(2)

UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

COMMUNICATIONS-COMPUTER SYSTEMS OFFICER

AFSC 49XX

AFPT 90-49X-808

SEPTEMBER 1988

OCCUPATIONAL ANALYSIS PROGRAM
USAF OCCUPATIONAL MEASUREMENT CENTER
AIR TRAINING COMMAND
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HQ ESC/DPTE	2		2	
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HQ PACAF/DPAT	3		3	
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HQ SAC/TTGT	1		1	
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HQ USAFE/TTGT	1		1	
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3300 TCHTW/TTGX (KEESLER AFB MS)	12	1	6	6
3300 TCHTW/TTS (KEESLER AFB MS)	1		1	
DET 2, USAFOMC (KEESLER AFB MS)	1	1	1	1
USAFOMC/OMYXL	10	2m	5	10
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388 TFW/MAT	2		2	
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PREFACE

This report presents the results of a detailed Air Force occupational survey of the six specialties within the Communications-Computer utilization field (AFSCs 491X, 492X, 493X, 494XA, 494XB, and 494XC). The project was initiated at the request of HQ USAF/SCBH for use in making decisions concerning classification, training, and personnel utilization issues. Authority for conducting occupational surveys is contained in AFR 35-2.

The occupational survey program within the Air Force has been in existence since 1956, when initial research was undertaken by the Air Force Human Resources Laboratory to develop a methodology for conducting occupational surveys. In 1967, an operational survey program was established within Air Training Command to conduct occupational surveys of enlisted specialties. In late 1976, the program was expanded to include the survey of officer utilization fields to permit special management applications projects, and to support interservice or joint service occupational analysis.

The survey instrument, USAF Job Inventory AFPT 90-49X-808, was developed by Lieutenant Richard M. Brull. The survey data was analyzed and the report prepared also by Lieutenant Brull. Computer programming support was furnished by Ms Rebecca R. Hernandez, and Ms Raquel A. Soliz provided administrative support. The report has been reviewed and approved by Mr Gerald R. Clow, Chief, Management Applications Branch, USAF Occupational Measurement Center.

Copies of this report and computer products from which this report was produced are available to Air Staff sections, major commands, and other interested training and management personnel upon request to the USAF Occupational Measurement Center, Attention: Chief, Occupational Analysis Branch (OMY), Randolph AFB, Texas 78150-5000.

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EXECUTIVE SUMMARY

The Communications-Computer Systems (49XX) utilization field with 6,800 members assigned, is composed of seven specialties: AFSCs 491X, 492X, 493X, 494XA, 494XB, 494XC, and 499X. The 499X specialty, Communications-Computer Systems Director, was not included in the job structure analysis which identified 41 separate jobs spread among the 6 remaining specialties. Complete descriptions of these jobs, with background information, are included in this report. Basically, the jobs described are similar to those reported 4 years previously before the Computer and Communications utilization field were merged. The jobs that best combined individuals from both previous fields fall primarily in the Plans & Programs and Requirements areas.

The present classification structure and specialty descriptions contained in AFR 36-1 generally match the current jobs defined by the job structure analysis, but personnel do not necessarily possess the specialty appropriate to the job description. In each job there tends to be a core group (a percentage of members from the AFSC that describes that job group), plus individuals from other AFSCs. There was a sufficient distinction among jobs to identify a reasonable relationship between them and the specialty descriptions contained in AFR 36-1.

The general level of job satisfaction of the Communications-Computer Systems Officers was slightly less than that of the previous (1984) survey of these officers; responses indicated the merger had no impact (33 percent neutral) for most incumbents, with the remaining responses being more negative (27 percent) than positive (16 percent). Forty percent of the respondents indicated their training was not well utilized.

Training has undergone a major modification since the previous survey was completed. The modification is headed in the right direction. The follow-on courses provide the technical knowledge needed by individuals within the AFSCs. The core course is a good overview for all officers entering the utilization field, though the current course may be too extensive. The present training structure is under review; data from the detailed training extract provided by the job survey will be used to compare field responses to current training and to develop appropriate changes.

OCCUPATIONAL SURVEY REPORT
COMMUNICATIONS-COMPUTER SYSTEMS OFFICER UTILIZATION FIELD
(AFSC 49XX)

INTRODUCTION

The Communications-Computer Systems Officer utilization field is composed of seven specialties; AFSCs 491X, 492X, 493X, 494XA, 494XB, 494XC, and 4996. (The 4996, Communications-Computer Systems Director is not included in this survey, and will not be dealt with outside of the History and Background.) The occupational survey data was collected and analyzed to satisfy two objectives: first, to determine if the specialties are aligned to meet current and anticipated responsibilities; and second, to determine the most effective training for Communications-Computer Systems Officers.

History and Background

The current Communications-Computer Systems utilization field was formed in April 1985 through a merger of the Communications-Electronics Officer (AFSC 30XX) and the Computer Systems Officer (AFSC 51XX) into the Information Systems Officer (AFSC 49XX), which subsequently became Communications-Computer Systems Officer.

The original Communications-Electronics utilization field was formed in 1954 from four specialties, the ECM Officer (AFS 3024), the Communications Officer (AFS 3034), the Ground Electronics Officer (AFS 3044), and the C-E Staff Officer (AFS 3016). In 1970, the field was expanded through the addition of the C-E Director specialty (AFS 3096), the Electronics Systems Officer, Staff (AFS 3076), and the Communications-Electronics Engineer (AFS 3055). Also, in 1970 the titles of the specialties were revised to Communications Systems Officers (AFS 3024), Communications Maintenance Officers (AFS 3034), and Electronics Systems Officers (AFS 3044). Prior to the merger, the classification of the 30XX utilization field was as follows:

Communications-Electronics Systems Staff Officer	AFSC 3016
Communications-Electronics Systems Staff	AFSC 3024
Communications-Electronics Maintenance Officer	AFSC 3034
Communications-Electronics Engineer	AFSC 3055
Communications-Electronics Director	AFSC 3096

The Computer Systems utilization field was formed in 1970 through the amalgamation of the Electronic Data Processing specialty (AFSC 6854, which began in 1957), the Statistical Services Officer (AFSC 6834, formed in 1954), the Statistical Services Staff Officer (AFSC 6815; again, formed in 1954), the Mathematician, Computer Technology (AFSC 2625B, originated in 1964), the Computer Systems Analyst (Special Duty Identifier 0116, established in 1968),

and the Computer Systems Programming Officer (Special Duty Identifier 0124, also established in 1968). Prior to the merger, the specialty classification structure was modified to the following structure:

Computer Systems Staff Officer	AFSC 5116
Computer Systems Development Officer	
Basic Software	AFSC 5135A
Applications Software	AFSC 5135B
Data Base Administration	AFSC 5135C
Computer Mathematics, Techniques	AFSC 5135D
Computer Performance Evaluation	AFSC 5135E
Computer Operations Officers	AFSC 5155
Computer Systems Plans & Programs Officers	AFSC 5164
Computer Systems Managers	AFSC 5176

Since the April 1985 merger of these utilization fields, the current specialty classification structure was modified to the present structure, as shown below:

Communications-Computer Systems Staff Officer	AFSC 4916
Communications-Computer Systems Programing & Analysis Officer	AFSC 4925
Communications-Computer Engineer	AFSC 4935
Communications-Computer Systems Officer	
Operations	AFSC 4945A
Maintenance	AFSC 4945B
Plans & Programs	AFSC 4945C
Communications-Computer Systems Director	AFSC 4996

In the utilization field, there are five specialties which have ATC basic resident technical training associated with them. Listed below are the course AFSC, location, and length of these courses.

AFSC 4921	E30BR4921 001/002	Keesler	17/15 wks 4/4 days
AFSC 4931	E30BR4931 000/001	Keesler	19/15 wks 0/4 days
AFSC 4941A	E30BR4941A 000/001	Keesler	15/12 wks 1/3 days
AFSC 4941B	E30BR4941B 000/001	Keesler	15/13 wks 2/1 days
AFSC 4941C	E30BR4941C 000	Keesler	17 wks 0 days

All courses are given in conjunction with the core course, E30QR4900, which is approximately 9 weeks of the specialty courses.

SURVEY METHODOLOGY

Development of the Survey Instrument

The survey instrument used to collect data for this occupational survey was USAF Job Inventory AFPT 90-49X-808, dated August 1987. The job inventory was developed between January and May 1987, based on interviews with 210 49XX officers at 28 locations from 15 different bases. The survey instrument was validated in June 1987 at a workshop of Communications-Computer Systems Officers representing the Air Staff, MAJCOMs, and separate operating agencies (SOAs). The job inventory was composed of two sections, first, a background section used to gather personal information, such as name, grade, time-in-service, job interest, courses attended, and equipment used on the job. The second section was a task list, a collection of 1,204 task statements related to all aspects of the Communications-Computer Systems utilization field.

Survey Population

The officers included in this survey were selected from the Uniform Officer Record file for September 1987. To be included, officers had to have been assigned to their present duty position for at least 60 days, not programmed for PCS, retirement, or discharge for at least 90 days, and possess one of the duty AFSCs listed below:

Communications-Computer Systems Staff Officer	AFSC 491X
Communications-Computer Systems Programing & Analysis Officer	AFSC 492X
Communications-Computer Engineer	AFSC 493X
Communications-Computer Systems Officer	
Operations	AFSC 494XA
Maintenance	AFSC 494XB
Plans & Programs	AFSC 494XC

From a total of 6,800 Communications-Computer Systems Officers, 6,045 met the criteria for inclusion in the survey sample. Completed job inventories were received from 4,337 personnel for a return rate of 71 percent, representing 64 percent of the assigned strength.

Tables 1, 2, and 3 compare the characteristics of the survey sample with the population characteristics of the utilization field. In all instances, the survey sample is representative of the population and is adequate to allow for valid inferences from the data.

TABLE 1

DISTRIBUTION BY MAJOR COMMAND

MAJCOM	PERCENT OF ASSIGNED (N=6,045)	PERCENT OF SAMPLE (N=4,146)
AFCC	49	46
AFSPACECOM	7	8
TAC	6	9
AFSC	5	5
ATC	4	4
ESC	4	4
AU	4	3
USAFE	2	1
AFLC	1	2
SAC	1	2
AFMPC	1	2
MAC	1	1
OTHER	15	13

TABLE 2

DISTRIBUTION BY GRADE

PAYGRADE	PERCENT OF ASSIGNED (N=6,045)	PERCENT OF SAMPLE (N=4,146)
COLONEL	1	1
LIEUTENANT COLONEL	6	6
MAJOR	13	13
CAPTAIN	47	47
LIEUTENANT	33	33

TABLE 3

DISTRIBUTION BY SPECIALTY

DUTY AFSC	PERCENT OF ASSIGNED (N=6,045)	PERCENT OF SAMPLE (N=4,146)
491X	28	26
492X	35	35
493X	9	9
494XA	10	10
494XB	7	7
494XC	11	13

Training Emphasis Data Collection

In addition to completing the job inventory, a selected sample of Communications-Computer Systems Officers were asked to complete a second book containing the same tasks as the job inventory. These officers were asked to rate tasks on the training emphasis that should be placed on them, using the 10-point scale shown below.

RATING SCALE	TRAINING EMPHASIS RECOMMENDED
0	No Structured Training Needed
1	Extremely Low Training Emphasis
2	Very Low Training emphasis
3	Low Training Emphasis
4	Below Average Training Emphasis
5	Average Training Emphasis
6	Above Average Training Emphasis
7	High Training Emphasis
8	Very High Training Emphasis
9	Extremely High Training Emphasis

Ratings were given for tasks raters felt required some form of structured training for entry-level personnel. Structured training is defined as training provided by a resident technical school, field training detachments, or formal OJT. Training emphasis ratings were collected from 231 experienced Communications-Computer Systems Officers across the specialties.

The training emphasis responses were separated into five sets, one for each of the specialty courses offered at Keesler AFB. The interrater reliability within each of the sets was sufficiently high to show agreement as to which tasks required some form of structured training. Comparing the sets as a whole, the interrater reliability was not good; but, when broken out by AFSC, the data show considerable agreement among raters.

For the tasks rated by Communications-Computer Systems Programmer and Analysis Officers, the average training emphasis rating was .99, with those tasks having a rating of 2.03 or higher being substantially above average in training emphasis.

For the tasks rated by Communications-Computer Systems Engineers, the average training emphasis rating was .74, with those tasks having a rating of 1.54 or higher being less than average in training emphasis.

For the tasks rated by Communications-Computer Systems Officers (Operations), the average training emphasis rating was .71, with those tasks having a rating of 1.52 or higher also being less than average in training emphasis.

For the tasks rated by Communications-Computer Systems Officers (Maintenance), the average training emphasis rating was .81, with those tasks having a rating of 1.75 or higher being above average in training emphasis.

For the tasks rated by Communications-Computer Systems Officers (Plans & Programs), the average training emphasis rating was .83, with those tasks having a rating of 1.62 or higher being average in training emphasis.

When used in conjunction with other information, the training emphasis ratings can provide insight into training requirements.

JOB STRUCTURE ANALYSIS

Overview

For the Communications-Computer Systems Officer utilization field, 4,146 individual job descriptions were compared to identify the field structure of jobs. The analysis identified 41 jobs. Table 4 lists the jobs and the percentages of the total sample represented in each. Table 5 reflects the percentage of job time expended by the members of each job performing tasks in each of the job inventory duties.

An initial impression gathered from the job data was the large amount of management and general administrative tasks performed by Communications-Computer Systems Officers. An average of nearly 40 percent of time spent by all officers from these related duties is reported. The variety of jobs stemmed from the remaining duties of the job inventory.

The jobs fit a pattern of functions used to consolidate the 41 jobs, with jobs allocated as shown in Table 4A. The jobs listed in this section are grouped in order of the functional breakout. The order of jobs is presented as a result of the hierarchical clustering analysis program, and the only importance that can be attached to the ordering is that the first case control number chosen randomly happened to be completed by an individual performing a staff officer function.

Job Group Descriptions

This section of the narrative provides details about each of the jobs identified during the structural analysis. The information generally will be limited to a brief description of the individuals who make up the job and some of the tasks which illustrate the nature of the job. A review of the scheme presented in the tables of this section will add considerably to the following job descriptions.

