UNITED STATES AIR FORCE

OCCUPATIONAL SURVEY REPORT

ELECTRICAL POWER PRODUCTION

AFSC 3E0X2

OSSN 2323

APRIL 1999

OCCUPATIONAL ANALYSIS PROGRAM
AIR FORCE OCCUPATIONAL MEASUREMENT SQUADRON
AIR EDUCATION AND TRAINING COMMAND
1550 5TH STREET EAST
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PREFACE

This report presents the results of an Air Force Occupational Survey of the Electrical Power Production career ladder, Air Force Specialty Code (AFSC) 3E0X2. Authority for conducting occupational surveys is contained in AFI 36-2623. Copies of this report and pertinent computer printouts are distributed to the Air Force Functional Manager, the operations training location, all major using commands, and other interested operations and training officials.

The survey instrument was developed by Mr. Michael F. Brosnan. Computer programming support was provided by Mr. Tyrone Hill. Mr. Richard G. Ramos provided administrative support. Captain Tegwin E. Cain analyzed the data and wrote the final report. This report has been reviewed and approved by Lieutenant Colonel Roger W. Barnes, Chief, Airman Analysis Section, Occupational Analysis Flight, Air Force Occupational Measurement Squadron (AFOMS).

Additional copies of this report can be obtained by writing to AFOMS/OMYXI, 1550 5th Street East, Randolph Air Force Base, Texas 78150-4449, or by calling DSN 487-5543. For information on the Air Force occupational survey process or other on-going projects, visit our web site at http://www.omsq.af.mil.

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SUMMARY OF RESULTS

1. **Survey Coverage**: The Electrical Power Production career ladder was surveyed to provide current job and task data for use in updating career ladder documents and training programs. Survey results are based on responses from 1,143 Active Duty and Air National Guard members accounting for 51 percent of the total population surveyed.

2. **Specialty Jobs**: Six jobs and three clusters were identified in the career ladder structure analysis. All but two of them are totally oriented toward technical task performance and account for 92 percent of the population. The remaining jobs are management and training in nature.

3. **Career Ladder Progression**: There is a normal career ladder progression in this field. Three-skill level personnel spend the majority of their time performing basic technical duties pertaining to the maintenance of generator sets and aircraft arresting systems. At the 5-skill level, they still do a large amount of maintenance work but they also become involved in some training and supervision. Seven-skill level personnel do the majority of the supervisory and management, yet they are still heavily involved in performing the technical tasks of the job.

4. **Training Analysis**: The current Specialty Training Standard (STS) provides comprehensive coverage of the work performed by career ladder personnel. A few changes are taking place over the next few years which includes the contracting out of Uninterruptable Power Systems (UPS) repairs. The UPS training classes have all been cancelled and there will no longer be an UPS Job in the career field. Few tasks were not referenced to the STS.

5. **Job Satisfaction Analysis**: Job satisfaction among AFSC 3E0X2 personnel is fairly high for first-enlistment airmen, and actually increases for second-enlistment and career airmen. But the overall satisfaction has decreased since the last survey done in 1993. Personnel working in the Mobility Job had the lowest job satisfaction, but had the highest reenlistment intentions of all the jobs. Reenlistment intentions for all TAFMS groups are much lower than the previous survey.

6. **Implications**: Survey results indicate the present classification structure accurately portrays the jobs performed in this career ladder at this time. The career ladder is diverse and includes six jobs which involve electrical power production maintenance. Three other jobs were also identified. These were Mobility, Supervision, and Training. Training documents appear on the whole to be well supported by survey data with some review warranted for proficiency coding. A detailed analysis of the STS and Plan of Instruction will be performed at a later date.

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OCCUPATIONAL SURVEY REPORT (OSR)
ELECTRICAL POWER PRODUCTION
(AFSC 3E0X2)

INTRODUCTION

This is a report of an occupational survey of the Electrical Power Production career ladder conducted by the Occupational Analysis Flight, Air Force Occupational Measurement Squadron. The survey was conducted to obtain current job and task data. Data collected through this OSR will be utilized by training development personnel to review courses and related training documents in light of equipment and utilization changes which have occurred since the last OSR in 1994.

Background

As described in the AFMAN 36-2108 *Airman Classification*, dated 11 March 1998, Electrical Power Production personnel install, operate, and modify electrical generating power production plants and equipment, and aircraft arresting systems (AAS). They also check equipment for serviceability, position and modify equipment, perform operating and repair tasks, install, position, and tension AASs, inspect, test, and service components, observe and interpret instruments such as ammeters, and adjust engine generator systems to maintain proper voltage, current frequency, and synchronization.

Personnel entering the AFSC 3E0X2 career ladder must attend the Apprentice Electrical Power Production Specialist Course; Sheppard AFB (8-week, 3-day). This course covers such topics as fundamentals of gasoline and diesel engines; hydraulic and heat transfer principles; basic electricity and electronic applications; power generating system maintenance to include engine and control system components, electric generators, electrical switchgear components, and power plant auxiliary equipment; use of wiring diagrams to troubleshoot and locate defective components; single and parallel unit operation of prime power plants and standby emergency generators; and operation and maintenance of aircraft arresting barriers. Upon completion of this AFSC awarding course, the graduate is awarded the 3-skill level.

Entry into this career ladder currently requires an Armed Forces Vocational Aptitude Test Battery score of Mechanical – 57 and Electronic - 43; a strength factor of "K" (Weight lift of 70 lbs) is also required.

SURVEY METHODOLOGY

Inventory Development

The data collection instrument for this occupational survey was USAF Job Inventory (JI) Occupational Survey Study Number 2323, dated March 1998. A tentative task list was prepared after reviewing pertinent career ladder publications and directives, pertinent tasks from the previous survey instrument, and data from the last OSR. The preliminary task list was refined and validated through personal interviews with 28 subject-matter experts (SMEs) at the following training location and operational installations:

BASE	UNIT VISITED
Sheppard AFB TX	366 TRS 82 CES
Tinker AFB OK	72 CS 3 CCG
Eglin AFB FL	96 CES
Hurlburt Field FL	16 CES 823 RHS
Cheyenne Mt AS CO	71 CES
Falcon AFB CO	50 CES
Holloman AFB NM	49 MMS 49 CES

The resulting JI contains a comprehensive listing of 943 tasks grouped under 23 duty headings, and a background section requesting such information as: grade, base, MAJCOM assigned, organizational level, component status, job title, functional area, work schedule, job satisfaction, generator sets maintained, aircraft arresting systems maintained, switchgear maintained, contingency teams assigned, and forms used.

Survey Administration

From March 1998 through August 1998, base training offices at operational units worldwide administered the inventory to eligible AFSC 3E0X2 personnel. Job incumbents were selected from a computer-generated mailing list obtained from personnel data tapes maintained by the Air Force Personnel Center, Randolph AFB TX. Each individual who completed the inventory first

completed an identification and biographical information section and then checked each task performed in his or her current job. After checking all tasks performed, each member then rated each of these tasks on a 9-point scale, showing relative time spent on that task, as compared to all other tasks checked. The ratings ranged from 1 (very small amount time spent) through 5 (about average time spent) to 9 (very large amount time spent). To determine relative time spent for each task checked by a respondent, all of the incumbent's ratings are assumed to account for 100 percent of his or her time spent on the job and are summed. Each task rating is then divided by the total task ratings and multiplied by 100 to provide a relative percentage of time for each task. This procedure provides a basis for comparing tasks in terms of both percent members performing and average percent time spent.

Survey Sample

Personnel were selected to participate in this survey so as to ensure an accurate representation across major commands (MAJCOM) and military paygrade groups. All eligible Active Duty (AD), Air National Guard (ANG), and Air Force Reserve (AFRC) AFSC 3E0X2 personnel were mailed survey booklets. Table 1 reflects the percentage distribution, by MAJCOM, of assigned AFSC 3E0X2 personnel as of December 1997. The 1,143 respondents in the final sample represent 48 percent of the total assigned personnel and 51 percent of the total personnel surveyed. Table 2 reflects the paygrade distribution for these AFSC 3E0X2 personnel.

TABLE 1

COMMAND DISTRIBUTION OF AFSC 3E0X2 PERSONNEL

COMMAND	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
ACC	15	20
AETC	3	6
AFMC	5	6
AMC	5	6
AFSOC	<1	0
AFSPC	4	5
PACAF	8	10
USAFE	7	10
ANG	37	22
AFRC	12	11
OTHER	3	4

TOTAL ASSIGNED = 2,404*
TOTAL SURVEYED = 2,230**
TOTAL IN SURVEY SAMPLE = 1,143
PERCENT OF ASSIGNED IN SAMPLE = 48%
PERCENT OF SURVEYED IN SAMPLE = 51%

* Assigned strength as of December 1997
** Excludes personnel in PCS, student, or hospital status, or less than 6 weeks on the job

TABLE 2

PAYGRADE DISTRIBUTION OF SURVEY SAMPLE

GRADE	PERCENT OF ASSIGNED*	PERCENT OF SAMPLE
E-1 - E-3	16	19
E-4	22	23
E-5	29	28
E-6	20	19
E-7	12	11
E-8	<1	0

* Assigned strength as of December 1997

Both Command and paygrade distribution of the survey sample are close to the percent assigned. This indicates the sample is a true representation of the career ladder population.

Task Factor Administration

Job descriptions alone do not provide sufficient data for making decisions about career ladder documents or training programs. Task factor information is needed for a complete analysis of the career ladder. To obtain the needed task factor data, selected senior AFSC 3E0X2 personnel (generally E-6 or E-7 craftsmen) also completed a second booklet for either training emphasis (TE) or task difficulty (TD). These booklets were processed separately from the JIs. This information is used in a number of different analyses discussed in more detail within the report.

Training Emphasis (TE): TE is a rating of the amount of emphasis that should be placed on tasks in entry-level training. The 65 senior NCOs who completed a TE booklet were asked to select tasks they felt require some sort of structured training for entry-level personnel and then indicate how much training emphasis these tasks should receive, from 1 (extremely low emphasis) to 9 (extremely high emphasis). Structured training is defined as training provided at resident training schools, field training detachments, mobile training teams, formal on-the-job-

training (OJT), or any other organized training method. Interrater agreement for these 65 raters was acceptable. The average TE rating was 2.65, with a standard deviation of 1.58. Any task with a TE rating of 4.23 or above is considered to have high TE.

Task Difficulty (TD): TD is an estimate of the amount of time needed to learn how to do each task satisfactorily. The 80 senior NCOs who completed TD booklets were asked to rate the difficulty of each task using a 9-point scale (extremely low to extremely high). Interrater reliability was acceptable. Ratings were standardized so tasks have an average difficulty of 5.00 and a standard deviation of 1.00. Any task with a TD rating of 6.00 or above is considered to be difficult to learn.

When used in conjunction with the primary criterion of percent members performing, TE and TD ratings can provide insight into first-enlistment personnel training requirements. Such insights may suggest a need for lengthening or shortening portions of instruction supporting entry-level jobs.

SPECIALTY JOBS

The first step in the analysis process is to identify the structure of the career ladder in terms of the jobs performed by the respondents. The Comprehensive Occupational Data Analysis Program (CODAP) assists by creating an individual job description for each respondent based on the tasks performed and relative amount of time spent on these tasks. The CODAP automated job clustering program then compares all the individual job descriptions, locates the two descriptions with the most similar tasks and time spent ratings, and combines them to form a composite job description. In successive stages, CODAP either adds new members to this initial group, or forms new groups based on the similarity of tasks and time spent ratings.

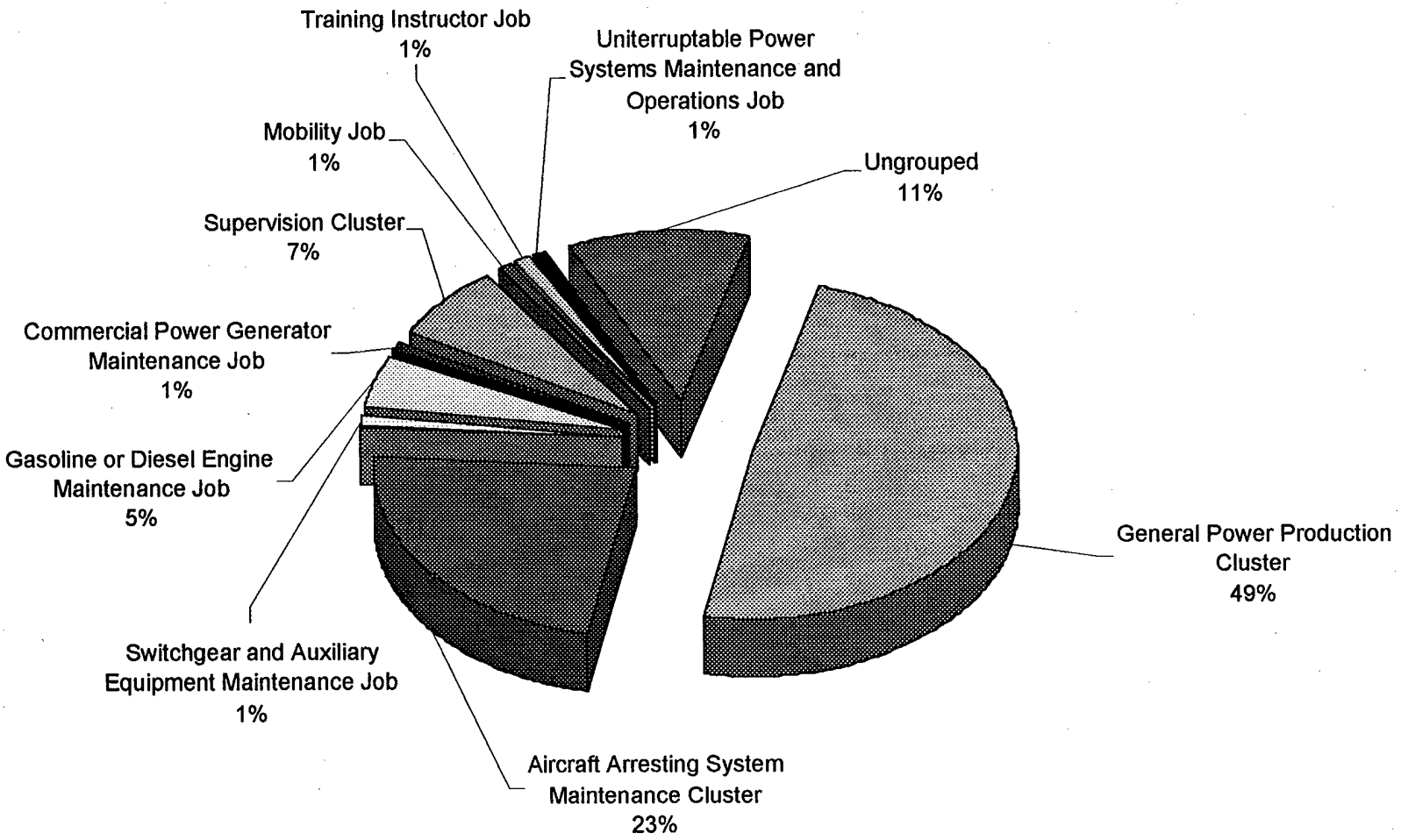
The basic group used in the hierarchical clustering process is the ***Job***. When two or more jobs have a substantial degree of similarity, in tasks performed and time spent on tasks, they are grouped together and identified as a ***Cluster***. The structure of the career ladder is then defined in terms of jobs and clusters of jobs.

