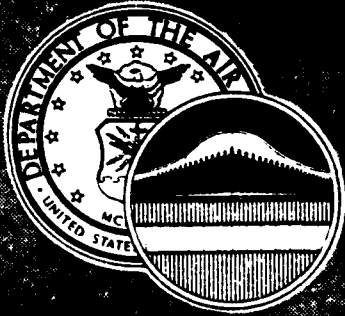


AD-A158 649



UNITED STATES AIR FORCE

# OCCUPATIONAL SURVEY REPORT

RADIOLOGIC CAREER LADDER,

AFSC 903X0.  
AFPT 90-903-525

JULY 1985

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## PREFACE

This report presents the results of an Air Force occupational survey of the Radiologic career ladder (AFSC 903X0). The report was requested by the School of Health Care Sciences at Sheppard Air Force Base, Texas. Authority for conducting specialty surveys is contained in AFR 35-2. Computer products used in this report are available for use by operations and training officials.

First Lieutenant Beverly C. Handy, Inventory Development Specialist, developed the survey instrument used in this project. Ms Olga Velez provided computer support and Captain Everton R. Wallace analyzed the data and wrote the final report. Major Charles D. Gorman, Chief, Airman Career Ladders Analysis Section, reviewed the report and approved it for release.

Copies of this report are distributed to Air Staff sections, major commands, and other interested training and management personnel. Additional copies are available upon request to the Occupational Measurement Center, Attention: Chief, Occupational Analysis Branch (OMY), Randolph Air Force Base, Texas 78150-5000.

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## SUMMARY OF RESULTS

1. Survey Coverage: The Radiologic job inventory was administered worldwide during 1984. Results are based on responses from 691 incumbents. This number represents 70 percent of the career field.
2. Career Ladder Structure: The results indicate the career field is very homogeneous. More than half the respondents fell into one job cluster--General Radiologic Technicians Cluster; however, several highly technical splinter groups, such as Computerized Tomography Technicians, Radiation Therapists, and Ultrasound Technicians, were identified. The survey identified 4 clusters with 10 job types and 10 independent job types.
3. Career Ladder Progression: The nature of the jobs performed changed as skill level and time in service increased. Three- and 5-skill level personnel performed very similar technical jobs, while 7-skill level personnel performed supervisory, as well as technical, tasks. AFR 39-1 was very accurate for the 7-skill level, but failed to mention special imaging procedures and radiotherapy at the 5-skill level.
4. CONUS/Overseas Comparison: There were only slight differences between CONUS and overseas groups. Radiologic personnel located at CONUS installations devoted more time to special radiographs while overseas personnel spent more time on administrative functions.
5. Training Analysis: Survey data generally supported the POI for Course 3ABR90330; however, areas of the course dealing with ultrasonography, radiotherapy, and computerized tomography should be considered for possible deletion because very few people work in these areas. Conversely, there are tasks performed by significant numbers of people that are not taught in the course. The STS had the same problems that were noted in the POI.
6. Implications: A more effective means of managing the reassignment of people in the most technical areas of this specialty should be developed. This should prevent reassignment to unrelated areas shortly after people become proficient. In addition, it does not seem cost-effective to cover these highly technical areas (computerized tomography, ultrasound, and radiation therapy) in the Phase I course. Further, AFR 39-1 should be revised to include special imaging procedures and radiation treatment of diseases at the 5-skill level. Finally, action should be taken to ensure retention of personnel in this specialty.

OCCUPATIONAL SURVEY REPORT  
RADIOLOGIC CAREER LADDER  
(AFSC 903X0)

INTRODUCTION

This is a report of an occupational survey of the Radiologic career ladder completed by the USAF Occupational Measurement Center in May 1985. The specialty was last surveyed in July 1978. This occupational survey was conducted in response to a request from the School of Health Care Sciences at Sheppard AFB, Texas, to examine training requirements for equipment new to the field (ultrasound and computerized tomography). Training personnel are also interested in determining how many incumbents are performing radiation therapy.

Background

This specialty was created in 1951 with the title of Radiology. In October of 1976, the title was changed to Radiologic Specialty. Since then, the name and function of the career ladder have not changed.

Personnel normally enter the Radiologic career ladder by first attending the J3ABR90330, Radiologic Specialist Course, at the School of Health Care Sciences, Sheppard AFB, Texas. These personnel may be either "pipeline" students from basic training or retrainees from other specialties. Upon completion of this 14-week course, graduates are awarded the 3-skill level. The graduates are next sent to one of several designated Air Force hospitals or medical centers where they are immediately entered into Course J5A2090350, Radiologic Specialist (Phase II). After 6 months of this 38-week course, students may be awarded the 5-skill level. Satisfactory completion of both courses satisfies 1 year of the 2-year American Medical Association (AMA) accredited training program for certification as a Radiologic Technologist. The second year of training can be accomplished at any Air Force medical facility with a full-time radiologist on its staff. Many airmen, however, are assigned to medical facilities without a radiologist and, consequently, not all airmen will receive certification in their first assignment or first enlistment. The primary duties of the personnel in this specialty are to operate X-ray equipment to produce radiographs, assist radiologists or physicians with special and advanced radiographic procedures, assist radiotherapists in the treatment of disease by radiotherapy, and to enforce health protective measures to prevent overexposure to X-radiation or contamination by radioactive source materials.

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## SURVEY METHODOLOGY

### Inventory Development

USAF Job Inventory AFPT 90-903-525 (February 1984) was the data collection instrument used for this occupational survey. Using the survey instrument from the 1978 study as a starting point for the new task inventory, the developer and 25 subject-matter experts from 5 different bases refined and further developed the task list. Interview locations included at least one of each major type of Air Force medical facility. Categories of facilities are medical centers, regional hospitals, USAF (base) hospitals, and USAF clinics. The reasoning behind these visits is that, depending on size of the facility, the job performed will vary significantly. This is because the larger facilities (medical centers and regional hospitals) are usually supplied with the most modern equipment, and perform a greater variety of advanced procedures. The following bases were interview locations.

Wilford Hall - Medical Center  
Sheppard AFB Hospital - Regional Hospital  
Bergstrom AFB Hospital - Base Hospital  
Randolph AFB Clinic - Large- to Medium-Size Clinic  
Goodfellow AFB Clinic - Small Clinic

The resulting job inventory contained a comprehensive listing of 599 tasks under 16 duty headings and a background section requesting information such as grade, duty title, time in present job, and job satisfaction data.

### Survey Administration

From March through November 1984, Consolidated Base Personnel Offices in operational units worldwide administered the survey to Radiologic personnel. Participants were selected from a computer-generated mailing list provided by the Air Force Human Resources Laboratory.

All individuals who filled out an inventory first completed an identification and biographical information section and then checked each task performed in their current job. Next, members rated the tasks on a 9-point scale showing relative time spent on each as compared to all other tasks. Ratings ranged from 1 (very small amount of time spent) to 9 (very large amount of time spent). Statistical analysis of these ratings permitted very precise estimates of the percent of time individuals spent on each task.

### Survey Sample

Personnel in the survey were carefully selected to ensure an accurate representation across major commands (MAJCOM) and military paygrade. Table 1 shows how the final sample compared to the actual population of the career field in terms of their distribution across MAJCOMs. The table clearly shows each MAJCOM was proportionately represented. To further show how well sample distribution reflects the career field, Tables 2 and 3 compare the distribution of the population versus the sample on paygrade and Total Active Federal Military Service (TAFMS).

TABLE 1  
COMMAND REPRESENTATION

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
AAC	2	2
AFLC	6	7
AFSC	11	13
ATC	14	16
MAC	14	16
PACAF	4	3
SAC	16	16
TAC	15	13
USAFE	10	9
OTHER	8	5

TABLE 2  
PAYGRADE DISTRIBUTION

<u>PAYGRADE</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
E-1 - E-3	40	36
E-4	26	25
E-5	19	22
E-6	9	10
E-7	6	7

TABLE 3  
TAFMS DISTRIBUTION

<u>MONTHS TAFMS</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
1-48 MONTHS	55	51
49-96 MONTHS	22	22
97+ MONTHS	23	27

### Data Processing and Analysis

Once job inventories are returned from the field, task response and background information are optically scanned. Other biographical information (such as name, base, AUTOVON extension) are keyed onto disks and entered directly into the computer. Once both sets of data are in the computer, they are merged to form a complete case record for each respondent. Comprehensive Occupational Data Analysis Programs (CODAP) are then used to analyze the data.

CODAP produces job descriptions for groups of respondents, such as DAFSC groups, TAFMS groups, and MAJCOM groups. These descriptions provide information on percent members performing and average relative time spent on each task. In addition to these job descriptions, the computer produces summaries that show how members of each group responded to each background item. Background items identify characteristics of the group, such as DAFSCs represented, time in career field (TICF), TAFMS, experience in the various functional areas, and equipment operated.

The CODAP automated job clustering program organizes individual jobs into similar units of work by comparing each individual job description in the sample to every other job description in terms of tasks performed and the relative amount of time spent on each task in the job inventory. The automated system locates those two job descriptions with the most similar task ratings and combines them into a composite job description. In successive stages, the system adds more members to the initial group or forms new groups. The resulting analysis of job groups identifies the number and characteristics of jobs within the career ladder.

The basic group used in the clustering process is the Job Type. A job type is a group of individuals who perform many of the same tasks and spend similar amounts of time performing them. Next in the hierarchy is a subcluster. A subcluster is a group of individuals who perform related tasks, but which contains several specific job types that differ from one another, usually in minor ways. When several job types or subclusters are similar, they group together to form a cluster. When a job type is too dissimilar from other jobs to be included in a cluster or subcluster, it is called an Independent Job Type.

This kind of information is used to evaluate utilization policy and the variation in jobs within the specialty. Such data may also have implications, when used with other types of information, for career field documents and training programs. Such other types of information include independent ratings by supervisors on tasks, which are referred to as Task Factors.

### Task Factor Administration

In addition to completing the job inventory, selected senior 903X0 personnel (generally E-6 and E-7 technicians) were also asked to complete a second booklet for either training emphasis (TE) or task difficulty (TD). Major command distribution of these raters appears in Table 4. The TE and TD booklets are processed separately from the job inventories. The rating information is used in several analyses discussed in detail within this report.

Task Difficulty. Each senior technician completing a TD booklet was asked to rate all inventory tasks on a 9-point scale (from extremely low to extremely high) as to relative difficulty. Difficulty is defined as the length of time required by an average member to learn to do the task. Task difficulty data were independently collected from 38 experienced 7-skill level 903X0 personnel stationed worldwide, with all raters assessing the difficulty of inventory tasks. The interrater reliability (as assessed through components of variance of standard group means) was .96. Task difficulty ratings were adjusted so tasks of average difficulty would have a 5.00 rating. The resulting data are essentially a rank ordering of tasks indicating the relative degree of difficulty for each task in the inventory.

Job Difficulty Index (JDI). After computing the 903X0 TD index for each task item, it was possible to compute a JDI for the job groups identified in the survey analysis. The index provides a relative measure of which jobs, when compared to other jobs identified, are more or less difficult. An equation using the number of tasks performed and the average difficulty per unit time spent (ADPUTS) as variables is the basis for the JDI. The index ranges from 1.0 for very easy jobs to 25.0 for very difficult jobs. The indices are adjusted so the average JDI is 13.0.

Training Emphasis. Experienced technicians completing TE booklets were asked to rate tasks on a 10-point scale ranging from no training required (0) to extremely heavy training required (9). Training emphasis is a rating of which tasks require more emphasis in structured training for first-term personnel. Structured training is defined as training provided at resident technical schools, field training detachments (FTD), mobile training teams (MTT), formal OJT, or any other organized training method. Training emphasis data were independently collected from 46 experienced 903X0 7-skill level personnel stationed worldwide. The interrater reliability (as assessed through components of variance of standard group means) for these raters was .97, indicating there was excellent agreement among raters as to which tasks required some form of structured training and which did not.

When used in conjunction with other information, such as percent members performing and task difficulty, TE ratings can provide insight into training requirements. Such insights may help validate lengthening or shortening portions of instruction supporting AFSC needed knowledges or skills.