JOINT DEPARTMENTAL STAFF OFFICERS (N=96). The survey respondents in the Joint Departmental Staff job group represent 3 percent of the survey sample. Organizational level of these job incumbents are Major Air Command (49 percent), Joint Service (26 percent), and Division level (17 percent). They spend an average of 47 percent of their time performing administrative tasks. Duty AFSCs of these incumbents are 491X (40 percent), 494XC (31 percent), and

TABLE 4

JOBS IDENTIFIED FROM THE JOB STRUCTURE ANALYSIS

TITLE	PERCENT OF SAMPLE
STAFF OFFICERS	10
SYSTEMS ANALYSTS	9
PLANS & PROGRAMS SPECIALISTS	7
CHIEF OF OPERATIONS	6
CHIEF OF MAINTENANCE	5
PROGRAM MANAGERS	5
SUPERVISORS	5
SOFTWARE SUPPORT CHIEF	4
JOINT DEPARTMENTAL STAFF OFFICERS	3
SENIOR COMMANDERS	3
SENIOR PLANS & PROGRAMS OFFICERS	3
SYSTEMS ANALYSTS (SMALL COMPUTER)	3
SOFTWARE ENGINEERS	3
DATA BASE MANAGERS	3
CONTRACT SUPERVISORS	2
SOFTWARE ACQUISITIONING OFFICERS	2
INFORMATION SYSTEMS SUPPORT OFFICERS	2
EQUIPMENT ACQUISITION OFFICER	2
SOFTWARE EVALUATORS	2
TRAINING MANAGERS	2
INSTRUCTORS	2
CONFIGURATION & QUALITY ASSURANCE MANAGERS	1
SYSTEMS TEST ANALYSTS	1
COMMUNICATIONS EVALUATION ENGINEERS	1
PROJECT TEST ENGINEERS	1
SYSTEMS SECURITY OFFICERS	1
SECURITY MONITORS	1
EXERCISE PLANS CHIEFS	1
EXERCISE EVALUATORS	1
EXECUTIVE OFFICERS	1
INSPECTORS	1
BUDGET ANALYSTS	1
PROJECT SITE ENGINEERS	*
TACTICAL COMMUNICATIONS ENGINEERS	*
TEST MANAGERS	*
LOGISTICS SUPPORT PLANS OFFICERS	*
FYD PLANNING OFFICERS	*
COMMUNICATIONS PROGRAM MANAGERS	*
COMBAT CREW COMMUNICATIONS CHIEFS	*
CONTINGENCY, EXERCISE, AND MOBILITY MANAGERS	*
AIRBORNE COMMUNICATIONS OFFICERS	*

* Less than 1 percent

TABLE 4A

FUNCTIONAL BREAKOUT OF JOBS INDENTIFIED
FROM THE STRUCTURE ANALYSIS

FUNCTIONAL GROUPS

FUNCTIONS	PERCENT OF SAMPLE
STAFF	16
MANAGEMENT	19
SECURITY	6
PLANS	12
REQUIREMENTS	14
SYSTEMS TESTS	6
COMPUTER SYSTEMS	22
TRAINING	4
ENGINEERING	1

JOBS IN EACH FUNCTION

STAFF

JOINT DEPARTMENTAL STAFF OFFICERS	3
BUDGET ANALYST	1
INSPECTORS	1
EXECUTIVE OFFICERS	1
STAFF OFFICERS	10

MANAGEMENT

SUPERVISORS	5
SENIOR COMMANDERS	3
CHIEF OF OPERATIONS	6
CHIEF OF MAINTENANCE	5

SECURITY

EXERCISE EVALUATORS	1
EXERCISE PLANS CHIEFS	1
AIRBORNE COMMUNICATIONS OFFICERS	*
CONTINGENCY, EXERCISE, AND MOBILITY MANAGERS	*
COMBAT CREW COMMUNICATIONS CHIEFS	*
SECURITY MONITORS	1
SYSTEMS SECURITY OFFICERS	1

* Less than 1 percent

TABLE 4A (CONTNUED)

FUNCTIONAL BREAKOUT OF JOBS INDENTIFIED FROM
THE STRUCTURE ANALYSIS

FUNCTIONS	PERCENT OF SAMPLE
PLANS	
SENIOR PLANS & PROGRAMS OFFICERS	3
COMMUNICATIONS PROGRAMS MANAGERS	*
FYD PLANNING OFFICERS	*
PLANS & PROGRMS SPECIALIST	7
LOGISTICS SUPPORT PLANS OFFICERS	*
REQUIREMENTS	
CONTRACT SUPERVISORS	2
SOFTWARE ACQUISTIONING OFFICERS	2
PROGRAM MANAGERS	5
EQUIPMENT ACQUISITION OFFICERS	2
INFORMATION SYSTEMS SUPPORT OFFICERS	2
SYSTEMS TESTS	
PROJECT TEST ENGINEERS	1
TEST MANAGERS	*
COMMUNICATIONS EVALUATION ENGINEERS	1
SYSTEMS TEST ANALYST	1
CONFIGURATION & QA MANAGER	1
SOFTWARE EVALUATOR	2
COMPUTER SYSTEMS	
SYSTEMS ANALYST (SMALL COMPUTERS)	3
SOFTWARE SUPPORT CHIEF	4
DATA BASE MANAGERS	3
SYSTEMS ANALYST	9
SOFTWARE ENGINEERS	3
TRAINING	
INSTRUCTORS	2
TRAINING MANAGERS	2
ENGINEERING	
TACTICAL COMMMUNICATION ENGINEERS	*
PROJECT SITE ENGINEERS	*

* Less than 1 percent

TABLE 5

TIME SPENT PERFORMING TASKS WITHIN DUTIES BY RESPONDENTS IN EACH JOB GROUP

DUTIES	JOINT DEPT STAFF	BUDGET ANALYST	IG INSP	EXEC OFF	STAFF OFF	SUPVR	SENIOR CMDRS	CHIEF OF OPS	CHIEF OF MAINT	EXER EVAL	EXER PLANS CHIEF
A COMMAND, MANAGEMENT, AND ADVISORY	25	22	22	39	41	33	28	27	30	17	22
B PERSONNEL AND RESOURCE MANAGEMENT	3	19	6	11	13	11	11	10	11	3	6
C TRAINING	1	1	1	1	2	2	2	3	2	1	1
D INSPECTING AND EVALUATING	1	2	39	1	2	4	1	5	8	4	2
E PLANS AND PROGRAMS	11	21	2	2	5	7	8	4	4	6	8
F SECURITY	3	2	3	3	2	5	2	18	3	7	5
G OPERATIONS	3	3	2	2	1	4	8	11	2	2	8
H MAINTENANCE MANAGEMENT	-	2	1	-	1	4	6	1	17	-	1
I ENGINEERING AND INSTALLATION	-	-	-	-	-	-	1	-	-	-	-
J COMPUTER SYSTEMS DEVELOPMENT	-	-	1	-	1	2	2	-	-	-	-
K CONFIGURATION MANAGEMENT AND QUALITY ASSURANCE	-	1	-	-	1	1	1	-	-	-	-
L TESTING AND EVALUATION	-	-	-	-	-	-	-	-	-	-	-
M PROGRAM AND MANAGEMENT PROJECT	3	3	-	-	3	3	5	1	2	-	1
N ACQUISITION AND CONTRACTING	1	3	1	-	1	2	6	1	1	-	-
O CONTINGENCY, EXERCISE, AND MOBILITY FUNCTIONS	1	-	3	-	2	4	-	4	5	28	24
P EQUIPMENT CONTROL AND FACILITIES MANAGEMENT	-	2	-	-	-	1	6	1	1	-	-
Q DATA BASE MANAGEMENT	-	-	-	-	-	-	1	-	-	-	-
R GENERAL ADMINISTRATIVE TASKS	47	18	18	41	25	17	14	14	14	30	21

- Less than 1 percent

TABLE 5 (CONTINUED)

TIME SPENT PERFORMING TASKS WITHIN DUTIES BY RESPONDENTS IN EACH JOB GROUP

DUTIES	ABN COMM OFF	CONT MOB MGR	CMBT CREW COMM	SCTY MONITOR	SYS SEC OFF	SR PLANS AND PRGM OFFICER	COMM PRGM MGR	FYD PLAN OFF	PLANS AND PRGMS SPEC	LOG SUPT PLANS OFF
A COMMAND, MANAGEMENT, AND ADVISORY	23	26	32	18	22	13	12	13	12	17
B PERSONNEL AND RESOURCE MANAGEMENT	4	5	6	4	5	3	3	8	4	5
C TRAINING	7	1	12	3	2	-	1	1	1	2
D INSPECTING AND EVALUATING	2	2	3	2	5	1	1	-	-	1
E PLANS AND PROGRAMS	8	1	-	5	3	18	20	35	26	16
F SECURITY	5	4	22	34	32	4	3	4	4	3
G OPERATIONS	8	4	5	4	3	1	-	1	3	2
H MAINTENANCE MANAGEMENT	1	7	-	-	-	-	1	-	-	6
I ENGINEERING AND INSTALLATION	-	-	-	1	-	1	1	-	2	2
J COMPUTER SYSTEMS DEVELOPMENT	-	-	-	3	3	-	-	1	2	1
K CONFIGURATION MANAGEMENT AND QUALITY ASSURANCE	-	-	-	2	2	1	-	1	2	2
L TESTING AND EVALUATION	-	-	-	-	-	-	-	1	1	2
M PROGRAM AND MANAGEMENT PROJECT	1	-	-	2	1	24	36	14	19	16
N ACQUISITION AND CONTRACTING	-	-	-	1	-	2	2	2	4	5
O CONTINGENCY, EXERCISE, AND MOBILITY FUNCTIONS	24	33	9	1	1	1	1	-	-	1
P EQUIPMENT CONTROL AND FACILITIES MANAGEMENT	-	-	1	1	-	1	2	-	1	1
Q DATA BASE MANAGEMENT	-	-	-	-	-	-	-	-	-	-
R GENERAL ADMINISTRATIVE TASKS	21	15	11	17	17	30	17	19	17	20

- Less than 1 percent

TABLE 5 (CONTINUED)

TIME SPENT PERFORMING TASKS WITHIN DUTIES BY RESPONDENTS IN EACH JOB GROUP

DUTIES	CONTR SUPVRS	SOFTWARE ACQ OFF	PRGM MGR	INFO SYS SUPT	EQUIP ACQ OFF	PROG TEST ENGRS	TEST MGRS	COMM EVAL ENGRS	SYS TEST ANALY	CONFIG & QA MGRS
A COMMAND, MANAGEMENT, AND ADVISORY	18	11	13	17	10	15	9	18	10	16
B PERSONNEL AND RESOURCE MANAGEMENT	5	4	7	6	5	4	2	7	2	3
C TRAINING	1	2	2	3	2	1	1	2	1	1
D INSPECTING AND EVALUATING	6	1	1	1	1	3	1	17	2	2
E PLANS AND PROGRAMS	10	14	19	12	13	8	3	2	2	5
F SECURITY	6	4	3	2	5	4	5	3	4	6
G OPERATIONS	5	2	4	6	11	2	3	4	8	4
H MAINTENANCE MANAGEMENT	1	1	1	1	3	1	-	2	1	1
I ENGINEERING AND INSTALLATION	4	1	3	1	2	1	-	4	-	-
J COMPUTER SYSTEMS DEVELOPMENT	4	8	4	17	10	1	5	1	14	1
K CONFIGURATION MANAGEMENT AND QUALITY ASSURANCE	3	9	3	8	5	1	7	-	11	20
L TESTING AND EVALUATION	10	2	2	3	3	21	49	20	28	2
M PROGRAM AND MANAGEMENT PROJECT	8	17	16	8	8	8	3	1	3	5
N ACQUISITION AND CONTRACTING	2	14	10	3	4	2	-	1	-	3
O CONTINGENCY, EXERCISE, AND MOBILITY FUNCTIONS	1	-	1	-	1	-	-	1	-	-
P EQUIPMENT CONTROL AND FACILITIES MANAGEMENT	-	-	1	1	3	-	-	-	-	-
Q DATA BASE MANAGEMENT	-	1	-	3	4	-	-	-	2	1
R GENERAL ADMINISTRATIVE TASKS	17	11	10	11	9	27	12	17	12	14

- Less than 1 percent

TABLE 5 (CONTINUED)

TIME SPENT PERFORMING TASKS WITHIN DUTIES BY RESPONDENTS IN EACH JOB GROUP

DUTIES	SOFT-WARE EVAL	SYSTEMS ANALYSTS (SMALL COMP)	SOFT-WARE SPT CH	DATA BASE MGR	SYS ANALY	SOFT-WARE ENGR	TNG MGRS	INSTRS	TAC COMM ENGRS	PROJ SITE ENGRS
A COMMAND, MANAGEMENT, AND ADVISORY	10	11	13	8	7	4	17	11	8	10
B PERSONNEL AND RESOURCE MANAGEMENT	2	4	3	2	2	1	6	3	2	3
C TRAINING	3	3	3	2	2	1	34	61	1	1
D INSPECTING AND EVALUATING	2	1	-	-	1	-	3	1	1	1
E PLANS AND PROGRAMS	7	11	8	4	5	1	3	1	17	11
F SECURITY	4	5	4	4	4	4	3	-	5	4
G OPERATIONS	7	17	6	9	6	3	3	2	9	6
H MAINTENANCE MANAGEMENT	1	3	1	-	-	-	1	-	1	-
I ENGINEERING AND INSTALLATION	2	2	1	1	-	-	1	-	17	37
J COMPUTER SYSTEMS DEVELOPMENT	14	13	26	29	48	70	7	3	3	-
K CONFIGURATION MANAGEMENT AND QUALITY ASSURANCE	15	3	9	4	5	2	1	-	2	1
L TESTING AND EVALUATION	16	1	4	3	3	2	-	-	3	1
M PROGRAM AND MANAGEMENT PROJECT	7	4	5	3	2	-	1	-	12	3
N ACQUISITION AND CONTRACTING	1	2	1	-	1	-	1	-	6	4
O CONTINGENCY, EXERCISE, AND MOBILITY FUNCTIONS	-	1	-	-	-	-	-	1	-	1
P EQUIPMENT CONTROL AND FACILITIES MANAGEMENT	-	4	1	1	-	-	1	1	1	1
Q DATA BASE MANAGEMENT	1	3	4	22	2	5	1	-	-	-
R GENERAL ADMINISTRATIVE TASKS	8	14	10	7	10	7	19	15	13	17

- Less than 1 percent

494XA (17 percent). Sixty percent are assigned to AFCC, mostly stationed at Scott AFB IL. The average number of tasks performed by these individuals is 49, and are mainly administrative (see Table 5), such as coordinating with MAJCOMs and HQ USAF. Common tasks performed are:

Coordinate on externally originated actions, papers, or reports
Draft or write staff studies or staff summaries
Obtain staff coordinations on program or project actions
Consolidate inputs to publications, procedures, or policies
Review or proofread correspondence, such as letters, messages, talking papers, or staff studies

Overall, job satisfaction was very low. Only 43 percent found their job interesting, which is the lowest of all jobs represented in the survey. In addition, their sense of accomplishment was very low.

BUDGET ANALYSTS (N=26). The Budget Analysts job represents only 1 percent of the survey respondents. The incumbents divide their time among four duties (see Table 5): Command, Management, & Advisory (22 percent), Plans & Programs (21 percent), Personnel & Resource Management (19 percent), and General Administrative Tasks (18 percent). Duty AFSCs held are 494XC (35 percent), AFSCs 491X and 492X (23 percent each). Job incumbents are spread throughout the major commands and all organizational levels. The average number of tasks performed was 80; common tasks performed are:

Develop budget
Draft inputs to financial plans
Draft or write inputs to budget estimates, request, or additional funding
Track unit budgets or resources
Implement budget guidelines

Job satisfaction indicators are low for this job, especially utilization of training, with 50 percent indicating their training has not been used well.