Overview of Specialty Jobs

Based on the analysis of tasks performed and the amount of time spent performing each task, six independent jobs and three clusters were identified within the career ladder. Figure 1 illustrates the jobs and clusters performed by AFSC 3E0X2 personnel.

A listing of these jobs and clusters is provided below. The stage (ST) number shown beside each title references computer printed information, the letter "N" indicates the number of personnel in each group.

AFSC 3E0X2 CAREER LADDER SPECIALTY JOBS
(N=1143)



I. GENERAL POWER PRODUCTION CLUSTER (ST065, N=556)

A. Portable Generator Systems
B. Maintaining Fuel Systems
C. Operational Training Instruction/NCOIC

II. AIRCRAFT ARRESTING SYSTEM MAINTENANCE CLUSTER (ST068, N=263)

A. AAS Equipment Maintainer
B. Shop NCOIC

III. SWITCHGEAR AND AUXILIARY EQUIPMENT MAINTENANCE JOB (ST166, N=5)

IV. GASOLINE OR DIESEL ENGINE MAINTENANCE JOB (ST107, N=54)

V. COMMERCIAL POWER GENERATOR MAINTENANCE JOB (ST114, N=11)

VI. SUPERVISION CLUSTER (ST085, N=81)

A. First-Line Supervision
B. Management

VII. MOBILITY JOB (ST143, N=7)

VIII. TRAINING JOB (ST214, N=8)

IX. UNINTERRUPTABLE POWER SYSTEMS MAINTENANCE AND OPERATIONS JOB (ST862, N=5)

The respondents forming these jobs and clusters account for 89 percent of the survey sample. The remaining 11 percent, for one reason or another, did not group into one of these jobs or clusters. Examples of job titles for these personnel include Readiness NCO and Vehicle Control NCO.

Group Descriptions

The following paragraphs contain brief descriptions of the jobs and clusters identified through the career ladder structure analysis. Table 3 presents the relative time spent on duties by members of these specialty jobs and clusters. Selected background data for these jobs and clusters are provided in Table 4. Representative tasks for all groups are contained in Appendix A. Table 5 shows a job comparison between the current and the 1994 surveys.

TABLE 3

RELATIVE PERCENT TIME SPENT ON DUTIES BY SPECIALTY JOBS

DUTIES	GENERAL POWER PRODUCTION CLUSTER (ST065) (N=556)	AIRCRAFT ARRESTING SYS MAINT CLUSTER (ST068) (N=263)	SWITCHGEAR & AUXILIARY EQUIPMENT MAINT JOB (ST166) (N=5)	GAS OR DIESEL ENGINE MAINT JOB (ST107) (N=54)	COMMERCIAL POWER GENERATOR MAINT JOB (ST114) (N=11)
A. PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	18	10	12	12	12
B. MAINTAINING AUTOMATIC TRANSFER PANELS	2	2	0	2	1
C. MAINTAINING GASOLINE OR DIESEL ENGINES	5	3	4	13	*
D. MAINTAINING ACCESSORY OR AUXILIARY EQUIPMENT	4	3	14	6	1
E. MAINTAINING LUBRICATING SYSTEMS	5	3	9	5	2
F. MAINTAINING FUEL SYSTEMS	10	5	9	10	3
G. MAINTAINING COOLING SYSTEMS	4	2	1	3	1
H. MAINTAINING GOVERNORS	1	*	4	3	2
I. MAINTAINING INTAKE OR EXHAUST SYSTEMS	3	2	3	4	*
J. MAINTAINING ALTERNATORS, EXCITERS, OR ELECTRIC MOTOR GENERATORS	*	*	7	3	*
K. MAINTAINING SWITCHGEAR OR ELECTRICAL PROTECTIVE DEVICES	2	2	15	5	2
L. MAINTAINING UNINTERRUPTIBLE POWER SYSTEMS (UPSs)	*	*	1	*	*
M. MAINTAINING OR OPERATING GENERATOR SETS	20	10	12	7	44
N. PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	*	*	1	*
O. MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	2	40	*	11	
P. PERFORMING MOBILITY AND CONTINGENCY ACTIVITIES	7	3	2	3	2
Q. PERFORMING PRIME BASE ENGINEER EMERGENCY FORCE (BEEF) ACTIVITIES	2	1	*	2	*
R. PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4	3	4	3	2
S. PERFORMING MAINTENANCE MANAGEMENT SYSTEM ACTIVITIES	1	*	*	*	*
T. PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	4	3	0	3	12
U. PERFORMING TRAINING ACTIVITIES	2	2	0	1	9
V. PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	1	*	*	1	*
W. PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	3	2	1	1	1

* Less than 1 percent

TABLE 3 (CONTINUED)

RELATIVE PERCENT TIME SPENT ON DUTIES BY SPECIALTY JOBS

DUTIES	SUPERVISION CLUSTER (ST085) (N=81)	MOBILITY JOB (ST143) (N=7)	TRAINING INSTRUCTOR JOB (ST214) (N=8)	UPS MAINT JOB (ST862) (N=5)
A. PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	7	11	2	11
B. MAINTAINING AUTOMATIC TRANSFER PANELS	1	0	*	*
C. MAINTAINING GASOLINE OR DIESEL ENGINES	1	1	0	0
D. MAINTAINING ACCESSORY OR AUXILIARY EQUIPMENT	1	0	0	3
E. MAINTAINING LUBRICATING SYSTEMS	2	2	0	0
F. MAINTAINING FUEL SYSTEMS	3	3	0	0
G. MAINTAINING COOLING SYSTEMS	*	*	0	0
H. MAINTAINING GOVERNORS	*	1	0	0
I. MAINTAINING INTAKE OR EXHAUST SYSTEMS	0	0	0	0
J. MAINTAINING ALTERNATORS, EXCITERS, OR ELECTRIC MOTOR GENERATORS	*	*	0	0
K. MAINTAINING SWITCHGEAR OR ELECTRICAL PROTECTIVE DEVICES	*	*	0	1
L. MAINTAINING UNINTERRUPTIBLE POWER SYSTEMS (UPSs)	*	0	0	70
M. MAINTAINING OR OPERATING GENERATOR SETS	7	12	2	0
N. PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	0	0	0
O. MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	2	1	4	0
P. PERFORMING MOBILITY AND CONTINGENCY ACTIVITIES	7	30	*	0
Q. PERFORMING PRIME BASE ENGINEER EMERGENCY FORCE (BEEF) ACTIVITIES	2	3	0	0
R. PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4	3	8	*
S. PERFORMING MAINTENANCE MANAGEMENT SYSTEM ACTIVITIES	4	*	*	*
T. PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	37	19	17	3
U. PERFORMING TRAINING ACTIVITIES	10	7	59	2
V. PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	4	1	2	3
W. PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	5	4	5	6

* Less than 1 percent

TABLE 4

SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	GENERAL POWER PRODUCTION CLUSTER (ST065) (N=556)	AIRCRAFT ARRESTING SYS MAINT CLUSTER (ST068) (N=263)	SWITCHGEAR & AUXILIARY EQUIPMENT MAINT JOB (ST166) (N=5)	GAS OR DIESEL ENGINE MAINT JOB (ST107) (N=54)	COMMERCIAL POWER GENERATOR MAINT JOB (ST114) (N=11)
PERCENT OF SAMPLE	49%	23%	<1%	5%	1%
PERCENT IN CONUS	79%	64%	100%	94%	100%
DAFSC DISTRIBUTION					
3E032	19%	28%	40%	17%	0
3E052	59%	53%	60%	52%	73%
3E072	22%	19%	0	31%	27%
COMPONENT STATUS:					
ACTIVE DUTY	59%	81%	60%	65%	100%
AIR NATIONAL GUARD	29%	19%	40%	20%	0
AIR FORCE RESERVE COMMAND	12%	0	0	15%	0
PAYGRADE DISTRIBUTION					
E-1 – E-3	18%	27%	60%	15%	9%
E-4	27%	22%	20%	22%	18%
E-5	29%	30%	0	28%	27%
E-6	18%	14%	20%	24%	45%
E-7	7%	8%	0	11%	0
AVERAGE MONTHS IN CAREER FIELD*	95	93	86	105	131
AVERAGE MONTHS IN SERVICE*	100	96	87	118	145
PERCENT IN FIRST ENLISTMENT (1-48 MOS TAFMS)*	46%	49%	100%	40%	18%
PERCENT SUPERVISING	39%	42%	20%	41%	64%
AVERAGE NUMBER OF TASKS PERFORMED	135	205	214	438	55

* Active Duty only

TABLE 4 (CONTINUED)

SELECTED BACKGROUND DATA FOR SPECIALTY JOBS

	SUPERVISION CLUSTER (ST085) (N=81)	MOBILITY JOB (ST143) (N=7)	TRAINING INSTRUCTOR JOB (ST214) (N=8)	UPS MAINT JOB (ST862) (N=5)
PERCENT OF SAMPLE	7%	<1%	<1%	<1%
PERCENT IN CONUS	69%	100%	75%	80%
DAFSC DISTRIBUTION				
3E032	0	0	0	0
3E052	25%	43%	88%	80%
3E072	75%	57%	13%	20%
COMPONENT STATUS:				
ACTIVE DUTY	85%	43%	87%	100%
AIR NATIONAL GUARD	0	0	13%	0
AIR FORCE RESERVE COMMAND	15%	57%	0	0
PAYGRADE DISTRIBUTION				
E-1 – E-3	0	0	0	0
E-4	2%	0	0	20%
E-5	12%	29%	63%	60%
E-6	30%	29%	25%	20%
E-7	53%	43%	13%	0
AVERAGE MONTHS IN CAREER FIELD*	186	182	182	132
AVERAGE MONTHS IN SERVICE*	191	182	143	131
PERCENT IN FIRST ENLISTMENT (1-48 MOS TAFMS)*	0	0	0	20%
PERCENT SUPERVISING	96%	71%	62%	60%
AVERAGE NUMBER OF TASKS PERFORMED	110	69	39	76

* Active Duty only

TABLE 5

COMPARISON OF JOB GROUPS IN CURRENT STUDY
VERSUS 1994 STUDY

1998 STUDY (N=1,143)	1994 STUDY (N=1,041)
General Power Production Cluster	Generator Set Maintenance
Aircraft Arresting System Maintenance Cluster	Aircraft Arresting Systems Maintenance
Switchgear and Auxiliary Equipment Maintenance	Generator Set and Auxiliary Equipment Systems Maintenance
Gasoline or Diesel Engine Maintenance	Gasoline and Diesel Engine Maintenance
Commercial Power Generator Maintenance	Not identified
Supervision	Supervision
Mobility	Mobility and Contingency Operations Personnel
Training	Training
Uninterruptable Power Systems Maintenance and Operations	Uninterruptable Power Systems Maintenance
Not identified	Generator Set Maintenance and Mobility Operations
Not Identified	Generator Set and Gas Turbine Maintenance
Not Identified	Generator Set and Gasoline and Diesel Engine Maintenance

I. GENERAL POWER PRODUCTION CLUSTER (ST065). The 556 airmen performing within this cluster (49 percent of the survey sample) represent the core of the career ladder. They spend the majority of their time performing General Electrical Power Production Activities of Duty A and Maintaining and Operating Generator Sets of Duty M. The average number of tasks performed is 135. Distinctive tasks performed include:

- Perform preoperational inspections of generator sets
- Start up or shut down generator sets
- Perform generator set single unit operations
- Perform walk-around inspections of generator sets during operation
- Perform postoperational inspections of generator sets
- Test generator sets using load banks
- Refuel generator sets or storage tanks
- Adjust or monitor engine controls
- Connect or disconnect generator set cables
- Perform standby engine run-ups

Fifty-nine percent of these airmen hold the 5-skill level, 22 percent the 7-skill level, and 19 percent the 3-skill level. Only 59 percent of these airmen are AD. This is the entry-level job for the majority of the airmen in the career field.

There are three different jobs in this cluster. The first one is the Portable Generator Systems Job. These airmen spend most of their time working on portable generator systems and doing other general duties. The second job in the cluster are the airmen who spend the majority of their time working on fuel systems and other general duties. The final job in this cluster are the NCOICs or first-line supervisors. These airmen are responsible for the on-the-job training of their subordinates. The jobs are clearly defined by the amount of time spent on the specific duties.