TABLE 4  
 COMMAND DISTRIBUTION OF TASK DIFFICULTY AND  
 TRAINING EMPHASIS RATERS

<u>COMMAND</u>	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF TD RATERS</u>	<u>PERCENT OF TE RATERS</u>
AAC	2	0	2
AFLC	6	5	9
AFSC	11	10	11
ATC	14	17	22
MAC	14	14	15
PACAF	4	2	4
SAC	16	19	11
TAC	15	19	9
USAFE	10	10	15
OTHER	8	4	2

SPECIALTY JOBS  
(Career Ladder Structure)

One of the most important functions of the USAF Occupational Analysis Program is to identify the variety of jobs performed within a career field, as well as how these jobs relate to each other. The diversity of jobs is important to both the USAF Personnel Classification System and the training community. If jobs are diverse or specialized, shreds may serve as an effective force management tool. If, on the other hand, jobs have a lot in common, shreds and their attendant channelized training may unnecessarily burden both the classification and training systems.

Additionally, job information is used to analyze career progression patterns and career field documents (primarily AFR 39-1 Specialty Descriptions, Specialty Training Standards, and basic course Plans of Instruction) to identify needed changes. Job data are also used to identify morale (job satisfaction) problems, noteworthy trends, and other issues needing management attention.

Overview

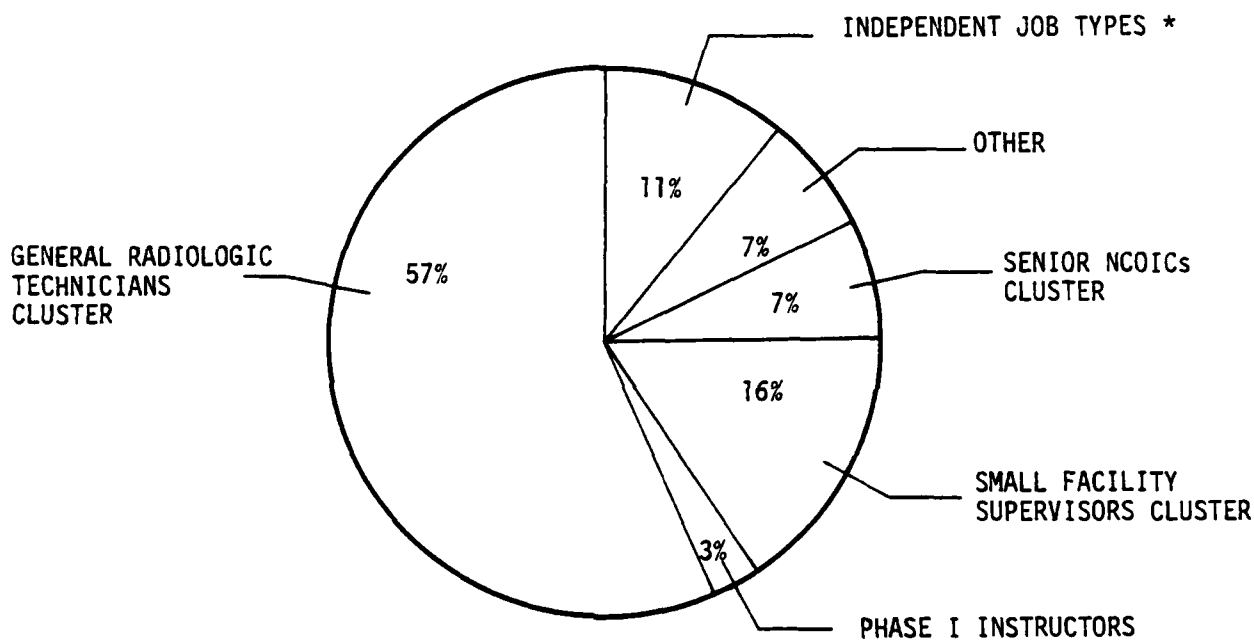
Analysis of the Radiologic specialty survey results identifies 4 clusters, 10 job types, and 10 independent job types. Figure 1 shows the distribution of these job groups. The groups broke out mainly on the type of procedures performed, which was often governed by size of the facility. Following is a list of job groups identified:

- I. GENERAL RADIOLOGIC TECHNICIANS CLUSTER (GRP107, N=395)
  - A. Clinic Radiotechnologists Job Type (GRP136, N=54)
  - B. Hospital Radiotechnologists Job Type (GRP146, N=298)
  - C. Medical Center Radiotechnologists Job Type (GRP121, N=41)
- II. SMALL FACILITY SUPERVISORS CLUSTER (GRP097, N=113)
  - A. Standard Procedures Supervisors Job Type (GRP099, N=81)
  - B. Ultrasound and Standard Procedures First-Line Supervisors Job Type (GRP102, N=32)
- III. STANDARD RADIOGRAPHERS FIRST-LINE SUPERVISORS INDEPENDENT JOB TYPE (GRP092, N=6)
- IV. STANDARD AND SPECIAL DIAGNOSTIC RADIOLOGISTS INDEPENDENT JOB TYPE (GRP087, N=10)
- V. HOSPITAL PHASE II COURSE SUPERVISORS AND INSTRUCTORS INDEPENDENT JOB TYPE (GRP078, N=9)

- VI. SPECIAL DIAGNOSTIC RADIOGRAPHERS INDEPENDENT JOB TYPE (GRP059, N=5)
- VII. ROTATING COMPUTERIZED TOMOGRAPHY TECHNICIANS INDEPENDENT JOB TYPE (GRP065, N=5)
- VIII. ANGIOGRAPHY TECHNICIANS INDEPENDENT JOB TYPE (GRP069, N=7)
- IX. SENIOR NCOIC CLUSTER (GRP022, N=45)
  - A. Diagnostic Radiology NCOIC Job Type (GRP089, N=8)
  - B. Radiology NCOIC Job Type (GRP077, N=22)
  - C. Medical Center and Regional Hospital Phase II Course Supervisors Job Type (GRP088, N=7)
- X. RADIATION THERAPISTS INDEPENDENT JOB TYPE (GRP070, N=7)
- XI. ULTRASOUND TECHNICIANS INDEPENDENT JOB TYPE (GRP090, N=12)
- XII. ADMINISTRATIVE PERSONNEL INDEPENDENT JOB TYPE (GRP053, N=7)
- XIII. PHASE I INSTRUCTORS CLUSTER (GRP020, N=18)
  - A. A- and B-Shift Instructors Job Type (GRP050, N=5)
  - B. C-Shift Instructors Job Type (GRP051, N=7)
- XIV. COMPUTERIZED TOMOGRAPHY TECHNICIANS INDEPENDENT JOB TYPE (GRP049, N=5)

Ninety percent of the respondents to this survey fell into the groups mentioned above. The other 10 percent (70 people) were individuals whose jobs were unlike any other in the sample. The career field is structured so over half (57 percent) of the incumbents fall into 1 job cluster performing basic Radiologic functions. The remainder of the people are divided into smaller clusters and several specific independent job types. Tables in Appendix A list top tasks for each job group discussed.

FIGURE 1  
 MAJOR JOB GROUP DISTRIBUTION



\* INDEPENDENT JOB TYPES

- Standard Radiographers First-Line Supervisors (1%)
- Standard and Special Diagnostic Radiologists (1%)
- Hospital Phase II Course Supervisors and Instructors (2%)
- Special Diagnostic Radiographers (1%)
- Rotating Computerized Tomography Technicians (1%)
- Angiography Technicians (1%)
- Radiation Therapists (1%)
- Ultrasound Technicians (2%)
- Administrative Personnel (1%)
- Computerized Tomography Technicians (1%)



## JOB GROUP DESCRIPTIONS

I. GENERAL RADIOLOGIC TECHNICIANS CLUSTER (GRP107, N=395). This cluster is the largest of the 4 identified, accounting for 57 percent of the respondents. Members of this cluster are basic Radiographers. They are the technicians that most people will see when radiographs are required. The jobs performed by this group are very broad and include standard examinations such as bone X-rays. They also perform special procedures using barium and air contrast media. In addition, these people perform many of the required administrative functions. Some specific tasks performed by the cluster are listed below:

- perform radiographic examinations of the chest
- prepare and position patients for standard radiographic examinations
- load or unload cassettes
- prepare film file envelopes
- file radiographic films or reports
- maintain film bins
- produce radiographs during barium enemas
- escort patients to or from litters or wheelchairs

Seventy-one percent of the people in the cluster hold the 5-skill level, while 21 percent and 8 percent hold the 3- and 7-skill levels, respectively. Only 18 percent of the cluster are assigned overseas. The cluster has an average grade of E-4 and 47 months of military service. Seventy percent of the incumbents are in their first enlistment.

Within the cluster, three job types were identified. The major distinguishing feature of each job type is the size of the facility to which the people are assigned.

A. Clinic Radiotechnologists Job Type (GRP136, N=54). Members of this group perform many of the tasks common to the cluster; however, personnel stationed at clinics spend slightly more time on administrative functions than the other job types. Further, personnel in this job type were more senior than the other two job types. The average grade is E-5, with 84 months in service. Only 4 percent are 3-skill level. Seventy-two percent are 5-skill level and 24 percent are 7-skill level. More than half the group, 54 percent, are assigned overseas. Thirty-three percent of the incumbents are in their first enlistment.

B. Hospital Radiotechnologists Job Type (GRP146, N=298). The job description for this group is almost identical to that of the cluster. This job type contains a higher percentage of first-termers than the cluster, 59 percent.

C. Medical Center Radiotechnologists Job Type (GRP121, N=41). The major difference between this job type and the rest of the cluster is this group is more specialized. The members spend more time on standard

examinations and less on other areas. The specialization is due to the fact that no one can be effective in all the available duty sections of a medical center. These people are assigned to sections that perform basic X-ray functions. Average grade for the group is E-3, with an average of 43 months service. The group is 27 percent 3-skill level, 68 percent 5-skill level, and 5 percent 7-skill level personnel. Seventy-eight percent of this job type are first-termers.

II. SMALL FACILITY SUPERVISORS CLUSTER (GRP097, N=113). Eighty percent of the people in this cluster are assigned to relatively small units such as hospitals or clinics. In addition, over 50 percent identified themselves as NCOICs of a radiology section or department. Apparently, at many small units the supervisors must also act as technicians. Personnel in this cluster perform tasks that are common to the other job cluster already discussed. In addition to standard, special, and administrative functions, these people are also supervising. They are primarily radiotechnologists and, as such, perform tasks like:

- prepare and position patients for standard radiographic examinations
- shield patients during radiographic examinations
- prepare film file envelopes
- load or unload cassettes
- update patients nominal index card files
- determine exposure factors using standardized radiographic technique charts

In their secondary function, they perform tasks such as:

- supervise Radiologic Specialists (AFSC 90350)
- write APR
- coordinate preventive maintenance of radiographic equipment with medical equipment repair personnel
- counsel personnel on personal or military-related problems
- direct patient care procedures

Personnel in this group are fairly senior. The average grade is E-5, and 132 months is the average TAFMS. The group is half 5-skill level and half 7-skill level personnel. Seventy-eight percent are CONUS based.

A. Standard Procedures Supervisors Job Type (GRP099, N=81). As with the cluster, this job type performs significant amounts of technical, as well as supervisory, tasks. Included in their job description are tasks such as:

- perform radiographic examinations of the chest
- shield patients during radiographic examinations
- prepare film file folders

load or unload cassettes  
supervise Radiologic Specialists (AFSC 90350)  
write justifications for equipment  
direct patient care procedures  
establish work priorities

The departments these people supervise are relatively small. Seventy-four percent of the group reported they supervise five or less people. Over 85 percent of these people are assigned to clinics or small hospitals. The average grade is E-6, while average TAFMS is 155 months. Fifty-nine percent hold the 7-skill level and only 3 percent are first-termers.

B. Ultrasound and Standard Procedures First-Line Supervisors Job Type (GRP102, N=32). Surprisingly, there are people in this group that work with ultrasound. The job performed by these people is primarily technical. About half of the group's time is spent performing standard radiographic examinations and ultrasonographic procedures. With a JDI of 17.9, the job performed by these people is one of the most difficult in the career ladder. Tasks often performed by the group include:

perform obstetric ultrasonography for fetal age determination  
perform obstetric ultrasonography for fetal anomalies  
perform gall bladder ultrasonography  
perform radiographic examinations of the chest  
perform radiographic examinations of the hand  
shield patients during radiographic examinations

Although 50 percent of these people identified themselves as supervisors, they spend less than 10 percent of their time performing supervisory functions. The average grade is E-4 and average TAFMS is 73 months. Six percent of the group hold the 3-skill level, 78 percent hold the 5-skill level, and 16 percent hold the 7-skill level. First-termers account for 38 percent of the job type.