INSPECTORS (N=36). The Inspectors' job group accounts for 1 percent of the survey sample. The majority of time is spent in the Inspection and Evaluation duty (39 percent). Duty AFSCs are mostly Staff Officers, 491X (48 percent). Both 494XA and 494XC hold 19 percent, each (see Table 6). Incumbents are senior captains and field grade officers. There are 48 percent located at Major Air Command level and 37 percent at Division level. The average number of tasks performed is 70; common tasks performed are:

TABLE 6

DUTY AFSC OF SURVEY RESPONDENTS IN EACH JOB GROUP

AFSC	JOINT DEPT STAFF	BUDGET ANALYST	IG INSP	EXEC OFF	STAFF OFF	SUPVR	SENIOR CMDRS	CHIEF OF OPS	CHIEF OF MAINT	EXER EVAL	EXER PLANS CHIEF
491X	40	23	48	44	71	50	77	14	49	30	41
492X	3	23	3	12	4	6	12	-	-	-	-
493X	9	4	8	4	7	2	-	-	-	-	-
494XA	17	4	19	24	2	17	-	75	3	20	44
494XB	-	12	19	-	10	17	2	4	50	10	4
494XC	31	35	-	16	8	8	9	7	-	40	11

- Less than 1 percent

TABLE 6 (CONTINUED)

DUTY AFSC OF SURVEY RESPONDENTS IN EACH JOB GROUP

AFSC	ABN COMM OFF	CONT MOB MGR	CMBT CREW COMM	SCTY MONITOR	SYS SEC OFF	SR PLANS AND PRGM OFFICER	COMM PRGM MGR	FYD PLAN OFF	PLANS AND PRGMS SPEC	LOG SUPT PLANS OFF
491X	34	10	-	13	24	22	-	34	30	31
492X	-	-	-	25	49	8	-	4	16	-
493X	-	-	-	12	5	10	8	9	11	6
494XA	56	38	100	25	8	12	-	9	4	6
494XB	11	52	-	8	-	4	-	9	2	38
494XC	-	-	-	18	14	43	92	30	36	19

- Less than 1 percent

TABLE 6 (CONTINUED)

DUTY AFSC OF SURVEY RESPONDENTS IN EACH JOB GROUP

AFSC	CONTR SUPVRS	SOFTWARE ACQ OFF	PRGM MGR	INFO SYS SUPT	EQUIP ACQ OFF	PROJ TEST ENGRS	TEST MGRS	COMM EVAL ENGRS	SYS TEST ANALY	CONFIG & QA MGRS
491X	35	14	50	44	20	52	-	-	-	16
492X	24	64	16	50	58	13	64	8	100	68
493X	35	10	6	-	-	20	9	90	-	-
494XA	-	-	4	-	16	8	9	-	-	3
494XB	-	-	6	-	-	3	-	4	-	-
494XC	6	13	19	6	7	8	18	-	-	13

- Less than 1 percent

TABLE 6 (CONTINUED)

DUTY AFSC OF SURVEY RESPONDENTS IN EACH JOB GROUP

AFSC	SOFT-WARE EVAL	SYSTEMS ANALYSTS (SMALL COMP)	SOFT-WARE SPT CH	DATA BASE MGR	SYS ANALY	SOFT-WARE ENGR	TNG MGRS	INSTRS	TAC COMM ENGRS	PROJ SITE ENGRS
491X	-	11	5	4	3	6	16	10	-	-
492X	100	67	92	91	94	84	59	65	4	4
493X	-	4	3	2	1	6	13	16	92	92
494XA	-	6	1	2	-	1	7	6	-	-
494XB	-	-	-	-	-	1	2	-	4	-
494XC	-	11	-	-	1	4	2	2	-	4

- Less than 1 percent

Conduct formal inspections, such as Inspector General inspections
Draft or write inputs to inspection, self-inspection reports, or evaluation reports
Brief personnel on inspection or evaluation findings
Determine areas to evaluate or inspect
Validate inspection findings

Job satisfaction indicators are slightly low, although utilization of talent is rated one of the highest of the jobs.

EXECUTIVE OFFICER (N=25). This is a small job that requires a large amount of administrative tasks (41 percent), as well as Command, Management, and Advisory tasks (39 percent). Duty AFSCs of the Executive Officers are 491X (44 percent), 492X (12 percent), 494XA (24 percent), and 494XC (16 percent). AFCC is the largest user of Executive Officers (66 percent). The organizational level is Division (36 percent), Major Air Command (20 percent), and Unit or Squadron (20 percent). The average number of tasks performed was 160, with common tasks as follow:

Review or proofread correspondence, such as letters, messages, talking papers, or staff studies
Review read files
Draft or write general correspondence
Coordinate on externally originated actions, papers, or reports
Monitor suspense dates, such as for schedules, reports, correspondence, or program milestones

Job satisfaction indicators are good. Also, 44 percent indicated that utilization of training is very well.

STAFF OFFICERS (N=276). This large job represents 10 percent of the survey sample. Incumbents spend most of their time doing tasks from the following duties: Command, Management, & Advisory (41 percent), General Administration (25 percent), Personnel & Resource Management (13 percent), and Plans & Programs (5 percent). Staff officers are distributed throughout all DAFSCs, with the bulk being 491X (71 percent). Of this group, 54 percent are field grade officers, with 66 percent of the members assigned to AFCC, and a fairly even distribution among organizational levels. Only Detachment, Flight, or Operational Location did not have respondents. The average number of tasks performed is 168, with common ones as follow:

Draft or write general correspondence
Participate in staff meetings
Assess attainment of goals or objectives
Analyze and distribute workload requirements
Prioritize taskings or work requests

Job satisfaction indicators are somewhat low. Eighteen percent indicated their talents were not used well, and 21 percent were dissatisfied with their sense of accomplishment.

SUPERVISORS (N=149). The Supervisors group is composed of 5 percent of the survey sample and performs Command, Management, & Advisory tasks 33 percent of the time and Personnel & Resource Management 11 percent. Fifty percent hold a 491X DAFSC, but 34 percent indicated they currently hold a 494XA or 494XB. The incumbents seem to work in an operational, supervisory capacity, with 38 percent located at a Unit or Squadron level and 17 percent at Group level. The members are spread throughout the MAJCOMs, with AFCC holding 62 percent of the group members. The average number of tasks performed is 157, with common tasks being:

Conduct staff meetings
Indorse or review APRs
Draft or write civilian performance plans/appraisals
Analyze and distribute workload requirements
Monitor and brief personnel on job performance

Job satisfaction indicators for Supervisors were good. Only 5 percent found their job dull. There were 16 percent dissatisfied with their sense of accomplishment.

SENIOR COMMANDERS (N=87). The Senior Commanders make up 3 percent of the survey sample. Seventy-seven percent of the job incumbents have a 491X DAFSC. Also, 70 percent are field grade officers, which includes 3 percent colonels (see Table 7). The incumbent tasks performed are spread across the duties, with a fair percentage representing each one. More time is spent in the Command, Management, & Advisory duty (28 percent), with an experience level realized in all areas. They are mostly chiefs of systems software, computer support, networking, plans, and resource management divisions or branches. They work at varied organizational levels, with 74 percent belonging to AFCC. The average number of tasks performed is 154, with common ones as follow:

Participate in staff meetings
Establish performance standards for subordinates
Establish workcenter policies, standards, or procedures

TABLE 7

GRADE OF RESPONDENTS IN EACH JOB GROUP

GRADE	JOINT DEPT STAFF	BUDGET ANALYST	IG INSP	EXEC OFF	STAFF OFF	SUPVR	SENIOR CMDRS	CHIEF OF OPS	CHIEF OF MAINT	EXER EVAL	EXER PLANS CHIEF
COLONEL	-	-	-	-	-	-	3	-	-	-	-
LIEUTENANT COLONEL	17	8	8	8	18	14	23	2	6	10	-
MAJOR	17	4	28	20	38	23	34	11	23	10	33
CAPTAIN	49	38	61	56	38	48	39	64	60	80	37
LIEUTENANT	17	50	3	16	7	13	-	24	11	-	30

- Less than 1 percent

TABLE 7 (CONTINUED)

GRADE OF RESPONDENTS IN EACH JOB GROUP

GRADE	ABN COMM OFF	CONT MOB MGR	CMBT CREW COMM	SCTY MONITOR	SYS SEC OFF	SR PLANS AND PRGM OFFICER	COMM PRGM MGR	FYD PLAN OFF	PLANS AND PRGMS SPEC	LOG SUPT PLANS OFF
COLONEL	-	-	-	-	-	-	-	-	-	-
LIEUTENANT COLONEL	11	-	-	-	3	8	-	4	7	-
MAJOR	17	5	-	5	11	12	-	22	10	19
CAPTAIN	50	52	10	45	70	51	38	57	61	62
LIEUTENANT	22	43	90	50	16	29	62	17	22	19

- Less than 1 percent

TABLE 7 (CONTINUED)

GRADE OF RESPONDENTS IN EACH JOB GROUP

GRADE	CONTR SUPVRS	SOFTWARE ACQ OFF	PRGM MGR	INFO SYS SUPT	EQUIP ACQ OFF	PROJ TEST ENGRS	TEST MGRS	COMM EVAL ENGRS	SYS TEST ANALY	CONFIG & QA MGRS
COLONEL	-	-	2	-	-	-	-	-	-	-
LIEUTENANT COLONEL	11	3	8	9	2	-	-	-	-	3
MAJOR	18	3	28	24	13	31	-	-	-	6
CAPTAIN	59	74	47	59	69	49	18	39	33	65
LIEUTENANT	12	20	14	9	16	20	82	61	67	26

- Less than 1 percent

TABLE 7 (CONTINUED)

GRADE OF RESPONDENTS IN EACH JOB GROUP

GRADE	SOFT-WARE EVAL	SYSTEMS ANALYSTS (SMALL COMP)	SOFT-WARE SPT CH	DATA BASE MGR	SYS ANALY	SOFT-WARE ENGR	TNG MGRS	INSTRS	TAC COMM ENGRS	PROJ SITE ENGRS
COLONEL	-	-	1	-	-	-	-	-	-	-
LIEUTENANT COLONEL	-	-	-	-	1	-	2	-	-	-
MAJOR	-	5	2	2	2	1	16	13	-	-
CAPTAIN	55	49	52	38	24	33	52	67	29	25
LIEUTENANT	45	46	45	60	73	66	30	20	71	75

- Less than 1 percent

Schedule work assignments
Coordinate on externally originated actions, papers, or reports

Job satisfaction is extremely high for Senior Commanders. They had the highest rating of job interest and a high sense of accomplishment.

CHIEF OF OPERATIONS (N=172). This large group, 6 percent of the survey sample, performs Command, Management, and Advisory (27 percent) and Personnel & Resource Management (10 percent) tasks, but also have a large response of Security (18 percent) and Operations (11 percent) tasks. The majority hold a Duty AFSC of 494XA (75 percent), and have a rank of captain (64 percent). AFCC is by far the largest recipient of this group, with 80 percent of its members. Most work at either Unit/Squadron level (66 percent) or Group level (33 percent). The average number or tasks performed is 197, some of which are:

Indorse or review APRs
Conduct unit, work center, or facility walk-through visits
Counsel personnel on personal or military-related matters
Administer security programs
Maintain self-inspection or management effectiveness books, guides, or checklists
Assign personnel to duty positions, special duties, or additional duties

Job satisfaction indicators are excellent. Only 1 percent feel their job is dull, and just 2 percent indicate their talents are not used well. Sense of accomplishment and utilization of training are also positive.

CHIEF OF MAINTENANCE (N=152). This large group consists of 5 percent of the survey population and is somewhat similar to the job group above, Chief of Operations. They, too, perform Command, Management, & Advisory (30 percent) and Personnel & Resource Management (11 percent) tasks, but have a responsibility in Maintenance Management (17 percent) and Inspecting and Evaluating (8 percent). Duty AFSC is 494XB (50 percent) or 491X (49 percent). Fifty-six percent are assigned to AFCC and 18 percent to TAC. There are at least 75 percent assigned to Unit/Squadron or Group level. The average number of tasks performed is 193, with such common ones as:

Indorse or review APRs
Evaluate maintenance QC inspection reports
Conduct unit, work center, or facility walk-through visits
Determine impact of equipment outages on mission
Evaluate production or output of work centers

Job satisfaction indicators for the Chief of Maintenance job group are very high; 91 percent find their job interesting.

EXERCISE EVALUATORS (N=29). The members of this job group make up 1 percent of the survey sample. The percent time spent that unite this job is Contingency, Mobility, and Exercise functions (28 percent) and Administrative tasks (30 percent). The majority hold Duty AFSCs of 494XA (40 percent) and 491X (30 percent). Most are captains who work for AFCC (80 percent), TAC (10 percent), or USAFE (10 percent). They work at Division level (40 percent) and Major Air Command (30 percent), performing an average of 76 tasks. Some common tasks are:

Evaluate exercise or deployment scenarios or plans
Draft or write staff studies or staff summaries
Obtain staff coordinations on program or project actions
Test exercise plans
Evaluate or observe exercises, contingency actions, or deployments

Job satisfaction indicators are good. The highest indicator is the satisfaction received from sense of accomplishment (90 percent).

EXERCISE PLANS CHIEFS (N=27). This group is similar to the job above and is also 1 percent of the survey sample. Similarly, Contingency, Exercise, and Mobility functions (24 percent) is the predominant duty and AFCC is the largest user of MAJCOM (see Table 8); but, the tasks performed are of a different capacity. A slight difference is that 33 percent are at a Numbered Air Force level, and 44 percent hold a DAFSC of 494XA. Some of the tasks they perform, of which they average 91, are:

Determine resources required to support wartime, exercise, or contingency requirements
Determine personnel, logistics, or support requirements for exercises or deployments
Manage mobile or tactical communications equipment
Process requests for tactical support of deployed units
Advise other agencies on Communications-Computer system capabilities

Job satisfaction indicators were very high, with 93 percent indicating they found their job interesting and no one was dissatisfied with their sense of accomplishment.