II. AIRCRAFT ARRESTING SYSTEM MAINTENANCE CLUSTER (ST068). The 263 airmen that perform this job spend about 40 percent of their time on maintaining AASs of Duty O, and are evenly split between the General Electrical Power Production tasks of Duty A and Maintaining or Operating Generator Set tasks of Duty M (Table 3). The average number of tasks performed by this group is 205. Distinctive tasks performed include:

- Bleed AAS hydraulic systems
- Inspect AAS tape connector wear
- Crop AAS tapes
- Adjust AAS cam zero indexes
- Perform scheduled inspections of AASs

- Perform periodic maintenance inspections of AASs
- Inspect AAS nitrogen system
- Adjust AAS cam control valve clearances
- Tie down AAS arresting cables
- Inspect AAS tape stack heights
- Synchronize AASs

Fifty-three percent of these airmen hold the 5-skill level and 28 percent hold the 3-skill level. The remaining 19 percent hold the 7-skill level. About half of the AD personnel in this job are in their first enlistment.

There are two jobs in this cluster. All the first-enlistment airmen that are in this cluster are in the first job of AAS Equipment Maintainer. They spend about 40 percent of their time on AASs and the rest of their time on general electrical power production. The second job is the Shop NCOIC. These are first-line supervisors who spend over 80 percent of their time working on AASs and training other airmen.

III. SWITCHGEAR AND AUXILIARY EQUIPMENT MAINTENANCE JOB (ST166). The 5 airmen that perform this job spend over 30 percent of their time on switchgear or electrical protective devices and auxiliary equipment. Distinctive tasks performed include:

- Conduct tours of electrical power production facilities
- Inspect or clean air intake filters or cleaners
- Lubricate electric motors
- Replace air compressor filters, strainers, or breathers
- Isolate malfunctions within battery chargers
- Replace electric motors
- Replace fuses
- Take or record switchgear indicator readings
- Replace switchgear battery banks
- Adjust voltage regulators

All of the AD airmen in this job are in their first enlistment. Sixty percent of the total of 166 airmen in this job are at the 5-skill level and 40 percent are at the 3-skill level.

IV. GASOLINE OR DIESEL ENGINE MAINTENANCE JOB (ST107). The 54 airmen that perform this job spend 14 percent of their time on maintaining, adjusting, and overhauling gasoline or diesel engines. Distinctive tasks performed include:

- Replace batteries
- Service or charge lead-acid-type batteries
- Read wiring or schematic diagrams
- Adjust intake or exhaust valves
- Replace gaskets, other than engine or head gaskets
- Replace engine gaskets, other than head gaskets
- Replace head gaskets
- Fabricate replacement gaskets
- Inspect or clean engine blocks
- Replace engine safety circuits or protective devices

This job has the largest average number of tasks performed which is 438. Fifty-two percent of the airmen in this job are at the 5-skill level, 31 percent are at the 7-skill level and the remaining 17 percent are at the 3-skill level. Most of the airmen in this job are experienced. They have an average TAFMS of 118 months.

V. COMMERCIAL POWER GENERATOR MAINTENANCE JOB (ST114). The 11 airmen that perform this job spend 44 percent of their time maintaining or operating commercial generator sets. The thing that distinguishes this job from the General Power Production Cluster is the type of Generator the airmen are repairing and maintaining. These airmen work in teams that travel around and work on the commercial generators. They interface generators with commercial power supplies and also inspect, adjust and parallel the generators. Distinctive tasks performed include:

- Monitor commercial power
- Parallel generator sets with commercial power
- Adjust or monitor engine controls
- Perform standby engine run-ups
- Conduct on-the-job training
- Perform load demand monitoring procedures
- Parallel generator sets manually
- Start up or shut down generator sets
- Analyze meter readings for operations or load requirements

This is a very specialized job in the career field. There are no 3-skill levels in this particular job. Seventy-three percent of the airmen are at the 5-skill level and the remaining 27 percent are at the 7-skill level. All the airmen performing this job are AD and have an average TAFMS of 145 months.

VI. SUPERVISION CLUSTER (ST085). The 81 airmen that perform this job spend more than 37 percent of their time performing management and supervisory activities. These airmen concentrate on the non-technical supervisory tasks. Distinctive tasks performed include:

- Determine or establish work assignments or priorities
- Write or indorse military performance reports
- Assign personnel to work areas or duty positions
- Inspect personnel for compliance with military standards
- Conduct general meetings, such as staff meetings, briefings, conferences, or workshops
- Establish performance standards for subordinates
- Evaluate personnel for compliance with performance standards
- Conduct supervisory performance feedback sessions
- Interpret policies, directives, or procedures for subordinates
- Counsel subordinates concerning personal matters

There are no first-enlistment or 3-skill level airmen in this job. These are the airmen with some experience under their belt, with an average TAFMS of 191 months. Seventy-five percent of them are at the 7-skill level with the remaining 25 percent at the 5-skill level.

The two jobs in this cluster are the first-line supervisors, who are working alongside the airmen they are supervising and also the managers, who are usually at the 7-skill level and tend to spend most of their time at a desk.

VII. MOBILITY JOB (ST143). The 7 airmen in this job spend over 30 percent of their time performing mobility and contingency activities. They are responsible for preparing equipment for deployment and may often work out of their career field during these deployments. Distinctive tasks performed include:

- Perform pallet buildup activities
- Don or doff chemical warfare personal protective clothing
- Prepare equipment for deployments
- Pack or palletize mobility or contingency equipment for shipment or movement
- Inspect mobility bags or kits
- Inspect packed or palletized mobility or contingency equipment prior to transport
- Tear down, inspect, clean, and reassemble weapons, such as M-16 rifles

- Perform chemical warfare agent decontamination procedures
- Erect tents
- Perform explosive ordinance reconnaissance

Forty-three percent of these airmen hold the 5-skill level. There are no 3-skill level airmen in this job, so the remaining 57 percent hold the 7-skill level. Airmen in this job have an average TAFMS of 182 months.

VIII. TRAINING JOB (ST214). The 8 airmen in this job spent 59 percent of their time performing training activities. They also spend 17 percent of their time performing management and supervisory activities. These are found teaching at the technical schools and are clearly defined at trainers by the tasks they perform. Distinctive tasks performed include:

- Conduct formal course classroom training
- Personalize lesson plans
- Administer or score tests
- Evaluate progress of trainees
- Counsel trainees on training progress
- Develop or procure training materials or aids
- Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)
- Develop written tests
- Maintain training records or files
- Inspect training materials or aids for operation or suitability

Eighty-eight percent of the airmen in this job hold the 5-skill level. The remaining 12 percent are at the 7-skill level. There are no 3-skill level or first-enlistment personnel working in this job. TAFMS shows that they are fairly experienced.

IX. UNINTERRUPTABLE POWER SYSTEMS MAINTENANCE AND OPERATIONS JOB (ST862). The five airmen performing this job spend the majority of their time maintaining uninterruptable power systems. This is another of the very specialized jobs in this career field at this time, but it is now in the process of being contracted out and courses are no longer taught at the technical schools. Distinctive tasks performed include:

- Shut down or start up SSUPSs
- Transfer SSUPS bypass to maintenance bypass
- Transfer maintenance bypass to SSUPS bypass
- Inspect SSUPS battery banks

- Align control circuitry of SSUPS
- Replace SSUPS printed circuit boards
- Test SSUPS batteries
- Perform periodic maintenance on SSUPS
- Perform parallel operations of SSUPS
- Replace SCRs in SSUPSs

Eighty percent of the airmen hold a 5-skill level rating and the remaining 20 percent are at the 7-skill level. There are presently only five AD airmen in this job.

Comparison to Previous Study

Table 5 lists the jobs identified in this report and compares them to the jobs of the 1994 report. Eight of the 11 jobs identified in the previous report matched similar jobs in this report. The exceptions were the Generator Set Maintenance and Mobility Operations, Generator Set and Gas Turbine Maintenance, Generator Set and Gasoline and Diesel Engine Maintenance jobs. The Commercial Power Generator Maintenance Job identified in this report was not identified in the 1994 report.

These differences are due to the way the survey respondents were grouped and have little effect on the actual career ladder structure. Since Generator Set Maintenance is the main duty of this entire career field, it was assumed that all groups performed some at one time or another.

ANALYSIS OF DAFSC GROUPS

An analysis of DAFSC groups, in conjunction with the analysis of the career ladder structure, is an important part of each occupational survey. The DAFSC analysis identifies differences in tasks performed at the various skill levels. This information may then be used to evaluate how well career ladder documents, such as the AFMAN 36-2108 *Airman Classification,* Specialty Description and the Career Field Education and Training Plan, reflect what career ladder personnel are actually doing in the field.

The distribution of skill-level groups across the career ladder jobs and clusters is displayed in Tables 6-8, while Tables 9-11 offer another perspective by displaying the relative percent time spent on each duty across skill-level groups. These tables reflect the distribution of AD, ANG, and AFRC personnel. This career field shows a somewhat typical pattern of progression. Personnel at the 3- and 5-skill levels work in the technical jobs of the career ladder and spend most of their time on technical tasks. As incumbents move up to the 7-skill level they begin to perform more supervisory and management tasks.

TABLE 6

DISTRIBUTION OF 3-SKILL LEVEL DAFSC GROUP MEMBERS ACROSS SPECIALTY JOBS
(PERCENT RESPONDING)

SPECIALTY JOBS	ACTIVE 3E032 (N=226)
I. GENERAL POWER PRODUCTION CLUSTER	55
II. AIRCRAFT ARRESTING SYSTEM MAINTENANCE CLUSTER	39
III. SWITCHGEAR AND AUXILIARY EQUIPMENT MAINTENANCE JOB	1
IV. GASOLINE OR DIESEL ENGINE MAINTENANCE JOB	5
V. COMMERCIAL POWER GENERATOR MAINTENANCE JOB	0
VI. SUPERVISION JOB	0
VII. MOBILITY JOB	0
VIII. TRAINING JOB	0
IX. UNINTERRUPTABLE POWER SYSTEMS MAINTENANCE AND OPERATIONS JOB	0

TABLE 7

DISTRIBUTION OF 5-SKILL LEVEL DAFSC GROUP MEMBERS ACROSS SPECIALTY JOBS
(PERCENT RESPONDING)

SPECIALTY JOBS	TOTAL 3E052 (N=627)	ACTIVE 3E052 (N=404)	ANG 3E052 (N=144)	AFRC 3E052 (N=79)
I. GENERAL POWER PRODUCTION CLUSTER	60	53	72	83
II. AIRCRAFT ARRESTING SYSTEM MAINTENANCE CLUSTER	26	31	22	0
III. SWITCHGEAR AND AUXILIARY EQUIPMENT MAINTENANCE JOB	*	*	1	*
IV. GASOLINE OR DIESEL ENGINE MAINTENANCE JOB	5	5	5	8
V. COMMERCIAL POWER GENERATOR MAINTENANCE JOB	2	2	0	0
VI. SUPERVISION JOB	4	5	0	8
VII. MOBILITY JOB	*	*	0	1
VIII. TRAINING JOB	2	2	0	0
IX. UNINTERRUPTABLE POWER SYSTEMS MAINTENANCE AND OPERATIONS JOB	1	1	0	0

TABLE 8

DISTRIBUTION OF 7-SKILL LEVEL DAFSC MEMBERS ACROSS SPECIALTY JOBS
(PERCENT RESPONDING)

SPECIALTY JOBS	TOTAL 3E072 (N=290)	ACTIVE 3E072 (N=135)	ANG 3E072 (N=107)	AFRC 3E072 (N=48)
I. GENERAL POWER PRODUCTION CLUSTER	51	30	66	57
II. AIRCRAFT ARRESTING SYSTEM MAINTENANCE CLUSTER	18	22	21	0
III. SWITCHGEAR AND AUXILIARY EQUIPMENT MAINTENANCE JOB	0	0	0	0
IV. GASOLINE OR DIESEL ENGINE MAINTENANCE JOB	6	7	5	11
V. COMMERCIAL POWER GENERATOR MAINTENANCE JOB	1	3	0	0
VI. SUPERVISION JOB	23	38	7	23
VII. MOBILITY JOB	1	*	0	9
VIII. TRAINING JOB	*	0	1	0
IX. UNINTERRUPTABLE POWER SYSTEMS MAINTENANCE AND OPERATIONS JOB	*	*	0	0

TABLE 9

RELATIVE PERCENT TIME SPENT ON DUTIES BY 3-SKILL LEVEL DAFSC GROUPS

DUTIES		ACTIVE 3E032 (N=226)
A.	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	16
B.	MAINTAINING AUTOMATIC TRANSFER PANELS	3
C.	MAINTAINING GASOLINE OR DIESEL ENGINES	5
D.	MAINTAINING ACCESSORY OR AUXILIARY EQUIPMENT	4
E.	MAINTAINING LUBRICATING SYSTEMS	5
F.	MAINTAINING FUEL SYSTEMS	8
G.	MAINTAINING COOLING SYSTEMS	4
H.	MAINTAINING GOVERNERS	1
I.	MAINTAINING INTAKE OR EXHAUST SYSTEMS	3
J.	MAINTAINING ALTERNATORS, EXCITERS, OR ELECTRIC MOTOR GENERATORS	1
K.	MAINTAINING SWITCHGEAR OR ELECTRICAL PROTECTIVE DEVICES	3
L.	MAINTAINING UNINTERRUPTIBLE POWER SYSTEMS (UPSs)	*
M.	MAINTAINING OR OPERATING GENERATOR SETS	16
N.	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTAINENCE ACTIVITIES	*
O.	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	17
P.	PERFORMING MOBILITY AND CONTINGENCY ACTIVITIES	3
Q.	PERFORMING PRIME BASE ENGINEER EMERGENCY FORCE (BEEF) ACTIVITIES	*
R.	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4
S.	PERFORMING MAINTENANCE MANAGEMENT SYSTEM ACTIVITIES	*
T.	PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	*
U.	PERFORMING TRAINING ACTIVITIES	*
V.	PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	*
W.	PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	2

