC/DPAE	3		3	
HQ AETC/TTOT	2		1	
HQ AFC4A/RMPP	3		3	
HQ AFMC/DPUE	3		3	
HQ AFSPACECOM/DPAE	3		3	
HQ AMC/DPAET	3		3	
HQ PACAF/DPAET	3		3	
HQ USAF/AFFSA/ATSC/DOO	1		1	
203 LOSEY STREET				
ROOM 1020				
SCOTT AFB IL 62225-5219				
HQ USAF/DPPE	1			
HQ USAFE/DPAD	3		3	
NODAC	1			
Standards Branch (MAGTEC)	I			
USAFOMS/OMDQ	1		_	• •
USAFOMS/OMYXL	10		5	10
USMC	~		<i>r</i>	
334 TTS/TTOT 700 HANGAR ROAD	5	1	5	
KEESLER AFB MS 39534-2335				
81 TTG/CCVS	,		1	
825 HERCULES STREET STE 101	1		1	
KEESLER AFB MS 39534-2037				
REESLER AFD NIG JYJJ4-2037				

## TABLE OF CONTENTS

## PAGE NUMBER

PREFACE	<b>v</b>
SUMMARY OF RESULTS	vi-vii
INTRODUCTION Background	
SURVEY METHODOLOGY Inventory Development Survey Administration Survey Sample Task Factor Administration	
CAREER LADDER STRUCTURE Overview Comparison to Previous Survey	6
CAREER LADDER PROGRESSION	
AFR 39-1 SPECIALTY DESCRIPTION ANALYSIS	29
TRAINING ANALYSIS First-Enlistment AFSC 272X0 Personnel TE and TD Data Training Documents Plan of Instruction (POI)	
JOB SATISFACTION ANALYSIS	45
IMPLICATIONS	
DTIC QUALITY INSPECTED 5	Accesion For NTIS CRA&I N DTIC TAB Unannounced Justification
	By Dist ibution / Availability Codes Avail and / or Dist Special
ii	Dist Special

A-1

## TABLE OF CONTENTS (Tables, Figures, Appendices)

## PAGE <u>NUMBER</u>

TABLE 1		MAJCOM REPRESENTATION IN SAMPLE AFSC 272X0	4
TABLE 2	-	PAYGRADE DISTRIBUTION OF SAMPLE AFSC 272X0	5
TABLE 3	-	TIME SPENT ACROSS DUTIES BY CAREER LADDER JOBS (RELATIVE PERCENT OF TIME SPENT)	8
TABLE 4	-	PERCENT OF TIME SPENT) SELECTED BACKGROUND DATA ON PERSONNEL IN CAREER LADDER	0
		JOBS	9
TABLE 5	-	DISTRIBUTION OF FACILITY ASSIGNMENT ACROSS CAREER LADDER	
		JOBS (Percent).	10
TABLE 6	-	JOB SPECIALTY COMPARISON BETWEEN CURRENT AND 1987 SURVEY	17
TABLE 7	_	TERMINAL INSTRUMENT PROCEDURES (TERPS) TASKS PERFORMED	1 /
	-	BY 272X0 PERSONNEL.	18
TABLE 8	-	DISTRIBUTION OF DAFSC GROUP MEMBERS ACROSS CAREER LADDER	•••
		JOBS (Percent)	19
TABLE 9	-	TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS	
		(RELATIVE PERCENT OF JOB TIME)	20
TABLE 10	-	REPRESENTATIVE TASKS PERFORMED BY 27230 PERSONNEL	21
TABLE 11	-	REPRESENTATIVE TASKS PERFORMED BY 27250 PERSONNEL	23
TABLE 12	-	TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 27230 AND	
		DAFSC 27250 PERSONNEL (PERCENT MEMBERS PERFORMING)	24
TABLE 13	-	REPRESENTATIVE TASKS PERFORMED BY 27270 PERSONNEL	25
TABLE 14	-	TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 27250 AND	
		DAFSC 27270 PERSONNEL (PERCENT MEMBERS PERFORMING)	26
TABLE 15	•	REPRESENTATIVE TASKS PERFORMED BY 27290/00 PERSONNEL	27
TABLE 16	-	TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 27270 AND	
		DAFSC 27290/00 PERSONNEL (PERCENT MEMBERS PERFORMING)	28
TABLE 17	-	RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-	
		ENLISTMENT AFSC 272X0 PERSONNEL	32
TABLE 18	-	REPRESENTATIVE TASKS PERFORMED BY FIRST-ENLISTMENT	
		AFSC 272X0 PERSONNEL.	33
TABLE 19	-	CONTROL TOWER EQUIPMENT USED BY FIRST-ENLISTMENT	
		PERSONNEL (PERCENT MEMBERS RESPONDING)	34
TABLE 20	-	RADAR EQUIPMENT USED BY FIRST-ENLISTMENT PERSONNEL	
		(PERCENT MEMBERS RESPONDING)	35-36
TABLE 21	-	· · · · · · · · · · · · · · · · · · ·	
		BY FIRST-ENLISTMENT PERSONNEL (PERCENT MEMBERS	
		RESPONDING)	37
TABLE 22	-	RADIO COMMUNICATION EQUIPMENT USED BY FIRST-ENLISTMENT	
		PERSONNEL (PERCENT MEMBERS RESPONDING).	38
TABLE 23	-	EXAMPLE OF TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS	39-40
TABLE 24	-	EXAMPLE OF TASKS WITH HIGHEST TRAINING DIFFICULTY	
		RATINGS	41

ł

## TABLE OF CONTENTS (CONTINUED) (Tables, Figures, Appendices)

## PAGE <u>NUMBER</u>

TABLE 25	-	EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR	
		MORE AFSC 272X0 GROUP MEMBERS AND NOT REFERENCED TO THE	
		STS	43
TABLE 26	-	EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR	
		MORE AFSC 272X0 FIRST-ENLISTMENT PERSONNEL AND NOT	
		REFERENCED TO THE POI	46
TABLE 27	-	COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 272X0	
		TAFMS GROUPS IN CURPENT STUDY TO A COMPARATIVE SAMPLE	
		(Percent Members Responding).	47-48
TABLE 28	-	COMPARISON OF AFSC 272X0 JOB SATISFACTION INDICATORS FOR	
		CURRENT AND PREVIOUS SURVEY (Percent Members Responding).	49-50
TABLE 29	-		
		AFSC 272X0 SPECIALTY JOBS (PERCENT MEMBERS RESPONDING)	51-52
FIGURE 1	-	272X0 CAREER LADDER JOBS.	7
FIGURE 2		FIRST-ENLISTMENT PERSONNEL JOBS	30
APPENDIX	Α-	SELECTED REPRESENTATIVE TASKS PERFORMED BY	
	• •	MEMBERS OF CAREER LADDER JOBS	54

## PREFACE

This report presents the results of an occupational survey of the Air Traffic Control (AFSC 272X0) career ladder. Authority for conducting occupational surveys is found in AFR 35-2. Computer products used in this report are available for use by operations and training officials.

Lieutenant Ty K. Sills, Occupational Analyst, developed the survey instrument, analyzed the data, and wrote the final report. Master Sergeant Cornelia J. Wharton provided computer programming support, and Ms Tamme Lambert provided administrative support. This report has been reviewed and approved for release by Major Randall C. Agee, Chief, Airman Analysis Section, Occupational Analysis Flight, USAF Occupational Measurement Squadron (USAFOMS).

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies may be requested from the USAF Occupational Measurement Squadron, Attention: Chief, Occupational Analysis Flight (OMY), 1550 5th Street East, Randolph AFB, Texas 78150-4449.

v

JAMES L. ANTENEN, Lt Col, USAF Commander USAF Occupational Measurement Squadron JOSEPH S. TARTELL Chief, Occupational Analysis Flight USAF Occupational Measurement Squadron

## SUMMARY OF RESULTS

1. <u>Survey Coverage</u>: This report is based on responses from 1,637 AFSC 272X0 respondents representing 34 percent of all AFSC 272X0 personnel assigned.

2. <u>Specialty Jobs</u>: Survey data show members of the Air Traffic Control career ladder perform work in seven related jobs. These jobs deal with performing Air Traffic Control radar, tower, and mobility duties; and general supervisory, administrative, and training functions. Two jobs identified in the previous survey, the Altitude Reservation Specialist and the Air Traffic Control Analysis Team Member, were not identified in the current survey.

3. <u>Career Ladder Progression</u>: AFSC 272X0 personnel follow an orderly skill level progression. The 3-skill level personnel primarily perform basic technical tasks, while 5-skill level personnel have a slightly broader job. The 7-skill level personnel have a more extensive job, with supervisory, administrative, and managerial responsibilities accounting for 29 percent of their time. The 9-skill level personnel and Chief Enlisted Managers (CEMs) perform several more tasks than the 7-skill levels, as they perform technical tasks in addition to their primary management, supervisory, and administrative responsibilities.

4. <u>AFR 39-1 Specialty Descriptions</u>: The three AFR 39-1 Specialty Descriptions for the Air Traffic Control career ladder (Specialist, Technician, and Superintendent) were reviewed. They provide an accurate description of the jobs performed by each skill level.

5. <u>Training</u>: All of the Specialty Training Standard (STS) elements were supported by matched survey data. The Plan of Instruction (POI) was also reviewed, and only four objectives were unsupported by survey data. There were tasks not matched to elements of the STS and POI, yet performed by sufficient numbers of AFSC 272X0 personnel to require review for possible inclusion in future revisions.

6. Job Satisfaction: Overall, AFSC 272X0 respondents are generally satisfied with their jobs. When compared to a related specialty surveyed in 1992, AFSC 272X0 personnel show relatively higher job satisfaction. When compared to the 1987 272X0 Occupational Survey Report (OSR), present survey data indicate an overall increase in job satisfaction. A comparison among major jobs identified in the current sample reveals that members in the Radar Controller, Tower Controller, and Chief Controller groups have the highest level of job satisfaction, while personnel in the Mobility Controller and Technical School Instructor groups are the least satisfied.

7. <u>Implications</u>: The Air Traffic Control career ladder remained stable during the period since the previous OSR. The work has remained essentially unchanged except for the elimination of two small jobs noted in the previous survey. Many pieces of equipment, commonly used at the time of the previous OSR, are still used. There appears to be a reasonable progression from each level of experience and responsibility to the next.

Training documents are generally accurate and clearly show the responsibilities of the career ladder. The STS, POI, and AFR 39-1 job description are sound and have been well supported by survey data. No differences were found between AFSC duties in the CONUS versus overseas or across MAJCOMs.

## OCCUPATIONAL SURVEY REPORT (OSR) AIR TRAFFIC CONTROL (AFSC 272X0)

## INTRODUCTION

This is a report of an occupational survey of the Air Traffic Control career ladder (AFSC 272X0). This survey was conducted to collect current data for use in validating training documents. The current Specialty Training Standard (STS) is dated August 1991 and the Plan of Instruction (POI) for the entry-level course was revised and took effect March 1993. The last occupational survey for this career ladder was published in March 1987.

### Background

Personnel enter the career ladder by attending the 15-week Apprentice Air Traffic Control Operator course (E3ABR27230-000) presently conducted at Keesler AFB MS. This course includes instruction in aircraft recognition and performance, air navigational aids, weather, air route and airport traffic control, flight assistance service, communications procedures, conventional and radar approach control, air traffic rules, and landing control radar.

## SURVEY METHODOLOGY

## Inventory Development

Data for this survey were collected using USAF Job Inventory Air Force Personnel Test (AFPT) 90-272-978, dated June 1992. A preliminary task list was prepared after reviewing career ladder documents, tasks from the previous Air Traffic Control job inventory, and data from the previous OSR. This preliminary task list was then validated through interviews with 34 subject-matter experts (SMEs) at the following organizations:

## APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

BASE	ORGANIZATION VISITED
Keesler AFB MS	3395 TCHTG/TTKOD
McGuire AFB NJ	438 OSS/ATR
Nellis AFB NV	57 OSS/ATR
Holloman AFB NM	49 OFS/OSAR
Tinker AFB OK	HQ CFC/SDFA

The final job inventory contains 503 tasks grouped under 10 duty headings, with standard background questions asking respondents to indicate their paygrade, duty title, time in service, time in present job, time in career field, and job satisfaction. Additional background questions were included asking respondents to indicate facility of assignment and equipment used. Responses to these questions will be of use to functional and training personnel.