TABLE 8

MAJCOM OF RESPONDENTS IN EACH JOB GROUP

JOB GROUPS	JOINT DEPT STAFF	BUDGET ANALYST	IG INSP	EXEC OFF	STAFF OFF	SUPVR	SENIOR CMDRS	CHIEF OF OPS	CHIEF OF MAINT	EXER EVAL	EXER PLANS CHIEF
AFCC	60	42	56	68	66	62	74	80	56	60	70
AFSPACECOM	3	12	3	8	-	3	2	-	2	-	-
TAC	6	8	6	-	10	8	2	4	18	10	-
AFSC	3	4	-	-	-	2	3	-	1	-	-
ATC	-	-	-	-	5	3	-	2	1	-	-
ESC	-	-	8	8	7	5	-	-	7	-	-
USAFE	3	4	8	-	3	4	-	2	4	10	4
AFLC	3	-	-	-	3	1	6	-	-	-	-
SAC	-	-	6	-	-	1	-	5	2	-	4
AFMPC	-	-	-	4	-	1	-	2	-	-	-
MAC	-	12	-	-	-	1	-	-	-	-	-
OTHER	22	18	13	12	6	9	13	5	9	20	22

- Less than 1 percent

TABLE 8 (CONTINUED)

MAJCOM OF RESPONDENTS IN EACH JOB GROUP

JOB GROUPS	ABN COMM OFF	CONT MOB MGR	CMBT CREW COMM	SCTY MONITOR	SYS SEC OFF	SR PLANS AND PRGM OFFICER	COMM PRGM MGR	FYD PLAN OFF	PLANS AND PRGMS SPEC	LOG SUPT PLANS OFF
AFCC	56	71	90	62	27	45	100	39	41	50
AFSPACECOM	6	-	-	12	24	14	-	-	16	-
TAC	-	5	10	8	5	4	-	13	10	25
AFSC	-	-	-	3	3	2	-	17	2	-
ATC	-	-	-	-	3	2	-	4	-	-
ESC	-	-	-	3	3	4	-	9	5	13
USAFE	-	-	-	-	3	8	-	-	-	-
AFLC	-	10	-	3	3	-	-	-	1	13
SAC	-	-	-	-	-	2	-	4	4	-
AFMPC	-	-	-	-	3	-	-	-	1	-
MAC	-	-	-	-	8	-	-	4	2	-
OTHER	38	14	-	9	18	19	-	10	18	-

- Less than 1 percent

TABLE 8 (CONTINUED)

MAJCOM OF RESPONDENTS IN EACH JOB GROUP

JOB GROUPS	CONTR SUPVRS	SOFTWARE ACQ OFF	PRGM MGR	INFO SYS SUPT	EQUIP ACQ OFF	PROJ TEST ENGRS	TEST MGRS	COMM EVAL ENGRS	SYS TEST ANALY	CONFIG & QA MGRS
AFCC	53	23	44	38	20	16	45	71	42	23
AFSPACECOM	13	17	6	9	13	8	36	-	17	55
TAC	13	7	3	6	11	18	9	21	33	3
AFSC	13	20	13	3	7	3	-	-	-	-
ATC	-	3	2	-	2	-	-	-	-	-
ESC	-	7	6	6	4	-	-	-	-	-
USAFE	-	-	1	-	-	-	-	-	-	-
AFLC	6	3	6	-	4	-	-	-	-	-
SAC	-	-	1	-	2	-	-	-	-	3
AFMPC	-	-	2	9	-	-	-	-	-	-
MAC	-	3	3	-	4	3	-	4	-	3
OTHER	-	17	13	27	33	52	-	4	8	13

- Less than 1 percent

TABLE 8 (CONTINUED)

MAJCOM OF RESPONDENTS IN EACH JOB GROUP

JOB GROUPS	SOFT-WARE EVAL	SYSTEMS ANALYSTS (SMALL COMP)	SOFT-WARE SPT CH	DATA BASE MGR	SYS ANALY	SOFT-WARE ENGR	TNG MGRS	INSTRS	TAC COMM ENGRS	PROJ SITE ENGRS
AFCC	32	33	48	36	44	42	18	6	92	88
AFSPACECOM	36	-	9	7	12	7	-	-	-	8
TAC	-	5	14	5	18	7	4	-	-	-
AFSC	-	8	3	2	4	6	-	-	-	-
ATC	-	13	-	-	1	10	50	49	-	-
ESC	-	1	1	5	1	1	-	-	-	-
USAFE	-	1	3	-	-	-	-	-	-	-
AFLC	-	4	-	2	2	-	-	-	-	-
SAC	5	3	7	7	4	3	-	-	4	-
AFMPC	-	3	2	10	3	3	-	-	-	-
MAC	5	1	2	-	-	4	2	-	-	-
OTHER	22	28	11	26	11	17	28	45	4	-

- Less than 1 percent

CONTINGENCY, EXERCISE, AND MOBILITY MANAGERS (N=21). This small group represents less than 1 percent of the survey population. Like the two groups above, the percent time spent is in the Contingency, Exercise, and Mobility functions (33 percent), but the members of this job also spent 26 percent of their time performing Command, Management, & Advisory tasks. Duty AFSC is held almost exclusively by 494XB (52 percent) and 494XA (38 percent) officers. The majority are junior officers (95 percent) who work at Detachment, Flight, or Operation Location (10 percent), Unit or Squadron level (33 percent), or Group level (33 percent). They average 104 tasks, with common ones being:

Supervise or participate in set-up or phase down of equipment at tactical, exercise, or deployed sites
Coordinate for deployment of equipment or supplies during contingencies
Manage mobile or tactical communications equipment
Determine personnel, logistics, or support requirements for exercises or deployments
Accomplish deployment checklists

Job satisfaction indicators are good. The only area below average is that 33 percent are dissatisfied with their sense of accomplishment.

AIRBORNE COMMUNICATIONS OFFICERS (N=18). This small job represents less than 1 percent of the survey population, which perform a unique mission. The unique tasks are from the Operations (22 percent) duty. Most hold DAFSCs of 494XA (56 percent) and 491X (34 percent). Only 56 percent are members of AFCC and most work at the Joint Service, DOD, or HQ USAF level (44 percent) or at Squadron or Unit level (33 percent). The average number of tasks performed is 100, with common ones as follow:

Advise Airborne Emergency Action Officer (AEAO) on Communications-Computer Systems matters
Provide Very Important Person (VIP) communications support
Establish communication links, such as microwave, HF, or satellite links
Analyze systems communications requirements
Conduct tours of facilities or equipment

Job satisfaction indicators are marginal. Utilization of training is low, but sense of accomplishment is high (see Table 9).

TABLE 9

INDICATORS OF JOB SATISFACTION AMONG JOB GROUP MEMBERS

	JOINT DEPT STAFF	BUDGET ANALYST	IG INSP	EXEC OFF	STAFF OFF	SUPVR	SENIOR CMDRS	CHIEF OF OPS	CHIEF OF MAINT	EXER EVAL	EXER PLANS CHIEF
JOB INTEREST:											
INTERESTING	43	73	75	84	77	87	96	95	91	80	93
SO-SO	26	8	19	4	12	7	4	3	4	10	7
DULL	31	19	6	8	10	5	-	1	2	10	-
UTILIZATION OF TALENT:											
VERY WELL	3	4	42	32	15	31	31	37	34	10	26
FAIRLY WELL	49	62	47	52	67	58	66	60	63	80	56
NOT WELL	48	35	11	12	18	11	3	2	4	10	19
SENSE OF ACCOMPLISHMENT:											
SATISFIED	34	62	78	80	69	80	82	89	62	87	81
NEITHER	5	4	8	-	8	4	9	2	5	2	19
DISSATISFIED	60	35	14	16	21	16	9	9	33	11	-
UTILIZATION OF TRAINING:											
VERY WELL	3	4	28	44	38	16	19	21	10	21	15
FAIRLY WELL	43	46	39	44	51	54	50	60	38	55	52
NOT WELL	54	50	33	12	10	30	31	19	52	22	33

- Less than 1 percent

TABLE 9 (CONTINUED)

INDICATORS OF JOB SATISFACTION AMONG JOB GROUP MEMBERS

	ABN COMM OFF	CONT MOB MGR	CMBT CREW COMM	SCTY MONITOR	SYS SEC OFF	SR PLANS AND PRGM OFFICER	COMM PRGM MGR	FYD PLAN OFF	PLANS AND PRGMS SPEC	LOG SUPT PLANS OFF
JOB INTEREST:										
INTERESTING	72	86	90	82	81	71	62	87	81	82
SO-SO	22	5	10	10	5	12	38	9	10	12
DULL	6	9	-	8	11	16	-	4	9	6
UTILIZATION OF TALENT:										
VERY WELL	39	19	-	18	24	6	8	13	16	25
FAIRLY WELL	44	52	60	50	59	49	62	44	63	56
NOT WELL	17	29	40	32	14	45	31	43	20	19
SENSE OF ACCOMPLISHMENT:										
SATISFIED	72	62	80	62	76	59	77	74	69	88
NEITHER	-	5	10	5	5	-	-	13	5	-
DISSATISFIED	28	33	10	33	16	41	23	13	24	12
UTILIZATION OF TRAINING:										
VERY WELL	11	10	50	8	8	-	-	-	6	6
FAIRLY WELL	56	38	40	32	57	43	38	30	48	50
NOT WELL	33	52	10	58	32	55	62	70	43	38

- Less than 1 percent

TABLE 9 (CONTINUED)

INDICATORS OF JOB SATISFACTION AMONG JOB GROUP MEMBERS

	CONTR SUPVRS	SOFTWARE ACQ OFF	PRGM MGR	INFO SYS SUPT	EQUIP ACQ OFF	PROJ TEST ENGRS	TEST MGRS	COMM EVAL ENGRS	SYS TEST ANALY	CONFIG & QA MGRS
JOB INTEREST:										
INTERESTING	94	86	91	97	93	74	82	82	58	71
SO-SO	-	9	5	3	4	13	9	11	17	26
DULL	6	6	2	-	2	13	9	7	25	3
UTILIZATION OF TALENT:										
VERY WELL	53	29	31	44	36	8	9	7	-	13
FAIRLY WELL	41	66	61	47	56	64	73	61	50	55
NOT WELL	6	6	8	9	9	26	13	32	50	29
SENSE OF ACCOMPLISHMENT:										
SATISFIED	88	77	81	91	84	49	82	57	58	68
NEITHER	-	9	1	3	2	18	9	7	-	3
DISSATISFIED	12	14	18	6	14	33	9	36	42	29
UTILIZATION OF TRAINING:										
VERY WELL	35	20	13	41	16	-	9	7	-	6
FAIRLY WELL	41	46	53	35	53	44	46	54	58	48
NOT WELL	24	31	33	24	29	56	45	39	42	42

- Less than 1 percent

TABLE 9 (CONTINUED)

INDICATORS OF JOB SATISFACTION AMONG JOB GROUP MEMBERS

	SOFT-WARE EVAL	SYSTEMS ANALYSTS (SMALL COMP)	SOFT-WARE SPT CH	DATA BASE MGR	SYS ANALY	SOFT-WARE ENGR	TNG MGRS	INSTRS	TAC COMM ENGRS	PROJ SITE ENGRS
JOB INTEREST:										
INTERESTING	82	87	90	90	84	78	82	89	83	67
SO-SO	-	6	6	5	8	14	8	4	17	17
DULL	18	6	4	5	8	8	10	2	-	16
UTILIZATION OF TALENT:										
VERY WELL	23	22	29	27	22	18	22	25	8	8
FAIRLY WELL	45	54	57	58	62	61	57	61	71	58
NOT WELL	31	24	14	14	16	21	21	14	21	33
SENSE OF ACCOMPLISHMENT:										
SATISFIED	72	70	79	80	77	72	80	86	75	50
NEITHER	5	5	3	2	4	10	6	2	4	21
DISSATISFIED	23	24	18	18	19	18	14	9	21	29
UTILIZATION OF TRAINING:										
VERY WELL	5	11	21	20	12	11	18	14	4	4
FAIRLY WELL	55	47	44	47	54	43	65	55	38	42
NOT WELL	41	41	32	30	34	43	16	32	58	54

- Less than 1 percent

COMBAT CREW COMMUNICATIONS CHIEFS (N=19). This small group of less than 1 percent performs a special mission. Tasks they perform come from a variety of duties (see Table 5). All members (100 percent) hold a DAFSC of 494XA, and are primarily lieutenants (90 percent). Seventy percent work at a Unit or Squadron level. They average 82 tasks performed, with some common one as follows:

Assist in aircrew Emergency War Order (EWO) certifications
Construct communications portions of combat mission folders
Prepare aircrew communications kits
Establish workcenter policies, standards, or procedures
Store or safeguard classified material

Job satisfaction indicators are good. Utilization of training is a stand-out, with 50 percent indicating that it is very well done.

SECURITY MONITORS (N=40). Security Monitors make up 1 percent of the survey population. Percent time spent within duties is mostly in the Security (34 percent) area. The incumbents of this job are distributed closely throughout DAFSCs (see Table 6). There are 95 percent junior officers in this job, with 62 percent belonging to AFCC. They also work at all organizational levels (see Table 10), with the majority at Unit or Squadron level (45 percent). The average number of tasks performed is 98, some of which are:

Monitor security programs
Brief or debrief personnel on security procedures
Conduct or participate in security managers meetings
Monitor security or access clearances of unit personnel
Conduct security training, such as COMSEC or OPSEC

Job satisfaction indicators are good. The lowest area is utilization of training, which 58 percent indicated was not well.

SYSTEMS SECURITY OFFICERS (N=37). This job, consisting of 1 percent of the survey sample, performs a specific security function. The duty in which they spend the highest percent time performing is Security (32 percent). This is similar to the job above, but the tasks performed within the duty are quite different. Duty AFSC is spread throughout, with the majority being 492X officers (49 percent). The officers work in a variety of MAJCOMs, with AFCC controlling only 27 percent of the incumbents. They are also spread throughout all organizational levels (see Table 10), with the majority being at a Major Air Command (41 percent). They average 126 tasks performed, some of which are:

TABLE 10

DISTRIBUTION OF ORGANIZATION LEVEL OF ASSIGNMENT AMONG JOB GROUP MEMBERS

GROUP MEMBERS	JOINT DEPT STAFF	BUDGET ANALYST	IG INSP	EXEC OFF	STAFF OFF	SUPVR	SENIOR CMDRS	CHIEF OF OPS	CHIEF OF MAINT	EXER EVAL	EXER PLANS CHIEF
DETACHMENT, FLIGHT, OR OPERATION LOCATION	-	8	-	-	-	6	-	-	5	-	-
UNIT OR SQUADRON LEVEL	3	12	-	20	11	38	7	66	48	-	7
GROUP LEVEL	-	15	4	8	15	17	16	23	27	-	19
WING OR BASE LEVEL	-	12	-	-	13	6	5	5	7	10	-
DIVISION LEVEL	17	15	37	36	21	11	21	-	6	40	11
NUMBERED AIR FORCE	3	-	-	4	2	3	2	-	2	-	33
MAJOR AIR COMMAND	49	23	48	20	28	11	28	5	3	30	19
JOINT SERVICE, DOD, HQ USAF	26	8	11	12	5	6	16	-	1	20	7
OTHER LEVEL	3	8	-	-	5	1	5	-	-	-	4

- Less than 1 percent

TABLE 10 (CONTINUED)

TIME SPENT PERFORMING TASKS WITHIN DUTIES BY RESPONDENTS IN EACH JOB GROUP

GROUP MEMBERS	ABN COMM OFF	CONT MOB MGR	CMBT CREW COMM	SCTY MONITOR	SYS SEC OFF	SR PLANS AND PRGM OFFICER	COMM PRGM MGR	FYD PLAN OFF	PLANS AND PRGMS SPEC	LOG SUPT PLANS OFF
DETACHMENT, FLIGHT, OR OPERATION LOCATION	-	10	10	8	3	4	-	-	2	12
UNIT OR SQUADRON LEVEL	33	33	70	45	5	2	8	-	1	6
GROUP LEVEL	6	33	-	20	8	6	15	4	1	-
WING OR BASE LEVEL	6	-	20	2	8	4	-	-	1	-
DIVISION LEVEL	6	-	-	7	5	18	77	39	25	12
NUMBERED AIR FORCE	-	10	-	-	11	2	-	-	2	-
MAJOR AIR COMMAND	-	5	-	10	41	47	-	48	51	56
JOINT SERVICE, DOD, HQ USAF	44	10	-	5	14	14	-	9	16	12
OTHER LEVEL	6	-	-	-	3	2	-	-	-	-

- Less than 1 percent

TABLE 10 (CONTINUED)

TIME SPENT PERFORMING TASKS WITHIN DUTIES BY RESPONDENTS IN EACH JOB GROUP

GROUP MEMBERS	CONTR SUPVRS	SOFTWARE ACQ OFF	PRGM MGR	INFO SYS SUPT	EQUIP ACQ OFF	PROJ TEST ENGRS	TEST MGRS	COMM EVAL ENGRS	SYS TEST ANALY	CONFIG & QA MGRS
DETACHMENT, FLIGHT, OR OPERATION LOCATION	-	10	2	6	-	-	-	32	25	6
UNIT OR SQUADRON LEVEL	29	7	5	18	22	10	18	57	33	23
GROUP LEVEL	12	3	14	3	20	10	18	4	8	13
WING OR BASE LEVEL	-	13	4	3	2	-	9	-	17	10
DIVISION LEVEL	12	20	19	18	9	8	9	-	-	6
NUMBERED AIR FORCE	-	3	8	-	4	3	-	-	-	-
MAJOR AIR COMMAND	24	23	32	21	29	41	27	7	8	29
JOINT SERVICE, DOD, HQ USAF	18	17	10	27	9	18	18	-	8	10
OTHER LEVEL	6	3	5	6	4	10	-	-	-	3

- Less than 1 percent

TABLE 10 (CONTINUED)

TIME SPENT PERFORMING TASKS WITHIN DUTIES BY RESPONDENTS IN EACH JOB GROUP

GROUP MEMBERS	SOFT-WARE EVAL	SYSTEMS ANALYSTS (SMALL COMP)	SOFT-WARE SPT CH	DATA BASE MGR	SYS ANALY	SOFT-WARE ENGR	TNG MGRS	INSTRS	TAC COMM ENGRS	PROJ SITE ENGRS
DETACHMENT, FLIGHT, OR OPERATION LOCATION	9	8	9	9	10	17	7	6	4	8
UNIT OR SQUADRON LEVEL	18	11	20	21	23	24	34	27	17	-
GROUP LEVEL	14	8	14	12	9	4	20	37	50	58
WING OR BASE LEVEL	-	5	7	8	9	8	5	2	-	-
DIVISION LEVEL	9	24	15	15	20	18	7	8	25	25
NUMBERED AIR FORCE	-	6	2	2	2	-	5	-	-	-
MAJOR AIR COMMAND	23	22	25	25	15	15	9	10	-	8
JOINT SERVICE, DOD, HQ USAF	23	13	9	8	9	8	14	6	4	-
OTHER LEVEL	5	4	-	-	3	4	-	2	-	-

- Less than 1 percent

Submit recommendations to Designated Approval Authority (DAA) for approval
Administer security programs
Develop security plans, policies, programs, or procedures
Participate in security test and evaluation/ risk analysis validations
Draft or write security plans or regulations

Job satisfaction indicators are good. Utilization of training is slightly low, but not significant.