* Less than 1 percent

TABLE 10

RELATIVE PERCENT TIME SPENT ON DUTIES BY 5-SKILL LEVEL DAFSC GROUPS

DUTIES		TOTAL 3E052 (N=627)	ACTIVE 3E052 (N=404)	ANG 3E052 (N=144)	AFRC 3E052 (N=79)
A.	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	14	14	19	18
B.	MAINTAINING AUTOMATIC TRANSFER PANELS	1	2	*	*
C.	MAINTAINING GASOLINE OR DIESEL ENGINES	5	5	5	5
D.	MAINTAINING ACCESSORY OR AUXILIARY EQUIPMENT	3	4	3	2
E.	MAINTAINING LUBRICATING SYSTEMS	4	4	4	4
F.	MAINTAINING FUEL SYSTEMS	8	8	7	8
G.	MAINTAINING COOLING SYSTEMS	3	3	3	2
H.	MAINTAINING GOVERNERS	1	1	*	*
I.	MAINTAINING INTAKE OR EXHAUST SYSTEMS	2	3	2	2
J.	MAINTAINING ALTERNATORS, EXCITERS, OR ELECTRIC MOTOR GENERATORS	*	*	*	*
K.	MAINTAINING SWITCHGEAR OR ELECTRICAL PROTECTIVE DEVICES	2	2	1	*
L.	MAINTAINING UNINTERRUPTIBLE POWER SYSTEMS (UPSs)	*	1	*	*
M.	MAINTAINING OR OPERATING GENERATOR SETS	16	15	19	19
N.	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	*	*	*
O.	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	11	13	13	3
P.	PERFORMING MOBILITY AND CONTINGENCY ACTIVITIES	7	5	10	16
Q.	PERFORMING PRIME BASE ENGINEER EMERGENCY FORCE (BEEF) ACTIVITIES	2	*	2	6
R.	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4	5	3	4
S.	PERFORMING MAINTENANCE MANAGEMENT SYSTEM ACTIVITIES	1	1	*	*
T.	PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	4	6	1	3
U.	PERFORMING TRAINING ACTIVITIES	3	4	1	3
V.	PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	1	2	*	*
W.	PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	3	3	2	3

* Less than 1 percent

TABLE 11

RELATIVE PERCENT TIME SPENT ON DUTIES BY 7-SKILL LEVEL DAFSC GROUPS

DUTIES		TOTAL 3E072 (N=290)	ACTIVE 3E072 (N=135)	ANG 3E072 (N=107)	AFRC 3E072 (N=48)
A.	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	12	9	14	15
B.	MAINTAINING AUTOMATIC TRANSFER PANELS	1	2	*	*
C.	MAINTAINING GASOLINE OR DIESEL ENGINES	4	4	4	3
D.	MAINTAINING ACCESSORY OR AUXILIARY EQUIPMENT	3	3	3	2
E.	MAINTAINING LUBRICATING SYSTEMS	3	2	3	3
F.	MAINTAINING FUEL SYSTEMS	6	4	7	6
G.	MAINTAINING COOLING SYSTEMS	2	2	3	1
H.	MAINTAINING GOVERNERS	1	1	1	*
I.	MAINTAINING INTAKE OR EXHAUST SYSTEMS	2	1	2	2
J.	MAINTAINING ALTERNATORS, EXCITERS, OR ELECTRIC MOTOR GENERATORS	*	*	1	*
K.	MAINTAINING SWITCHGEAR OR ELECTRICAL PROTECTIVE DEVICES	2	2	2	1
L.	MAINTAINING UNINTERRUPTIBLE POWER SYSTEMS (UPSs)	*	1	*	*
M.	MAINTAINING OR OPERATING GENERATOR SETS	11	8	14	13
N.	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*	*	*	*
O.	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	8	8	11	3
P.	PERFORMING MOBILITY AND CONTINGENCY ACTIVITIES	7	5	8	12
Q.	PERFORMING PRIME BASE ENGINEER EMERGENCY FORCE (BEEF) ACTIVITIES	2	*	2	7
R.	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4	4	3	4
S.	PERFORMING MAINTENANCE MANAGEMENT SYSTEM ACTIVITIES	2	4	2	*
T.	PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	16	25	8	12
U.	PERFORMING TRAINING ACTIVITIES	7	8	5	9
V.	PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	2	3	2	1
W.	PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	4	4	3	4

* Less than 1 percent

Skill-Level Descriptions

DAFSC 3E032. Representing 20 percent of the survey sample, these 226 AD airmen perform an average of 94 tasks. Fifty-five percent of this group work in the General Power Production Cluster (Table 6), with 39 percent performing in the AAS Maintenance Cluster and 5 percent in the Gasoline or Diesel Engine Maintenance Job.

Table 9 reflects the percent time spent on duties by DAFSC 3E032 personnel. At the 3-skill level, their time is distributed among the technical tasks of duties A, M, and O. Representative tasks performed by these members are listed in Table 12.

DAFSC 3E052. The 627 members of this group account for 55 percent of the survey sample and represent the core of the career ladder. Sixty percent work in the General Power Production Cluster and 26 percent work in the AAS Maintenance Cluster (Table 7). This table also reflects the differences in the job distribution of AD, ANG, and AFRC forces. The AD employs 5 percent of their 5-skill level personnel in the Supervision Job, while the AFRC has 8 percent in the Gasoline or Diesel Engine Maintenance Job.

Table 10 provides a comparison of the relative time spent on duties for the AD, ANG, and AFRC forces at the 5-skill level. This table reflects that ANG and AFRC devote more time to Mobility and Contingency Activity tasks compared to their AD counterparts, who spend more time than the ANG and the AFRC performing management, supervisory, and training activities.

Tables 13, 17, and 20 list representative tasks performed by these DAFSC 3E052 personnel. Table 14 reflects those tasks which best differentiate the AD 3-skill from the 5-skill level personnel. This table shows that 3-skill level personnel perform all the tasks 5-skill level personnel perform, while the 5-skill level personnel perform additional supervisory tasks not performed at the 3-skill level. Table 23 shows the tasks with the most differences between AD 5-skill level personnel and their ANG and AFRC 5-skill level counterparts.

DAFSC 3E072. These 290 members represent 25 percent of the survey sample. Table 8 shows that 51 percent of members are in the General Power Production Cluster. Twenty-three percent are in the Supervision Job. It also reflects the ANG and the AFRC focusing more on the Technical Job in the General Power Production Cluster and less in the Supervision Job as their AD counterparts.

Table 11 reflects the percent time spent on duties by DAFSC 3E072 members. The AD members spend 25 percent of their time on Supervisory tasks. The ANG and AFRC members spend more time than the AD members on the technical duties like General Electrical Power Production of Duty A and the Mobility and Contingency activities of Duty P.

Representative tasks performed by 7-skill level members are reflected in Tables 15, 18, and 21. Table 16 reflects tasks which best differentiate between AD 5- and 7-skill levels. This table clearly shows the much higher devotion to management and supervisory tasks at the 7-skill level

TABLE 12

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E032
ACTIVE DUTY
(PERCENT MEMBERS PERFORMING)

TASKS		3E032 (N=226)
A46	Replace batteries	88
M512	Perform walk-around inspections of generator sets during operation	84
M517	Start up or shut down generator sets	81
M510	Perform preoperational inspections on generator sets	81
M508	Perform generator set single unit operations	81
A14	Inspect power generating equipment drive belts	81
A43	Read wiring or schematic diagrams	81
M509	Perform postoperational inspections on generator sets	79
M496	Adjust or monitor engine controls	78
E177	Change lubricating oil	78
M520	Test generator sets using load banks	77
M514	Refuel generator sets or storage tanks	77
M519	Take or record engine indicator readings	76
A39	Perform corrosion control on electrical power production equipment	76
A16	Install electrical grounds	75
M511	Perform standby engine run-ups	73
A57	Service or charge lead-acid-type batteries	73
M513	Place generator sets on line after power failures	73
M503	Interpret meter readings	71
A63	Verify phase rotation of generators	71
M500	Connect or disconnect generator set cables	70
A3	Adjust power generating equipment drive belts	71
F209	Inspect or clean fuel filters or strainers	69
M502	Inspect generator set cables	69
F240	Replace fuel filters or strainers	67
E194	Replace lube oil filters or strainers	66
E180	Fill lubrication system	65

TABLE 13

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E052
ACTIVE DUTY
(PERCENT MEMBERS PERFORMING)

TASKS		3E052 (N=404)
M509	Perform postoperational inspections on generator sets	84
M510	Perform preoperational inspections on generator sets	84
M512	Perform walk-around inspections of generator sets during operation	84
A46	Replace batteries	83
M517	Start up or shut down generator sets	82
A43	Read wiring or schematic diagrams	82
E177	Change lubricating oil	81
M508	Perform generator set single unit operations	81
A14	Inspect power generating equipment drive belts	78
M496	Adjust or monitor engine controls	77
M520	Test generator sets using load banks	76
A39	Perform corrosion control on electrical power production equipment	76
M514	Refuel generator sets or storage tanks	75
A16	Install electrical grounds	73
M500	Connect or disconnect generator set cables	73
M511	Perform standby engine run-ups	72
M503	Interpret meter readings	72
E194	Replace lube oil filters or strainers	71
M519	Take or record engine indicator readings	71
M502	Inspect generator set cables	70
F236	Prime or bleed fuel systems	70
E180	Fill lubrication system	69
F209	Inspect or clean fuel filters or strainers	69
A57	Service or charge lead-acid-type batteries	68
F240	Replace fuel filters or strainers	66
A61	Set up or remove portable generators at remote locations	66
M513	Place generator sets on line after power failures	66

TABLE 14

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 3E032 AND 3E052
ACTIVE DUTY PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 3E032	DAFSC 3E052	DIFFERENCE
A21	Maintain emergency lighting equipment	44	25	19
T854	Conduct supervisory performance feedback sessions	0	34	-34
U909	Evaluate progress of trainees	4	38	-34
U899	Conduct on-the-job training	19	51	-32
U900	Counsel trainees on training progress	3	35	-32
T857	Counsel subordinates concerning personal matters	3	35	-32
T874	Evaluate personnel for compliance with performance standards	2	34	-32
T892	Write or indorse military performance reports	1	32	-31
T870	Establish performance standards for subordinates	2	32	-30
T880	Inspect personnel for compliance with military standards	4	34	-30
U911	Maintain training records or files	12	41	-29
T859	Determine or establish work assignments or priorities	6	33	-27
T849	Assign personnel to work areas or duty positions	3	30	-27
T893	Write recommendations for awards or decorations	1	27	-26
T856	Conduct supervisory orientations for newly assigned personnel	1	27	-26
T875	Evaluate personnel for promotion, demotion, reclassification, or special awards	0	25	-25
U896	Brief personnel concerning training programs or matters	5	30	-25
T858	Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	3	28	-25

TABLE 15

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E072
ACTIVE DUTY
(PERCENT MEMBERS PERFORMING)

TASKS		3E072 (N=135)
T870	Establish performance standards for subordinates	84
T859	Determine or establish work assignments or priorities	83
T892	Write or indorse military performance reports	83
T857	Counsel subordinates considering personal matters	83
T854	Conduct supervisory performance feedback sessions	82
T880	Inspect personnel for compliance with military standards	81
T856	Conduct supervisory orientations for newly assigned personnel	80
T849	Assign personnel to work areas or duty positions	79
T875	Evaluate personnel for promotion, demotion, reclassification, or special awards	78
U911	Maintain training records or files	78
T874	Evaluate personnel for compliance with performance standards	77
T893	Write recommendations for awards or decorations	77
T887	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	77
T881	Interpret policies, directives, or procedures for subordinates	77
T855	Conduct safety inspections of equipment or facilities	76
T850	Assign sponsors for newly assigned personnel	76
A43	Read wiring or schematic diagrams	76
T851	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	75
T858	Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	75
U899	Conduct on-the-job training (OJT)	75
U909	Evaluate progress of trainees	74
T852	Conduct self-inspections or self-assessments	72
M509	Perform postoperational inspections of generator sets	70
M512	Perform walk-around inspections of generator sets during operation	70
M510	Perform preoperational inspections of generator sets	69
T871	Establish procedures for accountability of equipment, tools, parts, or supplies	68
W938	Initiate requisitions for equipment, tools, parts, or supplies	68

TABLE 16

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 3E052 AND 3E072
ACTIVE DUTY PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 3E052	DAFSC 3E072	DIFFERENCE
E177	Change lubricating oil	81	55	26
F209	Inspect or clean fuel filters or strainers	69	46	23
M520	Test generator sets using load banks	76	53	23
E194	Replace lube oil filters or strainers	72	49	23
A46	Replace batteries	83	62	21
F240	Replace fuel filters or strainers	66	46	20
I327	Inspect or clean air intake filters or cleaners	62	42	20
F206	Drain water from fuel system components	62	42	20
T887	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	18	77	-59
T850	Assign sponsors for newly assigned personnel	18	76	-58
T851	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	22	75	-53
T875	Evaluate personnel for promotion, demotion, reclassification, or special awards	25	78	-53
T856	Conduct supervisory orientations for newly assigned personnel	27	80	-53
T870	Establish performance standards for subordinates	32	84	-52
T892	Write or indorse military performance reports	32	83	-51
T859	Determine or establish work assignments or priorities	33	83	-50
T879	Initiate actions required due to substandard performance of personnel	17	67	-50

TABLE 17

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E052
AIR NATIONAL GUARD PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		3E052 (N=144)
A46	Replace batteries	94
M512	Perform walk-around inspections of generator sets during operation	87
E177	Change lubricating oil	86
M517	Start up or shut down generator sets	85
M510	Perform preoperational inspections on generator sets	84
A16	Install electrical grounds	83
M508	Perform generator set single unit operations	83
M502	Inspect generator set cables	82
A43	Read wiring or schematic diagrams	82
M509	Perform postoperational inspections on generator sets	82
M514	Refuel generator sets or storage tanks	82
M500	Connect or disconnect generator set cables	82
M496	Adjust or monitor engine controls	81
P722	Erect tents	81
A61	Set up or remove portable generators at remote locations	80
A19	Install or remove portable lighting equipment	77
A39	Perform corrosion control on electrical power production equipment	76
A14	Inspect power generating equipment drive belts	75
P723	Inspect mobility bags or kits	74
M501	Determine fuel requirements for generator set operations	74
A57	Service or charge lead-acid-type batteries	73
M520	Test generator sets using load banks	72
F209	Inspect or clean fuel filters or strainers	72
P752	Tear down, inspect, clean, and reassemble weapons, such as M-16 rifles	72
P720	Don or doff chemical warfare personal protective clothing	71
M519	Take or record engine indicator readings	71