## Survey Administration

Eligible survey respondents were selected from Uniform Airman Record data tapes maintained by the Armstrong Laboratory, Human Systems Directorate. From July to November 1992, Military Personnel Flights at operational bases worldwide administered the job inventory to Air Traffic Control personnel.

Each individual who filled out an inventory first completed the identification and biographical information section. Next, respondents answered questions in the background portion of the inventory. They were then instructed to go through the booklet and check each task they perform in their current job. Finally, they were asked to go back and rate the relative amount of time spent on each task performed using a 9-point scale. Time-spent ratings range from 1 (indicating a very small amount of time spent) to 9 (indicating a very large amount of time spent).

The computer calculated the relative percent time each respondent spent performing tasks by first totalling the ratings on all tasks marked, dividing the rating for each task by this total, and multiplying by 100. Percent time spent ratings from all respondents were combined and used with percent members performing values to describe various groups in the career ladder.

## Survey Sample

The final sample includes responses from 1,637 AFSC 272X0 respondents. Tables 1 and 2 compare the MAJCOM and paygrade distributions of all assigned AFSC 272X0 personnel to that of the samples. These figures show that the sample is representative of the total population.

## Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor data were collected by asking selected E-6 and E-7 NCOs to complete either a training emphasis (TE) or task difficulty (TD) booklet. These booklets are processed separately from the job inventories, and the TE and TD data are considered when analyzing other issues in the study.

<u>Training Emphasis (TE)</u>. TE is defined as the amount of structured training first-enlistment personnel need to perform tasks successfully. Structured training is defined as training provided by resident technical schools, field training detachments (FTDs), mobile training teams (MTTs), formal on-the-job training (OJT), or any other organized training method. Forty-eight experienced AFSC 272X0 NCOs rated the tasks in the inventory on a 10-point scale ranging from 0 (no training required) to 9 (extremely high TE). Interrater agreement for these 47 raters was acceptable. The average TE rating is 3.22, with a standard deviation of 2.27. Any task with a TE rating of 5.49 or greater is considered to have a high TE.

<u>Task Difficulty (TD)</u>. TD is defined as an estimate of the length of time the average airman takes to learn how to perform a task. Forty-six experienced NCOs rated the difficulty of the tasks on a 9-point scale ranging from 1 (easy to learn) to 9 (very difficult to learn). Interrater agreement was again acceptable. TD ratings are normally adjusted so tasks have an average difficulty value of 5.0, with a standard deviation of 1.0. Thus, any task with a TD rating of 6.00 or above is considered difficult to learn.

TE and TD ratings, when used with percent members performing values, can provide insight into first-enlistment training requirements, help validate the need for structured training, and aid in the evaluation of the POI for a career ladder.

## **CAREER LADDER STRUCTURE**

The first step in the analysis process is to identify the career ladder structure in terms of jobs performed by the respondents. Comprehensive Occupational Data Analysis Program (CODAP) assists by creating a job description for each respondent based on the tasks performed and relative amount of time spent on these tasks. The CODAP automated clustering program compares all individual descriptions, locates the two job descriptions with the most similar tasks

## MAJCOM REPRESENTATION IN SAMPLE AFSC 272X0

COMMAND	PERCENT ASSIGNED (N=4,813)	PERCENT OF SAMPLE (N=1,637)
ACC	39	40
AMC	16	15
AETC	13	16
USAFE	11	12
PACAF	9	6
AFMC	8	7
AFSPACECOM	2	3
OTHER	2	1

Total Assigned = 4,813 Total Surveyed = 2,223 Total in Survey Sample = 1,637 Percent of Assigned in Sample = 34% Percent of Surveyed in Sample = 74%

Assigned strength as of November 92

## PAYGRADE DISTRIBUTION OF SAMPLE AFSC 272X0

PAYGRADE	PERCENT ASSIGNED* <u>(N=5,158)</u>	PERCENT IN SAMPLE (N=1,637)
E-1 to E-3	18	17
E-4	33	34
E-5	22	24
E-6	13	13
E-7	11	10
E-8	2	1
E-9	1	-

\* Assigned strength as of July 1992 - Denotes less than 1 percent

and percent time ratings, and combines them to form a composite job description. In successive stages, new members are added to the initial groups, or new groups are formed based on the similarity of tasks performed and time ratings. This process continues until all possible respondents are included in a group.

The basic grouping in the hierarchical clustering process is the <u>Job</u>. When there is a substantial degree of similarity between jobs, they are grouped together and identified as a <u>Cluster</u>. The structure of the AETC career ladder is defined in terms of the jobs that the 1,637 respondents perform.

## <u>Overview</u>

Survey data show there are seven jobs performed by survey respondents (see Figure 1 and the listing provided below). The stage (STG) number listed beside each job title is a reference number assigned by CODAP, while the letter "N" refers to the number of respondents performing the job. Most members in the career ladder perform the Radar and Tower Controller jobs. The remainder of the career field is comprised of a small group of Mobility Controllers, and supervisory, training, and managerial functions. The time that members of the career ladder jobs spend on duties is presented in Table 3, while selected background data are presented in Table 4. Brief descriptions of each job are presented below, while representative tasks performed are listed in Appendix A.

- I. RADAR CONTROLLER JOB (STG101, N=810)
- II. TOWER CONTROLLER JOB (STG114, N=628)
- III. CHIEF CONTROLLER JOB (STG066, N=28)
- IV. MOBILITY CONTROLLER JOB (STG078, N=8)
- V. TECHNICAL SCHOOL INSTRUCTOR JOB (STG042, N=5)
- VI. CHIEF AIR TRAFFIC CONTROL TRAINING JOB (STG075, N=7)
- VII. HEADQUARTERS STAFF JOB (STG074, N=10)

Ninety-one percent of all survey respondents grouped into one of these seven jobs. The remaining 9 percent, based on task performance, do not clearly fit into one specific job. These respondents perform many of the same tasks as members of the identified jobs; however, they perform tasks characteristically related to more than one job. For example, respondents that perform many of the tasks relating to the Headquarters Staff job, as well as many tasks relating to the more technically oriented Radar Controller job, do not clearly group in either area.

# **272XO CAREER LADDER JOBS**



FIGURE 1

\* Indicates (less than 1percent): Headquarters Staff

Mobility Technical School Instructors Chief Training

# TIME SPENT ACROSS DUTIES BY CAREER LADDER JOBS (RELATIVE PERCENT OF TIME SPENT)

RADAR CONT	DRGANIZING AND PLANNING DIRECTING AND IMPLEMENTING 3	NSPECTING AND EVALUATING	NG AIR TRAFFIC CONTROL TRATIVE FUNCTIONS	<b>FFIC CONTROL</b>		PERFORMING CONTROL TOWER FUNCTIONS 3		PERFORMING AIR TRAFFIC CONTROL DATA PROGRAMMER FUNCTIONS
TOWER CONT	<b>0</b> m		<del>*</del> *	61	•	23	*	÷
CHIEF CONT JOB	22 16	61	0 1	17	4	4	4	*
MOBILITY CONT <u>JOB</u>	<i>20</i> 00	∞ ;	<u>t</u> v		0	0	55	0
TECH SCHOOL INST <u>JOB</u>	6 7	- 6	¢ 0	0	10	0	0	0
CHIEF AIR AIR CONT TRNG JOB	s v	91	6 ~	- 7	i #	0	0	*
HQ STAFF <u>JOB</u>	16 23	9	7 F	- 1 +	0	0	0	0

\* Denotes less than 1 percent

SELECTED BACKGROUND DATA ON PERSONNEL IN CAREER LADDER JOBS

CHIEF AIR AIR AIR AIR AIR AIR SCHOOL TRAF SCHOOL CONT HQ INST TRNG STAFF JOB JOB JOB	7 * 86%		0% 0	0°6 14% 14%	58% 14% 0%	42 12 47 126 195 231 0% 0% 0% 0% 14% 0% 8 43 27
MOBILITY CONT <u>JOB</u>	8 * 100%	0% 63% 37%	0%0 0%0	24% 38% 0%	38% 0% 0%	42 42 133 13% 37%
CHIEF CONT JOB	28 2% 75%	0% 0% 29% 50%	21%	%0 %0	53% 29% 18%	27 246 0% 89% 133
TOWER CONT <u>JOB</u>	628 38% 81%	25% 51% 22%	0% 22%	% 21% 12%	8% 1% 0%	40 94 55% 127
RADAR CONT <u>JOB</u>	810 49% 80%	20% 59% 21%	0% 14%	38% 27% 13%	8% 0% 0%	50 99 43% 152
	NUMBER IN GROUP PERCENT OF TOTAL SAMPLE PERCENT IN CONUS	DAFSC DISTRIBUTION 27230 27250 27270 27290	27200 PAYGRADE DISTRIBUTION AIRMAN	Б4 5-5 Б-6	E-7 E-8 E-9	AVERAGE MONTHS IN PRESENT JOB AVERAGE MONTHS' TAFMS PERCENT FIRST ENLISTMENT PERCENT SUPERVISING AVERAGE NUMBER OF TASKS PERFORMED

\* Denotes less than 1 percent

## DISTRIBUTION OF FACILITY ASSIGNMENT ACROSS CAREER LADDER JOBS (Percent)

CHIEF

						AIR	
					TECH	TRAF	
	RADAR	TOWER	CHIEF	MOBILITY	SCHOOL	CONT	ЪН
	CONT	CONT	CONT	CONT	INST	TRNG	STAFF
FACILITY OF ASSIGNMENT	IOB	<u>BÖ</u>	<u> 10B</u>	<u>lob</u>	<u>10B</u>	BOL	<u>108</u>
APPROACH CONTROL TOWER	0	1	0	0	0	0	0
COMBAT COMMUNICATIONS GROUP	0	0	4	13	0	0	0
COMBAT COMMUNICATIONS SQUADRON	2	-	4	74	0	0	0
CONTROL TOWER, FIXED	9	93	42	0	0	43	10
CONTROL TOWER, MOBILE	0	0	11	0	0	0	0
C:	6	0	0	0	0	0	0
RADAR AIR ROUTE CONTROL CENTER	4	0	0	0	0	0	0
I ADAR APPROACH CONTROL FACILITY, FIXED	77	I	31	0	0	0	10
RADAR APPROACH CONTROL FACILITY, MOBILE	1	0	0	13	0	0	0
RADAR FINAL CONTROL FACILITY	-	-	4	0	0	0	0
TECHNICAL SCHOOL	0	0	0	0	100	0	C
OTHER	£	S	4	0	0	57	80

I. <u>RADAR CONTROLLER JOB (STG101, N=810)</u>. This job represents work performed by the largest number of members in the career ladder. The majority of duty time is spent performing general Air Traffic Control activities and performing radar activities. Collectively, these duties include providing control assistance to aircraft by issuing necessary flight data and instructions, coordinating Air Traffic Control information with appropriate agencies, and operating necessary Air Traffic Control equipment. The majority of the remaining job time is spent on training and supervisory functions. Representative tasks performed by incumbents in this group include:

vector aircraft monitor assigned frequencies operate landlines issue altimeter settings provide radar separation procedures issue traffic advisories assign frequencies to aircraft perform interfacility coordinations perform intrafacility coordinations

Since the job constitutes one of two major jobs performed in the career ladder, members range from recent technical school graduates to those with a fair degree of experience. This is confirmed by figures in Table 4. Twenty percent of respondents with this job hold the 3-skill level, an additional 59 percent hold the 5-skill level, and the remaining 21 percent hold the 7-skill level. The majority of Radar Controller job respondents are assigned to fixed radar approach control facilities (see Table 5). Forty-three percent of the respondents are in their first enlistment, and 28 percent are in their second enlistment. Only 20 percent reported being assigned to an overseas location.

In certain Air Traffic Control facilities, Radar Controllers may perform tower control activities, in addition to radar activities. This accounts for the fact that 3 percent of the Radar Controller's time is spent performing tower activities. Finally, Radar Controllers are frequently required to perform watch supervisor duties. The watch supervisor is responsible for the overall operation of the facility during the shift. In order to be qualified to perform watch supervisor duties, a radar controller must perform AFSC 272X0 duties for at least 4 years, have at least 1 year experience in the facility as a supervisor, and be rated in all positions.