III. STANDARD RADIOGRAPHERS FIRST-LINE SUPERVISORS INDEPENDENT JOB TYPE (GRP092, N=6). Personnel in this independent job type spend over half their time performing standard radiographic examinations. These six people also spend an additional 17 percent of their time on supervisory functions. The major difference between this group and GRP099 (IIA) is the size of the facilities to which they are assigned. These people are assigned to facilities of varying sizes while those in GRP099 are assigned to small facilities. Since these people are in larger facilities, they are more specialized and work primarily in one area--standard radiographs. Their job description includes the following tasks:

perform radiographic examinations of the abdomen  
perform radiographic examinations of the ankle  
perform radiographic examinations of the toes  
perform radiographic examinations of the nasal series  
perform radiographic examinations of the lumbar spine

- perform radiographic examinations of the sella turcica
- perform long bone studies
- perform bone age studies

The supervisory tasks that this group performed include:

- supervise Radiologic Specialists (AFSC 90350)
- establish work priorities
- maintain call rosters of technologists
- plan or schedule work assignments

The average grade for this independent job type is E-5. They also average 109 months TAFMS. Of the six, one member is a 3-skill level, 3 are 5-skill level, and 2 are 7-skill level. Only one person is a first-termer.

IV. STANDARD AND SPECIAL DIAGNOSTIC RADIOLOGISTS INDEPENDENT JOB TYPE (GRP087, N=10). These people are assigned primarily to medical centers. The major part of their job deals with standard radiologic examinations and special radiographic procedures. About three-fourths of their time is spent in these two areas. The remainder of their time is divided between administration, radiographic film processing, and general services. Tasks performed by this group include:

- perform radiographic examinations of the chest
- produce radiographs during upper gastrointestinal (UGI) series
- produce radiographs during barium swallow examinations
- prepare and position patients for standard radiographic examinations
- produce radiographs during barium enemas
- identify radiographic films with identifiers

These people are fairly junior with an average grade of E-3 and average TAFMS of 38 months. Of the 10, 4 are 3-skill level, 5 are 5-skill level, and only 1 is a 7-skill level. Eight of the 10 members are first-termers and all are assigned in CONUS.

V. HOSPITAL PHASE II COURSE SUPERVISORS AND INSTRUCTORS INDEPENDENT JOB TYPE (GRP078, N=9). As the job title suggests, these people are primarily assigned to hospitals as Phase II instructors or supervisors. They perform many of the tasks performed by most hospital technologists and, in addition, they supervise and instruct Phase II students. This group had one of the highest average number of tasks performed, 232. Further, their job difficulty index of 18.9 was the highest in the survey. The following list is a sample of tasks performed by this group:

- supervise Apprentice Radiologic Specialists (AFSC 90330)
- evaluate progress of Phase II students
- update film folders
- assign personnel to duty positions

participate in taking spot films during barium swallow examinations using fluoroscopic equipment  
plan or schedule Phase II classroom training

Only about half the group indicated their job titles were Phase II supervisors or instructors. The remainder of the group said they were NCOICs or Radiologic Specialists. Through telephone contact, it was learned that, although some were not assigned as Phase II instructors, they often performed this function.

The average grade of the group was E-5 and average time in service was 91 months. There are four 5-skill level and five 7-skill level personnel in this independent job type. Two people were first-termers.

VI. SPECIAL DIAGNOSTIC RADIOGRAPHERS INDEPENDENT JOB TYPE (GRP059, N=5). This group of five individuals spent about a third of their time performing or participating in special radiographic procedures. Much of the job deals with fluoroscopes and contrast media. The job performed by this group is technical and includes very few supervisory tasks. Some of the tasks performed by this group are:

- produce radiographs during air contrast enemas
- produce radiographs during barium enemas
- set up fluoroscopic equipment with TV monitor
- produce radiographs during arthrography
- produce radiographs during small bowel series
- produce radiographs during cystography

The average grade is E-4 and average time in service is 33 months. There is only one 3-skill level, the rest are 5-skill level personnel. Four of the five are first-termers.

VII. ROTATING COMPUTERIZED TOMOGRAPHY TECHNICIANS INDEPENDENT JOB TYPE (GRP065, N=5). All personnel in this independent job type are assigned to medical centers. The primary focus of their job is to operate the computerized tomography/total body (CT/T) scanners. In addition, these people perform administration, supervisory functions, special procedures, and standard procedures. Although primarily assigned to CT/T scanner units, these people often rotate to other sections in the Radiology Department. This differs from GRP049 (XIV) in that personnel in GRP049 are seldom, if ever, moved to different areas. Tasks performed by these people include:

- schedule patients for radiographic examinations
- supervise Radiologic Specialists (AFSC 90350)
- perform priority queuing
- administer intravenous (IV) injections
- perform CT/T scanner archive procedures
- transcribe CT/T display console information onto permanent copy film
- perform reformations for CT/T scans

E-5 is the average grade and 106 months is the average time in service for this group. There is only one first-termer in the group and that person is also the only 3-skill level. There are two 5-skill level and two 7-skill level people in the group.

VIII. ANGIOGRAPHY TECHNICIANS INDEPENDENT JOB TYPE (GRP069, N=7). These medical center personnel spend about one-third of their time performing or participating in advanced radiologic procedures. The advanced procedure most often performed is angiography. In addition to performing the advanced procedures, these people set up equipment for advanced as well as special procedures. Further, they spend significant amounts of time processing radiographic film.

Examples of tasks performed by this group are listed below.

- produce radiographs during abdominal angiography
- produce radiographs during cerebral angiography
- prepare and position patients for advanced radiographic procedures
- set up automatic pressure injectors
- prepare equipment and supplies for special radiographic procedures
- mix chemical processing solutions

These people are all assigned to medical centers. Their average grade is E-4, with 50 months in service. Six of the seven people hold the 5-skill level. The others hold the 7-skill level. Five of the seven are first-termers.

IX. SENIOR NCOIC CLUSTER (GRP022, N=45). Members of this cluster spend over 80 percent of their time performing supervisory functions. They are the top-level supervisors and are removed from everyday performance of technical tasks. The few technical tasks these people perform are done to fill training needs--either OJT or Phase II training. Examples of tasks performed include:

- write APR
- plan or schedule work assignments
- supervise Radiologic Specialists (AFSC 90350)
- evaluate compliance with work standards
- develop work methods or procedures
- indorse airman performance reports (APR)
- draft budget and financial requirements

People in this cluster average E-6 and 182 months TAFMS. There are no 3-skill level people in the cluster. Fifty-six percent are 5-skill level and 44 percent are 7-skill level people. Only one person is a first-termer.

A. Diagnostic Radiology NCOIC Job Type (GRP089, N=8). This job type was much like the cluster, except members perform even fewer technical tasks. This group spent 93 percent of their time supervising. They are assigned to

some of the larger medical facilities and supervise an average of 10 people. Examples of tasks performed by these NCOICs are shown below:

- establish work priorities
- evaluate compliance with work standards
- supervise Radiologic Technicians (AFSC 90370)
- indorse airman performance reports (APR)
- edit or review incoming or outgoing correspondence
- conduct staff meetings

All members are 7-skill level or above and no first-term personnel were found in the job type. The average grade and TAFMS for the group was E-7 and 196 months, respectively.

B. Radiology NCOIC Job Type (GRP077, N=22). Although these people are as senior as Diagnostic Radiology NCOIC, they perform significantly more technical tasks. This group spends 73 percent of their time on supervisory tasks. In addition, they perform tasks often done by more junior personnel. Further, they spend far more time on administration than other supervisors in this cluster. Tasks performed by this cluster include:

- supervise Radiologic Specialists (AFSC 90350)
- write justifications for equipment
- evaluate work standards
- prepare requests for local purchase of items
- evaluate budget or financial requirements
- inventory supplies, equipment, or tools

Not surprisingly, there are no 3-skill level or first-term personnel in this group. Of the 22 members, only 1 holds the 5-skill level, the rest are 7-skill level personnel. The group averages E-7 and 206 months TAFMS.

C. Medical Center and Regional Hospital Phase II Course Supervisors Job Type (GRP088, N=7). All members of this group are assigned to USAF regional hospitals or medical centers. These are the NCOICs responsible for the Phase II training at their particular facility. This group is senior to GRP078 (V) and, as such, spends more time actually supervising the Phase II Course. In addition to their Phase II duties, they spend significant amounts of time on other supervisory duties. One surprising note is that this group performs no standard radiographic examination. Some tasks performed by the group are listed below:

- develop Phase II course lesson plans
- evaluate progress of Phase II students
- plan or schedule Phase II course classroom training
- conduct Phase II training conferences or briefings
- plan or schedule work assignments
- assign personnel to duty positions

The average grade for this group is E-6 and they average 160 months of military service. Of the seven, one person holds the 3-skill level, the rest hold the 7-skill level.

X. RADIATION THERAPISTS INDEPENDENT JOB TYPE (GRP070, N=7). The job performed by this group is very technical. They work directly with the doctors and patients. Much of the job involves checking therapy equipment and ensuring its safety. These people spend almost half their time performing radiation therapy and related tasks. In addition to radiation, they perform a few tasks in areas such as film processing, administration, and general services. Examples of tasks performed by this job type are shown below:

- perform radiation therapy simulations
- perform mega voltage (Cobalt 60) therapy
- perform safety checks on cobalt therapy equipment
- establish rapport with patients undergoing radiotherapy
- fabricate shielding masks
- escort patients to or from litters or wheelchairs

The average grade for this group is E-5, while the average TAFMS is 84 months. Two members of the group hold the 7-skill level, the other five hold the 5-skill level. All members of the group are assigned within the CONUS.

XI. ULTRASOUND TECHNICIANS INDEPENDENT JOB TYPE (GRP090, N=12). This group of technicians is one of the most homogeneous groups in the survey. Of their top 50 tasks, only 1 was not directly related to performing ultrasonography procedures. Further, over 80 percent of their time was spent performing these procedures. The group performs a wide range of ultrasonography, but obstetric ultrasonography was performed most often. They perform tasks such as:

- perform obstetric ultrasonography for fetal age determination
- perform obstetric ultrasonography for localization of fetus
- perform biliary system ultrasonography
- perform liver ultrasonography
- adjust contrast of ultrasonography cameras

The group averages E-5 for grade and 90 months for TAFMS. Half the people are 5-skill level and the other half are 7-skill level. Two of the 12 people are first-termers.

XII. ADMINISTRATIVE PERSONNEL INDEPENDENT JOB TYPE (GRP053, N=7). This group of seven people spend over 90 percent of their time performing administrative functions. On the average, they perform only about 10 tasks. These people have the least difficult job in the survey, with a JDI of only 1.0. The top tasks performed by these people include: are

- prepare film file envelopes
- update film folders
- pick up, deliver, or sign out radiographic films to physicians
- file radiographic films or reports



match radiographic films to SF Forms 519A (Radiographic Report)  
identify films received from hospitals, clinics, civilian facilities, or government agencies

E-4 is the average grade of these incumbents, with an average TAFMS of 59 months. One member of the group is a 3-skill level, the others are all 5-skill levels. Three people are in their first enlistment.

XIII. PHASE I INSTRUCTORS CLUSTER (GRP020, N=18). These 18 people are all Phase I instructors or instructor supervisors. Their primary function is to teach the basic course for new enlistees and cross-trainees. In performing this job, they perform many technical as well as supervisory tasks. Examples of tasks performed by this cluster include:

- conduct Phase I classroom training
- score tests other than for Phase II course training
- write test questions other than for Phase II course training
- counsel personnel on personal or military-related problems
- inspect film for proper labeling
- visually inspect processing equipment

The average grade for these people is E-5. They average 89 months in TAFMS. Ten of the 18 hold the 5-skill level, while the rest hold the 7-skill level. Four people indicated they were first-termers.

A. A- and B-Shift Instructors Job Type (GRP050, N=5). These instructors operate under a standard classroom setup where training is scheduled and everyone goes at the same pace. In so doing, they perform about twice as many tasks as C-Shift Instructors. Tasks they perform include:

- conduct Phase I course classroom training
- visually inspect processing equipment
- determine exposure factors using standard radiographic techniques charts
- maintain file bins
- mix chemical processing solutions
- evaluate progress of Phase I resident course students

Three 5-skill level and two 7-skill level people make up this group. Only one person is a first-termer. The average grade is E-5 and average TAFMS is 81 months.