SENIOR PLANS & PROGRAMS OFFICERS (N=87). This job is 3 percent of the survey sample. The discriminating duties are Plans & Programs (18 percent) and Program & Project Management (24 percent), plus 30 percent time spent on Administrative Tasks. Forty-three percent hold a 494XC DAFSC and 22 percent have a 491X. The group has a fairly good distribution throughout MAJCOMs, with AFCC having 45 percent. This group is similar to Plans & Programs Specialists, but the tasks performed (an average of 83) grouped differently. Common tasks that represent the job are:

Obtain staff coordinations on program or project actions
Draft or write staff studies or staff summaries
Maintain or update program or project folders
Coordinate with staff agencies on program documents
Conduct or participate in planning meetings

Job satisfaction indicators are not very high. Utilization of talent is very low, with 45 percent indicating not well.

COMMUNICATIONS PROGRAM MANAGER (N=13). This small group of less than 1 percent of the survey sample may appear similar to the one above, but the emphasis is different. Duties are Plans & Programs (20 percent) and Program & Project Management (36 percent). Duty AFSC is almost exclusively 494XC (92 percent). Most work at Division level (77 percent) and perform an average of 71 tasks. Some of the commonly performed tasks that separate this as a job are:

Determine Material Required Dates (MRD)
Certify project readiness for workload release
Determine engineering required dates
Follow up on installation exceptions
Determine Allied Support Dates (ASD) or Support Construction Dates (SCD)

Job satisfaction indicators are less than average. Very low is utilization of training, which has no responses of very well.

FIVE-YEAR DEFENSE (FYD) PLANNING OFFICERS (N=23). This small group represents less than 1 percent of the survey sample. Two duties that incumbents perform tasks within are Plans & Programs (35 percent) and Program and Project Management (14 percent). Duty AFSCs of the members are mostly 491X (34 percent) and 494XC (30 percent). There are 17 percent assigned to AFSC and 39 percent to AFCC. They majority are at either Division (39 percent) or Major Air Command (48 percent) level. The tasks performed within the duties mentioned above are what separate this job group from other Plans & Programs personnel. They average 87 tasks performed, with common tasks that helped group them together as follow:

Justify funds for programs
Evaluate effect of funding cuts on programs or projects
Consolidate inputs to five-year (defense) plans (FYD or FYDP)
Evaluate Program Objective Memoranda (POM) inputs
Develop Program Decision Packages

Job satisfaction indicators are good. The only negative response is the lack of utilization of training; there were no responses to indicate training was very well, and 70 percent reported it was not well utilized.

PLANS & PROGRAMS SPECIALISTS (N=200). This large group represents 7 percent of the survey sample. As would be expected, the dominant duties are Plans & Programs (26 percent) and Program & Project Management (19 percent). But, as also expected for a large job, tasks are spattered throughout a number of other duties. What the incumbents do have in common is that they work at a Major Air Command (51 percent), Division (25 percent), or Joint Service/DOD (16 percent) level. Duty AFSC for incumbents is 494XC (36 percent), 491X (30 percent), 492X (16 percent), and 493X (11 percent). A wide distribution of MAJCOMs is represented, including AFCC (41 percent), AFSPACECOM (16 percent), and TAC (10 percent). The group consists of program managers working on individual projects, such as secure voice systems, F-16, electronic warfare, or space systems. Common tasks performed, an average of 153, are:

Assist functional users in defining requirements
Conduct or participate in planning meetings
Act as liaison between using and developing commands on systems, subsystems, facilities, equipment, or services
Coordinate with MAJCOM or government agencies or assistance on Communications-Computer Systems programs
Maintain or update program or project folders

Job satisfaction indicators are good. The only negative factor is the same as the other Plans & Programs groups: utilization of training is not perceived well.

LOGISTICS SUPPORT PLANS OFFICERS (N=16). This small group makes up less than 1 percent of the survey population. The last of the Plans & Programs groups differ mainly because they are made up of a large percentage of DAFSC 494XB officers (38 percent). The level of assignment is similar to other Plans & Programs personnel, as 56 percent are assigned to a Major Air Command and 12 percent are at Division level. Incumbents belong to AFCC (50 percent), TAC (25 percent), or ESC or AFLC (13 percent each). They perform an average of 106 tasks; common ones include:

Coordinate with logistic activities on Integrated Logistics Support Plans (ILSP)
Participate in logistics support analysis reviews
Develop inputs to program support plans, such as ILSP, supply support, or facilities plans
Develop equipment maintenance concepts
Review transition or turnover documents

Job satisfaction indicators are good. Sense of accomplishment is high but, like the other Plans & Programs job groups, utilization of training is not perceived well.

CONTRACT SUPERVISORS (N=50). The job members are 2 percent of the survey population. A wide variety of duties are covered within this job (see Table 5). Duty AFSCs are divided among 491X (35 percent), 492X (24 percent) and 493X (35 percent). They are assigned to the four most frequent users of 49XX officers (AFCC, AFSPACECOM, TAC, and AFSC), and average 216 tasks performed. Common ones include:

Analyze system performance characteristics
Analyze and distribute workload requirements
Monitor suspense dates, such as for schedules, reports, correspondence, or program milestones
Identify technical solutions to support user requirements
Advise other agencies on Communications-Computer systems capabilities

Job satisfaction is very good. Ninety-four percent find their job interesting, and 53 percent indicated utilization of their talent is very well.

SOFTWARE CONTRACT & ACQUISITION OFFICERS (N=43). This job of 2 percent of the survey sample perform similar tasks as the following job (Program Management), but this group specifically performs software acquisition. This group performs tasks from the Computer Systems Development (8 percent) and Configuration and Quality Assurance (9 percent) duties, as well as from the Program & Project Management (17 percent) and Acquisition & Contracting (14 percent) areas. Sixty-four percent of the members hold DAFSC 492X. There are 17 percent who work in AFSPACECOM and 20 percent in AFSC. They average 154 tasks performed, with some common ones as follow:

Evaluate contractor compliance with contract terms
Coordinate with civilian companies on Communications-Computer Systems matters
Draft or write inputs to RFP items, such as CDRL, SOW, DID, CLIN, or PWS
Participate in Technical Interchange Meetings (TIM)
Evaluate computer software requirements documentation

Job satisfaction indicators are good. All categories are close to the norm.

PROGRAM MANAGER (N=148). This large job represents 5 percent of the survey sample. Program Managers percent time spent is in most duties, with the most time in Plans & Programs (19 percent) and Program & Project Management (16 percent), and a lot of time allotted for Acquisition & Contracting (10 percent) functions. Duty AFSC has 50 percent as 491X, with each of the other AFSCs combined as the remaining percentage. The largest MAJCOM percentage belongs to AFCC (44 percent), and the next largest is AFSC (13 percent). The incumbents are spread across all organizational levels. This group has the largest average number of tasks performed (303). Some common tasks are:

Review systems interface or integration requirements
Integrate common functional user requirements
Implement program guidelines
Develop or revise project schedules
Participate in planning or programming review boards or program review committees

Job satisfaction indicators are very good. Ninety-one percent feel their job is interesting.

INFORMATION SYSTEMS SUPPORT OFFICER (N=46). This job consists of 2 percent of the survey sample. Members of this group perform tasks from all areas of the inventory, with an emphasis in Command, Management, and Advisory (17 percent) and Computer Systems Development (17 percent). Duty AFSC is 492X (50 percent)

and 491X (44 percent). Incumbents are spread throughout all organizational levels, mostly as managers of Information Support Systems for various organizations. The average number of tasks performed is 216, with the following common tasks performed:

Provide technical software expertise to external agencies
Participate in design analyses, project team meetings, or internal design review meetings
Analyze user requirements in conceptualizing or defining software/hardware requirements
Determine Communications-Computer Systems software to satisfy requirements
Evaluate vendor supplied documentation or products

Job satisfaction indicators are extremely high. Ninty-seven percent of the members feel their job is interesting and 91 percent are satisfied with their sense of accomplishment.

EQUIPMENT ACQUISITION OFFICERS (N=45). The members of this group represent 2 percent of the survey sample. They perform a large number of tasks spread throughout the duties. Percent time spent on tasks listed below helped knit this group together. Fifty-eight percent hold a DAFSC of 492X, with members represented throughout the MAJCOMs and organizational levels. Tasks performed, with an average of 239, are:

Supervise installation of Communications-Computer Systems
Recommend selection of commercially available software packages
Present systems demonstrations to visitors or VIP
Identify requirements for contractural services and supplies
Integrate common functional user requirements

Job satisfaction indicators are very high. Ninety-three percent of the members feel their job is interesting, and 84 percent are satisfied with their sense of accomplishment.

PROJECT TEST ENGINEERS (N=39). This group, consisting of 1 percent of the survey sample, is the first of four jobs that predominantly perform tasks from the Testing & Evaluation duty (21 percent). The tasks performed and the percent time spent on these tasks discriminate the groups. Duty AFSC 491X (52 percent) is the most common, with all AFSCs holding a share, respectively. Fifty-two percent of the members are in MAJCOMs not listed in this report. Also, 41 percent are assigned to the Major Air Command level. The average number of tasks performed is 67, with some as follows:

Conduct or participate in operational tests or evaluations
Coordinate with appropriate agencies or personnel on tests
Travel outside local area on official business or TDY
Prepare test reports
Ensure adequate system resources are available to support testing

Job satisfaction indicators are less than marginal. Only 8 percent indicated that utilization of talent was very well and less than half are satisfied with their sense of accomplishment.

TEST MANAGERS (N=11). This job is the smallest in the survey sample, which is less than 1 percent. The majority of time is spent performing Testing & Evaluation functions (49 percent). Duty AFSCs is mostly consumed by 492X officers (64 percent). All members are company grade officers and most work for AFCC (45 percent) and AFSPACECOM (36 percent). They average only 33 tasks performed, with some common ones as follows:

Conduct parallel, regression, or stress tests
Conduct validation and verification tests
Conduct or participate in operational tests or evaluations
Prepare test reports
Analyze system performance characteristics

Job satisfaction indicators are good. Eighty-two percent of the individuals feel their job is interesting.

COMMUNICATIONS EVALUATION ENGINEERS (N=28). This job is 1 percent of the survey sample. The incumbents greatest response of percent time spent is split between Testing & Evaluation (20 percent) and Inspecting & Evaluating tasks (17 percent). Duty AFSC is dominated by 493X officers (90 percent). All members are company grade officers and most work in AFCC (71 percent) and TAC (21 percent). The organizational level is composed generally by Unit or Squadron (57 percent) and Detachment, Flight, or Operational location (32 percent). The average number of tasks performed is 73, with common ones as follow:

Conduct or participate in operational tests or evaluations
Analyze system performance characteristics
Draft or write inputs to inspection, self-inspection reports, or evaluation reports
Conduct or participate in operational performance evaluations
Perform system evaluations

Job satisfaction indicators are fair. Thirty-six percent of the members are dissatisfied with their sense of accomplishment.

SYSTEMS TEST ANALYSTS (N=26). This group represents 1 percent of the survey population. The duties that incumbents percentage of time spent are largely in Testing & Evaluation (28 percent) and Computer Systems Development (14 percent). All members of the job are 492X officers (100 percent). They are all company grade officers (100 percent) who work in AFCC (42 percent), TAC (33 percent), and AFSPACECOM (17 percent). The organizational level is, by and large, at the Unit or Squadron (33 percent). The average number of tasks performed is 73, with some as follows:

Coordinate with appropriate agencies or personnel on test results or procedures
Develop test and diagnostic plans
Conduct validation and verification tests
Develop test data to simulate functional requirements
Evaluate computer software test plan

Job satisfaction indicators are not good. Only 58 percent of the incumbents find their job interesting and there are no responses that utilization of talent is very well.

CONFIGURATION AND QUALITY ASSURANCE MANAGERS (N=31). This job represents 1 percent of the survey sample. Percent time spent within duty is found most frequently in Configuration Management & Quality Assurance (20 percent) and Computer Systems Development (11 percent). Duty AFSCs are held by 492X (68 percent) and 491X (16 percent). Captains make up 65 percent of the group. Fifty-five percent of the members are assigned to AFSPACECOM, and 23 percent are in AFCC. The incumbents work at most all organizational levels. The average number of tasks performed is 135, with some common ones as follow:

Draft or write configuration management plans
Prepare or verify Version Description Documents (VDD)
Track status of corrective actions for Communications-Computer Systems discrepancies
Recommend software version content or content requests
Determine requirements or procedures for software changes

Job satisfaction indicators are marginal. Indicators for each category are slightly below the norm.

SOFTWARE EVALUATORS (N=43). This job represents 2 percent of the survey sample. For the most part, duties are Testing & Evaluation (16 percent), Configuration Management & Quality Assurance (15 percent), and Computer System Development (14 percent). Members are all DAFSC 492X and company grade officers (100 percent), respectively, and most work in AFSPACECOM (36 percent) and AFCC (32 percent). A cross-section of organizational levels is represented by this job. The average number of tasks performed is 139, with common tasks as follow:

Coordinate with appropriate agencies or personnel on test results or procedures
Draft or write design problem reports
Test and debug program modules
Evaluate computer software test plan
Develop test data to simulate functional requirements

Job satisfaction indicators are average. Seventy-three percent of the incumbents are satisfied with their sense of accomplishment.

SYSTEMS ANALYST (SMALL COMPUTERS) (N=79). This job consists of 3 percent of the survey sample, with tasks performed are spread across all duties. The two most common duties are Operations (17 percent) and Computer Systems Development (13 percent). Sixty-seven percent of the members hold DAFSC 492X. Ninety-five percent are company grade officers assigned to most all MAJCOMs, with AFCC being the largest (33 percent). They belong to all organizational levels. The average number of tasks performed is 134, with some common ones as follow:

Brief computer operators on changes in procedures
Assist users in resolving computer software malfunctions or problems
Initiate computer recovery/restarts
Investigate and resolve customer service complaints
Determine cause of operating system software malfunctions

Job satisfaction indicators are good. Eighty-seven percent of the incumbents find their job interesting, and 79 percent are satisfied with their sense of accomplishment.