II. <u>TOWER CONTROLLER JOB (STG114, N=628)</u>. This job is performed by the second largest number of respondents. Members holding the Tower Controller job spend the majority of their time performing tower Air Traffic Control and general Air Traffic Control activities. These duties account for 84 percent of duty time. The majority of this time is spent in

a fixed control tower facility (see Table 5). Tasks associated with these duties include providing control assistance to aircraft by maintaining surveillance of airport movement or traffic areas, issuing necessary flight data and instructions, coordinating Air Traffic Control information with appropriate agencies, and operating necessary Air Traffic Control equipment. Other duty time is spent on training and supervisory functions. Representative tasks performed by members of this group include:

maintain surveillance of airport movement or traffic areas monitor assigned frequencies operate landlines issue takeoff or landing clearances control taxiing aircraft perform interfacility coordinations perform intrafacility coordinations issue altimeter settings issue traffic advisories

This job represents the second of two major jobs performed in the career ladder, and members range from recent technical school graduates to those with a moderate degree of experience. This is supported by Table 4, which shows that 25 percent of the respondents hold the 3-skill level, an additional 51 percent hold the 5-skill level, and 22 percent hold the 7-skill level. The final 2 percent hold the 9-skill level. Only 19 percent of the respondents reported being assigned to an overseas location.

Tower Controllers perform radar control activities in certain facilities. This accounts for 3 percent of the Tower Controller's duty time. Like I adar Controllers, Tower Controllers also perform watch supervisor duties. Watch supervisor qualification requires a Tower Controller to first perform AFSC 272X0 duties for at least 4 years, have at least 1 year experience in the facility of supervision, and be rated in all positions.

III. <u>CHIEF CONTROLLER JOB (STG066, N=28)</u>. This supervisory job accounts for 2 percent of the career field personnel. Chief Controllers spend 41 percent of their time performing organizing, planning, and supervisory functions. The remainder of their time is spent performing general Air Traffic Control functions and directing Air Traffic Control activities. Tasks associated with these duties include counseling personnel and preparing general correspondence and evaluation packages. Chief Controllers are also responsible for establishing organizational policies and performance standards. This job is distinguished by the time members spend performing the following tasks:

write general correspondence prepare enlisted performance reports (EPRs) or letters of evaluation (LOEs) counsel personnel on personal or military-related problems establish organizational policies, operating instructions (OIs), or standing operating procedures (SOPs) prepare recommendations for awards or decorations supervise Air Traffic Control Technicians (AFSC 27270) establish performance standards for subordinates prepare OIs plan duty schedules evaluate AETC problem areas interpret policies, directives, or procedures for subordinates

Chief Controllers are the primary supervisors in the career ladder and average the greatest number months of TAFMS. Fifty percent of the respondents hold the 9-skill level, while the remainder are divided almost equally between the 7-skill level and Chief Enlisted Managers (CEMs). Table 5 shows that the majority of Chief Controllers are assigned to fixed radar and tower facilities. Only 25 percent of the respondents are assigned to an overseas location.

IV. <u>MOBILITY CONTROLLER JOB (ST078, N=8)</u>. The Mobility Controller job is comprised of a small group of controllers who spend 55 percent of their time performing mobile Air Traffic Control operations. Table 5 shows that these operations are performed primarily in support of combat communications squadrons. They spend 14 percent of their time performing training functions. The remainder of their time is evenly divided between planning, evaluating, directing and implementing, and administrative activities. Primary tasks performed by this group relate to mobility functions such as erecting and tearing down Air Traffic Control facilities, palletizing and loading equipment, and performing convoy duties. This strong tendency toward mobility functions is demonstrated in the following sample of tasks:

> erect or tear down Air Traffic Control facilities operate M-series vehicles or associated equipment palletize mobile equipment for airlift perform convoy duties erect or tear down cantonment facilities load or offload equipment from aircraft or vehicles erect or tear down communications facilities level mobile radar equipment inventory mobile equipment, tools, or supplies

prepare mobile functional support kits maintain personnel information cards (PICs) conduct M-series vehicle training level mobile tower equipment

Most AFSC 272X0 personnel who perform the Mobility Controller job hold the 5- and 7skill levels. Mobility Controllers average 133 months' TAFMS, less than half supervise, and all have CONUS assignments.

V. <u>TECHNICAL</u> <u>SCHOOL</u> <u>INSTRUCTOR</u> JOB (STG042, N=5). This small, homogeneous group spends 78 percent of their duty time performing training-related activities. The majority of the remainder of job time is spent performing radar and directing and implementing functions. The training tasks performed include writing, administering, and scoring tests; instructing trainees on AETC-related material and evaluating training progress; and developing course curriculum materials. The following tasks provide a clear picture of the training-related aspects of the Technical School Instructor job:

administer tests score tests maintain training records, charts, or graphs evaluate progress of resident course students counsel personnel on personal or military-related problems operate pseudopilot consoles initiate T-4 radar simulator sessions conduct AETC training for foreign nationals conduct resident course training develop resident course curriculum materials

The Technical School Instructor job was solely comprised of 5-skill level respondents. Instructors average 90 months' TAFMS. This job requires little or no supervisory duties, and all members are assigned to the technical school.

VI. <u>CHIEF AIR TRAFFIC CONTROL TRAINING JOB (STG075, N=7)</u>. This trainingrelated job involves developing and managing individual unit Air Traffic Control training and development programs. Training duties account for 65 percent of job time. The remainder of duty time is spent inspecting and evaluating, organizing and planning, and performing general and administrative Air Traffic Control functions. The main thrust of this job is demonstrated in the following tasks: establish indoctrination programs for newly assigned personnel develop job qualification standards (JQSs) administer tests write test questions direct or implement OJT programs develop JQS training references score tests evaluate training methods or techniques prepare facility rating guides conduct control tower proficiency training

Eighty-six percent of the members in the job hold the 7-skill level. The remaining 14 percent hold the 5-skill level. Collectively, the members in this job average 168 months' TAFMS. Since the job is conducted at the unit level, 14 percent of the respondents are assigned to overseas locations.

VII. <u>HEADQUARTERS STAFF JOB (STG074, N=10)</u>. This nontechnical job accounts for less than 1 percent of all respondents. Headquarters Staff personnel manage the career field by performing duties relating to inspecting and evaluating and directing and implementing career field functions. The following are representative tasks performed by members in this job:

write general correspondence evaluate operations letters evaluate letters of agreement (LOAs) interpret Air Traffic Control policies for using activities evaluate Air Traffic Control problem areas evaluate Air Traffic Control methods or techniques evaluate OIs evaluate Air Traffic Control recommendations interpret policies, directives, or procedures for subordinates evaluate memorandums of understanding (MOUs) prepare or submit recommendations for improving or standardizing AETC procedures

This managerial job is appropriately comprised primarily of more experienced AFSC 272X0 personnel. Headquarters Staff respondents average 207 months' TAFMS, and all hold at least the 7-skill level. Only 1 of the 10 members of this job reported being assigned to an overseas location.

## Comparison to Previous Survey

There are several differences between jobs identified in the current and previous studies. These are listed in Table 6. The Mobility Controller and Chief Air Traffic Control Training jobs were not identified in the 1987 study. Both of these jobs comprise only a small percentage of the career ladder, and therefore it is not surprising that they were omitted from the previous study. The current study did not identify the jobs of Altitude Reservation Specialist or Air Traffic Control Analysis Team Member. The job of Altitude Reservation Specialist is becoming obsolete, and hence sufficient data necessary to classify this as a distinct job were not present. The Air Traffic Control Analysis Team member job was not specifically identified, as this job was subsumed within the Headquarters Staff job. One final difference between the surveys involves the area of Terminal Instrument Procedures (TERPS). The job inventory tasks related to TERPS were analyzed to determine the extent of these duties in the career field. The results of this analysis, presented in Table 7, show that only a small percentage of the AFSC 272X0 career field members are performing these duties, which account for only a minimal percentage of duty time. Differences in the jobs identified between the two studies may be attributed to differences in the job inventories used for the two studies and newly developed task clustering procedures used to help identify jobs in the career ladder structure.

## **CAREER LADDER PROGRESSION**

Analysis of the tasks performed by members of the various DAFSCs is an important part of each occupational survey. This analysis identifies differences in work performed across skill levels, which in turn may be used to determine how well career ladder documents, such as AFR 39-1 Specialty Descriptions and the STS, reflect how members of the career ladder are being used.

The distribution of skill-level personnel performing the career ladder jobs is shown in Table 8, while the relative time members of the skill-level groups spend on each duty is listed in Table 9. Data in these tables show that 3-, 5-, and 7-skill level members primarily perform the Radar and Tower Controller jobs. Supervisory duties are performed, appropriately enough, by 9-skill level and CEM Code personnel. Additional supervisory duties are performed by 7-skill level personnel. Training duties are the responsibility of 5- and 7-skill level personnel, and managerial duties are performed by 7-skill level personnel up to the CEM level.

## Skill-Level Descriptions

<u>DAFSC 27230</u>. The 343 3-skill level personnel identified in the survey perform an average of 107 tasks. Table 8 shows that these tasks relate primarily to the jobs of Radar and Tower Controller, and Table 9 shows that the majority of duty time is spent performing general radar and tower control functions. Table 10 lists a representative sample of tasks performed by 3-skill level

9
ш
Г
B
×
F

# JOB SPECIALTY COMPARISON BETWEEN CURRENT AND 1987 SURVEY

PERCENT OF SAMPLE	45	38	٢		£		*	*	-
1987 (N=2,903)	Radar Air Traffic Control Personnel Cluster	Tower Air Traffic Control Personnel Cluster	Air Traffic Control Supervisor	Not Identified	Training Instructor	Not Identified	VII. Headquarters Staff	Altitude Reservation Specialists	Air Traffic Control Analysis Team Member
10	I.	II.	III.	IV.	<b>&gt;</b>	VI.	VII.	VIII.	IX.
PERCENT OF SAMPLE	49	38	7	¥	÷	*	÷		
CURRENT (N=1,637)	I. Radar Controller	Tower Controller	Chief Controller	IV. Mobility Controller	Technical School Instructor	Chief Air Traffic Control Training	Headquarters Staff	Not Identified	Not Identified
CURR	Ϊ	II.	III.	IV.	>	VI.	VII.	VIII.	IX

17

\* Denotes less than 1 percent

# TERMINAL INSTRUMENT PROCEDURES (TERPS) TASKS PERFORMED BY 272X0 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=1,637)	PERCENT TIME SPENT PERFORMING
<b>B</b> 80	Prepare or submit terminal instrument procedures (TERPS) packages	4	_
B81	Review TERPS packages	Ś	7
D154	Conduct TERPS specialist training	3	μ
E186	Complete TERPS forms	4	2
1471	Prepare TERPS packages for mobile site development	*	1

18

\* Denotes less than 1 percent

## DISTRIBUTION OF DAFSC GROUP MEMBERS ACROSS CAREER LADDER JOBS (Percent)

CAREER LADDER JOBS	27230 (N=343)	27250 (N=859)	27270 (N=383)	27290 (N=37)	27200 (N=15)
I. Radar Controller (N=810)	45	56	44	0	0
II. Tower Controller (N=628)	46	37	36	35	0
III. Chief Controller (N=28)	0	0	2	38	40
IV. Mobility Controller (N=8)	0	0	-	0	0
V. Technical School Instructor (N=10)	0	-	0	0	0
VI. Chief Air Traffic Control Training (N=7)	0	*	2	0	0
VII. Headquarters Staff (N=10)	0	0	2	S	٢
VIII. Not Grouped (N=136)	6	5	13	22	53