TABLE 18

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E072
AIR NATIONAL GUARD PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		3E072 (N=107)
A46	Replace batteries	93
M512	Perform walk-around inspections of generator sets during operation	93
M517	Start up or shut down generator sets	91
M508	Perform generator set single unit operations	91
P722	Erect tents	89
M510	Perform preoperational inspections on generator sets	89
A61	Set up or remove portable generators at remote locations	89
A43	Read wiring or schematic diagrams	89
M514	Refuel generator sets or storage tanks	88
E177	Change lubricating oil	88
A16	Install electrical grounds	87
M509	Perform postoperational inspections on generator sets	85
M496	Adjust or monitor engine controls	84
A3	Adjust power generating equipment drive belts	83
A14	Inspect power generating equipment drive belts	82
A57	Service or charge lead-acid-type batteries	82
M500	Connect or disconnect generator set cables	81
M502	Inspect generator set cables	81
M520	Test generator sets using load banks	80
A39	Perform corrosion control on electrical power production equipment	80
A63	Verify phase rotation of generators	80
P720	Don or doff chemical warfare personal protective clothing	79
M501	Determine fuel requirements for generator set operations	79
M513	Place generator sets on line after power failures	79
M511	Perform standby engine run-ups	78
M519	Take or record engine indicator readings	78
E180	Fill lubrication systems	77

TABLE 19

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 3E052 AND 3E072
AIR NATIONAL GUARD PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 3E052	DAFSC 3E072	DIFFERENCE
U909	Evaluate progress of trainees	16	62	-46
T880	Inspect personnel for compliance with military standards	6	50	-44
T857	Counsel subordinates concerning personal matters	3	45	-42
U911	Maintain training records or files	27	68	-41
T849	Assign personnel to work areas or duty positions	10	51	-41
T856	Conduct supervisory orientations for newly assigned personnel	7	48	-41
T865	Develop or establish work schedules	7	48	-41
T875	Evaluate personnel for promotion, demotion, reclassification, or special awards	5	45	-40
U900	Counsel trainees on training progress	13	52	-39
T874	Evaluate personnel for compliance with performance standards	6	45	-39
T859	Determine or establish work assignments or priorities	10	49	-39
U899	Conduct on-the-job training (OJT)	30	68	-38
T870	Establish performance standards for subordinates	3	41	-38
T873	Evaluate job hazards or compliance with Air Force Occupational Safety and Health (AFOSH) program	6	41	-35
U901	Determine training requirements	9	43	-34
T877	Implement safety or security programs	6	40	-34
U896	Brief personnel concerning training programs or matters	11	45	-34
T855	Conduct safety inspections of equipment or facilities	10	42	-32
T858	Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	8	38	-30

TABLE 20

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E052
AIR FORCE RESERVE PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		3E052 (N=79)
M510	Perform preoperational inspections on generator sets	78
M517	Start up or shut down generator sets	78
A46	Replace batteries	77
M509	Perform postoperational inspections on generator sets	76
M512	Perform walk-around inspections of generator sets during operation	76
P722	Erect tents	75
P723	Inspect mobility bags or kits	73
M508	Perform generator set single unit operations	72
A19	Install or remove portable lighting equipment	71
F205	Drain fuel tanks	71
A61	Set up or remove portable generators at remote locations	68
E177	Change lubricating oil	67
A16	Install electrical grounds	66
M514	Refuel generator sets or storage tanks	66
P752	Tear down, inspect, clean, and reassemble weapons, such as M-16 rifles	65
M500	Connect or disconnect generator set cables	63
M502	Inspect generator set cables	63
A57	Service or charge lead-acid-type batteries	62
M496	Adjust or monitor engine controls	62
A43	Read wiring or schematic diagrams	62
A27	Maintain portable lighting equipment	61
P720	Don or doff chemical warfare personal protective clothing	59
A39	Perform corrosion control on electrical power production equipment	59
M511	Perform standby engine run-ups	58
P745	Prepare equipment for deployments	56
E194	Replace lube oil filters or strainers	56

TABLE 21

REPRESENTATIVE TASKS PERFORMED BY DAFSC 3E072
AIR FORCE RESERVE PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		3E072 (N=48)
P752	Tear down, inspect, clean, and reassemble weapons, such as M-16 rifles	81
P722	Erect tents	81
A16	Install electrical grounds	81
U899	Conduct on-the-job training (OJT)	77
A19	Install or remove portable lighting equipment	77
A46	Replace batteries	77
U911	Maintain training records or files	73
M512	Perform walk-around inspections of generator sets during operation	73
A61	Set up or remove portable generators at remote locations	73
M517	Start up or shut down generator sets	71
A27	Maintain portable lighting equipment	71
E177	Change lubricating oil	71
P723	Inspect mobility bags or kits	69
M500	Connect or disconnect generator set cables	69
A57	Service or charge lead-acid-type batteries	69
P720	Don or doff chemical warfare personal protective clothing	67
M508	Perform generator set single unit operations	67
M510	Perform preoperational inspections on generator sets	67
F205	Drain fuel tanks	67
M514	Refuel generator sets or storage tanks	65
M509	Perform postoperational inspections on generator sets	65
A39	Perform corrosion control on electrical power production equipment	65
P745	Prepare equipment for deployments	65
U900	Counsel trainees on training progress	65
T849	Assign personnel to work areas or duty positions	63

than the 5-skill level. Table 19 compares the ANG 5- and 7-skill levels and Table 22 compares the AFRC 5- and 7-skill levels. Both tables show the 7-skill levels performing training and supervisory tasks at a much higher percentage than the 5-skill levels.

Table 24 reflects the tasks which best differentiate between AD, ANG, and AFRC 7-skill levels. The AD forces are more devoted to management and supervisory tasks, while the ANG and AFRC perform more of the general power production tasks at the 7-skill level.

Summary

Progression in the Electrical Power Production career ladder follows a regular pattern of highly technical job focus at the lower skill levels, with a broadening into supervision and management at the 7-skill level. An emphasis is clearly seen performing primarily the core job of General Power Production at the 3- and 5-skill levels, with more emphasis on supervisory functions at the 7-skill level. While craftsmen at the 7-skill level begin to shift to supervisory jobs, some of their time is still spent performing the technical tasks of General Power Production. The ANG and AFRC members at all skill levels spend a higher percentage of their time performing technical tasks versus supervisory tasks than their AD counterparts. It is also clear that the AFRC devotes much more time at all skill levels to the mobility tasks than the AD forces.

TRAINING ANALYSIS

Occupational survey data are one of many sources of information which can be used to assist in the development of a training program relevant to the needs of personnel in their first enlistment. Factors which may be used in evaluating training include the overall description of the work being performed by first-enlistment personnel and their overall distribution across career ladder jobs, percentages of first-enlistment (1-48 months TAFMS) members performing specific tasks, as well as TE and TD ratings (previously explained in the **SURVEY METHODOLOGY** section).

Training Emphasis (TE) and Task Difficulty (TD) Data

TE and TD data are secondary factors that can assist technical school personnel in deciding which tasks should be emphasized in entry-level training. These ratings, based on the judgments of senior career ladder NCOs working at operational units in the field, are collected to provide training personnel with a rank-ordering of those tasks in the JI considered important for first-enlistment personnel training (see Table 25 for the top-rated tasks), along with a measure of the difficulty of the JI tasks (see high rated tasks presented in Table 26). When combined with data on the percentages of first-enlistment personnel performing tasks, comparisons can then be made to determine if training adjustments are necessary. For example, tasks receiving high ratings on both task factors, accompanied by moderate to high percentages performing, may warrant

TABLE 22

TASKS WHICH BEST DIFFERENTIATE BETWEEN DAFSC 3E052 AND 3E072
AIR FORCE RESERVE PERSONNEL
(PERCENT MEMBERS PERFORMING)

TASKS		DAFSC 3E052	DAFSC 3E072	DIFFERENCE
U899	Conduct on-the-job training (OJT)	29	77	-48
T849	Assign personnel to work areas or duty positions	15	62	-47
U900	Counsel trainees on training progress	18	64	-46
U911	Maintain training records or files	27	73	-46
T874	Evaluate personnel for compliance with performance standards	9	48	-39
U909	Evaluate progress of trainees	16	54	-38
T856	Conduct supervisory orientations for newly assigned personnel	11	46	-35
T859	Determine or establish work assignments or priorities	14	48	-34
T857	Counsel subordinates concerning personal matters	13	46	-33
T875	Evaluate personnel for promotion, demotion, reclassification, or special awards	10	42	-32
T880	Inspect personnel for compliance with military standards	19	50	-31
T855	Conduct safety inspections of equipment or facilities	14	44	-30
T892	Write or indorse military performance reports	9	38	-29
T854	Conduct supervisory performance feedback sessions	11	40	-29
U895	Administer or score tests	6	33	-27
T850	Assign sponsors for newly assigned personnel	9	35	-26
U896	Brief personnel concerning training programs or matters	18	44	-26
T858	Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	10	35	-25
P725	Install airfield lighting	23	48	-25
T852	Conduct self-inspections or self-assessments	11	35	-24

TABLE 23

COMPARATIVE TASKS PERFORMED BY ACTIVE DUTY DAFSC 3E052
AIR NATIONAL GUARD 3E052 AND AIR FORCE RESERVE 3E052
(PERCENT MEMBERS PERFORMING)

TASKS		ACTIVE DUTY 3E052	NATIONAL GUARD 3E052	AIR RESERVE 3E052
M509	Perform postoperational inspections on generator sets	84	82	76
M510	Perform preoperational inspections on generator sets	84	84	78
M512	Perform walk-around inspections of generator sets during operation	84	87	76
A46	Replace batteries	83	94	77
M517	Start up or shut down generator sets	82	85	78
A43	Read wiring or schematic diagrams	82	82	62
E177	Change lubricating oil	81	86	67
M508	Perform generator set single unit operations	81	83	72
A14	Inspect power generating equipment drive belts	78	75	53
M496	Adjust or monitor engine controls	77	81	62
M520	Test generator sets using load banks	76	72	53
A39	Perform corrosion control on electrical power production equipment	76	76	59
M514	Refuel generator sets or storage tanks	75	82	66
A16	Install electrical grounds	73	83	66
M500	Connect or disconnect generator set cables	73	82	63
M511	Perform standby engine run-ups	72	66	58
M503	Interpret meter readings	72	70	52
E194	Replace lube oil filters or strainers	71	67	56
M519	Take or record engine indicator readings	71	71	51
M502	Inspect generator set cables	70	82	63
F236	Prime or bleed fuel systems	70	56	47
E180	Fill lubrication system	69	70	49
F209	Inspect or clean fuel filters or strainers	69	72	53
A57	Service or charge lead-acid-type batteries	68	73	62
F240	Replace fuel filters or strainers	66	67	51
A61	Set up or remove portable generators at remote locations	66	80	68
M513	Place generator sets on line after power failures	66	63	39

TABLE 24

COMPARATIVE TASKS PERFORMED BY ACTIVE DUTY DAFSC 3E072
AIR NATIONAL GUARD 3E072 AND AIR FORCE RESERVE 3E072
(PERCENT MEMBERS PERFORMING)

TASKS		ACTIVE DUTY 3E072	NATIONAL GUARD 3E072	AIR RESERVE 3E072
T870	Establish performance standards for subordinates	84	41	37
T859	Determine or establish work assignments or priorities	83	49	48
T892	Write or indorse military performance reports	83		
T857	Counsel subordinates considering personal matters	83	45	46
T854	Conduct supervisory performance feedback sessions	82	19	40
T880	Inspect personnel for compliance with military standards	81	50	50
T856	Conduct supervisory orientations for newly assigned personnel	80	48	46
T849	Assign personnel to work areas or duty positions	79	51	63
T875	Evaluate personnel for promotion, demotion, reclassification, or special awards	78	45	42
U911	Maintain training records or files	78	68	73
T874	Evaluate personnel for compliance with performance standards	77	45	48
T893	Write recommendations for awards or decorations	77	31	21
T887	Schedule personnel for temporary duty (TDY) assignments, leaves, or passes	77	22	15
T881	Interpret policies, directives, or procedures for subordinates	77	30	33
T855	Conduct safety inspections of equipment or facilities	76	42	44
T850	Assign sponsors for newly assigned personnel	76	28	35
A43	Read wiring or schematic diagrams	76	89	60
T851	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	75	33	33
T858	Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	75	38	35
U899	Conduct on-the-job training (OJT)	75	68	77
U909	Evaluate progress of trainees	74	62	54
T852	Conduct self-inspections or self-assessments	72	41	35
M509	Perform postoperational inspections of generator sets	70	85	65
M512	Perform walk-around inspections of generator sets during operation	70	93	73
M510	Perform preoperational inspections of generator sets	69	89	67
T871	Establish procedures for accountability of equipment, tools, parts, or supplies	68	35	27
W938	Initiate requisitions for equipment, tools, parts, or supplies	68	53	40