SOFTWARE SUPPORT CHIEFS (N=117). This group is 4 percent of the survey sample. The two most common duties are Computer Systems Development (26 percent) and Command, Management, and Advisory (13 percent). Ninety-two percent of the members hold a DAFSC of 492X. Ninety-seven percent are company grade

officers assigned to most all MAJCOMs, with AFCC being the largest (48 percent). They are also spread fairly even through organizational levels. The average number of tasks performed is 176, with some common ones as follow:

Conduct software walkthrough
Conduct computer software application feasibility studies
Draft, write, or update program modification requests or computer support requests
Prepare inputs to software version description
Draft, write, or update system specifications problems, such as patch

Job satisfaction indicators are very good. Ninety percent of the incumbents indicate their job was interesting, and 80 percent were satisfied with their sense of accomplishment.

DATA BASE MANAGERS (N=67). This group consists of 3 percent of the survey sample. The primary duties of percent time spent are in Computer Systems Development (29 percent) and Data Base Management (22 percent). Ninety-one percent of the members hold DAFSC 492X. The job is made up of 98 percent company grade officers, with members belonging to AFCC (36 percent) and AFMPC (10 percent). They work at all organizational levels. The average number of tasks performed is 115, with some common ones as follow:

Analyze data base structures
Design or modify data bases to meet new application needs
Compile or assemble computer programs
Advise programmers on proper use of data base systems
Develop and implement data base retrieval and recovery procedures

Job satisfaction indicators are very high. Ninety percent of the job incumbents indicated their job was interesting, and 80 percent were satisfied with their sense of accomplishment.

SYSTEMS ANALYSTS (N=250). This large group represents 9 percent of the survey sample. Almost half of their time is spent on tasks from the Computer Systems Development section (48 percent). Duty AFSC is 94 percent 492X. Most members are junior officers (97 percent) assigned to AFCC (44 percent), TAC (18 percent), and AFSPACECOM (12 percent). They also work at all organizational levels. They average 75 tasks performed, with some common ones as follow:

Compile or assemble computer programs
Design computer applications software to fulfill user requirements
Analyze computer applications software for modifications
Determine cause of applications system software malfunctions
Link-edit program modules

Job satisfaction indicators are good. Seventy-seven percent of the incumbents are satisfied with their sense of accomplishment.

SOFTWARE ENGINEERS (N=72). This job is 3 percent of the survey population. They spend the majority of their time performing tasks from the Computer Systems Development (70 percent) duty. Duty AFSC is 84 percent 492X. Members are company grade officers (99 percent) who work in various MAJCOMs, such as AFCC (42 percent), ATC (10 percent), TAC (7 percent), and AFSPACECOM (7 percent). The incumbents are distributed throughout all organizational levels. The average number of tasks performed is 26, with common ones as follow:

Write or modify computer source code
Test and debug program modules
Compile or assemble computer programs
Develop computer program pseudo code
Design computer applications software to fulfill user requirements

Job satisfaction indicators are fair. All indicators are slightly above or below the norm.

TRAINING MANAGER (N=44). This job is 2 percent of the survey population. Percent time spent within duties is spread somewhat throughout the duties, with the two principle areas being Training (34 percent) and Command, Management, & Advisory (17 percent). There are members representing all DAFSCs, with the largest being 492X (59 percent). Incumbents are 18 percent field grade officers and 52 percent captains. The largest MAJCOM user is ATC (50 percent), with a large distribution also at Air University and the US Air Force Academy. There is a wide distribution of organizational level, with the most central one being Unit or Squadron (34 percent). The average number of tasks performed is 108, with some common tasks as follow:

Obtain training aids, space, or equipment
Perform course reviews or evaluations
Evaluate classroom training or instructor performance
Evaluate training methods or techniques
Determine training requirements

Job satisfaction indicators are good. Eighty percent of the incumbents are satisfied with their sense of accomplishment.

INSTRUCTORS (N=49). This job is 2 percent of the survey sample. Percent time spent is concentrated in one duty, Training (61 percent). Duty AFSCs have 492X officers (65 percent) as its largest source and 493X (16 percent) as the next largest. The group members are assigned to ATC (50 percent), Air University, and the US Air Force Academy. All organizational levels are represented except Major Air Command (0 percent), with most at Group level (37 percent). The average number of tasks performed is 26, with common ones as follow:

Conduct formal or resident course classroom training
Draft or write inputs to course control documents, course materials, or lesson plans
Develop training aids, handouts, or materials
Draft or write inputs to classroom materials, such as study guides or texts
Evaluate student progress

Job satisfaction indicators are very good. Eight-nine percent of the incumbents find their job interesting, and 86 percent are satisfied with their sense of accomplishment.

TACTICAL COMMUNICATIONS ENGINEERS (N=24). This group is less than 1 percent of the survey sample. Percent time spent is divided among most all duties, with the top duties being Engineering & Installation (17 percent), Plans & Programs (17 percent), Program & Project Management (12 percent). Duty AFSC is primarily 493X officers (92 percent). All are junior officers, with 92 percent assigned to AFCC There are 50 percent that work at Group level and 25 percent at Division level. The average number of tasks performed is 108, with some common ones as follow:

Provide on-site engineering technical assistance
Provide technical advice on Communications-Computer Systems
Identify technical solutions to support user requirements
Prepare Statements of Work (SOW) for programs or projects
Conduct engineering site surveys

Job satisfaction indicators are fair. Seventy-five percent of the incumbents indicated they are satisfied with their sense of accomplishment.

PROJECT SITE ENGINEER (N=24). This job is less than 1 percent of the survey sample. Percent time spent is concentrated in the Engineering & Installation area (37 percent). Duty AFSC is primarily 493X officers (92 percent). All are company grade officers (75 percent lieutenants), with 88 percent assigned to AFCC. There are 83 percent assigned to either Group or Division level. The average number of tasks performed is 47, with some common tasks as follow:

Conduct engineering site surveys
Advise installation team members on project or installation procedures
Provide on-site engineering technical assistance
Process Program Support Agreements (PSA) or Site Concurrence Agreements (SCA)
Prepare cost estimates for equipment installation

Job satisfaction indicators are marginal. Only 8 percent of the incumbents indicated good utilization of talent.

Summary

The jobs described above fit a pattern of functions that may be used to differentiate between job types. There are nine functions which summarize the jobs:

Staff
Management
Security
Plans
Requirements
Systems Test
Computer System
Training
Engineering

The job descriptions listed in Tables 5 through 10 dictate the order of this functional grouping. Again, the order of jobs are presented as a result of the hierarchical clustering analysis program and the only importance that can be attached to the ordering is that the first case control number chosen randomly happened to be completed by an individual performing a staff officer

function. Thus, the staff function is listed first, and as the job descriptions progress, so do the functional areas. There is some overlap between jobs at the beginning and end of each functional area, but the divisions are clear enough to be mentioned.

The jobs and functions generally fit the pattern prescribed by AFR 36-1, but personnel do not necessarily possess the specialty appropriate to the job description. In each job there tends to be a core group (a percentage of members from the AFSC that describes that job group), plus individuals from other AFSCs. For example, The Plans & Programs Specialists have 36 percent C-shred members and 30 percent 491X officers, but also include 16 percent 492X officers and 11 percent 493X officers.

SPECIALTY ANALYSIS

The purpose of this section is to describe the tasks performed by officers based on the existing classification structure. Table 11 is a breakout of the duties performed by AFSC. For the most part, members of each AFSC perform tasks from the most time-consuming duties that exist for their specialty. In addition, background information on personnel in the different specialties will be reported.

Communications-Computer Systems Staff Officer - AFSC 4916. The survey sample included 1,061 respondents with a Duty AFSC of 491X. The majority are field grade officers (44 percent are majors and 22 percent are lieutenant colonels), with the remainder mostly captains (33 percent). The largest percentage are assigned to AFCC (44 percent) and the rest spread throughout the major commands, with the largest users being TAC (6 percent). These respondents had an average of 24 months in their present jobs, an average of 11 years time in career field, and about 17 years of total active military service. These officers hold undergraduate degrees in a variety of areas, with some of the larger being mathematics (33 percent), business (21 percent), computer technology (18 percent), and electrical engineering (11 percent). Approximately 82 percent have graduate degrees, the majority specializing in business (34 percent), computer technology (20 percent), and systems management (12 percent). The area that these officers indicated required the largest extent of knowledge was Communications Theory, Computer Science Theory, Personnel Management, Program or Systems Management, and Requirements Definition and Analysis. The Staff Officers are assigned to all organization levels, with most being Major Air Command (25 percent) and Joint Service, DOD, or Headquarters Air Force (21 percent).

Review of the computer-generated job description for the Staff Officer revealed the largest percentage of their time is spent performing command, management, advisory, general administrative, and plans & programs tasks. The tasks listed below are examples of the tasks typically performed by Staff Officers:

TABLE 11

TIME SPENT PERFORMING TASK WITHIN DUTIES BY AFSC

DUTIES	491X	492X	493X	494XA	494XB	494XC
A COMMAND, MANAGEMENT, AND ADVISORY	27	13	15	26	28	18
B PERSONNEL AND RESOURCE MANAGEMENT	8	4	4	7	8	5
C TRAINING	2	4	4	4	2	2
D INSPECTING AND EVALUATING	3	1	3	4	6	1
E PLANS AND PROGAMS	12	8	11	6	6	20
F SECURITY	4	5	6	10	4	5
G OPERATION	4	6	5	10	3	3
H MAINTENANCE MANAGEMENT	2	1	1	2	9	1
I ENGINEERING AND INSTALLATION	1	1	7	1	1	1
J COMPUTER SYSTEMS DEVELOPMENT	3	22	4	2	-	3
K CONFIGURATION MANAGEMENT AND QUALITY ASSURANCE	2	6	2	1	1	2
L TESTING AND EVALUATION	1	3	5	1	1	1
M PROGRAM AND MANAGEMENT PROJECT	6	5	7	3	5	11
N ACQUISITION AND CONTRACTING	3	2	4	1	3	4
O CONTINGENCY, EXERCISE, AND MOBILITY FUNCTIONS	3	-	2	5	6	2
P EQUIPMENT CONTROL AND FACILITIES MANAGEMENT	1	1	1	1	1	1
Q DATA BASE MANAGEMENT	1	3	1	-	-	1
R GENERAL ADMINISTRATIVE TASKS	18	14	19	18	18	20

- Less than 1 percent

Draft or write point, position, or talking papers
Coordinate on externally originated actions, papers, or reports
Conduct staff meetings
Monitor suspense dates, such as for schedules, reports, correspondence, or program milestones
Conduct or participate in planning meetings

Job satisfaction is good. Eighty-three percent find their job interesting, with 73 percent satisfied with their sense of accomplishment. As might be expected for these senior personnel, 87 percent plan to stay for retirement benefits, and 78 percent will stay in the 49XX career field until retirement. Of the 96 percent that held either a 30XX or 51XX AFSC, there were more officers who indicated the merger of career fields will affect them negatively (33 percent) than positively (23 percent).

Communications-Computer Systems Programming and Analysis Officer - AFSC 4925. The survey sample included 1,449 respondents with a duty AFSC of 492X. The majority of these officers are company grade (47 percent are captains and 51 percent lieutenants). As seen in Table 12, the largest percentage are assigned to AFCC (37 percent), AFSPACECOM (13 percent), and TAC (12 percent). These respondents had an average of 21 months in their present jobs, an average of 3 years time in career field, and about 7 years total active military service. These officers hold undergraduate degrees in predominantly computer technology (78 percent), mathematics (23 percent), and business (21 percent). Approximately 36 percent have graduate degrees, the majority specializing in computer technology (12 percent) and business (9 percent). The area these officers indicated required the largest extent of knowledge was Communications Theory, Computer Science Theory, Program or Systems Management, and Software Engineering. The programming languages most frequently used are:

FORTRAN	24%
ASSEMBLER	23%
COBOL	19%
JCL	19%
BASIC	11%
PASCAL	11%
JOVIAL	10%
TSO COMMAND	9%
Ada	7%
PL1	7%

The Programming and Analysis Officers are assigned to all organizational levels, with the most being at Major Air Command (24 percent) and Unit or Squadron level (21 percent).

TABLE 12

MAJCOM OF RESPONDENTS IN EACH AFSC

AFSC	491X	492X	493X	494XA	494XB	494XC
AFCC	44	37	51	61	53	57
AFSPACECOM	6	13	5	5	3	9
TAC	6	12	8	7	15	8
AFSC	4	6	13	2	4	3
ATC	3	5	3	1	1	3
ESC	4	3	7	3	6	3
USAFE	2	1	1	4	5	2
AFLC	1	2	1	2	5	1
SAC	1	4	-	4	1	2
MPC	1	3	-	-	1	1
MAC	1	1	1	2	2	2
OTHER	27	13	11	9	4	9

- Less than 1 percent

Review of the computer-generated job description for the Programming and Analysis Officer revealed the largest percentage of their time is spent performing computer development, command, management, advisory, and general administrative tasks. The tasks listed below are examples of the tasks typically performed by Programming and Analysis Officers:

Write or modify computer source code
Compile or assemble computer programs
Assist users in resolving computer software malfunctions
Test and debug program modules
Analyze computer applications software for modifications

Job satisfaction is average (see Table 13). Eighty percent find their job interesting, with 70 percent satisfied with their sense of accomplishment. And, for these junior personnel, 46 percent plan to stay for retirement benefits, and 37 percent will stay in the 49XX career field until retirement. Of the 63 percent that held either a 30XX or 51XX AFSC, there were more officers who indicated the merger of career fields will affect them negatively (36 percent) that positively (7 percent).

Communications-Computer Systems Engineer - AFSC 4935. The survey sample included 395 respondents with a Duty AFSC of 493X. The majority are company grade officers (46 percent are captains and 50 percent are lieutenants). The largest percentage are assigned to AFCC (51 percent), AFSC (13 percent), and TAC (8 percent). These respondents had an average of 21 months in their present jobs, an average of 4 years time in career field, and about 9 years total active military service. There are 58 percent that have some prior enlisted service. These officers hold undergraduate degrees predominantly in electrical engineering (82 percent), electrical engineering technology (17 percent) computer technology (20 percent), and mathematics (10 percent). Approximately 34 percent have graduate degrees, the majority specializing in electrical engineering (11 percent) and business (7 percent). The area these officers indicated required the largest extent of knowledge was Communications Theory, Engineering Principles, and Systems Engineering. The Systems Engineers are assigned to all organization levels, with most being Group (22 percent) and Unit or Squadron level (20 percent).