\* Denotes less than 1 percent

# TIME SPENT ON DUTIES BY MEMBERS OF SKILL-LEVEL GROUPS (RELATIVE PERCENT OF JOB TIME)

DU	DUTIES	27230 (N=343)	27250 (N=859)	27270 (N=383)	90/00 (N=52)
Å.	ORGANIZING AND PLANNING	*	7	9	19
B.	DIRECTING AND IMPLEMENTING	-	ю	6	18
IJ	INSPECTING AND EVALUATING	*	L	9	19
Ū.	TRAINING	2	Ś	٢	S
ഥ്	PERFORMING AIR TRAFFIC CONTROL ADMINISTRATIVE FUNCTIONS	*	*		9
۲.	PERFORMING GENERAL AIR TRAFFIC CONTROL FUNCTIONS	69	59	45	21
G	PERFORMING RADAR FUNCTIONS	15	17	13	S
H.	<b>PERFORMING CONTROL TOWER FUNCTIONS</b>	12	11	10	9
I.	PERFORMING MOBILE OPERATIONS	*	*	*	-
ŗ.	PERFORMING AIR TRAFFIC CONTROL DATA PROGRAMMER FUNCTIONS	*	*	*	0

\* Denotes less than 1 percent

## REPRESENTATIVE TASKS PERFORMED BY 27230 PERSONNEL

		PERCENT MEMBERS
		PERFORMING
<u>TASK</u>	<u>S</u>	<u>(N=343)</u>
F298	Operate landlines	96
F231	Clean work areas or equipment	93
F305	Perform interfacility coordinations	92
F306	Perform intrafacility coordinations	90
F280	Issue altimeter settings	90
F295	Monitor assigned frequencies	89
F227	Assign frequencies to aircraft	89
F288	Issue traffic advisories	87
F339	Replace voice recorder tapes	86
F208	Annotate and update flight progress strips	85
F331	Relay IFR clearances	85
F228	Assign transponder modes or codes	84
F293	Issue wind advisories	83
F294	Make time checks	83
F267	File flight progress strips	82
F232	Complete preduty equipment checklists	82
F220	Approve or coordinate IFR aircraft departures	82
F212	Apply visual separations	80
F348	Verify altimeter settings	80
F303	Participate in preduty familiarization briefings	79
F258	Copy or relay standard weather observations	78
F296	Notify agencies of runways in use	78
F255	Copy or issue airfield advisories	76
F289	Issue wake turbulence advisories	76
F324	Relay aircraft arrival or departure times	75
F281	Issue altitude assignments	75
F301	Operate or check voice recorders	73
F345	Transfer arriving or departing aircraft to other facilities	72
F243	Coordinate aircraft handoffs	67
F291	Issue weather advisories	66
F302	Operationally check automatic terminal information services (ATIS)	57
H432	Maintain surveillance of airport movement or traffic areas	48

personnel. These tasks are all general Air Traffic Control activities and require basic technical skills, such as operating and cleaning equipment, performing coordinations with appropriate agencies, and monitoring frequencies. Ninety-eight percent of the 3-skill level members are in their first enlistment, they average 38 months' TAFMS, and almost all members are in paygrades E-2 through E-4.

DAFSC 27250. The 5-skill level personnel have a slightly broader job. They perform an average of 132 tasks that primarily deal with Radar and Tower Control jobs. Table 8 shows that a small percentage of 5-skill level personnel also perform Technical School Instructor duties. In addition to performing general radar and tower control activities, they spend a small portion of their time performing training, directing and implementing, and organizing and planning functions. This is supported by data in Table 9. Table 11 shows representative tasks performed by 5-skill level personnel. These tasks are very similar to the tasks performed by 3-skill level members. The representative tasks that best differentiate between these two skill levels are presented in Table 12. These data show that 5-skill level personnel perform supervisory tasks, such as counseling trainees and other personnel, supervising 3-skill level personnel, and preparing EPRs. The majority of the members of this group are in their first enlistment, they average 83 months' TAFMS, and almost all members are in paygrades E-3 through E-5.

<u>DAFSC 27270</u>. As shown by figures in Table 8, slightly more 7-skill level airmen currently perform administrative and supervisory jobs than 3-/5-skill level members. Figures in Table 9 also show that most duty time is spent performing general AETC activities, followed by performing radar and tower control duties. These data demonstrate that 7-skill level personnel perform many of the same technical tasks that 3- and 5-skill level airmen perform. In addition to these technical tasks, Table 13 shows that a large percentage of 7-skill level personnel perform supervisory tasks, such as supervising AETC operators (AFSC 27250) and preparing EPRs and LOEs. Table 14 shows a sample of tasks that best differentiate 7-skill level personnel from 5-skill level members. This comparison demonstrates the increased supervisory nature of 7-skill level duties. Over half of the 7-skill level respondents are still in their first enlistment, and they are primarily in paygrades E-5 through E-7.

<u>DAFSC 27290/00</u>. As with other career ladders, the senior AFSC 272X0 personnel are the managers of the career ladder. As shown by the figures in Table 8, most of these senior airmen perform the supervisory jobs. Others have the HQ Staff job. Figures in Table 9 show 9-skill level and CEM Code personnel spend most of their duty time performing administrative and supply functions and other management activities. A list of tasks representing these activities is presented in Table 15. Table 16 shows the tasks that best differentiate 7- and 9-skill level and CEM duties. This table shows that 7-skill level personnel perform technical tasks rarely performed by 9-/10-skill level members, while 9-skill level and CEM members are more active in managing the career ladder. Nine-skill level and CEM airmen average 247 months' TAFMS, and almost all are in paygrades E-7 through E-9.

## REPRESENTATIVE TASKS PERFORMED BY 27250 PERSONNEL

		PERCENT MEMBERS
		PERFORMING
TASK	c	(N=859)
IASK	<u>5</u>	(11-057)
F298	Operate landlines	92
F305	Perform interfacility coordinations	92
F280	Issue altimeter settings	92
F288	Issue traffic advisories	92
F306	Perform intrafacility coordinations	91
F295	Monitor assigned frequencies	90
F291	Issue weather advisories	90
F227	Assign frequencies to aircraft	89
F293	Issue wind advisories	88
F348	Verify altimeter settings	88
F208	Annotate and update flight progress strips	87
F303	Participate in preduty familiarization briefings	87
F331	Relay IFR clearances	87
F212	Apply visual separations	87
F220	Approve or coordinate IFR aircraft departures	86
F232	Complete preduty equipment checklists	86
F292	Issue wheels down advisories	86
F255	Copy or issue airfield advisories	86
F343	Request pilot reported (PIREP) in-flight weather conditions	86
F294	Make time checks	86
F228	Assign transponder modes or codes	85
F231	Clean work areas or equipment	85
F289	Issue wake turbulence advisories	85
F321	Provide wake turbulence separations	84
F267	File flight progress strips	83
F281	Issue altitude assignments	82
F345	Transfer arriving or departing aircraft to other facilities	81
F296	Notify agencies of runways in use	81
F258	Copy or relay standard weather observations	79
F207	Adjust radar scopes	73
F243	Coordinate aircraft handoffs	70
F324	Relay aircraft arrival or departure times	69
F214	Approve aircraft operations in airport traffic areas (ATAs)	67

## TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 27230 AND DAFSC 27250 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		27230 ( <u>N=343</u> )	27250 (N=859)	DIFFERENCE
D155	Counsel trainees on training progress	17	55	-38
D150	Conduct OJT	23	56	-33
<b>B8</b> 6	Supervise Air Traffic Control Operators (AFSC 27250)	4	34	-30
<b>B54</b>	Counsel personnel on personal or military-related problems	4	34	-30
<b>B</b> 89	Supervise Apprentice Air Traffic Control Operators (AFSC 27230)	10	38	-28
C132	Prepare enlisted performance reports (EPRs) or letters of evaluation (LOEs)	4	31	-27
G359	Control airport surveillance radar approaches (ASRs)	24	50	-26
D136	Administer tests	Π	34	-23
G381	Issue radar surveillance approach recommended altitudes	23	46	-23
G367	Forward airport lighting requests to control towers	19	42	-23
G380	Issue minimum descent altitude (MDA) advisories	25	47	-22
D170	Maintain training records, charts, or graphs	24	46	-22

## REPRESENTATIVE TASKS PERFORMED BY 27270 PERSONNEL

		PERCENT MEMBERS
		PERFORMING
<u>TASK</u>	S	<u>(N=383)</u>
	_	<u></u>
F306	Perform intrafacility coordinations	91
F305	Perform interfacility coordinations	86
F298	Operate landlines	85
F288	Issue traffic advisories	85
F280	Issue altimeter settings	84
F303	Participate in preduty familiarization briefings	83
F227	Assign frequencies to aircraft	83
C132	Prepare enlisted performance reports (EPRs) or letters of	
	evaluations (LOEs)	82
F295	Monitor assigned frequencies	81
F291	Issue weather advisories	81
F232	Complete preduty equipment checklists	80
F212	Apply visual separations	80
F208	Annotate and update flight progress strips	79
F293	Issue wind advisories	79
F292	Issue wheels down advisories	79
F220	Approve or coordinate IFR aircraft departures	78
F321	Provide wake turbulence separations	78
B51	Conduct facility tours	78
F228	Assign transponder modes or codes	77
F331	Relay IFR clearances	75
F289	Issue wake turbulence advisories	75
F296	Notify agencies of runways in use	75
F345	Transfer arriving or departing aircraft to other facilities	73
F267	File flight progress strips	73
F281	Issue altitude assignments	72
<b>B8</b> 6	Supervise Air Traffic Control Operators (AFSC 27250)	71
B54	Counsel personnel on personal or military-related problems	71
A2	Assign personnel to duty positions	62
H432	Maintain surveillance of airport movement or traffic areas	56
<b>B8</b> 9	Supervise Apprentice Air Traffic Cont Operators (AFSC 27230)	55
A11	Determine work priorities	54
B96	Write general correspondence	49

## TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 27250 AND DAFSC 27270 PERSONNEL (PERCENT MEMBERS PERFORMING)

		27250	27270	
TASKS		(N=859)	(N=383)	DIFFERENCE
C133	Prepare recommendations for awards or decorations	22	60	-38
<b>B88</b>	Supervise Air Traffic Control Technicians (AFSC 27270)	6	47	-38
<b>B96</b>	Write general correspondence	11	49	-38
<b>B</b> 86	Supervise Air Traffic Control Operators (AFSC 27250)	34	71	-37
<b>A</b> 2	Assign personnel to duty positions	25	62	-37
<b>B54</b>	Counsel personnel on personal or military related problems	34	71	-37
AII	Determine work priorities	21	54	-33
B73	Interpret policies, directives, or procedures for subordinates	15	47	-32
B48	Approve electrical power transfers	20	51	-31
A21	Establish performance standards for subordinates	15	44	-29
AI	Assign additional duties	17	45	-28
A46	Schedule leaves or passes	9	32	-26

## REPRESENTATIVE TASKS PERFORMED BY 27290/00 PERSONNEL

		PERCENT MEMBERS
		PERFORMING
<u>TASK</u>	<u>S</u>	<u>(N=52)</u>
<b>B</b> 96	Write general correspondence	87
C132	Prepare enlisted performance reports (EPRs) or letters of evaluation	
	(LOEs)	83
B54	Counsel personnel on personal or military-related problems	83
C133	Prepare recommendations for awards or decorations	83
A20	Establish organizational policies, operating instructions (OIs), or	
	standing operating procedures (SOPs)	77
A11	Determine work priorities	77
A21	Establish performance standards for subordinates	77
A46	Schedule leaves or passes	75
E205	Review manpower authorizations	73
C119	Evaluate OIs	73
A34	Plan work assignments	73
B88	Supervise Air Traffic Control Technicians (AFSC 27270)	73
C107	Evaluate AETC problem areas	71
A10	Determine requirements for space, personnel, equipment, or supplies	71
C120	Evaluate operations letters	71
C115	Evaluate letters of agreement (LOAs)	71
A44	Schedule briefings	71
B72	Interpret AETC policies for using activities	69
A14	Develop work methods or procedures	69
E200	Prepare OIs	69
A43	Schedule AETC meetings	69
<b>B7</b> 3	Interpret policies, directives, or procedures for subordinates	65
C105	Evaluate AETC methods or techniques	65
A26	Plan briefings	65
A38	Prepare or submit recommendations for improving or standardizing	
	AETC procedures	62
<b>B7</b> 1	Initiate personnel action requests	58
C135	Write staff studies, surveys, or special reports	54
C108	Evaluate AETC recommendations	54
C101	Conduct staff assistance or site visits	21

## TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 27270 AND DAFSC 27290/00 PERSONNEL (PERCENT MEMBERS PERFORMING)

TASKS		27270 (N=383)	27290/00 (N=52)	DIFFERENCE
F231 F207 G366 G353 D136 G377	<ul> <li>F231 Clean work areas or equipment</li> <li>F207 Adjust radar scopes</li> <li>G366 Coordinate approach or landing sequences</li> <li>G353 Approve or issue radar pointouts</li> <li>D136 Administer tests</li> <li>G377 Issue climbout instructions</li> </ul>	69 57 60 60 60 60	29 37 27 33 33	33 33 28 28 28 28
C133 C130 B58 E191 D163 E191 E192	Prepare recommendations for awards or decorations Investigate accidents or incidents, other than aircraft accidents or incidents Direct maintenance of administrative files Maintain personnel information cards (PICs) Establish indoctrination programs for newly assigned personnel Request ATCALS flight checks Maintain records of facility operations	60 5 9 16 22 9 16	83 35 37 29 42	-23 -22 -20 -20 -20
## <u>Summary</u>

AFSC 272X0 personnel demonstrate typical career ladder progressions. Three- and 5skill level members perform very nearly the same technical work, 7-skill level members have additional supervisory responsibilities, and 9-skill level and CEM Code members are the managers of the career ladder.