TABLE 25

DAFSC 3E0X2 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIFF
A43	Read wiring or schematic diagrams	7.68	80	80	6.14
A63	Verify phase rotation of generators	7.62	68	69	3.63
M510	Perform preoperational inspections of generator sets	7.14	84	82	3.46
M509	Perform postoperational inspections of generator sets	7.12	81	81	3.47
M508	Perform generator set single unit operations	7.11	83	81	3.71
M517	Start up or shut down generator sets	7.09	83	82	3.08
M520	Test generator sets using load banks	7.08	79	78	3.78
M513	Place generator sets on line after power failures	7.08	69	73	4.08
A61	Set up or remove portable generators at remote locations	7.02	61	63	4.26
M512	Perform walk-around inspections of generator sets during operation	6.95	87	84	3.12
M500	Connect or disconnect generator set cables	6.80	74	71	3.84
M506	Parallel generator sets manually	6.71	51	57	5.00
B72	Perform functional tests of ATPs	6.62	48	45	4.15
A16	Install electrical grounds	6.57	73	75	3.25
M511	Perform standby engine run-ups	6.55	72	73	3.50
M507	Perform generator set emergency shutdown procedures	6.43	47	45	3.94
E177	Change lubricating oil	6.43	76	80	2.93
F236	Prime or bleed fuel systems	6.43	65	65	3.63
O554	Bleed AAS hydraulic systems	6.40	44	42	4.07
A57	Service or charge lead-acid-type batteries	6.38	69	71	3.27
M502	Inspect generator set cables	6.25	71	69	3.52
M503	Interpret meter readings	6.18	67	71	4.06
O650	Reeve AAS tape connectors	6.18	33	34	4.78

TABLE 25 (CONTINUED)

DAFSC 3E0X2 TASKS WITH HIGHEST TRAINING EMPHASIS RATINGS

TASKS		TNG EMP	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	TSK DIFF
A46	Replace batteries	6.12	87	87	2.59
M496	Adjust or monitor engine controls	6.11	79	78	3.65
E194	Replace lube oil filters or strainers	6.09	67	70	3.11
A62	Test electrical grounds	6.06	46	43	4.48
M514	Refuel generator sets or storage tanks	6.06	77	77	3.21
B67	Inspect ATP components, wiring, or cable connections	6.02	50	47	3.90
O701	Synchronize AASs	6.02	35	34	5.55
O546	Adjust AAS cam zero indexes	5.95	42	41	4.46
O634	Perform after-arrestment rewind procedures of AASs	5.95	32	31	4.76
O560	Crop AAS tapes	5.92	43	41	4.49
O545	Adjust AAS cam control valve clearances	5.91	37	38	5.05
M501	Determine fuel requirements for generator set operations	5.83	59	63	4.02
M519	Take or record engine indicator readings	5.82	77	76	3.16
O633	Perform after-arrestment inspections of AASs	5.82	37	35	4.73
B69	Isolate malfunctions within ATPs	5.78	30	30	6.44
O551	Adjust AAS tape stack heights	5.75	36	36	4.69
A60	Set up or remove portable electrical power production equipment fuel supplies at remote locations	5.75	38	46	4.02
D144	Inspect load banks	5.75	62	62	3.97
A14	Inspect power generating equipment drive belts	5.75	80	79	2.38
O577	Inspect AAS tape stack heights	5.69	38	38	3.62
O565	Determine replacement of AAS tapes using regime charts	5.69	30	30	4.43
E180	Fill lubrication systems	5.69	58	67	2.49

TABLE 26

DAFSC 3E0X2 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 3E032	DAFSC 3E052	DAFSC 3E072	TNG EMP
L465	Isolate malfunctions within SSUPS printed circuit boards	7.66	2	3	3	4	7	1.14
L463	Isolate malfunctions within SSUPS parallel cabinets	7.46	2	3	3	3	3	1.17
L460	Isolate malfunctions within SSUPS control circuits	7.44	3	3	3	4	7	1.34
O630	Overhaul AASs	7.44	5	7	8	5	1	2.25
L441	Install or remove SSUPS	7.43	3	3	3	1	4	.75
L450	Isolate malfunctions to SSUPS parallel cabinets	7.36	2	3	3	3	3	1.51
L466	Isolate malfunctions within SSUPS rectifiers/chargers	7.36	2	3	3	4	5	1.22
L456	Isolate malfunctions within rotary UPS control cubicles	7.35	2	1	1	0	0	.43
L437	Calibrate control circuitry of rotary uninterruptable power systems (UPSs)	7.35	2	1	1	1	1	.52
L462	Isolate malfunctions within SSUPS inverters	7.34	2	3	3	4	6	1.31
L457	Isolate malfunctions within rotary UPS master control panels	7.34	2	1	1	1	0	.46
F228	Overhaul distributor-type injection pumps	7.30	8	8	8	6	7	1.77
L461	Isolate malfunctions within SSUPS filter bank components	7.30	2	3	3	3	5	1.25
L467	Isolate malfunctions within SSUPS static switches	7.28	2	3	3	4	4	1.18
L452	Isolate malfunctions to SSUPS printed circuit boards	7.27	2	3	3	4	7	1.40
F232	Overhaul PT fuel injection pumps	7.18	8	6	6	3	4	1.48
L454	Isolate malfunctions to SSUPS static switches	7.16	2	2	2	3	4	1.52
L448	Isolate malfunctions to SSUPS filter bank components	7.16	2	2	2	3	6	1.55
L449	Isolate malfunctions to SSUPS inverters	7.14	2	2	2	4	7	1.58
N536	Perform scheduled overhaul inspections of prime power plants, such as 8,000-hour and above	7.14	2	2	1	2	2	1.09
M504	Overhaul generator sets	7.13	11	14	12	14	19	2.60

TABLE 26 (CONTINUED)

DAFSC 3E0X2 TASKS WITH HIGHEST TASK DIFFICULTY RATINGS

TASKS		TSK DIFF	PERCENT MEMBERS PERFORMING 1ST JOB	1ST ENL	DAFSC 3E032	DAFSC 3E052	DAFSC 3E072	TNG EMP
L455	Isolate malfunctions within rotary UPS clutch systems	7.12	2	1	1	1	0	.49
L464	Isolate malfunctions within SSUPS power supplies	7.11	3	3	3	3	6	1.22
L453	Isolate malfunctions to SSUPS rectifiers/chargers	7.10	2	2	2	4	7	1.55
L451	Isolate malfunctions to SSUPS power supplies	7.10	3	3	3	3	5	1.65
L436	Align control circuitry of SSUPSs	7.10	2	2	2	4	5	1.43
N535	Perform depot-level rebuilding of power plant turbochargers	7.08	2	1	0	1	3	.52
L458	Isolate malfunctions within rotary UPS power supplies	7.05	2	1	1	1	0	.48
L447	Isolate malfunctions to SSUPS control circuits	7.04	2	3	3	4	7	1.60
F229	Overhaul hydraulic-type fuel injectors	7.04	7	6	6	3	5	1.51
C111	Overhaul camshafts	7.03	7	5	6	3	4	1.03
L445	Isolate malfunctions to rotary UPS power supplies	7.03	2	2	1	1	1	.65
L444	Isolate malfunctions to rotary UPS master control panels	7.01	2	1	1	1	0	.55
L443	Isolate malfunctions to rotary UPS control cubicles	7.00	2	1	1	1	0	.58
F230	Overhaul individual cylinder fuel injection pumps	7.00	6	5	5	3	2	1.45
L442	Isolate malfunctions to rotary UPS clutch systems	6.99	2	1	1	1	0	.65
N525	Construct, reconstruct, or modify power plant foundations	6.99	2	1	1	2	0	.42
C94	Install or remove power plant engines	6.98	7	8	7	9	8	1.74
N533	Perform depot-level rebuilding of power plant prime mover components	6.97	2	1	0	2	3	.77
K425	Rewire switchgear	6.97	6	7	6	6	3	1.15
F233	Overhaul unit injector-type fuel injectors	6.96	6	5	4	3	3	1.51
C119	Replace crankshafts	6.93	6	6	5	6	7	1.52
N527	Develop power plant redesign or construction information for appropriate agencies	6.91	2	2	1	2	1	.48

resident training. Those tasks receiving high task factor ratings, but low percentages performing, may be more appropriately planned for OJT programs within the career ladder. Low task factor ratings may highlight tasks best omitted from training for first-enlistment personnel, but this decision must be weighed against percentages of personnel performing the tasks, command concerns, and criticality of the tasks.

To assist technical school personnel, AFOMS has developed a computer program that incorporates these secondary factors and the percentage of first-enlistment personnel performing each task to produce an Automated Training Indicator (ATI) for each task. These indicators correspond to training decisions listed and defined in the Training Decision Logic Table found in Attachment 2, AETCI 36-2601, and allows course personnel to quickly focus their attention on those tasks which are most likely to qualify for initial resident course consideration.

Table 25 presents tasks with the highest TE ratings for AFSC 3E0X2 first-enlistment airmen, while Table 26 displays those tasks AFSC 3E0X2 raters judged to be most difficult to learn. For example, TE raters (refer to Table 25) reported that tasks such as adjusting or monitoring engine controls and replacing batteries require a high degree of training emphasis and, from the data, most airmen in their first job and within their first enlistment are performing these tasks. Table 26 shows TD raters reported isolating malfunctions within Solid-State Uninterruptable Power Systems printed circuit boards to be among the most difficult tasks to learn. However, due to the low numbers of individuals performing these types of tasks, they would be inappropriate for inclusion in a resident curriculum and are more appropriately taught as OJT items.

Various lists of tasks, accompanied by TE and TD ratings, and where appropriate, ATI information, are contained in the TRAINING EXTRACT package and should be reviewed in detail by training school personnel. (For a more detailed explanation of TE and TD ratings, see Task Factor Administration in the **SURVEY METHODOLOGY** section of this report.)

First-Enlistment Personnel

In this study, there are 321 members in their first-enlistment (1-48 months TAFMS), representing 28 percent of the total survey sample. Figure 2 reflects the distribution of first-enlistment personnel within the career ladder. Most of their duty time is spent on technical activities. Table 28 displays the relative percent of time spent on duties by first-enlistment personnel. Reviewing the table, first-enlistment personnel spend 50 percent of their time performing the technical tasks of Duties A, M, and O. First-enlistment personnel are primarily employed in the General Power Production Cluster.

Table 29 lists representative tasks performed by first-enlistment personnel. Most involve the General Power Production tasks of Duty A and the Operating Generator Sets of Duty M. Table 27 lists some of the tasks with a high ATI rating. These are tasks which usually have an above average rating in both TE and TD.

FIRST-ENLISTMENTJOB DISTRIBUTION

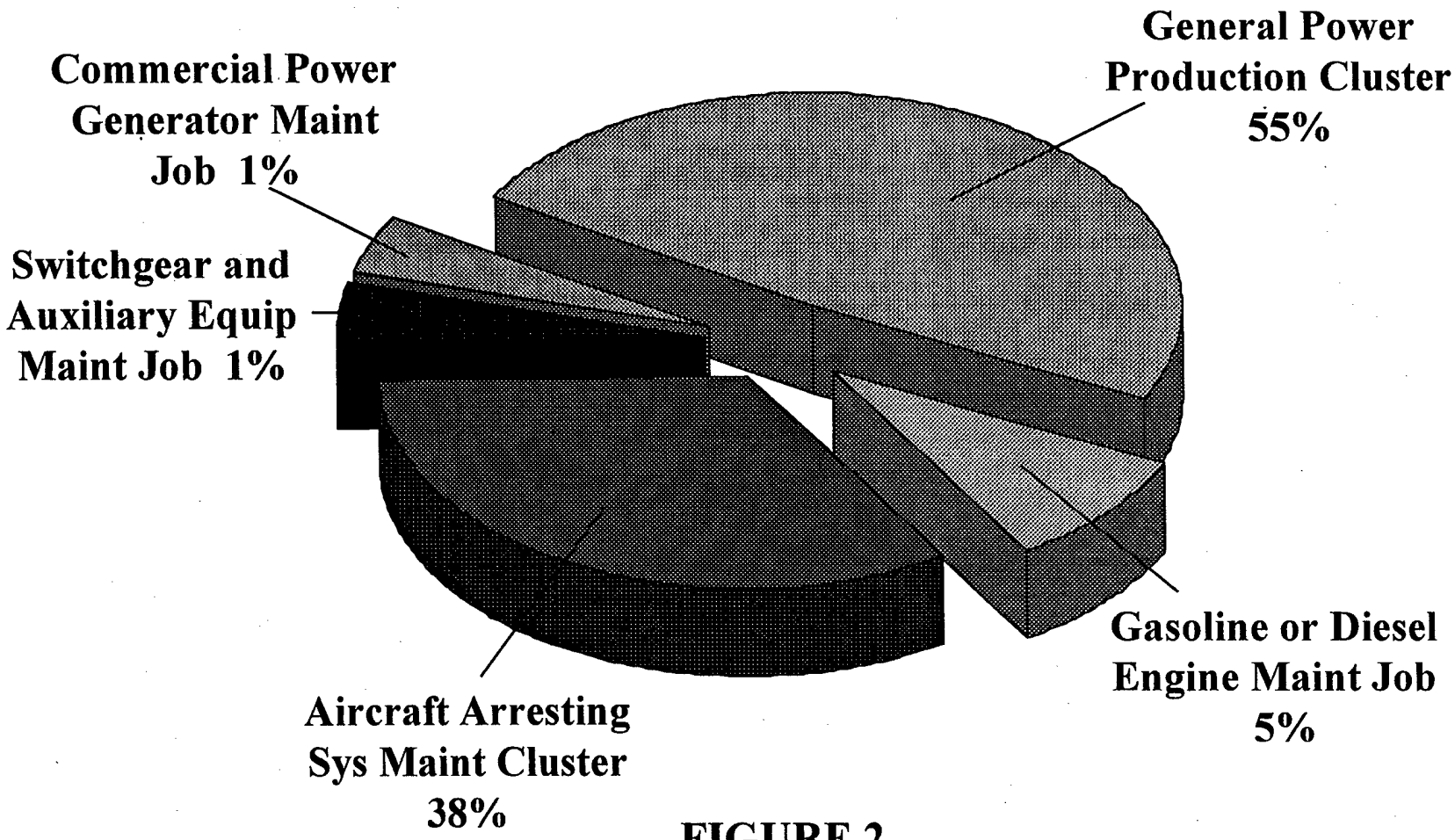


FIGURE 2

TABLE 27

EXAMPLE TASKS HIGH IN AUTOMATED TRAINING INDICATOR (ATI) RATINGS

TASKS		PERCENT 1ST ENL (N=133)	TNG EMP	TASK DIFF	ATI
M513	Place generator sets on line after power failures	69	7.08	4.08	18
P722	Erect tents	47	4.32	4.07	18
M499	Analyze meter readings for operations or load requirements	71	5.28	4.30	18
D140	Adjust battery chargers	53	5.43	4.10	18
M501	Determine fuel requirements for generator set operations	59	5.83	4.02	18
M506	Parallel generator sets manually	51	6.71	5.00	18
M503	Interpret meter readings	67	6.18	4.06	18
A61	Set up or remove portable generators at remote locations	61	7.02	4.26	18
A43	Read wiring or schematic diagrams	80	7.68	6.14	18
D168	Replace battery charger components or units	29	4.14	4.76	15
A22	Maintain engines for water pumping stations	37	3.03	4.41	15
K388	Inspect or clean circuit breakers	31	3.62	5.07	15
I329	Inspect or clean diesel engine turbochargers	30	3.37	5.26	15
E190	Locate oil seal failures	42	3.12	4.01	15
D159	Isolate malfunctions within load banks	23	3.98	5.45	15
G272	Install electric coolant heaters	29	3.43	4.53	15
A17	Install generator control wiring	36	3.80	5.11	15
A18	Install power distribution boxes	34	3.88	4.86	15
F243	Replace fuel tank floats	35	3.77	4.14	15
R828	Store hazardous waste materials	29	2.82	4.31	15
A37	Perform soft soldering, other than on solid-state uniterruptable power systems (SSUPSs)	34	3.63	4.92	15
G274	Isolate malfunctions to cooling systems	26	4.17	4.79	15