B. C-Shift Instructors Job Type (GRP051, N=7). C-Shift Instructors perform very few tasks relative to other instructors. The reason is the students they instruct are self-paced. Since they don't demonstrate procedures and techniques as often as A- and B-Shift Instructors, C-Shift Instructors perform fewer technical tasks. Further, most tasks performed by C-Shift Instructors are performed by other instructors. Examples of tasks performed by this group are shown below:

evaluate progress of Phase I resident course students  
score tests other than for Phase II course training  
counsel trainees on training progress other than for Phase II  
course training  
evaluate training methods, techniques, or programs other than  
Phase II course training  
evaluate compliance with work standards

The average grade and TAFMS is E-5 and 69 months, respectively. There are two 7-skill level and five 5-skill level personnel in this group.

XIV. COMPUTERIZED TOMOGRAPHY TECHNICIANS INDEPENDENT JOB TYPE  
(GRPO49, N=5). This small group of people spend over 65 percent of their time performing 12 tasks. These 12 tasks are all computerized tomography/total body related. These people differ from GRP065, Advanced Radiographers, in that they rarely perform duties outside the CT/T unit. No other duty area accounted for more than 5 percent of their time. Tasks performed include:

perform CT/T archive procedures  
perform dynamic scans  
perform reformations for CT/T scans  
produce magnification radiographs for CT/T scans  
schedule radiology services with other departments  
transport patients on litters or wheelchairs

The group averages E-4 for grade and 71 months for TAFMS. There are four 5-skill level and one 7-skill level in the group. No member of the group is a first-termer.

#### Comparison of Specialty Jobs

For the majority of the 903X0 career ladder, jobs are very similar. These jobs differ only by the size of the facilities to which the people are assigned. These people could be called basic or general X-ray technicians; however, for the remainder of the career field, the jobs are very diverse. These jobs tend to be the independent job types discussed in the Career Ladder Structure section of this report.

General Radiologic Technicians Cluster (GRP107) is by far the largest cluster in the sample, accounting for 57 percent of the respondents. This cluster illustrates the homogeneity that can be found in this career ladder. Although over half the sample fell into this cluster, only three job types were identified. The major difference between the three job types is the size of the facility (clinic, hospital, medical center) to which members were assigned.

The independent job types tended to be very specialized and different from each other. They also tended to be very small groups (1 or 2 percent of the sample), spending a lot of time on one particular aspect of radiology.

Good examples of these job groups are CT/T technicians and radiation therapists. Most of these specialized personnel are assigned to large facilities, such as medical centers and regional hospitals.

Table 5 shows the job difficulty index, as well as the average number of tasks performed, for each job group. Note that Hospital Phase II Course Supervisors have the most difficult job, while Administrative Personnel have the easiest. Table 6 gives background information for all job groups.

Paygrade distribution for the AFS was as expected. Groups performing technical tasks have grade averages of E-3, E-4, and sometimes E-5. Those functioning as supervisors and managers averaged E-6 or E-7.

The skill level breakdown was much like that of the paygrade distribution. Three and 5-skill level personnel were most likely to be in technical job groups, while 7-skill level personnel were more likely to be in supervisory job groups. The only job group performing supervisory functions with less than half its members holding the 7-skill level was Small Facility Supervisors, GRP097. Only 47 percent of this group hold the 7-skill level. In all technical job groups, the majority of the members were 5-skill level personnel.

TABLE 5

## JDI AND AVERAGE NUMBER OF TASKS PERFORMED BY JOB GROUPS

<u>JOB GROUPS</u>	<u>JDI</u>	<u>AVERAGE NUMBER OF TASKS</u>
HOSPITAL PHASE II COURSE SUPERVISORS AND INSTRUCTORS (GRP078, N=9)	18.9	232
ULTRASOUND AND STANDARD PROCEDURES FIRST-LINE SUPERVISORS (GRP102, N=32)	17.9	191
RADIOLOGY NCOIC (GRP077, N=22)	17.3	168
SMALL FACILITY SUPERVISORS (GRP097, N=113)	17.1	194
STANDARD PROCEDURES SUPERVISORS (GRP099, N=81)	16.8	153
ULTRASOUND TECHNICIANS (GRP090, N=12)	16.2	69
ROTATING COMPUTERIZED TOMOGRAPHY TECHNICIANS (GRP065, N=5)	13.9	105
HOSPITAL RADIOTECHNOLOGISTS (GRP136, N=54)	13.8	136
STANDARD RADIOGRAPHERS FIRST-LINE SUPERVISORS (GRP092, N=6)	13.5	108
SENIOR NCOIC CLUSTER (GRP22, N=45)	13.4	116
MEDICAL CENTER AND REGIONAL HOSPITAL PHASE II COURSE SUPERVISORS (GRP088, N=7)	13.4	67
GENERAL RADIOLOGIC TECHNICIANS (GRP107, N=395)	12.8	127
SPECIAL DIAGNOSTIC RADIOGRAPHERS (GRP059, N=5)	12.8	105
DIAGNOSTIC RADIOLOGY NCOIC (GRP089, N=8)	12.6	66
ANGIOGRAPHY TECHNICIANS (GRP069, N=7)	10.9	60
RADIATION THERAPISTS (GRP070, N=7)	10.9	73
CLINIC RADIOTECHNOLOGISTS (GRP136, N=54)	10.5	112
STANDARD AND SPECIAL DIAGNOSTIC RADIOLOGISTS (GRP087, N=10)	9.7	80
COMPUTERIZED TOMOGRAPHY TECHNICIANS (GRP049, N=5)	8.8	21
MEDICAL CENTER RADIOTECHNOLOGISTS (GRP121, N=41)	8.7	21
C-SHIFT INSTRUCTORS (GRP051, N=7)	7.9	19
A- AND B-SHIFT INSTRUCTORS (GRP050, N=5)	7.5	46
PHASE I INSTRUCTORS (GRP020, N=18)	7.1	27
ADMINISTRATIVE PERSONNEL (GRP053, N=7)	1.0	10

TABLE 6

## SELECTED BACKGROUND INFORMATION FOR JOB GROUPS

	GENERAL RADIOLOGIC TECHNICIANS CLUSTER (GRP107)	JOB TYPES		
		CLINIC RADIO- TECHNOLOGISTS (GRP136)	HOSPITAL RADIO- TECHNOLOGISTS (GRP146)	MEDICAL CEN RADIO- TECHNOLOGISTS (GRP121)
NUMBER IN GROUP	395	54	298	41
PERCENT OF TOTAL SAMPLE	57%	8%	43%	6%
PERCENT IN CONUS	81%	44%	87%	88%
DAFSC DISTRIBUTION (PERCENT RESPONDING)				
90330	21%	4%	24%	27%
90350	71%	72%	71%	68%
90370	8%	24%	5%	5%
AVERAGE GRADE				
AVERAGE MONTHS IN CAREER FIELD	E-4 44	E-5 84	E-4 41	E-3 43
AVERAGE MONTHS IN SERVICE	47	84	41	43
PERCENT IN FIRST ENLISTMENT				
PERCENT SUPERVISING	70%	33%	59%	78%
AVERAGE NUMBER OF TASKS PERFORMED	127	112	136	21
JOB DIFFICULTY INDEX (JDI) (AVERAGE JDI=13.00)	12.8	10.5	13.7	8.7
MAJCOM DISTRIBUTION (PERCENT RESPONDING)				
AFLC	7%	6%	8%	7%
AFSC	11%	7%	8%	39%
ATC	13%	6%	14%	12%
MAC	15%	17%	15%	12%
PACAF	4%	15%	1%	7%
SAC	19%	11%	20%	10%
TAC	15%	6%	18%	5%
USAFE	10%	26%	7%	5%
OTHER	6%	6%	9%	3%

NOTE: Percentages may not equal 100 due to rounding

TABLE 6 (Continued)

SELECTED BACKGROUND INFORMATION FOR JOB GROUPS

	JOB TYPES		
	SMALL FACILITY SUPERVISORS CLUSTER (GRP097)	STANDARD PROCEDURES SUPERVISORS (GRP099)	ULTRASOUND AND STANDARD PROCEDURES FIRST-LINE SUPERVISORS (GRP102)
NUMBER IN GROUP	113	81	32
PERCENT OF TOTAL SAMPLE	16%	12%	15%
PERCENT IN CONUS	78%	73%	91%
DAFSC DISTRIBUTION (PERCENT RESPONDING)			
90330	3%	3%	6%
90350	50%	38%	78%
90370	47%	59%	16%
AVERAGE GRADE			
AVERAGE MONTHS IN CAREER FIELD	E-5	E-6	E-4
AVERAGE MONTHS IN SERVICE	109	125	67
	132	155	73
PERCENT IN FIRST ENLISTMENT			
PERCENT SUPERVISING	13%	3%	38%
AVERAGE NUMBER OF TASKS PERFORMED	74%	85%	50%
JOB DIFFICULTY INDEX (JDI)	194	153	191
(AVERAGE JDI=13.00)	17.1	16.8	17.9
MAJCOM DISTRIBUTION			
AFLC	5%	6%	6%
AFSC	6%	3%	3%
ATC	11%	13%	13%
MAC	10%	9%	9%
PACAF	4%	6%	6%
SAC	24%	21%	31%
TAC	20%	25%	25%
USAFE	15%	3%	3%
OTHER	5%	14%	4%

NOTE: Percentages may not equal 100 due to rounding

TABLE 6 (Continued)

## SELECTED BACKGROUND INFORMATION FOR JOB GROUPS

	STANDARD RADIOG- RAPHERS FIRST- LINE SUPVRS (GRP092)	STD AND SPECIAL DIAGNOSTIC RADIOL- OGISTS (GRP087)	HOSPITAL PHASE II COURSE SUPERVISORS & INSTRS (GRP078)	SPECIAL DIAG- NOSTIC RADIOG- RAPHERS (GRP059)	ROTATING COMPUTER- IZED TOMOGRAPHY TECHNS (GRP065)	ANGIOG- GRAPHY TECHNS (GRP069)
NUMBER IN GROUP	6	10	9	5	5	7
PERCENT OF TOTAL SAMPLE	*	1%	1%	*	*	1%
PERCENT IN CONUS	83%	100%	67%	60%	100%	86%
<b>DAFSC DISTRIBUTION</b> (PERCENT RESPONDING)						
90330	17%	40%	0%	20%	20%	0%
90350	50%	50%	44%	80%	40%	86%
90370	33%	10%	56%	0%	40%	14%
<b>AVERAGE GRADE</b>	E-5	E-3	E-5	E-4	E-5	E-4
<b>AVERAGE MONTHS IN CAREER</b>						
FIELD	79	36	81	29	99	48
<b>AVERAGE MONTHS IN SERVICE</b>	109	38	91	33	106	50
<b>PERCENT IN FIRST</b>						
ENLISTMENT	17%	80%	22%	80%	20%	72%
<b>PERCENT SUPERVISING</b>	67%	20%	66%	20%	80%	29%
<b>AVERAGE NUMBER OF TASKS</b>						
PERFORMED	108	80	232	105	105	60
<b>JOB DIFFICULTY INDEX (JDI)</b>						
(AVERAGE JDI=13.00)	13.5	9.7	18.9	12.8	13.9	10.9
<b>MAJCOM DISTRIBUTION</b>						
AFLC	0%	10%	11%	0%	20%	43%
AFSC	16%	20%	0%	0%	20%	43%
ATC	16%	20%	11%	20%	20%	0%
MAC	16%	40%	0%	20%	40%	14%
PACAF	16%	0%	0%	40%	0%	0%
SAC	16%	0%	11%	20%	0%	0%
TAC	16%	10%	11%	0%	0%	0%
USAFE	0%	0%	33%	0%	0%	0%
OTHER	0%	0%	22%	0%	0%	0%