## AFR 39-1 SPECIALTY DESCRIPTION ANALYSIS

The current AFR 39-1 Specialty Descriptions for the Air Traffic Control career ladder were compared to job descriptions for each of the DAFSC groups. The jobs and tasks included in the current descriptions adequately reflect the work being done by AFSC 272X0 personnel in the field.

## TRAINING ANALYSIS

Occupational survey data are sources of information that can be used to assist in the development of relevant training programs for entry-level personnel. Factors used to evaluate entry-level Air Traffic Control training include jobs being performed by first-enlistment personnel, overall distribution of first-enlistment personnel across career ladder jobs, percent first-job (1-24 months' TAFMS) and first-enlistment (1-48 months' TAFMS) members performing specific tasks or using specific equipment items, ratings of how much TE tasks should receive in formal training, and ratings of relative TD.

## First-Enlistment AFSC 272X0 Personnel

Four hundred seventy-three Air Traffic Control respondents indicated they were in their first enlistment. This group is divided almost evenly between the Radar and Tower Controller jobs. Five first-enlistment personnel reported working as Mobility Controllers (see Figure 2). These jobs are all mainstream, technical jobs. The supervisory and administrative jobs are performed by AFSC 272X0 personnel who have more experience and more time in the service. The technical nature of the first-enlistment jobs is shown by time spent on duties, listed in Table



17, and representative tasks performed, listed in Table 18. Table 17 shows that the majority of the first-enlistment member's time is spent performing general radar and tower control functions, while Table 18 shows that the representative tasks performed by these personnel are primarily general technical tasks. Equipment items used by first-enlistment AFSC 272X0 personnel are listed in Tables 19 through 22. Entry-level training should, therefore, focus on tasks related to technical jobs performed and equipment items used by first-enlistment personnel.

## TE and TD Data

TE and TD data are secondary factors that can help training personnel focus on what tasks should be emphasized in entry-level training. These ratings, based on the judgment of senior Air Traffic Controllers working in the field, were collected to provide training personnel with a rankordering of tasks considered important for formal training (TE), along with a measure of the difficulty of those tasks (TD). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can then be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors and performed by moderate to high percentages of members should be taught in resident training. On the other hand, tasks with high TE and TD ratings, but performed by low percentages of respondents may be more appropriate for OJT. Tasks with low TE and TD ratings should probably be omitted from OJT for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, as well as the criticality of the tasks.

To help training personnel focus on tasks that are most appropriate for entry-level training. an additional factor, the Automated Training Indicator (ATI), was assigned to each task in the inventory. A computer program considered percent first-enlistment members performing, TE and TD ratings, and the Course Training Decision Table found in Air Training Command Regulation (AETCR) 52-22, Atch 1, to assign a value to each task corresponding to 1 of 18 training decisions on the table. The decision table and explanation of ATIs precede the listing of tasks in descending order of ATI in the Training Extract. Training personnel should focus on tasks with an ATI of 18, which suggests that these tasks should be in the entry-level course. Samples of tasks having the highest TE ratings are listed in Table 23. This table shows that a large percentage of first-job and first-enlistment personnel are performing these tasks, which are considered important for formal training. These tasks deal with issuing and applying important flight information.

Table 24 lists the tasks having the highest TD ratings. The percentages for firstenlistment, 5-, and 7-skill 'evel personnel performing, and the TE ratings are also included for each task. These are considered by the raters as the most difficult to learn. According to the table, these tasks deal with areas such as preparing terminal instrument procedures (TERPS) packages and directing various Air Traffic Control activities. These tasks generally have low TE values and are performed by few members of the career field.

# RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-ENLISTMENT AFSC 272X0 PERSONNEL

וח	TIES	PERCENT TIME SPENT
A	ORGANIZING AND PLANNING	*
В	DIRECTING AND IMPLEMENTING	1
С	INSPECTING AND EVALUATING	*
D	TRAINING	3
E	PERFORMING AIR TRAFFIC CONTROL ADMINISTRATIVE FUNCTIONS	*
F	PERFORMING GENERAL AIR TRAFFIC CONTROL FUNCTIONS	66
G	PERFORMING RADAR FUNCTIONS	15
Н	PERFORMING CONTROL TOWER FUNCTIONS	13
I	PERFORMING MOBILE OPERATIONS	*
J	PERFORMING AIR TRAFFIC CONTROL DATA PROGRAMMER FUNCTIONS	*

\* Denotes less than 1 percent

# REPRESENTATIVE TASKS PERFORMED BY FIRST-ENLISTMENT AFSC 272X0 PERSONNEL

		PERCENT MEMBERS
		PERFORMING
<u>TASK</u>	<u>S</u>	<u>(N=473)</u>
F298	Operate landlines	95
F305	Perform interfacility coordinations	95
F280	Issue altimeter settings	94
F295	Monitor assigned frequencies	93
F231	Clean work areas or equipment	93
F288	Issue traffic advisories	93
F306	Perform intrafacility coordinations	93
F293	Issue wind advisories	91
F227	Assign frequencies to aircraft	91
F348	Verify altimeter settings	91
F291	Issue weather advisories	90
F208	Annotate and update flight progress strips	89
F331	Relay IFR clearances	88
F212	Apply visual separations	88
F220	Approve or coordinate IFR departures	87
F228	Assign transponder modes or codes	87
F294	Make time checks	87
F232	Complete preduty equipment checklists	86
F303	Participate in preduty familiarization briefings	86
F292	Issue wheels down advisories	86
F289	Issue wake turbulence advisories	86
F255	Copy or issue airfield advisories	86
F343	Request pilot reported (PIREP) in-flight weather conditions	86
F321	Provide wake turbulence separations	84
F221	Approve or coordinate pilot requests for deviations from AETC	
	clearances	84
F267	File flight progress strips	83
F296	Notify agencies of runways in use	83
F281	Issue altitude assignments	81
F345	Transfer arriving or departing aircraft to other facilities	81
F258	Copy or relay standard weather observations	81
F324	Relay aircraft arrival or departure times	79
F243	Coordinate aircraft handoffs	72
F214	Approve aircraft operations in airport traffic areas (ATAs)	72

# CONTROL TOWER EQUIPMENT USED BY FIRST-ENLISTMENT PERSONNEL (PERCEN ) MEMBERS RESPONDING)

	ALL FIRST	FIRST ENL	FIRST ENL
EQUIPMENT	ENL	RADAR	TOWER
TAPE RECORDERS	54	34	73
AIRFIELD LIGHTING PANELS	52	6	67
BINOCULARS	52	6	67
LIGHT GUNS	52	6	96
<b>AUTOMATIC TERMINAL INFORMATION SERVICES (ATIS)</b>	49	14	87
AN/0J-314 TOWER CONSOLES	48	7	88
<b>AUTOMATED WEATHER DISSEMINATION SYSTEMS (AWDSs)</b>	48	24	75
PRIMARY CRASH ALARM SYSTEMS (PCASs)	48	10	89
DIGITAL BRITE (DBRITE)	40	œ	73
REQUEST ACKNOWLEDGE UNITS (RAUs)	39	28	53
GQM-20 WIND INDICATORS	38	17	58
FLIGHT DATA SYSTEMS-II (FDS-IIs)	23	15	30
GQM-11 WIND INDICATORS	19	4	36
AUTOMATED FLIGHT DATA PROCESSORS	7	10	23
FLIGHT DATA ENTRY PRINTOUTS	17	10	23
<b>BRITE RADAR INDICATOR TOWER EQUIPMENT (BRITEs)</b>	15	-	28
AIRCRAFT ARRESTING SYSTEM LIGHT PANELS	12	2	22
TELEWRITERS	12	6	15
AN/GRN-135 TOWER CONSOLES	10	ß	17
ELECTROWRITERS	7	Ś	12
GQM-12 WIND INDICATORS	4	2	9
AN/TSW-7 MOBILE CONTROL TOWERS	2	0	4
AN/GRN-206 MOBILE RADIO VEHICLES	-	0	ŝ
AN/MRC-107 MOBILE RADIO VEHICLES	-	0	2
AN/MRC-108 MOBILE RADIO VEHICLES	_	0	m
FLIGHT PLAN PROCESSING AND COORDINATION SYSTEMS (FLIPCOs)	_	2	-

# RADAR EQUIPMENT USED BY FIRST-ENLISTMENT PERSONNEL (PERCENT MEMBERS RESPONDING)

EQUIPMENT	ALL FIRST ENL	FIRST ENL <u>RADAR</u>	FIRST ENL TOWER
AF/TPX-42 RADAR BEACON SYSTEMS	40	76	5
	33	63	4
AN/GPN T-4 RADAR SIGNAL SIMULATORS	29	56	7
AN/GPN-20 RAPCONs	28	53	7
AN/GPA 131-131A VIDEO MAPPERS	20	37	7
AN/FPN-62 PARs	19	34	'n
AN/GPN-12 RADAR SETS	14	26	7
AN/GPN-22 PARs	6	15	'n
AN/ASR-5 AIRPORT SURVEILLANCE RADARS	S	10	0
BROADBAND RADAR SYSTEMS	S	10	0
AN/FPN-55 FIXED RADAR APPROACH CONTROLS (RAPCONs)	4	œ	0
AN/FPN-16 PRECISION APPROACH RADAR (PAR) EQUIPMENT	£	S	0
AN/CPS T-5 RADAR SUITCASE SIMULATORS	7	S	0
AN/FPN-47 ATC SURVEILLANCE RADARS	7	4	0
AN/UPX-23 INTERROGATOR SETS	2	ę	0
AN/FPS-117 LONG RANGE RADARS	1	_	0
AN/FPS-67 RAPCONs	_	2	0
AN/GRN-20 RAPCONs	-	ę	0
AN/TPN-19 MOBILE RADAR SETS	-	-	0
AN/FPN-61 PARs	0	0	0
AN/GPN-24 RAPCONs	0	0	0
AN/GPN-25 RAPCONs	0	0	0

TABLE 20 (CONTINUED)

# RADAR EQUIPMENT USED BY FIRST-ENLISTMENT PERSONNEL (PERCENT MEMBERS RESPONDING)

	ALL	FIRST FNI	FIRST ENI
EQUIPMENT	EN	RADAR	TOWER
AN/GRN-13 GROUND CONTROL APPROACHES, MOBILE	0	0	0
AN/TPS-43E RADAR SETS	0	0	0
CONUS METEOROLOGICAL DATA SYSTEMS (COMEDS <sub>8</sub> )	0	1	0
TAPE RECORDERS	60	85	34
0J/314 COMMUNICATIONS EQUIPMENT CONSOLES	42	54	30
PROGRAMMABLE INDICATOR DATA PROCESSORS (PIDPs)	40	70	11
FLIGHT DATA ENTRY PRINTOUTS (FDEPs)	33	45	21
FLIGHT DATA SYSTEMS (FDSs)	30	48	13
RADAR BRITE DISPLAY EQUIPMENT (RBDE-5s)	14	ŝ	24
RADAR BEACON CONTROL BOXES	12	23	—
PC RADAR SIMULATORS	11	19	1
TELEWRITERS	11	16	Ś
ELECTROWRITERS	9	11	0
DATA DISPLAY SYSTEMS	Ś	10	0
ENROUTE AUTOMATED RADAR TRACKING SYSTEMS (EARTSs)	4	7	-
RADAR DATA PROCESSING SYSTEMS	-	_	0
REMOTE LINE AMPLIFIERS (RLAs)		I	0
15G14B SUITCASE SIMULATORS	_	-	0
MPN/TPN-14 RAPCONs, MOBILE	0	0	0