TABLE 28

RELATIVE PERCENT OF TIME SPENT ACROSS DUTIES BY FIRST-ENLISTMENT AFSC 3E0X2 PERSONNEL

TASKS		PERCENT TIME SPENT
A.	PERFORMING GENERAL ELECTRICAL POWER PRODUCTION ACTIVITIES	16
B.	MAINTAINING AUTOMATIC TRANSFER PANELS	2
C.	MAINTAINING GASOLINE OR DIESEL ENGINES	5
D.	MAINTAINING ACCESSORY OR AUXILIARY EQUIPMENT	4
E.	MAINTAINING LUBRICATING SYSTEMS	5
F.	MAINTAINING FUEL SYSTEMS	8
G.	MAINTAINING COOLING SYSTEMS	4
H.	MAINTAINING GOVERNERS	1
I.	MAINTAINING INTAKE OR EXHAUST SYSTEMS	3
J.	MAINTAINING ALTERNATORS, EXCITERS, OR ELECTRIC MOTOR GENERATORS	1
K.	MAINTAINING SWITCHGEAR OR ELECTRICAL PROTECTIVE DEVICES	3
L.	MAINTAINING UNINTERRUPTIBLE POWER SYSTEMS (UPSs)	1
M.	MAINTAINING OR OPERATING GENERATOR SETS	17
N.	PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES	*
O.	MAINTAINING AIRCRAFT ARRESTING SYSTEMS (AASs)	17
P.	PERFORMING MOBILITY AND CONTINGENCY ACTIVITIES	4
Q.	PERFORMING PRIME BASE ENGINEER EMERGENCY FORCE (BEEF) ACTIVITIES	*
R.	PERFORMING ENVIRONMENTAL OR SAFETY ACTIVITIES	4
S.	PERFORMING MAINTENANCE MANAGEMENT SYSTEM ACTIVITIES	*
T.	PERFORMING MANAGEMENT AND SUPERVISORY ACTIVITIES	*
U.	PERFORMING TRAINING ACTIVITIES	*
V.	PERFORMING GENERAL ADMINISTRATIVE AND TECHNICAL ORDER (TO) SYSTEM ACTIVITIES	*
W.	PERFORMING GENERAL SUPPLY AND EQUIPMENT ACTIVITIES	2

* Less than 1 percent

TABLE 29

MOST COMMONLY PERFORMED TASKS FOR
FIRST-ENLISTMENT 3E0X2 PERSONNEL

TASKS		PERCENT MEMBERS PERFORMING (N=321)
A46	Replace batteries	87
M512	Perform walk-around inspections of generator sets during operation	84
M517	Start up or shut down generator sets	82
M510	Perform preoperational inspections of generator sets	82
M509	Perform postoperational inspections of generator sets	81
M508	Perform generator set single unit operations	81
E177	Change lubricating oil	80
A43	Read wiring or schematic diagrams	80
A14	Inspect power generating equipment drive belts	79
M496	Adjust or monitor engine controls	78
M520	Test generator sets using load banks	78
M514	Refuel generator sets or storage tanks	77
M519	Take or record engine indicator readings	76
A39	Perform corrosion control on electrical power production equipment	76
A16	Install electrical grounds	75
M511	Perform standby engine run-ups	73
M513	Place generator sets on line after power failures	73
M503	Interpret meter readings	71
M500	Connect or disconnect generator set cables	71
A57	Service or charge lead-acid-type batteries	71
E194	Replace lube oil filters or strainers	70
A3	Adjust power generating equipment drive belts	70
A63	Verify phase rotation of generators	69
M502	Inspect generator set cables	69
F209	Inspect or clean fuel filters or strainers	68
E180	Fill lubrication system	67
F240	Replace fuel filters or strainers	66
F236	Prime or bleed fuel systems	65
M499	Analyze meter readings for operations or load requirements	65

Specialty Training Standard (STS)

A comprehensive review of STS 3E0X2, dated April 1997, compared STS items to survey data (based on the previously mentioned assistance from SMEs in matching JI tasks to STS elements). STS elements containing general knowledge information, mandatory entries, subject-matter-knowledge-only requirements, or basic supervisory responsibilities were not examined. Task knowledge and performance elements of the STS were compared against the standard set forth in AETCI 36-2601 and AFI 36-2201 (i.e., include tasks performed or knowledge required by 30 percent or more of the personnel in a skill level [criterion group] of the AFS).

Overall, the STS provides very comprehensive coverage of the work performed by personnel in this career ladder at this time, with survey data supporting all of the essential elements. Some major changes will be taking place soon. These include the contracting out of UPS Maintenance and Commercial Power Plant and Depot-Level Maintenance. These two sections of the STS, L and N, will be deleted since they will no longer be required teaching. These two sections, along with a list of tasks no longer performed, are listed in Table 33.

JOB SATISFACTION ANALYSIS

An examination of the job satisfaction indicators of various groups can give career ladder managers a better understanding of some of the factors which may affect the job performance of airmen in the career ladder. Attitude questions covering job interest, perceived utilization of talents and training, sense of accomplishment from work, and reenlistment intentions were included in the survey booklet to provide indications of job satisfaction.

Table 30 presents job satisfaction data for AFSC 3E0X2 TAFMS groups, together with TAFMS data for a comparative sample of Direct Support career ladders surveyed in 1998. All TAFMS groups rated perception of job interest and sense of accomplishment gained from work lower than the comparative sample. Perceived use of talents and training were about the same as the comparative sample. These same groups have much lower reenlistment intentions than the comparative sample. It is very interesting to note how job satisfaction of career ladder personnel increases with time in service for all indicators. A very high 55 percent of the first-enlistment personnel and 43 percent of the second-enlistment personnel indicate they will not reenlist.

An indication of how job satisfaction perceptions have changed over time is provided in Table 31, where again TAFMS data for the current survey respondents are presented, along with data from the last two OSRs. Reviewing this table, current survey satisfaction ratings for job interest, perceived utilization of talents, sense of accomplishment from work, and reenlistment intentions are rated about the same as the previous surveys. Reenlistment intentions for all TAFMS groups are much lower than the 1993 survey. There is a decline in reenlistment intentions for the second-enlistment group, down from 70 percent from the previous survey to only 56 percent in the current survey.

TABLE 30

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 TAFMS GROUPS
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS		49-96 MONTHS TAFMS		97+ MONTHS TAFMS	
	1998 3E0X2 (N=321)	COMP SAMPLE (N=1,204)	1998 3E0X2 (N=118)	COMP SAMPLE N=674)	1998 3E0X2 (N=326)	COMP SAMPLE (N=2,014)
EXPRESSED JOB INTEREST:						
INTERESTING	65	68	65	74	75	79
SO-SO	21	17	21	15	15	13
DULL	14	14	14	11	10	8
PERCEIVED USE OF TALENTS:						
FAIRLY WELL TO PERFECT	79	72	80	79	84	83
NONE TO VERY LITTLE	21	28	20	21	15	16
PERCEIVED USE OF TRAINING:						
FAIRLY WELL TO PERFECT	82	84	81	80	84	80
NONE TO VERY LITTLE	17	16	19	20	15	20
SENSE OF ACCOMPLISHMENT FROM JOB:						
SATISFIED	64	68	66	72	73	74
NEUTRAL	18	14	18	11	12	9
DISSATISFIED	18	17	16	16	15	17
REENLISTMENT INTENTIONS:						
YES OR PROBABLY YES	45	57	56	68	61	74
NO OR PROBABLY NO	55	43	43	32	12	8
WILL RETIRE	-	-	-	-	12	1

TABLE 31

COMPARISON OF JOB SATISFACTION INDICATORS FOR AFSC 3E0X2
TAFMS GROUPS IN CURRENT STUDY TO PREVIOUS STUDIES
(PERCENT MEMBERS RESPONDING)

	1-48 MONTHS TAFMS			49-96 MONTHS TAFMS			97+ MONTHS TAFMS		
	1998 3E0X2 (N=321)	1993 3E0X2 (N=317)	1985 3E0X2 (N=643)	1998 3E0X2 (N=118)	1993 3E0X2 (N=200)	1985 3E0X2 (N=349)	1998 3E0X2 (N=326)	1993 3E0X2 (N=524)	1985 3E0X2 (N=877)
EXPRESSED JOB INTEREST:									
INTERESTING	65	75	65	65	64	72	75	78	74
SO-SO	21	14	21	21	22	15	15	14	15
DULL	14	11	13	14	14	12	10	7	10
PERCEIVED USE OF TALENTS:									
FAIRLY WELL TO PERFECT	79	79	72	80	80	75	84	86	83
NONE TO VERY LITTLE	21	20	28	20	20	25	15	14	17
PERCEIVED USE OF TRAINING:									
FAIRLY WELL TO PERFECT	82	86	77	81	80	73	84	81	80
NONE TO VERY LITTLE	17	14	23	19	20	27	15	19	20
SENSE OF ACCOMPLISHMENT FROM JOB:									
SATISFIED	64	74	69	66	69	68	73	74	73
NEUTRAL	18	12	13	18	14	10	12	9	11
DISSATISFIED	18	14	17	16	17	22	15	17	16
REENLISTMENT INTENTIONS:									
YES OR PROBABLY YES	45	61	66	56	70	77	61	72	80
NO OR PROBABLY NO	55	39	33	43	30	22	12	6	8
WILL RETIRE	-	-	-	-	-	1	12	22	11

Table 32 shows a review of the job satisfaction ratings for the specialty jobs and clusters identified in this survey. The highest satisfaction ratings are shown in the Switchgear and Auxiliary Equipment Maintenance Job and the UPS Maintenance Job. It is interesting to note the low sense of work accomplishment from the members of the Mobility and Training Instructor jobs.

IMPLICATIONS

This survey was initiated to provide current job and task data for use in evaluating the AFMAN 36-2108 *Specialty Description* and appropriate training documents.

Survey results clearly indicate that the present classification structure, as described in the latest specialty description, accurately portrays the jobs performed in this career ladder. Career ladder training documents appear, on the whole, to be well supported by survey data, but require further review to ensure appropriate proficiency coding. The career ladder progression is similar to other career fields. Job satisfaction is fairly low for first-enlistment personnel but increases slightly with time in service Additionally, this career ladder has very low reenlistment intentions for all first-enlistment, second-enlistment and career groups.