\*NOTE: Percentages may not equal 100 due to rounding

TABLE 6 (Continued)  
SELECTED BACKGROUND INFORMATION FOR JOB GROUPS

	JOB TYPES			
	SENIOR NCOIC CLUSTER (GRP022)	DIAGNOSTIC RADIOLOGY NCOIC (GRP089)	RADIOLOGY NCOIC (GRP077)	MEDICAL CEN & REGIONAL HOSPITAL PHASE II COURSE SUPERVISORS (GRP088)
NUMBER IN GROUP	45	8	22	7
PERCENT OF TOTAL SAMPLE	7%	1%	3%	1%
PERCENT IN CONUS	93%	75%	100%	75%
<b>DAFSC DISTRIBUTION (PERCENT RESPONDING)</b>				
90330	0%	0%	0%	0%
90350	98%	0%	5%	14%
90370	78%	100%	91%	86%
<b>AVERAGE GRADE</b>				
AVERAGE MONTHS IN CAREER FIELD	E-6	E-7	E-7	E-6
AVERAGE MONTHS IN SERVICE	148	123	180	138
	182	146	205	160
<b>PERCENT IN FIRST ENLISTMENT</b>				
PERCENT SUPERVISING	2%	0%	0%	0%
AVERAGE NUMBER OF TASKS PERFORMED	82%	100%	83%	100%
JOB DIFFICULTY INDEX (JDI) (AVERAGE JDI=13.00)	115	66	168	67
	14.7	12.6	17.3	13.4
<b>MAJCOM DISTRIBUTION</b>				
AFLC	7%	0%	14%	29%
AFSC	18%	25%	9%	0%
ATC	13%	0%	9%	14%
MAC	20%	25%	14%	43%
PACAF	4%	13%	0%	0%
SAC	16%	13%	23%	14%
TAC	11%	0%	23%	0%
USAFE	0%	0%	0%	0%
OTHER	11%	25%	8%	0%

NOTE: Percentages may not equal 100 due to rounding



TABLE 6 (Continued)

SELECTED BACKGROUND INFORMATION FOR JOB GROUPS

	<u>RADIATION THERAPISTS (GRP070)</u>	<u>ULTRASOUND TECHNICIANS (GRP090)</u>	<u>ADMINISTRATIVE PERSONNEL (GRP053)</u>
NUMBER IN GROUP	7	12	7
PERCENT OF TOTAL SAMPLE	1%	2%	1%
PERCENT IN CONUS	100%	92%	100%
<hr/>			
DAFSC DISTRIBUTION (PERCENT RESPONDING)			
90330	0%	0%	14%
90350	71%	90%	86%
90370	29%	50%	10%
<hr/>			
AVERAGE GRADE	E-5	E-5	E-4
AVERAGE MONTHS IN CAREER FIELD	76	78	50
AVERAGE MONTHS IN SERVICE	84	90	59
<hr/>			
PERCENT IN FIRST ENLISTMENT	29%	17%	43%
PERCENT SUPERVISING	28%	42%	14%
AVERAGE NUMBER OF TASKS PERFORMED	73	69	10
JOB DIFFICULTY INDEX (JDI) (AVERAGE JDI=13.00)	10.9	16.2	10
<hr/>			
MAJCOM DISTRIBUTION			
AFLC	29%	25%	0%
AFSC	29%	8%	10%
ATC	29%	17%	43%
MAC	14%	17%	57%
PACAF	0%	0%	0%
SAC	0%	8%	0%
TAC	0%	8%	0%
USAF	0%	0%	0%
OTHER	0%	16%	0%

NOTE: Percentages may not equal 100 due to rounding

TABLE 6 (Continued)

SELECTED BACKGROUND INFORMATION FOR JOB GROUPS

	JOB TYPES			
	PHASE I INSTRUCTORS (GRP020)	A- AND B- SHIFT INSTRUCTORS (GRP050)	C-SHIFT INSTRUCTORS (GRP051)	COMPUTERIZED TOMOGRAPHY TECHNICIANS (GRP049)
NUMBER IN GROUP	18	5	7	5
PERCENT OF TOTAL SAMPLE	3	*	1	*
PERCENT IN CONUS	100%	100%	100%	100%
<b>DAFSC DISTRIBUTION (PERCENT RESPONDING)</b>				
90330	0%	0%	0%	0%
90350	56%	60%	71%	80%
90370	64%	40%	29%	20%
<b>AVERAGE GRADE</b>				
AVERAGE GRADE	E-5	E-5	E-5	E-4
<b>AVERAGE MONTHS IN CAREER FIELD</b>				
AVERAGE MONTHS IN CAREER FIELD	80	79	67	70
<b>AVERAGE MONTHS IN SERVICE</b>				
AVERAGE MONTHS IN SERVICE	89	81	69	71
<b>PERCENT IN FIRST ENLISTMENT</b>				
PERCENT IN FIRST ENLISTMENT	22%	20%	63%	0%
<b>PERCENT SUPERVISING</b>				
PERCENT SUPERVISING	17%	20%	0%	40%
<b>AVERAGE NUMBER OF TASKS PERFORMED</b>				
AVERAGE NUMBER OF TASKS PERFORMED	27	46	19	21
<b>JOB DIFFICULTY INDEX (JDI) (AVERAGE JDI=13.00)</b>				
JOB DIFFICULTY INDEX (JDI) (AVERAGE JDI=13.00)	7.1	7.5	7.9	8.8
<b>MAJCOM DISTRIBUTION</b>				
AFLC	0%	0%	0%	0%
AFSC	0%	0%	0%	80%
ATC	94%	100%	100%	0%
MAC	6%	0%	0%	20%
PACAF	0%	0%	0%	0%
SAC	0%	0%	0%	0%
TAC	0%	0%	0%	0%
USAFE	0%	0%	0%	0%
OTHER	0%	0%	0%	0%

\*NOTE: Percentages may not equal 100 due to rounding

As expected, the groups with the most time in service were supervisors. Radiology NCOIC, GRP077, had the highest TAFMS, 205 months. Although Special Diagnostic Radiographers, GRP059, had an average grade of E-4 and 80 percent of the members hold the 5-skill level, they had the lowest TAFMS in the sample. They averaged only 33 months in service.

One possible problem was identified in the SPECIALTY JOB STRUCTURE. Many jobs in the field are based on the size of the facility to which the people are assigned. When people are reassigned to different size facilities, they are suddenly faced with equipment and procedures that differ from what they are used to. Such a situation can make new assignees ineffective until they gain experience in the new facility. A clear remedy for the problem does not present itself; nonetheless, career field managers need to be aware that the problem exists.

#### Job Satisfaction for Job Groups

Group job satisfaction data were examined to determine if morale problems exist in any job group. Table 7 shows the job satisfaction data for each job group. As the table shows, in most job groups, over 60 percent of the members find their jobs interesting. The only exception is GRP051, C-Shift Instructors. This may not indicate a problem, however, because two of the seven people did not respond to the question. The only group that felt their talents and training were not used well was Clinic Radiotechnologists, GRP136. One reason for the dissatisfaction may be that jobs at clinics are routine and limited.

Several groups indicated they were dissatisfied with the sense of accomplishment gained from their jobs. These groups are: Medical Center Radiotechnologists, GRP121; Administrative Personnel, GRP053; and Computerized Tomography Technicians, GRP049. The reason for such low sense of accomplishment is unknown.

When attention is focused on reenlistment intentions, problems appear in many groups. Less than 60 percent of the General Radiologic Technicians Cluster, GRP107, said they plan to reenlist. Further, there were three other groups where less than 60 percent plan to reenlist. These groups are: Special Diagnostic Radiographers, GRP059; Angiography Technicians, GRP069; and Ultrasound Technicians, GRP090.

TABLE 7

JOB SATISFACTION DATA (PERCENT RESPONDING)

	GENERAL RADIOLOGIC TECHNICIANS CLUSTER (GRP107)				SMALL FACILITY SUPERVISORS CLUSTER (GRP097)	
	CLINIC RADIO-TECHNOLOGISTS (GRP136)	HOSPITAL RADIO-TECHNOLOGISTS (GRP146)	MEDICAL CENTER RADIO-TECHNOLOGISTS (GRP121)	STANDARD PROCEDURES SUPERVISORS (GRP099)	ULTRASOUND & STD PROCEDURES FIRST-LINE SUPERVISORS (GRP102)	
<b>HOW DO YOU FIND YOUR JOB</b>						
BULL	22	7	10	10	3	
SO-SO	15	13	22	12	13	
INTERESTING	63	79	66	78	84	
<b>HOW WELL DOES YOUR JOB UTILIZE YOUR TALENTS</b>						
VERY LITTLE OR NOT AT ALL	43	14	22	25	13	
FAIRLY WELL OR BETTER	57	85	76	75	87	
<b>HOW WELL DOES YOUR JOB UTILIZE YOUR TRAINING</b>						
VERY LITTLE OR NOT AT ALL	43	7	17	28	6	
FAIRLY WELL OR BETTER	57	92	78	70	94	
<b>HOW SATISFIED ARE YOU WITH THE SENSE OF ACCOMPLISHMENT GAINED FROM YOUR JOB</b>						
DISSATISFIED	37	14	37	27	13	
AMBIVALENT	2	6	5	4	0	
SATISFIED	61	77	54	69	87	
<b>DO YOU PLAN TO REENLIST</b>						
NO, WILL RETIRE	4	1	2	22	0	
NO OR PROBABLY NO	35	45	46	9	38	
YES OR PROBABLY YES	59	54	51	69	62	

TABLE 7 (Continued)

JOB SATISFACTION (PERCENT RESPONDING)

	STANDARD RADIOGRAPHERS FIRST-LINE SUPERVISORS (CRP092)	STD AND SPECIAL DIAGNOSTIC RADIOLOGISTS (CRP087)	HOSPITAL PHASE II COURSE SUPERVISORS & INSTRS (CRP078)	SPECIAL DIAGNOSTIC RADIOGRAPHERS (CRP059)	ROTATING COMPUTERIZED TOMOGRAPHY TECHNICIANS (CRP065)	ANGIOGRAPHY TECHNICIANS (CRP069)
<b>HOW DO YOU FIND YOUR JOB</b>						
DULL	0	0	0	0	0	0
SO-SO	17	10	22	0	0	0
INTERESTING	67	80	78	100	100	100
<b>HOW WELL DOES YOUR JOB UTILIZE YOUR TALENTS</b>						
VERY LITTLE OR NOT AT ALL	0	10	0	0	0	0
FAIRLY WELL OR BETTER	83	90	100	100	100	100
<b>HOW WELL DOES YOUR JOB UTILIZE YOUR TRAINING</b>						
VERY LITTLE OR NOT AT ALL	17	20	0	0	0	0
FAIRLY WELL OR BETTER	67	70	100	100	100	100
<b>HOW SATISFIED ARE YOU WITH THE SENSE OF ACCOMPLISHMENT GAINED FROM YOUR JOB</b>						
DISSATISFIED	0	20	0	20	0	0
AMBIVALENT	33	0	11	0	0	0
SATISFIED	50	70	89	80	100	100
<b>DO YOU PLAN TO REENLIST</b>						
NO, WILL RETIRE	0	0	0	0	0	0
NO OR PROBABLY NO	17	30	33	60	0	57
YES OR PROBABLY YES	67	70	67	40	100	43

TABLE 7 (Continued)

JOB SATISFACTION DATA (PERCENT PERFORMING)

	SENIOR MCOIC CLUSTER (GRP022)					ADMINISTRATIVE PERSONNEL (GRP053)
	DIAGNOSTIC RADIOLOGY MCOIC (GRP089)	RADIOLOGY MCOIC (GRP077)	MEDICAL CENTER & REGIONAL HOSPITAL PHASE II COURSE SUPERVISORS (GRP088)	RADIATION THERAPISTS (GRP070)	ULTRASOUND TECHNICIANS (GRP090)	
HOW DO YOU FIND YOUR JOB						
DULL	0	9	14	0	0	14
SO-SO	0	14	0	14	0	0
INTERESTING	100	77	86	86	100	86
HOW WELL DOES YOUR JOB UTILIZE YOUR TALENTS						
VERY LITTLE OR NOT AT ALL	0	9	0	0	0	29
FAIRLY WELL OR BETTER	100	91	100	100	100	71
HOW WELL DOES YOUR JOB UTILIZE YOUR TRAINING						
VERY LITTLE OR NOT AT ALL	0	9	0	29	0	14
FAIRLY WELL OR BETTER	100	91	100	71	100	86
HOW SATISFIED ARE YOU WITH THE SENSE OF ACCOMPLISHMENT GAINED FROM YOUR JOB						
DISSATISFIED	13	18	29	14	0	0
AMBIVALENT	13	9	0	0	0	43
SATISFIED	75	73	71	86	100	57
DO YOU PLAN TO REENLIST						
NO, WILL RETIRE	25	36	14	0	0	0
NO OR PROBABLY NO	0	9	14	29	42	29
YES OR PROBABLY YES	75	45	71	71	58	71

TABLE 7 (Continued)

JOB SATISFACTION DATA (PERCENT RESPONDING)

	PHASE I INSTRUCTORS CLUSTER			COMPUTERIZED TOMOGRAPHY TECHNICIANS (GRP049)
	(GRP020) A- AND B- SHIFT INSTRUCTORS (GRP050)	C-SHIFT INSTRUCTORS (GRP051)		
HOW DO YOU FIND YOUR JOB				
DULL	0	0	0	0
SO-SO	0	14	0	0
INTERESTING	100	57	100	100
HOW WELL DOES YOUR JOB UTILIZE YOUR TALENTS				
VERY LITTLE OR NOT AT ALL	0	14	0	0
FAIRLY WELL OR BETTER	100	86	100	100
HOW WELL DOES YOUR JOB UTILIZE YOUR TRAINING				
VERY LITTLE OR NOT AT ALL	0	14	20	20
FAIRLY WELL OR BETTER	100	86	80	80
HOW SATISFIED ARE YOU WITH THE SENSE OF ACCOMPLISHMENT GAINED FROM YOUR JOB				
DISSATISFIED	40	14	20	20
AMBIVALENT	0	0	40	40
SATISFIED	60	86	40	40
DO YOU PLAN TO REENLIST				
NO, WILL RETIRE	0	0	20	20
NO OR PROBABLY NO	40	29	20	20
YES OR PROBABLY YES	60	71	60	60

## ANALYSIS OF DAFSC GROUPS

An important aspect of any occupational analysis involves determining the nature of change in the tasks performed as skill level increases. Examination of the tasks performed by DAFSC groups is useful in determining the accuracy and completeness of the career ladder documents (AFR 39-1 Specialty Descriptions and the Specialty Training Standard).