# NAVIGATIONAL AID (NAVAID) REMOTE STATUS INDICATORS USED BY FIRST-ENLISTMENT PERSONNEL (PERCENT MEMBERS RESPONDING)

NAVAID REMOTE STATUS INDICATORS	ALL FIRST <u>ENL</u>	FIRST ENL RADAR	FIRST ENL TOWER
AN/GRN-27 INSTRUMENT LANDING SYSTEM (ILS) MONITOR PANELS	32	34	31
AN/GRN-29 ILS MONITOR PANELS	32	33	30
AN/GRA-34 TACTICAL AIR NAVIGATION (TACAN) CONTROL MONITOR GROUPS	29	24	34
WILCOX VHF OMNIDIRECTIONAL RANGE (VOR) MONITORS	15	61	11
AN/TRN-31 TACAN REMOTES	6	10	œ
AN/GTW-2 ILS REMOTE CONTROLS	5	٢	e
AN/RM-2 RADIO BEACONS		ŝ	7
AN/TRN-41 MOBILE TACANS	3	3	4
AN/TRN-26 TACTICAL MOBILE TACANS	I	0	£

# RADIO COMMUNICATION EQUIPMENT USED BY FIRST-ENLISTMENT PERSONNEL (PERCENT MEMBERS RESPONDING)

	ALL	FIRST	FIRST
	FIRST	ENL	ENL
<b>RADIO COMMUNICATION EQUIPMENT</b>	ENL	RADAR	TOWER
AN/GRC-171 UHF	89	85	93
AN/GRC-211 VHF	88	83	92
FM RADIOS	43	œ	79
AN/GRT-22 UHF	15	18	12
AN/GRR-24 UHF	14	14	13
AN/GRT-21 VHF	14	16	12
AN/GRR-23 VHF	13	14	12
AN/GRA-81 VHF, CONSOLES	11	9	91
AN/GRA-83 UHF, CONSOLES	11	9	16
AN/PRC-113, MOBILE RADIOS	10	£	19
AN/GRC-175 VHF	e	5	I
AN/ARC-27 UHF	7	-	4
AN/ARC-3 VHF	2		ß
AN/FSA-22 VHF	1	-	0
AN/GRA-54 UHF	1	0	_
AN/GRC-27 UHF	I	2	0
AN/FSA-4 VHF	0	0	0
AN/TRC-87 RADIO SET UHF	0	0	0

1

# **EXAMPLE OF TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS**

		H	PERCENT MEMBERS	EMBERS	
			PERFORN	DNIV	
		TNG	IST	IST	TSK
TASKS	S	EMP	JOB ENL	ENL	DIFF
F288	Issue traffic advisories	7.76	89	93	4.30
F289	Issue wake turbulence advisories	7.54	76	86	3.99
F286	Issue low-altitude alerts	7.44	40	55	4.99
F212	Apply visual separations	7.42	85	88	4.68
F321	Provide wake turbulence separations	7.33	77	84	5.38
F243	Coordinate aircraft handoffs	7.31	68	72	4.50
F208	Annotate and update flight progress strips	7.21	16	89	4.32
F220	Approve or coordinate IFR aircraft departures	7.17	88	87	4.72
F292	Issue wheels down advisories	7.17	75	86	2.42
F347	Vector aircraft	7.12	41	50	4.87
F284	Issue go-around instructions	7.10	67	80	3.93
F281	Issue altitude assignments	7.06	78	81	3.50
F240	Control no-radio (NORDO) aircraft	7.00	66	79	5.63
F272	Initiate emergency assistance procedures	7.00	53	69	5.62
F331	Relay IFR clearances	6.98	85	88	4.47
F291	Issue weather advisories	6.96	82	60	3.93
F293	Issue wind advisories	6.88	83	91	2.62

TE MEAN = 3.22 S.D. = 2.27 (High = 5.49) TD MEAN = 5.00 S.D. = 1.00

# TABLE 23 (CONTINUED)

# **EXAMPLE OF TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS**

		I	PERCENT MEMBERS	EMBERS MING	
			IST	IST	TSK
TASKS	S		<u>JOB</u>	ENL	DIFF
F305	Perform interfacility coordinations	6.85	94	95	4.14
F306	Perform intrafacility coordinations	6.83	92	93	4.19
F238	Confirm aircraft altitudes	6.83	71	75	3.42
F222	Approve or coordinate special visual flight rules (SVFR) operations	6.81	59	68	5.21
F227	Assign frequencies to aircraft	6.79	87	16	2.72
F242	Control receiver-only aircraft	6.75	54	72	5.27
G350	Apply merging target procedures	6.73	39	45	5.09

TE MEAN = 3.22 S.D. = 2.27 (High = 5.49) TD MEAN = 5.00 S.D. = 1.00 ł

,

# EXAMPLE OF TASKS WITH HIGHEST TRAINING DIFFICULTY RATINGS

t	27250 27270 EMP	3 9 .67	52 46 6.33	12	2 6 56			20 29 2.56		1 3 .60	1 16 1.29	1 13 1.50		6 6 1.38	0 3 .42	3 7 1.35	1 1 44	1 11 62	6 22 .75		3 10 50		1 3 .27	
PERCENT MEMBERS <u>PERFORMING</u> 1ST	EN	0	46	-	0	7	-	×	0	0	-	0	0	e	٦	-	0	0	_	2			-	
IST F	<u>iob</u>	0	40		0	2	-	<b>m</b>	0	0	0	0	0	7	0	0	0	0	0	0	0		0	
TSK	DIFF	7.15	7.14	7.09	7.02	66.9	6.96	<b>t</b> 6'9	6.94	6.91	6.90	6.87	6.78	6.76	6.73	6.69	6.66	6.64	6.64	6.61	6.60		6.59	
	SKS		• •						Prepare TERPS packages for mobile si												6 Complete TERPS forms	Supervise Air Traffic Control Automated Systems Programming	Specialists (AFSC D272X0)	
	TASKS	B80	F211	<b>B8</b>	B94	B59	CI3	B62	1471	B87	E	EI94	1446	B61	80 20	<b>A</b> 37	B85	CI3	CIII	DIA	E186	B84		

TD MEAN = 5.00 S.D. = 1.00 TE MEAN = 3.22 S.D. = 2.27 (High = 5.49)

## Training Documents

Information needed to evaluate the STS and entry-level POI was provided by training personnel at the 3395th Technical Training Squadron at Keesler AFB. They matched tasks on the job inventory to appropriate sections of the STS and ABR27230 POI. Listings of the STS and POI were then produced, showing each STS paragraph and POI learning objective, tasks that were matched, percent criterion group members performing, TE and TD ratings, and ATI. These listings are included in the Training Extract sent to the school for review. Criteria set forth in AFR 8-13, AFR 8-13/ATC Supplement 1 (Attachment 1, paragraph A1-3c(4)), and AETCR 52-22 Attachment 1, were used to review the relevance of each STS paragraph and POI learning objective matched with tasks in the job inventory.

Any STS paragraph with matched tasks performed by 20 percent or more of first-job (1-24 months' TAFMS), first-enlistment (1-48 months' TAFMS), 5-, or 7-skill level members is considered to be supported and should be retained in the STS. Likewise, any learning objective with tasks matched performed by more than 30 percent of first-job or first-enlistment personnel is considered to be supported by survey data.

<u>AFSC 272X0 STS.</u> Paragraphs 1 through 6 deal with the general topics of career field description, security, AFOSH, Graduate Evaluation, and certification. Due to the general nature of these topics, they were not reviewed. Technical aspects of the career ladder are covered by the 154 individual entries in paragraphs 7 through 20. Tasks are matched to 125 of the 154 entries.

All of the 125 matched items are supported by survey data. In many cases, where several tasks are matched to a particular entry, one or two of the matched tasks are not performed by 20 percent of criterion group members. The STS is considered supported, however, because the tasks that deal specifically with the action of the STS item are performed by over 20 percent of criterion group members.

Tasks not matched to any element of the STS are listed at the end of the STS computer listing. These were reviewed to determine if any tasks are concentrated around particular functions or jobs. There were 153 tasks not referenced to the STS. Seventy-one of these tasks are managerial or supervisory in nature and are not normally matched to an STS. The majority of the remainder of unmatched tasks deal either with substeps of STS elements or unique jobs not identified in the survey, such as Data Programmer or Altitude Reservation Specialist functions. Examples of technical tasks performed by at least 20 percent of STS target group respondents, but which are not referenced to any STS element, are displayed in Table 25. Training personnel and SMEs should review these and other unreferenced tasks, printed in the Training Extract, to determine STS inclusion.

# EXAMPLES OF TECHNICAL TASKS PERFORMED BY 20 PERCENT OR MORE AFSC 272X0 GROUP MEMBERS AND NOT REFERENCED TO THE STS

		PERCEN	T MEMBE	PERCENT MEMBERS PERFORMING	RMING		
		ISI BOL	ENL	DAFSC 27250	DAFSC 27270	DNL	TASK
TASKS		(N=162)	(N=473)	(N=859)	(N=383)	EMP	DIFF
F221	Approve or coordinate pilot requests for deviations from ATC						
	clearances	75	84	61	68	6.00	5.07
F229	Authorize or control circling maneuvers	67	74	76	70	6.65	4.85
F207	Adjust radar scopes	65	70	73	69	6.31	3.96
F252	Coordinate status of ATC facilities with other agencies	64	<b>6</b> 6	71	72	5.77	4.43
F248	Coordinate or control priority missions	57	61	63	54	5.52	5.31
F304	Participate in simulated crash, alert, or disaster control exercises	55	57	56	64	5.67	4.53
H431	Issue takeoff or landing clearances closing runways	54	51	46	53	6.29	4.29
F332	Relay information for issuance of notices to airmen (NOTAMs)	51	68	71	72	6.00	4.03
F274	Initiate requests for control of airspace from other facilities	48	56	59	47	5.52	4.88
F237		46	51	52	54	5.77	4.56
F261	Determine aircraft positions using nonradar procedures	46	52	54	46	6.27	5.99
F268	Formulate IFR clearances	46	53	59	51	6.67	4.70
F253	Coordinate use of airspace with other agencies or facilities	44	69	67	58	5.71	5.06
F236	Conduct communication-out procedures	42	52	58	58	6.27	5.11

TE MEAN = 3.22 S.D. = 2.27 (High = 5.49) TD MEAN = 5.00 S.D. = 1.00

## Plan of Instruction (POI)

Inventory tasks were also matched to POI 3ABR272X0-001, Apprentice Air Traffic Control Operator, dated 22 March 1993. POI blocks and units of instruction were compared using the standards set forth in Attachment 1, ATCR 52-22, dated 17 February 1989. Learning objectives are considered to be supported if 30 percent or more first-job or first-enlistment group members perform matched tasks, and there are sufficiently high TE and TD ratings on those tasks. Per this guidance, learning objectives in the course that do not meet these criteria should be considered for elimination from the formal course, if not justified on some other acceptable basis.

A review of the learning objectives matched with tasks reveals that four POI objectives are not supported by OSR data. These objectives account for only a small percentage of instructional time. These four objectives, which deal primarily with precision approach radar (PAR) procedures, are presented below. Task G361, Controlling PARs, is the only task matched to all three PAR learning objectives. The data show that percent members performing this task by firstjob and first-enlistment personnel do not meet the 30 percent criterion.