Review of the computer-generated job description for the Systems Engineers revealed the largest percentage of their time is spent performing command, management, advisory, general administrative and plans and programs tasks. The tasks listed below are examples of the tasks typically performed by Systems Engineers:

TABLE 13

INDICATOR OF JOB SATISFACTION BY AFSC

	491X	492X	493X	494XA	494XB	494XC
JOB INTEREST:						
INTERESTING	83	80	88	80	82	74
SO-SO	8	10	10	10	10	14
DULL	7	10	12	9	8	12
UTILIZATION OF TALENT:						
VERY WELL	32	19	15	20	26	15
FAIRLY WELL	53	60	53	60	54	59
NOT WELL	15	21	32	20	19	26
UTILIZATION OF TRAINING:						
VERY WELL	17	10	7	10	14	7
FAIRLY WELL	51	46	47	48	51	41
NOT WELL	32	42	47	41	35	52
SENSE OF ACCOMPLISHMENT:						
SATISFIED	73	70	66	71	75	65
NEITHER	5	7	7	5	2	7
DISSATISFIED	22	23	27	23	22	28

Draft or write trip reports
Draft or write technical reports
Conduct engineering site surveys
Analyze system performance characteristics
Travel outside local area on official business or TDY

Job satisfaction is very good. Eighty-eight percent find their job interesting, with 66 percent satisfied with their sense of accomplishment. And, for these junior personnel, 50 percent plan to stay for retirement benefits, and 35 percent will stay in the 49XX career field until retirement. Of the 70 percent that held either a 30XX or 51XX AFSC, there were more officers that indicated the merger of career fields will affect them negatively (14 percent) than positively (7 percent) (see Table 14).

Communications-Computer Systems Officer (Operations) - AFSC 4945A. The survey sample included 415 respondents with a Duty AFSC of 494XA. The majority are company grade officers (59 percent are captains and 40 percent are lieutenants). The largest percentage are assigned to AFCC (61 percent), AFSPACECOM (5 percent), and TAC (7 percent). These respondents had an average of 17 months in their present jobs, an average of 4 years time in career field, and about 7 years total active military service. There are 26 percent that have some prior enlisted service. These officers hold undergraduate degrees in a wide variety of areas, with a few of the most common being computer technology (22 percent), mathematics (22 percent), and business (22 percent). Approximately 36 percent have graduate degrees, the majority specializing in business (16 percent). The area that these officers indicated required the largest extent of knowledge was Communications Theory and Personnel Management. The Operations Officers are assigned to all organizational levels, with most being at Unit or Squadron (39 percent), Major Air Command (16 percent), or Group (15 percent) level (see Table 15).

Review of the computer-generated job description for the Operations Officers revealed the largest percentage of their time is spent performing command, management, advisory, general administrative, operations, and security tasks. The tasks listed below are examples of the tasks typically performed by Operations Officers:

Draft or write general correspondence
Draft or write reports required by additional duties
Advise on or interpret publications, procedures, or policies
Draft or write Airman Performance Reports (APR)
Advise other agencies on Communications-Computer system capabilities

TABLE 14

EXPERIENCE AS A 30XX/51XX OFFICER AND INDICATOR OF EFFECT OF THE MERGER BY AFSC

	49XX	491X	492X	493X	494XA	494XB	494XC
EXPERIENCE AS 30XX OFFICER:							
0-11 MONTHS	69	47	96	50	63	44	69
12-48 MONTHS	11	5	2	31	20	25	16
49-96 MONTHS	10	14	2	13	13	27	11
97+ MONTHS	10	34	-	6	4	4	4
EXPERIENCE AS 51XX OFFICER:							
0-11 MONTHS	69	61	56	99	82	95	75
12-48 MONTHS	12	5	23	1	8	2	10
49-96 MONTHS	13	16	18	-	10	3	12
97+ MONTHS	6	18	3	-	-	-	3
EFFECT OF THE MERGER:							
NEVER A 30XX OR 51XX OFFICER	24	4	37	30	27	19	28
POSITIVE	16	23	7	7	26	17	20
NEUTRAL	33	40	25	49	29	47	27
NEGATIVE	27	33	36	14	18	17	25

- Less than 1 percent

TABLE 15

DISTRIBUTION OF ORGANIZATION LEVEL OF ASSIGNMENT BY AFSC

	491X	492X	493X	494XA	494XB	494XC
DETACHMENT, FLIGHT OR OPERATIONAL LOCATION	3	8	11	6	8	4
UNIT OR SQUADRON LEVEL	15	21	20	39	40	13
GROUP LEVEL	11	10	22	15	18	7
WING OR BASE LEVEL	4	7	5	2	6	6
DIVISION LEVEL	13	16	15	9	10	27
NUMBERED AIR FORCE	5	2	3	6	3	2
MAJOR AIR COMMAND	25	24	15	16	9	33
JOINT SERVICE, DOD, HQ USAF	21	9	8	5	4	4
OTHER LEVEL	3	3	1	1	2	2

Job satisfaction is average. Eighty percent find their job interesting, with 71 percent satisfied with their sense of accomplishment. And, for these junior personnel, 50 percent plan to stay for retirement benefits, and 46 percent will stay in the 49XX career field until retirement. Of the 73 percent that held either a 30XX or 51XX AFSC, there were more officers that indicated the merger of career fields will affect them positively (26 percent) than negatively (18 percent).

Communications-Computer Systems Officer (Maintenance) - AFSC 4945B. The survey sample included 299 respondents with a Duty AFSC of 494XB. The majority are company grade officers (65 percent are captains and 34 percent are lieutenants). The largest percentage are assigned to AFCC (53 percent), TAC (15 percent), and ESC (6 percent). These respondents had an average of 18 months in their present jobs, an average of 4 years time in career field, and about 8 years total active military service. There are 44 percent that have some prior enlisted service. These officers hold undergraduate degrees in a wide variety of areas, with a few of the most common being business (23 percent), mathematics (22 percent), computer technology (12 percent), and biology (11 percent). Approximately 39 percent have graduate degrees, the majority specializing in business (14 percent). The area these officers indicated required the largest extent of knowledge was Personnel Management and Communications Theory (see Table 16). The Maintenance Officers are assigned to all organizational levels, with most being Unit or Squadron (40 percent), Group (18 percent), or Division (10 percent) level.

Review of the computer-generated job description for the Maintenance Officers revealed the largest percentage of their time is spent performing command, management, advisory, general administrative, maintenance, and personnel management tasks. The tasks listed below are examples of the tasks typically performed by Maintenance Officers:

Draft or write general correspondence
Coordinate on externally originated actions, papers, reports
Conduct unit, work center, or facility walk-through visits
Draft or write Airman Performance Reports (APR)
Evaluate maintenance QC inspection reports

Job satisfaction is above average. Eighty-two percent find their job interesting, with 75 percent satisfied with their sense of accomplishment. And, for these junior personnel, 56 percent plan to stay for retirement benefits, and 56 percent will stay in the 49XX career field until retirement. Of the 81 percent that held either a 30XX or 51XX AFSC, the same amount of officers indicated the merger of career fields will affect them positively (17 percent) or negatively (17 percent), with 47 percent neutral.

TABLE 16

EXTENT OF KNOWLEDGE REQUIRED FOR JOBS BY AFSC*

JOBS	491X	492X	493X	494XA	494XB	494XC
BIOLOGICAL SCIENCE	1	1	1	1	1	1
BUSINESS PRINCIPLES	4	3	3	3	3	4
COMMUNICATIONS THEORY	5	4	5	5	5	5
COMPUTER SCIENCE THEORY	5	6	4	4	4	4
ECONOMICS	3	2	2	2	2	2
ELECTRONIC THEORY	3	2	4	4	4	3
ENGINEERING PRINCIPLES	3	2	5	3	3	3
MATHEMATICS	3	3	4	3	3	3
PERSONNEL MANAGEMENT	5	4	4	5	6	4
PHYSICAL SCIENCES	2	2	3	2	2	2
PROGRAM OR SYSTEM MANAGEMENT	5	5	4	4	4	5
PUBLIC RELATIONS	4	3	4	4	4	4
REQUIREMENTS DEFINITION AND ANALYSIS	5	4	4	4	4	5
SOCIAL SCIENCES	2	2	2	2	2	2
SOFTWARE ENGINEERING	4	5	3	2	2	2
STATISTICS	3	2	3	2	2	2
SYSTEMS ENGINEERING	4	4	5	3	3	3

* The above table is weighted average of responses from the following scale:

EXTENT SCALE

1. None
2. Minimal Extent
3. Very Small Extent
4. Small Extent
5. Moderate Extent
6. Large Extent
7. Very Large Extent
8. Maximal Extent

Each knowledge required was averaged by the number of responses given for the extent scale.

Communications-Computer Systems Officer (Plans & Programs) - AFSC 4945C. The survey sample included 520 respondents with a Duty AFSC of 494XC. The majority are company grade officers (60 percent are captains and 39 percent are lieutenants). The largest percentage are assigned to AFCC (57 percent), AFSPACECOM (9 percent), and TAC (8 percent). These respondents had an average of 18 months in their present jobs, an average of 5 years time in career field, and about 8 years total active military service. There are 40 percent that have some prior enlisted service. These officers hold undergraduate degrees in a wide variety of areas, with a few of the most common being computer technology (32 percent), business (24 percent), and mathematics (22 percent). Approximately 38 percent have graduate degrees, the majority specializing in business (12 percent), computer technology (7 percent), and systems management (7 percent). The areas these officers indicated required the largest extent of knowledge was Communications Theory, Program or System Management, and Requirements Definition and Analysis. The Plans and Programs Officers are assigned to all organization levels, with most being Major Air Command (33 percent), Division (27 percent), and Unit or Squadron (13 percent).

Review of the computer-generated job description for the Plans and Programs Officers revealed the largest percentage of their time is spent performing command, management, advisory, general administrative, and plans and programs tasks. The tasks listed below are examples of the tasks typically performed by Plans and Programs Officers:

Draft or write general correspondence
Draft or write point, position, or talking papers
Conduct or participate in planning meetings
Assist functional users in defining requirements
Maintain or update program or project folders

Job satisfaction is below average. Seventy-four percent find their job interesting, with 65 percent satisfied with their sense of accomplishment (see Table 17). And, for these junior personnel, 51 percent plan to stay for retirement benefits, and 45 percent will stay in the 49XX career field until retirement. Of the 72 percent that held either a 30XX or 51XX AFSC, there were more officers that indicated the merger of career fields will affect them negatively (25 percent) than positively (20 percent).

Summary

Survey responses were examined within each of the specialties comprising the Communications-Computer Systems Officers utilization field. Viewed as an entity, the utilization field appears a reasonably well-organized collection of diverse specialties. Within each of the AFSCs described above, there are some very obvious similarities. It is evident that no matter what AFSC one holds, management and administrative tasks will be included in the job. It is the technical specialties that give definition to each AFSC and shred. The 492X officers are clearly the most distinguishable; the amount of time spent

TABLE 17

PERCENT OF PRIOR ENLISTED SERVICE AND INDICATORS OF CAREER INTENTIONS AND CAREER FIELD PLANS BY AFSC

	49XX	491X	492X	493X	494XA	494XB	494XC
PRIOR ENLISTED SERVICE	39	23	27	58	26	44	40
CAREER INTENTIONS:							
SEPARATE WITHOUT RETIREMENT BENEFITS	5	1	7	11	5	4	6
DECIDE LATER, PROBABLY LEAVE BEFORE RETIREMENT	12	2	15	14	14	15	16
DECIDE LATER, PROBABLY STAY FOR RETIREMENT	24	10	31	24	30	24	27
RETIRE WITH RETIREMENT BENEFITS	59	87	46	50	50	56	51
CAREER FIELD PLANS:							
STAY IN 49XX FIELD UNTIL RETIREMENT	50	78	37	35	46	56	45
CROSS-TRAIN TO FIELD OUTSIDE 49XX FIELD	11	5	14	19	8	8	10
CAREER BROADEN, AND RETURN LATER	13	5	20	12	14	11	16
UNDECIDED ABOUT STAYING IN 49XX CAREER FIELD	16	7	18	20	22	15	20
PLAN TO SEPARATE FROM THE AIR FORCE	6	-	8	12	7	5	7

on computer-related tasks is evident. There are 42 percent who indicated they do not write code: most that do not manage a computer-support area. The 493X officers perform tasks from both plans & programs and project management, as well engineering & installation and systems tests. Although only a limited number are performing technical tasks, they have the highest job satisfaction indicators. Both A- and B-shred officers perform similar command functions, but in different areas. The C-shred officers clearly perform the majority of tasks within the plans & programs and program & project management areas. The diversity of AFSC members adheres to there being core groups by AFSC in most all jobs listed in the Job Descriptions above. There is little difference in rank between entry-level AFSC groups. There is a clear progression to staff officer positions (see Table 18).

Comparison of survey responses from the Communications-Computer Systems Officers with AFR 36-1 specialty descriptions are mostly agreeable, with two reservations: (1) The Systems Programming & Analysis Officer (492X) reflects computer systems development accurately, but could be expanded. Only in the Specialty Summary are data bases mentioned as being monitored, which is not nearly the extent that data base management is being performed. Neither configuration and quality assurance nor program management are given much emphasis, which are two areas 492X officers had indicated they perform tasks; (2) The A-shred of 494X officers' description does not reflect the amount of tactical exercises and contingency performed by operations officers.

TRAINING ANALYSIS

The objective of this section is to compare entry-level training and the tasks performed by junior Communications-Computer Systems Officers. For an effective personnel management system, the entry-level training program should prepare personnel to become effective performers on the job without clouding the individual's perspective of that job with unnecessary or unuseable information.

To determine the relevance of training to the job performed, members of the 3390th Technical Training Group, Keesler Technical Training Center, matched tasks from the AFSC 49XX job inventory to the plan of instruction (POI) objectives for the primary entry-level courses:

AFSC 49XX	E30QR4900 000	Keesler	9/11 wks, 0 days
AFSC 4921	E30BR4921 001/002	Keesler	17/15 wks, 4/4 days
AFSC 4931	E30BR4931 000/001	Keesler	19/15 wks, 0/4 days
AFSC 4941A	E30BR4941A 000/001	Keesler	15/12 wks, 1/3 days
AFSC 4941B	E30BR4941B 000/001	Keesler	15/13 wks, 2/1 days
AFSC 4941C	E30BR4941C 000	Keesler	17 wks, 0 days

TABLE 18

EXAMPLE OF TASKS NOT REFERENCED CONSIDERED TO BE PME

TASKS NOT REFERENCED	PERCENT PERFORMING 49XX OFFICERS
DRAFT OR WRITE GENERAL CORRESPONDENCE	72
PARTICIPATE IN STAFF MEETINGS	71
TRAVEL OUTSIDE LOCAL AREA ON OFFICIAL BUSINESS OR TDY	69
DRAFT OR WRITE POINT, POSITION, OR TALKING PAPERS	66
DRAFT OR WRITE TRIP REPORTS	60

TABLE 19

EXAMPLE OF TASKS NOT REFERENCED CONSIDERED FOR 492X OFFICERS

TASKS NOT REFERENCED	TE	PERCENT PERFORMING
DETERMINE CAUSE OF APPLICATIONS SYSTEM SOFTWARE MALFUNCTIONS	6.22	46
ASSIST USERS IN RESOLVING COMPUTER SOFTWARE MALFUNCTIONS OR PROBLEMS	5.57	54
ANALYZE DATA BASE STRUCTURES	5.02	37
DETERMINE CORRECTIVE ACTIONS TO COMPUTER SYSTEMS INCIDENTS, DEFICIENCY, OR TROUBLE REPORTS	4.30	29
EVALUATE COMPUTER SOFTWARE REQUIREMENTS DOCUMENTATION	3.70	27

Also matched was the staff officer-level course:

AFSC 4911 E30AR4911 000 Keesler 29 weeks, 4 days

Since the job inventory has performance based tasks, each block of the POI has been matched within two categories: Performance and Knowledge. Tasks matched to Performance level requires that students are taught actual hands-on training of the task, while Knowledge means that students are provided knowledge to help them perform the task.