The nature of the jobs performed by Radiologic personnel changed at the 7-skill level, with 3- and 5-skill level people performing equivalent jobs, except for areas of ultrasound computerized tomography, radiotherapy, and angiography. There were no 3-skill level people found in these job groups. As Table 8 illustrates, the performance of supervisory and management tasks increases as skill level increases, while performance of technical tasks decreases.

DAFSC 90330. The tasks performed by 3-skill level Radiologic personnel were overwhelmingly technical, with incumbents spending virtually all their time performing these tasks. The few nontechnical tasks were performed by less than 25 percent of the group and accounted for less than 2 percent of the group's time. Table 9 shows the top tasks performed by apprentice radiologic personnel. As is evident, standard radiologic examinations dominate the job description. Further, since 3-skill level people are still inexperienced, none were found in the more specialized areas of the specialty, such as computerized tomography, ultrasound angiography, and radiation therapy.

DAFSC 90350. The tasks performed by 5-skill level personnel were very similar to those commonly performed by 3-skill level airmen. The difference between the two groups is that 90330 personnel spend slightly more time on standard examinations, while 90350 personnel spend slightly more time on administrative functions. Table 10 shows the top tasks performed by 90350 personnel, while Table 11 shows the tasks that best distinguish the two groups. Note that most of the 5-skill level tasks are the same as for the 3-skill level people, although some 5-skill level personnel were found in the specialized jobs that contained no 3-skill level people.

DAFSC 90370. While 7-skill level personnel perform both supervisory and technical tasks, only 40 percent of their time is spent supervising. The technical tasks most often performed by 7-skill level people include those commonly performed by other skill level personnel. As a result of performing a mix of both technical and supervisory functions, 90370 personnel perform more tasks than other groups. Table 12 shows the top tasks performed by 90370 personnel. Table 13 shows the tasks that best distinguish 90370 and 90350 personnel. Seven-skill level people were found in almost all job groups. Not surprisingly, however, the senior supervisory job groups were made up almost exclusively of 7-skill level people.

AFR 39-1. The survey data were compared to AFR 39-1 to determine whether the specialty descriptions accurately portray the major duties and functions performed by Radiologic personnel. The 7-skill level description was very clear and complete. The 5-skill level description, however, was lacking in one area. The description should include assist with special imaging procedures



and assist radiotherapists in radiation treatment of diseases. Two job groups were identified that perform tasks related to these areas. In both groups, 5-skill level personnel were involved.

TABLE 8

RELATIVE TIME SPENT ON DUTIES BY 903X0 SKILL LEVEL GROUPS

TASKS	90330	90350	90370
A ORGANIZING AND PLANNING	*	2	10
B DIRECTING AND IMPLEMENTING	1	2	10
C INSPECTING AND EVALUATING	*	1	7
D PHASE I AND ON-THE-JOB TRAINING	*	2	5
E PHASE II TRAINING	*	*	2
F PERFORMING ADMINISTRATIVE PROCEDURES	11	14	15
G PERFORMING STANDARD RADIOGRAPHIC EXAMINATIONS	45	36	5
H PERFORMING OR PARTICIPATING IN SPECIAL RADIOGRAPHIC PROCEDURES	16	12	5
I PERFORMING OR PARTICIPATING IN ADVANCED RADIOGRAPHIC PROCEDURES	2	3	1
J PERFORMING ULTRASONOGRAPHY PROCEDURES	1	3	5
K SETTING UP SPECIALIZED RADIOGRAPHIC EQUIPMENT	1	1	1
L PERFORMING OR PARTICIPATING IN BEDSIDE AND SURGICAL RADIOGRAPHY	7	6	2
M PROCESSING RADIOGRAPHIC FILM	10	9	8
N PERFORMING RADIATION THERAPY	*	1	1
O PERFORMING QUALITY CONTROL FUNCTIONS	2	3	3
P PERFORMING GENERAL SERVICES	3	4	4

TABLE 9

TOP TASKS PERFORMED BY 90330 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	PERCENT MEMBERS PERFORMING
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	95
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	95
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	95
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	95
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	94
G274 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	94
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	94
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	94
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	94
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	93
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	93
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	93
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	93
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	93
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	93
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	93
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	93
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	93
M445 LOAD OR UNLOAD CASSETTES	92
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	92
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	92
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	92
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	91
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	91
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCANEUS (OS CALCIS)	91
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	90
G190 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HUMERUS	88
G175 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ACROMIO- CLAVICULAR (A-C) JOINTS	88
G181 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE COCCYX	88
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	87
G183 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FACIAL BONES	87
G203 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACROILIAC (S-I) JOINTS	87

TABLE 10

TOP TASKS FOR 90350 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

TASKS	PERCENT MEMBERS PERFORMING
M445 LOAD OR UNLOAD CASSETTES	85
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	85
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	85
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	85
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	85
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	84
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	84
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	84
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	84
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	84
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	84
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	84
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	84
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	84
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	84
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	84
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	84
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	84
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	84
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	84
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	84
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	83
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	83
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	83
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	83
G190 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HUMERUS	83
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	83
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCINEOUS (OS CALCIS)	83
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	82
F152 PREPARE FILM FILE ENVELOPES	82
G209 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	81
G203 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACROILIAC (S-I) JOINTS	81
G204 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACRUM	81

TABLE 11

## TASKS THAT BEST DISTINGUISH DAFSC 90330 AND DAFSC 90350 PERSONNEL

TASKS	DAFSC 90350	DAFSC 90350	DIFFERENCE
H233 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM ENEMAS USING FLUOROSCOPIC EQUIPMENT	66	46	+20
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	80	60	+20
H234 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM SWALLOW EXAMINATIONS USING FLUOROSCOPIC EQUIPMENT	64	44	+20
G208 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITH HEAD UNITS, SUCH AS FRANKLIN	53	35	-18
I288 COPY RADIOGRAPHS	64	46	+18
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	78	60	-18
H231 PARTICIPATE IN TAKING SPOT FILMS DURING AIR CONTRAST ENEMAS USING FLUOROSCOPIC EQUIPMENT	64	47	-17
H246 PRODUCE RADIOGRAPHS DURING AIR CONTRAST ENEMAS	76	59	+17
H273 PRODUCE RADIOGRAPHS DURING SMALL BOWEL SERIES	76	60	+16
H240 PARTICIPATE IN TAKING SPOT FILMS DURING UPPER GASTRO- INTESTINAL (UGI) SERIES USING FLUOROSCOPIC EQUIPMENT	60	45	+15
H275 PRODUCE RADIOGRAPHS DURING UPPER GASTROINTESTINAL (UGI) SERIES	71	57	+16
H239 PARTICIPATE IN TAKING SPOT FILMS DURING SMALL BOWEL SERIES USING FLUOROSCOPIC EQUIPMENT	58	45	+13
G168 MEASURE PATIENTS USING CALIPERS	78	65	+13
H258 PRODUCE RADIOGRAPHS DURING MYELOGRAPHY	45	33	+12
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	95	83	+12
F141 MAINTAIN TECHNIQUE CHARTS FOR RADIOGRAPHIC UNITS	16	31	-15
F134 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	18	33	-15
F128 ASSIGN IDENTIFICATION TO RADIOGRAPHIC RECORDS	41	57	-16
A10 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	0	16	-16
F136 MAIL RADIOGRAPHIC FILMS	32	49	-17
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	2	19	-17

TABLE 12

TOP TASKS FOR 90370 PERSONNEL  
(PERCENT MEMBERS PERFORMING)

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	84
C74 WRITE APR	83
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	76
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	74
M445 LOAD OR UNLOAD CASSETTES	74
F152 PREPARE FILM FILE ENVELOPES	72
F163 UPDATE FILM FOLDERS	72
F164 UPDATE PATIENT NOMINAL INDEX CARD FILES	72
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	71
P543 PARTICIPATE IN DISASTER EXERCISES	71
F151 PICK UP, DELIVER, OR SIGN OUT RADIOGRAPHIC FILMS TO PHYSICIANS	70
F150 MATCH RADIOGRAPHIC FILMS TO SF FORMS 519A (RADIOGRAPHIC REPORT)	70
A22 PLAN OR SCHEDULE WORK ASSIGNMENTS	69
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	67
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	67
B30 COORDINATE PREVENTIVE MAINTENANCE OF RADIOGRAPHIC EQUIPMENT WITH MEDICAL EQUIPMENT REPAIR PERSONNEL	67
M459 VISUALLY INSPECT PROCESSING EQUIPMENT	67
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	67
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	67
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	67
F134 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	67
M451 PERFORM AUTOMATIC FILM PROCESSOR TURN-ON PROCEDURES	67
M450 PERFORM AUTOMATIC FILM PROCESSOR TURN-OFF PROCEDURES	67
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	67
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	67
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	67
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	67
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	67
G209 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	67
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	67
B44 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	66
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	66
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	66

TABLE 13

TASKS WHICH BEST DISTINGUISH DAFSC 90350 AND DAFSC 90370 PERSONNEL

TASKS	DAFSC 90350	DAFSC 90370	DIFFERENCE
L426 PRODUCE RADIOGRAPHS IN INTENSIVE CARE	53	27	+26
H425 PREPARE EQUIPMENT AND SUPPLIES FOR SPECIAL RADIOGRAPHIC PROCEDURES	66	41	+25
H244 PREPARE AND POSITION PATIENTS FOR SPECIAL RADIOGRAPHIC PROCEDURES	67	44	+23
L412 DISINFECT PORTABLE RADIOGRAPHIC UNITS BEFORE USE IN SURGERY OR ISOLATION ROOMS	58	36	+22
H246 PRODUCE RADIOGRAPHS DURING AIR CONTRAST ENEMAS	59	37	+22
H232 PARTICIPATE IN TAKING SPOT FILMS DURING ARTHROGRAMS USING FLUOROSCOPIC EQUIPMENT	47	25	+22
L425 PRODUCE RADIOGRAPHS IN EMERGENCY ROOMS	65	43	+22
L427 PRODUCE RADIOGRAPHS IN NURSERIES	59	37	+22
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	60	39	+21
H248 PRODUCE RADIOGRAPHS DURING ARTHROGRAPHY	46	26	+20
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	60	40	+20
G184 PRODUCE RADIOGRAPHS EXAMINATIONS OF THE FEMUR	84	64	+20
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	84	64	+20
G221 PRODUCE RADIOGRAPHS OF ADDITIONAL PROJECTIONS OF THE LOWER EXTREMITIES	70	51	+19
G223 PRODUCE RADIOGRAPHS OF ADDITIONAL PROJECTIONS OF THE CHEST	77	58	+19
F149 MAKE ENTRIES ON SF FORMS 135 (RECORDS TRANSMITTAL AND RECEIPT)	12	42	-30
F137 MAINTAIN CURRENT LISTINGS OF STANDARD RADIOGRAPHIC EXAMINATION PROCEDURES	29	59	-30
A26 WRITE JOB DESCRIPTIONS	7	37	-30

## ANALYSIS OF TAFMS GROUPS

Tasks performed by members of various enlistment groups were compared to determine how job content varied as a function of total active federal military service (TAFMS). In the Radiologic career ladder, as TAFMS increased, the relative time spent performing technical tasks decreased and the time spent performing supervisory tasks increased. In all enlistment groups, however, Radiologic personnel spent more time on technical than supervisory tasks. As shown in Table 14, time spent performing nontechnical tasks (Duties A through D) was least in the first enlistment (3 percent) and rose to 37 percent for the fifth and subsequent enlistments.