TABLE 32

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	GENERAL POWER PRODUCTION CLUSTER (ST065) (N=556)	AIRCRAFT ARRESTING SYS MAINT CLUSTER (ST068) (N=263)	SWITCHGEAR & AUXILIARY EQUIPMENT MAINT JOB (ST166) (N=5)	GAS OR DIESEL ENGINE MAINT JOB (ST107) (N=54)	COMMERCIAL POWER GENERATOR MAINT JOB (ST114) (N=11)
EXPRESSED JOB INTEREST:					
INTERESTING	75	74	60	70	64
SO-SO	14	17	40	22	9
DULL	10	10	0	7	27
PERCEIVED USE OF TALENTS:					
FAIRLY WELL TO PERFECT	81	85	100	87	82
NONE TO VERY LITTLE	18	15	0	13	18
PERCEIVED USE OF TRAINING:					
FAIRLY WELL TO PERFECT	82	90	100	83	82
NONE TO VERY LITTLE	18	10	0	17	18
SENSE OF ACCOMPLISHMENT FROM JOB:					
SATISFIED	73	70	100	74	73
NEUTRAL	13	16	0	9	9
DISSATISIFIED	14	14	0	17	18
REENLISTMENT INTENTIONS:					
YES OR PROBABLY YES	67	56	20	67	73
NO OR PROBABLY NO	26	35	60	20	9
WILL RETIRE	7	10	20	13	18

TABLE 32 (CONTINUED)

JOB SATISFACTION INDICATORS FOR AFSC 3E0X2 JOB GROUPS
(PERCENT MEMBERS RESPONDING)

	SUPERVISION CLUSTER (ST085) (N=81)	MOBILITY JOB (ST143) (N=7)	TRAINING INSTRUCTOR JOB (ST214) (N=8)	UPS MAINT JOB (ST862) (N=5)
EXPRESSED JOB INTEREST:				
INTERESTING	77	71	63	80
SO-SO	17	14	25	20
DULL	6	14	13	0
PERCEIVED USE OF TALENTS:				
FAIRLY WELL TO PERFECT	82	71	88	100
NONE TO VERY LITTLE	17	29	13	0
PERCEIVED USE OF TRAINING:				
FAIRLY WELL TO PERFECT	83	43	72	100
NONE TO VERY LITTLE	17	57	25	0
SENSE OF ACCOMPLISHMENT FROM JOB:				
SATISFIED	73	43	63	100
NEUTRAL	15	29	25	0
DISSATISIFIED	12	29	13	0
REENLISTMENT INTENTIONS:				
YES OR PROBABLY YES	62	86	75	40
NO OR PROBABLY NO	6	0	0	60
WILL RETIRE	32	14	25	0

TABLE 33

DELETIONS FROM STS

A5	Change paper in recording devices
A32	Perform arc or gas welding
A34	Perform operator maintenance on vehicles
A56	Replenish ink supply in recording devices
O555	Brief pilots on AAS procedures
O676	Isolate malfunctions within AAS net system control panels
O677	Replace AAS net or webbing system electrical components
Q755	Assist in evaluating airfield assault strips
Q756	Assist in evaluating landing zones
Q769	Establish assault strips

SECTION L MAINTAINING UNINTERRUPTIBLE POWER SYSTEMS (UPSs) (Will be contracted out)
L436 – L495

SECTION N PERFORMING POWER PLANT AND DEPOT-LEVEL MAINTENANCE ACTIVITIES (Will be contracted out)
N521 – N543

TABLE 34

EXAMPLES OF STS ITEMS NOT SUPPORTED BY ACTIVE DUTY SURVEY DATA
(LESS THAN 20 PERCENT MEMBERS PERFORMING)

TASKS			PERCENT MEMBERS PERFORMING 3-SKL LVL (N=226)	5 SKL LVL (N=404)	7-SKL LVL (N= 135)	TASK DIFF
16	**GASOLINE AND DIESEL ENGINE MAINTENANCE**					
16.2	Measure piston ring end gaps	A/X c				
C0078	Adjust piston ring-end gaps		10	8	12	5.72
16.4	Align Crankshaft	A/X c				
C0080	Align crankshafts		8	6	7	6.80
16.5	Engine components					
C0094	Install or remove power plant engines		7	9	8	6.98
16.5.2	Repair	A/X c				
C0078	Adjust piston ring-end gaps		10	8	12	5.72
C0082	Grind or reface valve faces, valve stems, or valve seats		9	8	10	6.28
C0083	Hone engine cylinders		8	7	10	6.37
C0111	Overhaul camshafts		6	3	4	7.03
F0237	Rebuild carburetors		14	14	14	6.07
19	**COOLING SYSTEMS**					
19.3.2	Repair	b/X c				
G0277	Overhaul cooling system components, such as pumps, radiators, or heat exchangers		19	14	13	6.13
19.4	Adjust temperature regulating valves	B				
G0265	Adjust cooling system temperature regulating valves		11	7	4	4.10

* **Average TD Rating is 5.00**

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APPENDIX A

SELECTED REPRESENTATIVE TASKS PERFORMED BY CAREER LADDER STRUCTURE GROUPS

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TABLE A1

REPRESENTATIVE TASKS PERFORMED BY THE GENERAL POWER PRODUCTION CLUSTER (ST065)

TASKS		PERCENT MEMBERS PERFORMING
M512	Perform walk-around inspections of generator sets during operation	96
M510	Perform preoperational inspections of generator sets	95
A46	Replace batteries	94
M508	Perform generator set single unit operations	94
M509	Perform postoperational inspections of generator sets	93
M517	Start up or shut down generator sets	92
M514	Refuel generator sets or storage tanks	91
A43	Read wiring or schematic diagrams	89
M496	Adjust or monitor engine controls	89
M502	Inspect generator set cables	88
A16	Install electrical grounds	88
E177	Change lubricating oil	88
M500	Connect or disconnect generator set cables	88
M520	Test generator sets using load banks	87
A39	Perform corrosion control on electrical power production equipment	85
A14	Inspect power generating equipment drive belts	85
M503	Interpret meter readings	83
A61	Set up or remove portable generators at remote locations	83
M501	Determine fuel requirements for generator set operations	81
M511	Perform standby engine run-ups	80

TABLE A2

REPRESENTATIVE TASKS PERFORMED BY AIRCRAFT ARRESTING SYSTEM MAINTENANCE CLUSTER
(ST068)

TASKS		PERCENT MEMBERS PERFORMING
O546	Adjust AAS cam zero indexes	96
O560	Crop AAS tapes	95
O576	Inspect AAS tape connector wear	95
O554	Bleed AAS hydraulic systems	94
O545	Adjust AAS cam control valve clearances	92
A46	Replace batteries	91
O577	Inspect AAS tape stack heights	90
O574	Inspect AAS nitrogen systems	88
O650	Reeve AAS tape connectors	88
O633	Perform ater-arrestment inspections of AASs	88
O649	Recharge AAS accumulators	87
M512	Perform walk-around inspections of generator sets during operation	86
O701	Synchronize AASs	86
O551	Adjust AAS tape stack heights	86
E177	Change lubricating oil	85
M517	Start up or shut down generator sets	85
O566	Fill AAS hydraulic systems	84
O655	Replace AAS Cables	84
O547	Adjust AAS drive chains	83
O642	Perform scheduled inspections of AASs	82
M510	Perform preoperational inspections of generator sets	83
M509	Perform postoperational inspections of generator sets	83
O693	Replace AAS tapes	83
O575	Inspect AAS phenolic pads	83
O632	Perform AAS rewind procedures, other than off-center engagement rewind procedures	82
M508	Perform generator set single unit operations	81
M496	Adjust or monitor engine controls	81
M500	Connect or disconnect generator set cables	81
O580	Inspect or clean AAS fluid couplings	80

TABLE A3

REPRESENTATIVE TASKS PERFORMED BY THE SWITCHGEAR AND AUXILIARY EQUIPMENT MAINTENANCE JOB (ST166)

TASKS		PERCENT MEMBERS PERFORMING
D161	Lubricate electric motors	100
D165	Replace air compressor filters, strainers, or breathers	100
D157	Isolate malfunctions within battery chargers	100
D164	Replace air compressor components, other than relief valves	100
D171	Replace electric motors	100
D147	Inspect or clean air compressor filters, strainers, or breathers	100
D153	Isolate malfunctions to battery chargers	100
D149	Inspect or clean battery chargers	100
D143	Inspect air compressor components	100
D141	Adjust voltage regulators	100
K416	Replace fuses	100
D140	Adjust battery chargers	100
D139	Adjust air compressor relief valves	100
E194	Replace lube oil filters or strainers	100
A9	Conduct tours of electrical power production facilities	100
M517	Start up or shut down generator sets	100
M512	Perform walk-around inspections of generator sets during operation	100
M519	Take or record engine indicator readings	100
M513	Place generator sets on line after power failures	100
M506	Parallel generator sets manually	100
D166	Replace air compressor relief valves	80
D145	Inspect power plant air distribution systems	80
D148	Inspect or clean air compressor relief valves	80
C135	Test engine safety circuits or protective devices	80
M507	Perform generator set emergency shutdown procedures	80

TABLE A4

REPRESENTATIVE TASKS PERFORMED BY THE GASOLINE OR DIESEL ENGINE MAINTENANCE JOB
(ST107)

TASKS		PERCENT MEMBERS PERFORMING
A43	Read wiring or schematic diagrams	98
A46	Replace batteries	96
C123	Replace engine gaskets, other than head gaskets	96
C126	Replace head gaskets	94
E177	Change lubricating oil	93
A39	Perform corrosion control on electrical power production equipment	93
A14	Inspect power generating equipment drive belts	93
E194	Replace lube oil filters or strainers	93
A3	Adjust power generating equipment drive belts	93
C124	Replace engine safety circuits or protective devices	93
C96	Isolate malfunctions to electrical start systems	93
C122	Replace electric start system components	93
A57	Service or charge lead-acid-type batteries	91
M509	Perform postoperational inspections of generator sets	91
C91	Inspect or clean cylinder liners	91
C125	Replace engine seals	91
C86	Inspect cylinder heads	91
C87	Inspect engine safety circuits or protective devices	91
C90	Inspect valves and valve spring assemblies	91
C97	Isolate malfunctions to engine safety circuits or protective devices	91
M503	Interpret meter readings	89
A13	Fabricate replacement gaskets	89
G270	Inspect cooling system components	89
F209	Inspect or clean fuel filters or strainers	89
C92	Inspect or clean engine blocks	89
C85	Inspect crankshafts	89
C77	Adjust engine safety circuits or protective devices	89
C88	Inspect pistons	89
C136	Time camshafts	89

TABLE A5

REPRESENTATIVE TASKS PERFORMED BY COMMERCIAL POWER GENERATOR MAINTENANCE JOB
(ST114)

TASKS		PERCENT MEMBERS PERFORMING
M517	Start up or shut down generator sets	100
M505	Parallel generator sets with commercial power	100
M513	Place generator sets on line after power failure	100
A209	Monitor commercial power	91
M510	Perform preoperational inspections of generator sets	91
M497	Adjust or monitor switchgear controls	91
M496	Adjust or monitor engine controls	91
M519	Take or record engine indicator readings	82
M509	Perform postoperational inspections of generator sets	82
M512	Perform walk-around inspections of generator sets during operation	82
M512	Perform standby engine run-ups	82
M498	Adjust or monitor switchgear devices	82
M503	Interpret meter readings	82
M518	Switch generator set operations from single-bus to split-bus or from split-bus to single-bus	82
M499	Analyze meter readings for operations or load requirements	73
U899	Conduct on-the-job training (OJT)	73
M508	Perform generator set single unit operations	73
A43	Read wiring or schematic diagrams	73
M506	Parallel generator sets manually	73

TABLE A6

REPRESENTATIVE TASKS PERFORMED BY THE SUPERVISION CLUSTER
(ST085)

TASKS		PERCENT MEMBERS PERFORMING
T859	Determine or establish work assignments or priorities	93
T857	Counsel subordinates concerning personal matters	93
T856	Conduct supervisory orientation for newly assigned personnel	93
T875	Evaluate personnel for promotion, demotion, reclassification, or special awards	90
T892	Write or endorse military performance reports	89
T880	Inspect personnel for compliance with military standards	89
T870	Establish performance standards for subordinates	89
T851	Conduct general meetings, such as staff meetings, briefings, conferences, or workshops	88
T874	Evaluate personnel for compliance with performance standards	88
T849	Assign personnel to work areas or duty positions	86
T881	Interpret policies, directives, or procedures for subordinates	86
T850	Assign sponsors for newly assigned personnel	86
T854	Conduct supervisory performance feedback sessions	85
T858	Determine or establish logistics requirements, such as personnel, equipment, tools, parts, supplies, or workspace	84
U909	Evaluate progress of trainees	84
U911	Maintain training records or files	83
T855	Conduct safety inspections of equipment or facilities	80
T893	Write recommendations for awards or decorations	79
U899	Conduct on-the-job training (OJT)	79

TABLE A7

REPRESENTATIVE TASKS PERFORMED BY THE MOBILITY JOB
(ST143)

TASKS		PERCENT MEMBERS PERFORMING
P738	Perform pallet buildup activities	100
P720	Don or doff chemical warfare personal protective clothing	100
P745	Prepare equipment for deployments	100
P723	Inspect mobility bags or kits	100
M508	Perform generator set single unit operations	100
M510	Perform preoperational inspections of generator sets	100
M509	Perform postoperational inspections of generator sets	100
M512	Perform walk-around inspections of generator sets during operation	100
P731	Pack or palletize mobility or contingency equipment for shipment or movement	86
P724	Inspect packed or palletized mobility or contingency equipment prior to transport	86
P752	Tear down, inspect, clean, and reassemble weapons, such as M-16 rifles	86
U911	Maintain training records or files	86
P735	Perform chemical warfare agent decontamination procedures	86
A39	Perform corrosion control on electrical power production equipment	86
M517	Start up or shut down generator sets	86
M514	Refuel generator sets or storage tanks	86

TABLE A8

REPRESENTATIVE TASKS PERFORMED BY THE TRAINING JOB
(ST214)

TASKS		PERCENT MEMBERS PERFORMING
U898	Conduct formal classroom training	100
U912	Personalize lesson plans	100
U895	Administer or score tests	100
U909	Evaluate progress of trainees	100
U900	Counsel trainees on training progress	100
U905	Develop or procure training materials or aids	100
U902	Develop formal course curricula, plans of instruction (POIs), or specialty training standards (STSs)	100
U911	Maintain training records or files	100
U904	Develop written tests	88
U910	Inspect training materials or aids for operation or suitability	88
U896	Brief personnel concerning training programs or matters	75
U903	Develop training programs, plans, or procedures	75

TABLE A9

REPRESENTATIVE TASKS PERFORMED BY THE UPS MAINTENANCE AND OPERATIONS JOB (ST862)

TASKS		PERCENT MEMBERS PERFORMING
L488	Shut down or start up SSUPSs	100
L493	Transfer SSUPS bypass to maintenance bypass	100
L492	Transfer maintenance bypass to SSUPS bypass	100
L440	Inspect SSUPS battery banks	100
L436	Align control circuitry of SSUPSs	100
L484	Replace SSUPS printed circuit boards	100
L490	Test SSUPS batteries	100
L471	Perform periodic maintenance on SSUPSs	100
L469	Perform parallel operations of SSUPSs	100
L478	Replace SCRs in SSUPSs	100
L449	Isolate malfunctions to SSUPS inverters	100
L479	Replace SSUPS capacitor bank components	100
L472	Perform single unit operations of SSUPSs	100
L480	Replace SSUPS control circuit components	100
L462	Isolate malfunctions within SSUPS inverters	100
L466	Isolate malfunctions within SSUPS rectifiers/chargers	100
L481	Replace SSUPS filter bank components	100
L459	Isolate malfunctions within SSUPS battery banks	100
L454	Isolate malfunctions to SSUPS static switches	100
L460	Isolate malfunctions within SSUPS control circuits	100

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