	PERC	<u>ENT MEM</u> IST	<u>BERS PER</u> IST	FORM	ING
POI REFERENCE/TASKS	TNG <u>EMP</u>	JOB	ENL (N=473)	<u>ATI</u>	TSK <u>DIF</u>
IV. 1w. Identify general principles about precision approach radar (PAR) indicators.					
1x. Identify the procedures use to control PAR approaches.					
V. 1e. Control PAR approaches in accordance with the standards on the position checklist.					
G361 Control precision radar approaches (PARs)	6.21	13	25	11	5.63
·····					
V. 1f. Operate the radar simulator in accordance with the standards on the position checklist.					
G383 Operate pseudopilot consoles	3.56	21	29	7	4.07

Sixty-two of the tasks not matched to any block or unit of instruction of the POI had over 30 percent members performing for the criterion groups. A sample of these tasks is provided in Table 26; a complete listing may be found in the Training Extract. Using these data, SMEs may perform an in-depth review of these tasks to determine the necessity and most effective means of including them in structured training.

Based on these data, it is evident that the majority of the formal course is supported by the survey analysis. Still, training personnel are encouraged to review the Training Extract as they undertake future revisions, if any, of the POI.

## JOB SATISFACTION ANALYSIS

Examination of the job satisfaction indicators for various groups gives career ladder managers a better understanding of some of the factors which may impact job performance of personnel in the career ladder. Questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in the survey booklet. The information from these questions is provided in Tables 27 through 29 and discussed below.

Job satisfaction data from the current AFSC 272X0 survey, when compared to similar specialties surveyed in 1992, show that AFSC 272X0 personnel are more satisfied across TAFMS groups in all surveyed areas. They express a much greater interest in their jobs and feel that their talents are better utilized. They also demonstrate a greater sense of accomplishment from their work and show greater reenlistment intentions. These data are presented in Table 27.

Table 28 compares TAFMS groups of the current survey to those of the previous OSR. With the exception of perceived use of talents and expressed job interest for 97+ month respondents, AFSC 272X0 personnel reported being at least as satisfied or more satisfied than members from the 1987 survey. The drop in satisfaction for the two areas mentioned was by only 1 percent in each case.

Table 29 provides data on personnel who perform the jobs discussed in the SPECIALTY JOBS section of this report. An examination of the data implies that overall job satisfaction may be influenced by the type of job performed. Most jobs appear to have favorable percentages for the job satisfaction indicators. There are two jobs, however, that reflect lower percentages in at least one indicator: Mobility Controller and Technical School Instructor. The members with these jobs did not express satisfaction with their jobs and feel that their talents and training are not used as well. They still, however, show good reenlistment intentions.

Overall, job satisfaction is quite positive in all aspects. It is notable that members of the two jobs reporting lesser levels of job satisfaction are unlike the majority of the career field (Mobility Controller and Technical School Instructor).

# EXAMPLES OF TECHNICAL TASKS PERFORMED BY 30 PERCENT OR MORE AFSC 272X0 FIRST-ENLISTMENT PERSONNEL AND NOT REFERENCED TO THE POI

			PERCENT MEMBERS PERFORMING	<b>MEMBERS</b> 2MING		
		TNG	IST	IST		TASK
TASKS		EMP	<u>JOB</u>	ENL	ATI	DIFF
F305	Perform interfacility coordinations	6.85	75	95	18	4.14
F306	Perform intrafacility coordinations	6.83	92	93	18	4.19
F288	Issue traffic advisories	7.67	69	93	18	4.30
F220	Approve or coordinate IFR aircraft departures	7.17	88	87	18	4.72
F255	Copy or issue airfield advisories	6.29	78	86	81	3.65
F281	Issue altitude assignments	7.06	78	81	18	3.50
F321	Provide wake turbulence separations	7.33	77	84	18	5.38
F289	Issue wake turbulence advisories	7.54	76	86	81	3.99
F238	Confirm aircraft altitudes	6.83	71	75	81	3.42
F329	Relay braking action reports	6.71	67	72	18	3.54
F327	Relay aircraft movement information	5.90	66	71	81	3.52
F256	Copy or issue field operating conditions	6.17	60	70	<b>80</b>	3.45
F222	Approve or coordinate special visual flight rules (SVFRs) operations	6,81	59	68	18	5.21
F302	Operationally check automatic terminal information services (ATIS)	5.56	57	56	18	3.15
F278	Issue aircraft speed adjustments	5.96	56	66	81	4.39
F332	Relay information for issuance of notices to airmen (NOTAMs)	6.00	55	68	8	4.03
F336	Relay runway condition readings (RCRs)	6.29	49	58	81	3.41
F269	Hold arriving VFR aircraft at visual fixes	5.83	44	54	18	4.20
F286	Issue low-altitude alerts	7.44	97	55	18	4.99

TE MEAN = 3.22 S.D. = 2.27 (High = 5.49) TD MEAN = 5.00 S.D. = 1.00

# COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 272X0 TAFMS GROUPS IN CURRENT STUDY TO A COMPARATIVE SAMPLE (Percent Members Responding)

	1-48 MOS TAFMS	TAFMS CAMPIE	49-96 MO	49-96 MOS TAFMS	97+ MOS TAFMS	
<b>EXPRESSED JOB INTEREST</b> :	( <u>N=473</u> )	SAUNITLE (N=295)	( <u>N=419</u> )		( <u>N=745</u> )	(N=604)
Interesting So-So Dull	93 5	68 14	92 2 5	69 14 16	83 83	74 15
PERCEIVED USE OF TALENTS	·		I	2	,	:
Fairly Well to Excellent Little or Not at All	94 5	66 34	93 6	68 31	86 14	77 23
PERCEIVED USE OF TRAINING:						
Fairly Well to Excellent Little or Not at All	98 2	88 11	95 4	79 20	89 11	75 25

47

Comparative data are from AFSCs 271X1 and 277X0 surveyed in 1992

TABLE 27 (CONTINUED)

# COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 272X0 TAFMS GROUPS IN CURRENT STUDY TO A COMPARATIVE SAMPLE (Percent Members Responding)

Sense OF ACCOMPLISHMENT: CURRENT SAMPLE CURRENT   Satisfied (N=473) (N=295) (N=419)   Satisfied 89 67 90   Neutral 5 15 6   Dissatisfied 5 18 4   REENLISTMENT INTENTIONS: ATENDIA ATENDIA ATENDIA	7'D 4	21 ALTAIS SAMPLE (N=283) 65 13 21 21	CURRENT SAMPLE (N=745) (N=604) 77 68 8 10 15 21	211 (N=604) (N
69 59	74	71	73	74
Plan Not to Reenlist 31 40 26	26	29	6	9
0	0	0	18	19

Comparative data are from AFSCs 271X1 and 277X0 surveyed in 1992

# COMPARISON OF AFSC 272X0 JOB SATISFACTION INDICATORS FOR CURRENT AND PREVIOUS SURVEY (Percent Members Responding)

EXPRESSED JOB INTEREST:	<u>1-48 MOS TAFMS</u>	<u>TAFMS</u>	<u>49-96 MOS TAFMS</u>	<u>S TAFMS</u>	<u>97+ MOS TAFMS</u>	I TAFMS
	CURRENT 1987	1987	CURRENT 1987	1987	CURRENT 1987	1987
	(N=473) (N=75	(N=758)	(N=419) (N=878)	(N=878)	(N=745) (N=1,264	(N=1.264)
Interesting So-So Dull	93 5	5 v 3	2 5 2	87 6	8 0 83	84 8
<b>PERCEIVED USE OF TALENTS:</b>						
Fairly Well to Excellent	94	91	93	86	86	87
Little or Not at All	5	8	6	14	14	13
<b>PERCEIVED USE OF TRAINING:</b>						
Fairly Well to Excellent	98	96	95	6	89	89
Little or Not at All		4	4	16	11	11

\* Denotes less than 1 percent

TABLE 28 (CONTINUED)

# COMPARISON OF AFSC 272X0 JOB SATISFACTION INDICATORS FOR CURRENT AND PREVIOUS SURVEY (Percent Members Responding)

	1-48 MOS	<b>TAFMS</b>	49-96 MO	S TAFMS	<u>97+ MO</u>	S TAFMS
SENSE OF ACCOMPLISHMENT:	CURRENT 1987 (N=473) (N=758)	1987 (N=758)	CURRENT 1987 (N=419) (N=878)	1987 (N=878)	CURRENT 1987 (N=745) (N=1,264	1987 (N=1,264)
Satisfied	89	89	6	80	11	74
Neutral	S	S	9	7	œ	œ
Dissatisfied	S	9	4	12	15	17
<b>REENLISTMENT INTENTIONS:</b>						
Plan to Reenlist	69	55	74	59	73	71
Plan Not to Reenlist	31	44	26	41	6	15
Plan to Retire	0	¥	0	*	18	14

50

		-		-	`
Plan to Retire	0	*	0	*	-

\* Denotes less than 1 percent

# COMPARISON OF JOB SATISFACTION INDICATORS FOR MEMBERS OF AFSC 272X0 SPECIALTY JOBS (PERCENT MEMBERS RESPONDING)

CHIEF AIR AIR AIR SCHOOL TRAF SCHOOL CONT HQ INST TRNG STAFF JOB JOB JOB (N=10) (N=7) (N=10)	50 86 80 0 14 10 50 0 10	60 100 <b>8</b> 0 40 0 20	70 85 80 30 14 20
T MOBILITY SCI CONT I JOB J (N=8) (N		9 <del>6</del> 38	38 63 3
CHIEF CONT JOB (N=28)	96 4 0	96	16
TOWER CONT JOB (N=628)	89 5	6 16	94 5
RADAR CONT JOB (N=810)	91 6	92 7	96 4
EXPRESSED JOB INTEREST:	Interesting So-So Dull	PERCEIVED USE OF TALENTS: Fairly Well to Excellent Little or Not at All	PERCEIVED USE OF TRAINING: Fairly Well to Excellent Little or Not At All

TABLE 29 (CONTINUED)

# COMPARISON OF JOB SATISFACTION INDICATORS FOR MEMBERS OF AFSC 272X0 SPECIALTY JOBS (PERCENT MEMBERS RESPONDING)

RADARTOWERCHIEFMOBILITCONTCONTCONTCONTJOBJOBJOBJOBJOBMENT:(N=810)(N=628)(N=28)(N=8)	85 6 0 8 4	110NS: 73 73 39 75 20 20 14 13 6 7 46 13
SENSE OF ACCOMPLISHMENT:	Satisfied Neutral Dissatisfied	REENLISTMENT INTENTIONS: Plan to Reenlist Plan Not to Reenlist Plan to Retire

## **IMPLICATIONS**

This survey was conducted primarily to provide training personnel with current information on the Air Traffic Control career ladder for use in reviewing training programs and documents. The data compiled support the current structure of the AFSC 272X0 career ladder. The present classification structure, as described by the AFR 39-1 Specialty Descriptions, accurately portrays the jobs in this study.

Analysis of career ladder documents indicates that both the STS and POI are well supported by survey data. All items in the STS were supported, and only four POI learning objectives were unsupported. A number of tasks were not matched to STS and POI items. These tasks should be reviewed by training personnel for consideration of inclusion in future revisions.

No serious job satisfaction problems appear to exist within this specialty. Overall, job satisfaction responses were all higher than those of a comparative sample of similar Air Force personnel surveyed in 1992.

The findings of this OSR come directly from the survey data collected from Air Traffic Control personnel worldwide. These data are readily available to training and utilization personnel, functional managers, and other interested parties having a need for such information. Much of the data are compiled into extracts that are excellent tools in the decision-making process. These data extracts should be used when training or utilization decisions are made.