### First Job Assignments (1-24 Months TAFMS)

Personnel in their first job assignments performed technical tasks almost exclusively, spending over 99 percent of their time on these tasks. A core of about 100 tasks were performed by more than 50 percent of the first-termers. The core tasks were mostly standard radiologic examinations. Some film processing, administration, and special procedures were also included in the set of core tasks.

### First Enlistment Job Description

Of the 691 members of the sample, 50 percent were first enlistees. As with first-job personnel, first-enlistment jobs are very technical. Only 3 percent of their time is spent on nontechnical tasks. Similar to other TAFMS groups, the tasks most often performed are standard radiographic examinations. Over 40 percent of the group's time is spent in this area. Processing film, bedside surgical radiography, special and administrative procedures also account for significant amounts of their time. As noted earlier (in the SPECIALTY JOBS section) first-termers were found in all job groups except the Senior NCOIC Cluster and Computerized Tomography Technicians Independent Job Type. Figure 2 shows the distribution of first-termers across job groups. Within the first-enlistment group, few differences were found between first-job (1-24 months TAFMS) and second-job (25-48 months TAFMS) personnel. Tables 15, 16, and 17 show major task differences between enlistment groups.



FIGURE 2  
DISTRIBUTION OF FIRST-TERMERS ACROSS JOB GROUPS

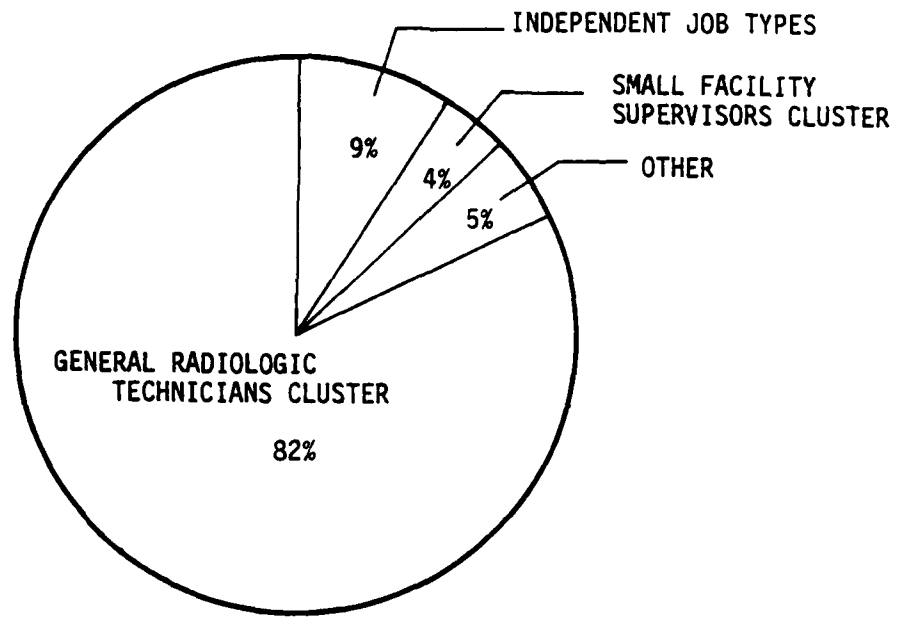


TABLE 14

PERCENT TIME SPENT ON DUTIES BY TAFMS GROUPS

DUTIES	1-48	48-96	97-144	145-192	193-240	241+
A ORGANIZING AND PLANNING	1	4	7	10	11	12
B DIRECTING AND IMPLEMENTING	1	4	6	10	11	11
C INSPECTING AND EVALUATING	0	2	3	8	11	10
D PHASE I AND ON-THE-JOB TRAINING	1	4	3	3	4	4
E PHASE II TRAINING	0	1	1	3	0	2
F PERFORMING ADMINISTRATIVE PROCEDURES	12	15	1	18	16	17
G PERFORMING STANDARD RADIOGRAPHIC EXAMINATIONS	41	30	28	19	22	20
H PERFORMING OR PARTICIPATING IN SPECIAL RADIOGRAPHIC PROCEDURES	15	19	7	5	6	3
I PERFORMING OR PARTICIPATING IN ADVANCED RADIOGRAPHIC PROCEDURES	3	3	2	2	0	1
J PERFORMING IN ULTRASONOGRAPHY PROCEDURES	2	5	6	4	2	1
K SETTING UP SPECIALIZED RADIOGRAPHIC EQUIPMENT	2	1	1	1	1	0
L PERFORMING OR PARTICIPATING IN BEDSIDE AND SURGICAL RADIOGRAPHY	7	4	2	2	3	2
M PROCESSING RADIOGRAPHIC FILM	9	9	11	8	6	7
N PERFORMING RADIATION THERAPY	1	1	1	1	1	2
O PERFORMING QUALITY CONTROL FUNCTIONS	2	4	4	3	3	3
P PERFORMING GENERAL SERVICES	4	5	4	4	4	5

TABLE 15

TASKS THAT BEST DISTINGUISH FIRST-JOB AND SECOND-JOB PERSONNEL

TASKS	FIRST-JOB	SECOND-JOB	DIFFERENCE
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	79	67	+12
G208 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITH HEAD UNITS, SUCH AS FRANKLIN ENEMAS USING FLUOROSCOPIC EQUIPMENT	48	37	+11
H231 PARTICIPATE IN TAKING SPOT FILMS DURING AIR CONTRAST ENEMAS	65	54	+11
F160 REVIEW, RETIRE, OR DISPOSE OF RADIOGRAPHIC FILMS AND INDEXES	16	33	-17
P549 PERFORM RADIOLOGY SERVICES ON VETERINARY PATIENTS	13	30	-17
H230 IDENTIFY PATIENT'S REACTION TO CONTRAST MEDIA	48	66	-18
M442 ISOLATE MALFUNCTIONS OF AUTOMATIC FILM PROCESSING MACHINES	19	37	-18
F127 ADVISE PATIENTS REGARDING HAZARDS OF RADIOGRAPHIC EXAMINATIONS DURING PREGNANCY	52	70	-18
M459 VISUALLY INSPECT PROCESSING EQUIPMENT	41	60	-19
F436 APPLY FIRST AID DURING EMERGENCY CONDITIONS OTHER THAN REACTIONS TO CONTRAST MEDIA	16	35	-19
I313 PRODUCE RADIOGRAPHS DURING LOCALIZATION OF BIOLOGICAL ABNORMALITIES, SUCH AS ABSCESSES, LESIONS, OR MASSES	14	34	-20
G173 PERFORM METASTATIC SERIES EXAMINATIONS	26	46	-20
H262 PRODUCE RADIOGRAPHS DURING PELVIMETRY USING COLCHER-SUSSMAN METHOD	8	30	-22
G171 PERFORM FETOGRAPHY	19	41	-22
F132 IDENTIFY FILMS RECEIVED FROM HOSPITALS, CLINICS, CIVILIAN FACILITIES, OR GOVERNMENT AGENCIES	38	61	-23
F130 DISTRIBUTE COMPLETED RADIOGRAPHIC REPORTS TO PHYSICIANS	37	61	-24
P543 PARTICIPATE IN DISASTER EXERCISES	39	66	-27
F136 MAIL RADIOGRAPHIC FILMS	21	52	-31

TABLE 16

## TASKS THAT BEST DISTINGUISH FIRST- AND SECOND-ENLISTMENT PERSONNEL

TASKS	FIRST ENLISTMENT	SECOND ENLISTMENT	DIFFERENCE
H231 PARTICIPATE IN TAKING SPOT FILMS DURING AIR CONTRAST ENEMAS USING FLUOROSCOPIC EQUIPMENT	59	34	+25
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	72	49	+23
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	72	49	-23
H233 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM ENEMAS USING FLUOROSCOPIC EQUIPMENT	58	36	+22
H234 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM SWALLOW EXAMINATIONS USING FLUOROSCOPIC EQUIPMENT	57	35	+22
H246 PRODUCE RADIOGRAPHS DURING AIR CONTRAST ENEMAS	70	49	+21
L427 PRODUCE RADIOGRAPHS IN NURSERIES	68	47	+21
H232 PARTICIPATE IN TAKING SPOT FILMS DURING ARTHROGRAMS USING FLUOROSCOPIC EQUIPMENT	56	36	+20
L425 PRODUCE RADIOGRAPHS IN INTENSIVE CARE	62	42	+20
H275 PRODUCE RADIOGRAPHS DURING UPPER GASTROINTESTINAL (UGI) SERIES	67	47	+20
H235 PARTICIPATE IN TAKING SPOT FILMS DURING ESOPHOGRAMS USING FLUOROSCOPIC EQUIPMENT	54	34	+20
H240 PARTICIPATE IN TAKING SPOT FILMS DURING UPPER GASTRO- INTESTINAL (UGI) SERIES USING FLUOROSCOPIC EQUIPMENT	55	36	+19
L417 PERFORM BEDSIDE RADIOGRAPHY ON PATIENTS IN TRACTION	52	33	+19
L428 PRODUCE RADIOGRAPHS IN RECOVERY ROOMS	54	35	+19
H245 PREPARE EQUIPMENT AND SUPPLIES FOR SPECIAL RADIOGRAPHIC PROCEDURES	75	56	+19
F134 INVENTORY SUPPLIES, EQUIPMENT OR TOOLS	20	41	-21
D81 CONDUCT OJT	6	27	-21
F155 PREPARE REQUESTS FOR LOCAL PURCHASE OF ITEMS	6	27	-21
A10 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	4	27	-23
F137 MAINTAIN CURRENT LISTINGS OF STANDARD RADIOGRAPHIC EXAMINATION PROCEDURES	16	40	-24

TABLE 17

## TASKS THAT BEST DISTINGUISH SECOND-ENLISTMENT AND CAREER PERSONNEL

TASKS	SECOND ENLISTMENT	CAREER	DIFFERENCE
L412 DISINFECT PORTABLE RADIOGRAPHIC UNITS BEFORE USE IN SURGERY OR ISOLATION ROOMS	52	35	+17
I311 PRODUCE RADIOGRAPHS DURING FOREIGN BODY LOCALIZATION STUDIES OF OTHER THAN EYES	37	20	+17
H244 PREPARE AND POSITION PATIENTS FOR SPECIAL RADIOGRAPHIC PROCEDURES	59+	44	+15
L425 PRODUCE RADIOGRAPHS IN EMERGENCY ROOMS	56	42	+14
H238 PARTICIPATE IN TAKING SPOT FILMS DURING ORAL CHOLECYSTOGRAPHY USING FLUOROSCOPIC EQUIPMENT	47	33	+14
H245 PREPARE EQUIPMENT AND SUPPLIES FOR SPECIAL RADIOGRAPHIC PROCEDURES	56	42	+14
L426 PRODUCE RADIOGRAPHS IN INTENSIVE CARE	42	29	+13
I317 PRODUCE RADIOGRAPHS DURING VENOGRAPHY	31	19	+12
K405 SET UP FLUOROSCOPIC EQUIPMENT WITH TV MONITOR	40	28	+12
L411 DISINFECT PORTABLE RADIOGRAPHIC UNITS AFTER USE IN SURGERY OR ISOLATION ROOMS	47	35	+12
G208 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITH HEAD UNITS, SUCH AS FRANKLIN	32	20	+12
G218 PRODUCE RADIOGRAPHS OF ADDITIONAL PROJECTIONS OF THE COLUMN, SUCH AS TWINING'S VIEW	53	41	+12
H273 PRODUCE RADIOGRAPHS DURING SMALL BOWEL SERIES	53	41	+12
L432 TRANSPORT PORTABLE RADIOGRAPHIC UNITS BETWEEN DEPARTMENTS	49	37	+12
L424 PRODUCE RADIOGRAPHS DURING OPERATIVE CHOLANGIOGRAPHY	45	34	+11
C74 WRITE APR	44	80	-36
A12 ESTABLISH REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, A9 ESTABLISH ORGANIZATIONAL POLICIES, LOCAL OPERATING INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	17	53	-36
A8 DRAFT BUDGET AND FINANCIAL REQUIREMENTS	28	64	-36
	14	50	-36

### Job Satisfaction for TAFMS Groups

The TAFMS job satisfaction data showed the same problems as that of DAFSC. The data were highest for first-termers and lowest for career personnel (97+ months TAFMS). Overall, the data were good for all groups. The problem is that, although people seem happy with the job, they do not plan to reenlist in numbers that reflect that satisfaction. These trends can be seen in Table 18. Note that almost half the first-termers plan to leave the service.