Training Extracts are products generated with this match, plus survey data (the training emphasis ratings and the percentage of incumbents performing each task) to support the analysis in this report. Review of this combination of information allows an assessment of the relevance of training to the jobs performed.

The training emphasis responses were separated into five sets, one for each of the specialty courses offered at Keesler AFB. The interrater reliability within each of the sets was sufficiently high to show agreement as to which tasks required some form of structured training. As a whole, the interrater reliability was not good but, when broken out by AFSC, the data show considerable agreement among raters. Since interrater reliability was not good as a whole, tasks matched to the Intro course and Staff Officer-level courses matched only have percent members performing added in the Training Extracts.

For the tasks rated by Communications-Computer Systems Programmer and Analysis Officers, the average training emphasis rating was .99, with those tasks having a rating of 2.03 or higher being substantially above average in training emphasis.

For the tasks rated by Communications-Computer Systems Engineers, the average training emphasis rating was .74, with those tasks having a rating of 1.54 or higher being less than average in training emphasis.

For the tasks rated by Communications-Computer Systems Officers (Operations), the average training emphasis rating was .71, with those tasks having a rating of 1.52 or higher also being less than average in training emphasis.

For the tasks rated by Communications-Computer Systems Officers (Maintenance), the average training emphasis rating was .81, with those tasks having a rating of 1.75 or higher being above average in training emphasis.

For the tasks rated by Communications-Computer Systems Officers (Plans & Programs), the average training emphasis rating was .83, with those tasks having a rating of 1.62 or higher being average in training emphasis.

One note before continuing with an analysis of each course. For members of all 49XX AFSCs, the most dominant area of tasks performed is from the Command, Management, & Advisory and General Administrative functional areas.

Since most of these tasks are considered PME (see Table 18) and were not matched in the POI, the Tasks Not Referenced section in the Training Extract has tasks with the largest percent members performing and highest training emphasis ratings. (Thus, the incumbent must first possess officership skills beyond the scope of the school's teaching.) The technical training blocks are matched with tasks that are performed in specific jobs and will have a much lower percent member performing than the more common PME tasks.

The Communications-Computer Systems Officer Introduction Course, E30QR4900, is 11 weeks with 11 blocks. The course is designed to familiarize students with the Communications-Computer Systems utilization field. The five following finger courses are taken in conjunction with this course. Since interrater reliability was so low among all raters, percent member performing is the only variable used for this course. Throughout the 11 blocks the course covers:

I	Orientation & C-C Staff Structure
II-IV	Electronics
V	Computer Processing
VI	Operations
VII	Data Transmission
VIII	Defense Communications System
IX	C-C Capabilities & Characteristics
X	Plans, Programs, & Budgeting
XI	Security

This is the most difficult course to evaluate. Its purpose is to give an overview of the utilization field to new officers in the Air Force. The performance tasks in the inventory are specific statements of what people do in their job. All tasks matched to this POI are in the Knowledge (K) blocks. Only five tasks are matched in Blocks II through IV, and only one of those tasks has more than 11 percent members performing. Only six tasks are matched to the entire computer section (Block V). More tasks are matched to the next two blocks, but still only two tasks have more than 7 percent members performing. Tasks are matched in Blocks VIII and IX, but also have very low percent members performing. The last two blocks have a large number of tasks matched with relatively high percent members performing, which supports the overview of both planning and security. There are no tasks in the Task Not Referenced section that could be matched to a block of the Intro course that would not be more appropriate in one of the finger courses or considered PME.

The Communications-Computer Systems Programming and Analysis Officer Course, E30BR4921, is one of five follow-on courses to the core course. The 7-week course has four blocks that cover program analysis and design, software documentation, software maintenance, software acquisition management, and software configuration management. All four blocks are supported extremely well by tasks from the Computer Systems Development and Configuration Management & Quality Assurance functional areas of the job inventory. Review of the Tasks Not Referenced to 492X officers of the E30BR4921 Course in the Training

Extract revealed substantial numbers of tasks with high training emphasis ratings and fairly large percentages of personnel performing those tasks. Examination of the Tasks Not Referenced might lead to a new area for inclusion in the training program (see Table 19).

The Communications-Computer Systems Engineer Officer Course, E30BR4931, is 11 weeks. It includes engineering organization and publications, guided transmission and radar, radio transmission, multiplex/modulation principles, systems/network standards interfaces and language effects, operations, and life-cycle integration. The first of six blocks is matched with just a handful of tasks that have only a few members performing. Block II is well supported by tasks from the Engineering & Installation duty of the job inventory. The training emphasis is very high, but percent member performing is just mediocre. The tasks matched are similar to those performed by the Project Site Engineer and Tactical Communications Engineer described in the job description section. Block III has similar tasks matched as well. Blocks IV and V have no tasks matched within their sections. Block VI is supported by tasks from various parts of the job inventory. A few tasks have very low training emphasis and percent members performing, which may not belong in the POI. There are some tasks in the Tasks Not Referenced section that may be considered for addition to this course (see Table 20).

The Communications-Computer Systems Operations Officer Course, E30BR4941A, is 4 weeks. The four blocks of the operations course is supported by the Training Data. There are a few tasks in each block that have very low training emphasis and percent members performing. All of these tasks are listed in the Knowledge area and should not be difficult to eliminate. There are also tasks that should be included in the POI that are listed in the Tasks Not Referenced section. There are tasks that could be combined with security, operations, and contingency & mobility management (see Table 21).

The Communications-Computer Systems Maintenance Officer Course, E30BR4941B, is 4 weeks. The three blocks in maintenance management policies, quality control, and logistics support. Block I is supported by the maintenance tasks matched, even though some are not high in training emphasis; percent members performing is relatively high. Block II is well supported by the maintenance and inspection tasks listed. There are some training and operations tasks that do not belong in this section. Block III is sparsely matched, and the tasks that are matched do not support training of this block at all. Both training emphasis and percent performing are very low. Tasks that may be included in this area support a section for contingency and mobility management (see Tasks Not Referenced in Table 22).

The Communications-Computer Systems Plans & Programs Course, E30BR4941C, is 6 weeks. The five blocks cover manpower planning, program directories planning, programming and budgeting, resource management, and systems requirements and plans. Blocks I and II are fairly well represented by the tasks matched. There are many tasks matched with high training emphasis, although most have just marginal percent performing. Block III has a lot of common tasks from the Engineering & Installation and Equipment Control & Facilities Management duties that have very low training emphasis and percent performing. Since they are in the Knowledge section, they may just be related tasks. If

TABLE 20

EXAMPLE OF TASKS NOT REFERENCED CONSIDERED FOR 493X OFFICERS

TASKS NOT REFERENCED	TE	PERCENT PERFORMING
PROVIDE TECHNICAL ADVISE ON COMMUNICATION-COMPUTER SYSTEMS	4.34	28
PROVIDE ON-SITE ENGINEERING TECHNICAL ASSISTANCE	4.31	28
DRAFT OR WRITE TECHNICAL REPORTS	3.94	43
CONDUCT OR PARTICIPATE IN OPERATIONAL TESTS OR EVALUATIONS	2.78	29
ANALYZE SYSTEM PERFORMANCE CHARACTERISTICS	2.34	31

TABLE 21

EXAMPLE OF TASKS NOT REFERENCED CONSIDERED FOR 494XA OFFICERS

TASKS NOT REFERENCED	TE	PERCENT PERFORMING
CONDUCT SECURITY TRAINING, SUCH AS COMSEC OR OPSEC	3.73	35
MONITOR SECURITY PROGRAMS	2.96	27
DEVELOP EMERGENCY PLANS FOR OPERATONS	2.88	22
DRAFT OR WRITE OPERATIONAL PROCEDURES	2.46	19
PROVIDE INPUT TO WAR OR CONTINGENCY PLANS OR ANNEXES, CONCEPT PLANS, OR OPERATIONS ORDERS	1.58	24

TABLE 22

EXAMPLES OF TASKS NOT REFERENCED CONSIDERED FOR 494XB OFFICERS

TASKS NOT REFERENCED	TE	PERCENT PERFORMING
IMPLEMENT COMMAND READINESS ACTIONS/INSTRUCTIONS (CRA/I)	2.74	27
EVALUATE ABILITY TO SURVIVE AND OPERATE DURING EXERCISE	2.45	21
DETERMINE PERSONNEL, LOGISTICS, OR SUPPORT REQUIREMENTS	2.39	23
DETERMINE RESOURCES REQUIRED TO SUPPORT WARTIME EXERCISE OR CONTINGENCY REQUIREMENTS	2.18	21
DEVELOP EMERGENCY ACTION PLANS OR CHECKLISTS	2.18	20

TABLE 23

EXAMPLES OF TASKS NOT REFERENCED CONSIDERED FOR 494XC OFFICERS

TASKS NOT REFERENCED	TE	PERCENT PERFORMING
DETERMINE FUNDING SORUCES FOR PROGRAMS OR PROJECTS	3.75	32
DRAFT OR WRITE STATEMENT OF WORK (SOW)	3.68	26
DETERMINE COMMUNICATIONS-COMPUTER SYSTEMS HARDWARE TO SATISFY REQUIREMENTS	3.64	39
DETERMINE COST ESTIMATES FOR PROGRAMS OR PROJECTS	3.43	34
DEVELOP IMPLEMENTATION PLANS	2.89	28

not, they do not need to be emphasized in this course. Blocks IV and V are supported by tasks matched, except for the tasks from the Operations duty in Block V. The tasks have very low training emphasis and percent performing. There are many tasks in the Tasks Not Referenced section that could be incorporated to enhance the course. Some examples are listed in Table 23.

The Communications-Computer Systems Staff Officer Course, E30AR4911, is 30 weeks. This interservice course has three blocks that include plans and policies, requirements, and acquisitions. All blocks are lightly supported by the match. There are a great many tasks matched to the staff officer course. Many have only a small percent performing. Tasks are listed under the Performance area that should be evaluated. It may be unnecessary to teach tasks to a performance level that only 1 or 2 percent of 491X officers indicate they perform. In the Tasks Not Referenced section, many tasks from the Command, Management, & Advisory and General Administrative duties are very high in percent performing. These tasks may be used as a guideline for the types of tasks staff officers perform.

Summary

The arrangement of courses, an introduction course and five follow-on courses, is very well suited for this utilization field. It allows for cursory instruction of a vast utilization field and still provides detailed instruction for the individual's specific area. The only flaw in this logic is that officers in the field are being misused, according to their specialty code. As noted in the Job Description section, many individuals of different AFSCs are grouped in the same jobs. Some of this clustering is due to the large amount of management and administrative tasks performed. It is evident that a widespread overlap is present, although a core group of AFSC or shred members are present in most jobs. So, the present method of training may not be perfect, but it is the best suited training for its demand. Some following suggestions for each course may prove to be helpful if incorporated in the current system:

The Introduction course plays a vital role in training. It gives the new officer an overview of how the utilization field he or she is about to enter is structured. Instruction of the systems and how they work is important, especially in a field such as communications. A review of how indepth each block should be may be necessary. Some areas have very little support, and could probably be shortened. The ideal length of the Intro probably would be 4 weeks.

The Computer course is well supported and may need to be expanded to cover additional areas as mentioned above.

The Engineer course has a definite training need, but only for a limited number of individuals. Overall, the course is providing adequate training, with the possibility of a few minor alterations as mentioned above. The only resolution may be to place a restriction on who may enter this course.

The three courses that award a 4941 specialty shred (A, B, or C) provide the technical knowledge necessary to help officers perform their job. No major changes need to be made, but the courses still must be scrutinized during the next Utilization and Training Workshop.

The Staff Officer course is supported by the large amount of tasks performed by 491X officers. An indepth analysis of this course is not possible with the method used in this survey.

COMPARISON TO PREVIOUS SURVEYS

In June 1983, an occupational survey of the Computer Systems Officers utilization field was completed, and in August 1984, a similar survey of the Communications-Electronics utilization field was completed. Comparison of the findings from those surveys to the present survey revealed the following:

First, the merger of career fields added the most significant change to the reports. The assigned career field strength increased from 3,441 in AFSC 30XX and 3,189 in AFSC 51XX to 6,800 for the current career field.

The most significant change of specialty code was that 51XX officers had been categorized by five AFSCs, including five shreds for the 513X officers (see History and Background above); now, most are slotted only as 492X officers, plus staff officer positions (491X). The 30XX AFSCs are similar to the current 49XX breakout with one exception. There is now a Plans & Programs shred (494XC) that previously was included in the Operations Systems Officer AFSC (302X).

The jobs identified have not changed very much over the past 4 years. All of the jobs in the previous surveys have similar descriptions in the current report. Some of the overlap in jobs from the two separate reports are in the Management, Contracting/Requirements, and Training areas. Security was also a common area, but the tasks performed were of a different capacity.

Organizational levels are similar to jobs held under the previous AFSCs. One change is that the amount of Computer Systems Programming & Analysis Officers have increased at the Division level and decreased at the Major Air Command level.

Job satisfaction indicators are slightly lower for the 49XX officers than for either the 30XX or 51XX officers. Overall, officers indicated the merger had a neutral effect on them, but more indicated they were affected negatively, rather than positively.

The educational backgrounds are nearly the same, and common computer programing languages are still used at about the same frequency. Career field plans and Air Force career plans are pretty much the same as well. Only 492X and 493X officers indicated they plan to career broaden more now than in the past.

SUMMARY

The total collection of booklets was received from 71 percent of the eligible respondents with a representative cross-section of the utilization field. This return was satisfactory to make decisions for career field structure and training needs. The training emphasis ratings were not usable as a whole; but, when separated by AFSC, the ratings showed a clear distinction of which tasks should receive some form of structured training.

Analysis of occupational survey data from Communications-Computer Systems Officers resulted in the description of a variety of jobs performed by incumbents. The present classification structure approximates the types of jobs personnel perform. There are a variety of job groups within the utilization field that fall into the current classification structure. There is crossover among some specialties with regard to jobs performed. There are core groups found in job groups that have the appropriate AFSC; but, members of other AFSCs and shreds still are mixed in with defined job groups.

The job structure analysis identified 41 different jobs, which cross existing specialty definitions. These 41 jobs were grouped together to form 9 functional areas: staff, management, security, plans, requirements, systems tests, computer systems, training, and engineering. There were only a few jobs within these functional areas performed by members of only one AFSC.

There was a reasonable relationship between the specialty descriptions contained in AFR 36-1 and the categories of jobs. Areas in need of review are mainly related to the expansion of Programing & Analysis Officers jobs. The general level of job satisfaction of the Communications-Computer Systems Officers was slightly less than that of the previous (1984) survey of these officers; responses indicated the merger had no impact (33 percent neutral) for most incumbents, with the remaining responses being more negative (27 percent) than positive (16 percent). Forty percent of the respondents indicated their training was not well utilized. Career field plans were positive, as were career intentions, with only 5 percent indicating they would separate without retirement benefits.

The modification of training seems to be on the right course. The follow-on courses provide the technical knowledge needed by individuals within the AFSCs. The core course is a good overview for all officers entering the utilization field, though the current course may be too extensive. A review of the training extracts may prove beneficial in expanding some areas of the follow-on courses.

Job descriptions have not changed very much over the past 4 years. The 49XX career field is a conglomerate of the former 30XX and 51XX career fields. The jobs from previous surveys align closely to those jobs in this report. The changes made to make the Programming & Analysis Officers less specialized has proven to be favorable compared to the job descriptions of this report. The jobs between the two former career fields have blended in the Plans & Programs and Requirements areas.