# APPENDIX A

# SELECTED REPRESENTATIVE TASKS PERFORMED BY MEMBERS OF CAREER LADDER JOBS

# RADAR CONTROLLER (STG 101)

NUMBER IN JOB	810	PERCENT TOTAL SAMPLE	49%
TAFMS	99 months	TIME ON JOB	50 months
PERCENT ASSIGNED CONUS	80%	AVERAGE NUMBER TASKS	152

		PERCENT
		MEMBERS
<u>TYPIC</u>	<u>AL TASKS</u>	<b>PERFORMING</b>
F280	Issue altimeter settings	99
F288	Issue traffic advisories	98
F227	Assign frequencies to aircraft	98
F295	Monitor assigned frequencies	97
G400	Provide radar separation procedures	97
F305	Perform interfacility coordinations	<b>97</b>
F306	Perform intrafacility coordinations	97
F228	Assign transponder modes or codes	<b>97</b>
F347	Vector aircraft	96
F298	Operate landlines	96
F281	Issue altitude assignments	96
G401	Provide radar service for arrivals	96
G368	Identify aircraft using beacon methods	96
G353	Approve or issue radar pointouts	96
G377	Issue climb out instructions	96
F207	Adjust radar scopes	96
F208	Annotate and update flight progress strips	95
F243	Coordinate aircraft handoffs	94
F238	Confirm aircraft altitudes	94
G356	Confirm aircraft identifications	94
G376	Issue approach clearances	93
F220	Approve or coordinate IFR aircraft departures	93
G360	Control instrument approaches	93
F267	File flight progress strips	93
G394	Perform radar handoffs	91
G397	Provide radar advisories to VFR aircraft	91
G350	Apply merging target procedures	91
G402	Provide radar service for departures	90
F345	Transfer arriving or departing aircraft to other facilities	90
G349	Apply final approach course intercept procedures	90
F303	Participate in preduty familiarization briefings	90
G371	Inform aircraft of radar identification status	87
F276	Issue advance approach information to arriving aircraft	86

.

# TOWER CONTROLLER (STG 114)

NUMBER IN JOB	628	PERCENT TOTAL SAMPLE	38%
TAFMS	94 months	TIME ON JOB	40 months
PERCENT ASSIGNED CONUS	81%	AVERAGE NUMBER TASKS	27

		PERCENT MEMBERS
<u>TYPIC</u>	ALTASKS	PERFORMING
H432	Maintain surveillance of airport movement or traffic areas	97
F298	Operate landlines	97
H425	Control taxing aircraft	97
F305	Perform interfacility coordinations	97
H431	Issue takeoff or landing clearances	96
F306	Perform intrafacility coordinations	96
F280	Issue altimeter settings	96
F288	Issue traffic advisories	96
H420	Authorize VFR departures	95
H416	Authorize intersection takeoffs	95
F293	Issue wind advisories	94
H430	Establish landing sequences	94
H426	Control vehicles, equipment, or personnel on movement areas using radios or	
	light gun signals	94
F296	Notify agencies of runways in use	94
F295	Monitor assigned frequencies	93
F292	Issue wheels down advisories	93
F303	Participate in preduty familiarization briefings	93
F324	Relay aircraft arrival or departure times	92
H438	Request aircraft releases from departure control	91
F227	Assign frequencies to aircraft	91
F289	Issue wake turbulence advisories	91
F214	Approve aircraft operations in airport traffic areas (ATAs)	90
F232	Complete preduty equipment checklists	90
F231	Clean work areas or equipment	90
H415	Assign runways for landings or takeoffs	89
F212	Apply visual separations	87
H412	Apply reduced runway separation criteria	87
F220	Approve or coordinate IFR aircraft departures	86
F313	Prepare ATIS messages for transmissions	86
F302	Operationally check automatic terminal information services (ATIS)	85
F208	Annotate and update flight progress strips	85

# CHIEF CONTROLLER (STG 066)

NUMBER IN JOB	28	PERCENT TOTAL SAMPLE	2%
TAFMS	246 months	TIME ON JOB	27 months
PERCENT ASSIGNED CONUS	75%	AVERAGE NUMBER TASKS	133

		PERCENT MEMBERS
<u>TYPIC</u>	<u>AL TASKS</u>	PERFORMING
C132	Prepare enlisted performance reports (EPRs) or letters of evaluation (LOEs)	96
C133	Prepare recommendations for awards or decorations	96
Al	Assign additional duties	96
<b>B</b> 96	Write general correspondence	93
B54	Counsel personnel on personal or military-related problems	93
A20	Establish organizational policies, operating instructions (OIs), or standing	
	operating procedures (SOPs)	93
A34	Plan work assignments	90
E200	Prepare OIs	89
<b>B88</b>	Supervise Air Traffic Control Technicians (AFSC 27270)	86
A21	Establish performance standards for subordinates	86
C119	Evaluate OIs	86
All	Determine work priorities	86
C115	Evaluate letters of agreement (LOAs)	86
C120	Evaluate operations letters	86
C126	Evaluate work schedules	86
A10	Determine requirements for space, personnel, equipment, or supplies	86
A27	Plan duty schedules	82
A46	Schedule leaves or passes	82
A14	Develop work methods or procedures	82
C104	Evaluate ATC complaints	82
C107	Evaluate ATC problem areas	79
<b>B7</b> 3	Interpret policies, directives, or procedures for subordinates	79
A38	Prepare or submit recommendations for improving or stardizing ATC	
	procedures	79
A35	Prepare facility checklists	79
C99	Conduct ATC facility self-inspections	75
<b>B86</b>	Supervise Air Traffic Control Operators (AFSC 27250)	75
B72	Interpret ATC policies for using activities	71
C105	Evaluate ATC methods or techniques	67

# MOBILITY CONTROLLER (STG 078)

NUMBER IN JOB	8	PERCENT TOTAL SAMPLE	.5%
TAFMS	133 months	TIME ON JOB	42 months
PERCENT ASSIGNED CONUS	100%	AVERAGE NUMBER TASKS	35

<u>TYPI(</u>	CAL TASKS	PERCENT MEMBERS <u>PERFORMING</u>
<b>I448</b>	Erect or tear down ATC facilities	100
I460	Operate M-series vehicles or associated equipment	100
<b>I</b> 462	Palletize mobile equipment for airlift	100
I463	Perform convoy duties	100
I449	Erect or tear down cantonment facilities	100
I456	Load or offload equipment from aircraft or vehicles	100
I450	Erect or tear down communications facilities	75
I454	Level mobile radar equipment	75
I470	Prepare mobile functional support kits	75
E191	Maintain personnel information cards (PICs)	63
D149	Conduct M-series vehicle training	63
I455	Level mobile tower equipment	63
I457	Manage dispersed controller programs	63
1465	Perform operator maintenance on M-series vehicles or associated	
	equipment	63
I453	Inventory mobile equipment, tools, or supplies	62
D184	Write test questions	50
C129	Inventory equipment, tools, or supplies, other than mobile equipment,	
	tools, or supplies	50
1468	Position mobile ATC equipment or support equipment	50
D173	Perform core automated maintenance system (CAMS) duties	50
I464	Perform courier duties	50
D136	Administer tests	50
I477	Weigh equipment	38
I447	Construct bunkers or revetment walls	38
I458	Obtain food, lodging, or medical support for mobile teams	38
E189	Maintain facility status boards	38
A35	Prepare facility checklists	38
Al	Assign additional duties	38
D181	Schedule personnel for training	38
<b>B86</b>	Supervise Air Traffic Control Operators (AFSC 27250)	38
I476	Unpack or repack communications equipment components	38
B67	Implement safety programs	25

•

# TECHNICAL SCHOOL INSTRUCTOR (STG 096)

NUMBER IN JOB	5	PERCENT TOTAL SAMPLE	.3%
TAFMS	126 months	TIME ON JOB	42 months
PERCENT ASSIGNED CONUS	00%	AVERAGE NUMBER TASKS	8

<u>TYPIC</u>	<u>AL TASKS</u>	PERCENT MEMBERS <u>PERFORMING</u>
D136	Administer tests	90
D182	Score tests	80
B51	Conduct facility tours	70
B54	Counsel personnel on personal or military-related problems	60
D143	Conduct ATC training for foreign nationals	60
D184	Write test questions	60
D168	Evaluate progress of resident course students	50
D155	Counsel trainees on training progress	50
Al4	Develop work methods or procedures	50
D170	Maintain training records, charts, or graphs	40
D153	Conduct resident course training	40
D160	Develop resident course curriculum materials	40
D180	Procure training aids, space, or equipment	30
G374	Initiate T-4 radar simulator sessions	20
G383	Operate pseudopilot consoles	20
D169	Evaluate training methods or techniques	20
A11	Determine work priorities	20
<b>D</b> 166	Evaluate individuals for specialized training	20
D165	Establish unit training requirements	20
D185	Write training reports	20
B96	Write general correspondence	20
D162	Direct or implement training programs, other than OJT	20
<b>B67</b>	Implement safety programs	20
<b>B</b> 89	Supervise Apprentice Air Traffic Control Operators (AFSC 27230)	10
B90	Supervise Apprentice Combat Control Operators (AFSC 27330)	10
D175	Prepare course control documents	10
A12	Develop facility reference harts	10
D156	Demonstrate how to locate technical information	10
A3	Assign sponsors for newly assigned personnel	10
A31	Plan safety programs	10
A26	Plan briefings	10
E196	Prepare FAA facility certification applications	10

# CHIEF ATC TRAINING (STG 075)

NUMBER IN JOB	7	PERCENT TOTAL SAMPLE	.5%
TAFMS	195 months	TIME ON JOB	12 months
PERCENT ASSIGNED CONUS	86%	AVERAGE NUMBER TASKS	43

TYPIC.	<u>AL TASKS</u>	PERCENT MEMBERS <u>PERFORMING</u>
D163	Establish indoctrination programs for newly assigned personnel	100
D158	Develop job qualification standards (JQSs)	86
D136	Administer tests	86
D184	Write test questions	86
D161	Direct or implement OJT programs	86
D159	Develop JQS training references	86
D182	Score tests	86
D169	Evaluate training methods or techniques	86
D146	Conduct control tower proficiency training	86
D179	Prepare training schedules	86
D170	Maintain training records, charts, or graphs	86
D181	Schedule personnel for training	86
D185	Write training reports	86
D180	Procure training aids, space, or equipment	86
C128	Implement task qualification training (TQT) reports	86
D178	Prepare recommendations for standardization of facility procedures	86
C110	Evaluate ATC withdraw packages	86
D176	Prepare facility rating guides	71
D147	Conduct facility rating training	71
D162	Direct or implement training programs, other than OJT	71
D165	Establish unit training requirements	71
D164	Establish study reference files	71
D167	Evaluate OJT trainers	71
D183	Update facility rating suspense files	71
D145	Conduct briefings on new training techniques	71
D177	Prepare quarterly training reports	71
<b>B</b> 96	Write general correspondence	57
C107	Evaluate ATC problem areas	57
D155	Counsel trainees on training progress	57
D150	Conduct OJT	43
C105	Evaluate ATC methods or techniques	43

# HEADQUARTERS STAFF (STG 074)

NUMBER IN JOB	10	PERCENT TOTAL SAMPLE	.6%
TAFMS	231 months	TIME IN JOB	207 months
PERCENT ASSIGNED CONUS	90%	AVERAGE NUMBER TASKS	27

TYPIC	<u>AL TASKS</u>	PERCENT MEMBERS <u>PERFORMING</u>
C120	Evaluate operations letters	100
C115	Evaluate letters of agreement (LOAs)	100
C107	Evaluate ATC problem areas	100
<b>B</b> 96	Write general correspondence	90
C105	Evaluate ATC methods or techniques	90
C119	Evaluate Ols	90
C117	Evaluate memorandums of understanding (MOUs)	80
<b>B</b> 72	Interpret ATC policies for using activities	70
C108	Evaluate ATC recommendations	70
A38	Prepare or submit recommendations for improving or standardizing	
	ATC procedures	<b>7</b> 0
C101	Conduct staff assistance or site visits	70
C106	Evaluate ATC operations reports	60
C98	Conduct ATC analysis visits	60
C113	Evaluate inspection reports or procedures	60
B78	Prepare or submit recommendations for changes to ATC publications,	
	other than base	60
A33	Plan staff assistance or site visits	60
<b>B7</b> 3	Interpret policies, directives, or procedures for subordinates	50
B79	Prepare or submit recommendations for changes to base ATC publications	40
C125	Evaluate unit emergency plans	40
C124	Evaluate suggestions	40
C126	Evaluate work schedules	40
C135	Write staff studies, surveys, or special reports	40
A29	Plan for ATC analysis visits	40
C122	Evaluate safety programs	30
C110	Evaluate ATC withdraw packages	30
D178	Prepare recommendations for standardization of facility procedures	20
C123	Evaluate security programs	20
C118	Evaluate mission impact resulting from ATCALS deficiencies	20
C127	Evaluate workload requirements	20