TABLE 18

COMPARISON OF JOB SATISFACTION INDICATORS BY TAFMS GROUPS  
(PERCENT MEMBERS PERFORMING)

	<u>1-48 MONTHS</u> <u>TAFMS</u>	<u>49-96 MONTHS</u> <u>TAFMS</u>	<u>97+ MONTHS</u> <u>TAFMS</u>
<u>EXPRESSED JOB INTEREST:</u>			
DULL	6	7	13
SO-SO	13	12	12
INTERESTING	81	78	75
NOT REPORTED	0	3	0
<u>PERCEIVED UTILIZATION OF TALENTS:</u>			
LITTLE OR NOT AT ALL	14	16	22
FAIRLY WELL OR BETTER	86	81	78
NOT REPORTED	0	3	0
<u>PERCEIVED UTILIZATION OF TRAINING:</u>			
LITTLE OR NOT AT ALL	9	16	23
FAIRLY WELL OR BETTER	91	81	77
NOT REPORTED	0	3	0
<u>REENLISTMENT INTENTIONS:</u>			
NO, OR PROBABLY NO	48	33	10
YES, OR PROBABLY YES	51	64	68
WILL RETIRE	0	1	21
NOT REPORTED	1	2	1

NOTE: Percentages may not equal 100 due to rounding

#### COMPARISON OF CONUS/OVERSEAS GROUPS

The tasks performed by personnel located at CONUS installations were compared to those performed by individuals located overseas. The comparison was made to determine whether job content varied as a function of location. The tasks performed were almost identical, with only minor differences identified. There were no overseas personnel identified in the computerized tomography, radiation therapy, and radiology NCOIC job groups. In addition, CONUS personnel spent slightly more time on special radiographs, while overseas personnel spent more time on administrative functions. Table 19 shows the tasks that best distinguish the two groups.

Job satisfaction data for overseas personnel are significantly lower than for CONUS personnel (see Table 20); however, reenlistment intentions are about the same for both groups. This may indicate that overseas personnel are unhappy with the jobs overseas, not the career field.



TABLE 19

## TASKS THAT BEST DISTINGUISH CONUS AND OVERSEAS PERSONNEL

TASKS	CONUS	OVERSEAS	DIFFERENCE
B48 SUPERVISE APPRENTICE RADIOLOGIC SPECIALISTS (AFSC 90350)	31	8	+23
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	64	45	+19
H238 PARTICIPATE IN TAKING SPOT FILMS DURING ORAL CHOLECYSTO- TOGRAPHY USING FLUOROSCOPIC EQUIPMENT	56	39	+17
H240 PARTICIPATE IN TAKING SPOT FILMS DURING UPPER GASTRO- INTESTINAL (UGI) SERIES USING FLUOROSCOPIC EQUIPMENT	49	32	+17
H246 PRODUCE RADIOGRAPHS DURING AIR CONTRAST ENEMAS	62	47	+15
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	63	48	+15
H275 PRODUCE RADIOGRAPHS DURING UPPER GASTROINTESTINAL (UGI) SERIES	60	46	+14
H234 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM SWALLOW EXAMINATIONS USING FLUOROSCOPIC EQUIPMENT	48	34	+14
H233 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM ENEMAS USING FLUOROSCOPIC EQUIPMENT	49	35	+14
H232 PARTICIPATE IN TAKING SPOT FILMS DURING ARTHROGRAMS USING FLUOROSCOPIC EQUIPMENT	50	36	+14
H231 PARTICIPATE IN TAKING SPOT FILMS DURING AIR CONTRAST ENEMAS USING FLUOROSCOPIC EQUIPMENT	49	36	+13
H235 PARTICIPATE IN TAKING SPOT FILMS DURING ESOPHOGRAMS USING FLUOROSCOPIC EQUIPMENT	47	34	+13
I317 PRODUCE RADIOGRAPHS DURING VENOGRAPHY	39	27	+12
L426 PRODUCE RADIOGRAPHS IN INTENSIVE CARE	57	45	+12
H278 PRODUCE RADIOGRAPHS DURING VOIDING CYSTOURETHOGRAPHY	40	28	+12
F139 MAINTAIN TEACHING OR PATHOLOGY FILES	10	31	-21
M459 VISUALLY INSPECT PROCESSING EQUIPMENT	53	74	-21
M448 MIX CHEMICAL PROCESSING SOLUTIONS	56	78	-22

TABLE 20

COMPARISON OF JOB SATISFACTION INDICATORS BY CONUS/OVERSEAS GROUPS  
(PERCENT MEMBERS PERFORMING)

<u>EXPRESSED JOB INTEREST:</u>	<u>CONUS</u>	<u>OS</u>
DULL	6	19
SO-SO	13	19
INTERESTING	80	62
NOT REPORTED	1	0
 <u>PERCEIVED UTILIZATION OF TALENTS:</u>		
LITTLE OR NOT AT ALL	13	34
FAIRLY WELL OR BETTER	86	66
NOT REPORTED	1	0
 <u>PERCEIVED UTILIZATION OF TRAINING:</u>		
LITTLE OR NOT AT ALL	12	24
FAIRLY WELL OR BETTER	87	76
NOT REPORTED	1	0
 <u>REENLISTMENT INTENTIONS:</u>		
NO, OR PROBABLY NO	40	42
YES, OR PROBABLY YES	59	58
WILL RETIRE	1	0
NOT REPORTED	0	0

NOTE: Percentages may not equal 100 due to rounding

## MAJCOM COMPARISON

Differences and similarities among MAJCOMs were examined to identify areas that may impact training. Overall, career ladder personnel perform about the same tasks, regardless of MAJCOM. Only two notable differences were found. AFLC and AFSC first-termers were slightly more likely to work with computerized tomography and radiotherapy than other MAJCOM first-termers. Further, PACAF first-termers performed slightly more ultrasonography than other first-termers. The differences were not significant and, as noted earlier, very few people perform tasks related to these areas.

## TASK FACTOR AND TRAINING ANALYSIS

Several factors are valuable in examining training programs for relevancy of material and course coverage. Occupational survey data, such as percent of first-job and first-term airmen performing tasks and percentages of incumbents using equipment, are valuable in this review. Additionally, task difficulty (TD) and training emphasis (TE) data are important. These factors are collected using separate questionnaires which are administered to selected 7-skill level NCOs and which reflect relative TD and recommended TE for all tasks in the job inventory, as was discussed earlier in this report.

These factors were used in evaluating the career ladder training documents: the Special Training Standard (STS) and the Plan of Instruction (POI). This section will examine the task factors and their use in determining the coverage of the career ladder documents.

### Training Emphasis

The tasks rated highest in TE by senior Radiologic personnel are very technical in nature (see Table 21). These tasks primarily relate to three duty headings--Performing Standard Radiographic Examinations, Performing or Participating in Special Radiographic Procedures, and Performing or Participating in Bedside and Surgical Radiography. A few film processing and administrative tasks were also rated high.

### Task Difficulty

Table 22 lists the tasks that were judged most difficult. These tasks generally deal with ultrasound procedures. Also included were some supervisory tasks. A few radiotherapy tasks were rated high in TD. Except for the supervisory tasks, very few tasks rated high in TD were performed by many people. Table 23 shows the tasks rated lowest in TD. These tasks related to film processing, general services, administration, and standard radiography, and are performed by large numbers of people.

### Specialty Training Standard (STS)

The Specialty Training Standard 903X0, dated February 1983, was reviewed for 3-, 5-, and 7-skill level Radiologic personnel. Subject-matter specialists at Sheppard Technical Training Center assisted by matching inventory tasks to STS items. The tasks matched to the STS were supported by the survey data except for the areas covering computerized tomography, radiotherapy, and ultrasonography. Extremely low numbers of people perform tasks relating to these areas; however, as discussed in the career ladder structure of this report, people performing tasks in each of these areas form unique and distinctive independent job types. By regulation (AFR 8-13), these areas should not be included in the STS because they have such low percent performing and training emphasis data. The average to high TD ratings of these tasks, coupled with the fact that distinct job groups were identified, may be justification for their inclusion. These areas should be reviewed by the training community.

Of the 152 tasks not matched to the STS about half should be considered for inclusion in the STS. Table 24 gives examples of tasks not matched to the STS. As the table shows, many of these tasks have significant numbers of people performing. Some tasks also have high TE or TD ratings.

### Plan of Instruction (POI 3ABR90330)

Subject-matter specialists at Sheppard Technical Training Center matched inventory tasks to blocks and objectives in the plan of instruction (POI) for the basic Radiologic course. For the most part, POI blocks and objectives were supported by survey data. In some blocks, however, very small percentages of first-job and first-term airmen performed tasks that had been linked to POI items (see Tables 25-27). These tasks primarily related to ultrasound, computerized tomography, and radiotherapy. These areas have less than 10 percent first-job and first-term personnel performing them. In addition, the training emphasis ratings were very low. Further, of these three areas, only tasks related to ultrasound consistently had higher than average TD ratings.

Of the 162 tasks not matched to the POI, only 17, or about 10 percent, need to be considered for inclusion. Of the 17, only 4 had high TE ratings and none had higher than average TD (see Table 28).

TABLE 21

## TASKS RATED HIGHEST IN TRAINING EMPHASIS

TASKS	TRAINING EMPHASIS	FIRST JOB	FIRST ENLIST	90350	TASK DIFFICULTY
H230 IDENTIFY PATIENT'S REACTION TO CONTRAST MEDIA	7.73	48	58	57	5.59
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	7.58	91	88	84	3.47
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	7.20	90	89	84	4.01
G209 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	7.18	83	83	82	4.98
G196 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE MASTOIDS	7.11	76	77	73	6.43
G167 DETERMINE EXPOSURE FACTORS USING STANDARDIZED RADIOGRAPHIC TECHNIQUE CHARTS	7.09	79	75	72	4.22
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	7.09	90	89	84	4.79
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	7.09	92	89	84	3.97
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	7.04	92	89	84	4.95
H275 PRODUCE RADIOGRAPHS DURING UPPER GASTROINTESTINAL (UGI) SERIES	7.02	70	68	57	4.96
L425 PRODUCE RADIOGRAPHS IN EMERGENCY ROOMS	7.02	77	72	65	5.13
L427 PRODUCE RADIOGRAPHS IN NURSERIES	7.00	69	68	59	5.14
G168 MEASURE PATIENTS USING CALIPERS	6.98	72	70	65	3.01
G195 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE MANDIBLE	6.98	79	81	79	5.26
L426 PRODUCE RADIOGRAPHS IN INTENSIVE CARE	6.98	67	62	53	5.05
H246 PRODUCE RADIOGRAPHS DURING AIR CONTRAST ENEMAS	6.91	75	70	59	5.38
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	6.80	91	88	82	4.75
G212 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TEMPOROMANDIBULAR JOINTS (TMJ)	6.89	70	74	74	5.65
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	6.89	79	72	60	4.97
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	6.89	76	72	60	4.95
G191 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE INTERNAL AUDITORY MEATUS (CANALS)	6.87	70	72	69	6.25
L417 PERFORM BEDSIDE RADIOGRAPHY ON PATIENTS IN TRACTION	6.87	53	53	43	5.49
G198 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE OPTIC FORAMINA	6.84	73	72	70	6.05
G183 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FACIAL BONES	6.80	85	85	81	5.25

TABLE 22

## TASKS RATED HIGHEST IN TASK DIFFICULTY

TASKS	TASK DIFFICULTY	TRAINING EMPHASIS	FIRST ENLIST	SECOND ENLIST	CAREER
J389 PERFORM ULTRASOUND GUIDED FETAL TRANSFUSIONS	7.40	1.20	.0	1	1.5
J336 PERFORM CHEST ULTRASONOGRAPHY	7.16	1.76	1	3	4.3
A8 DRAFT BUDGET AND FINANCIAL REQUIREMENTS	7.11	1.13	1	14	50.0
D101 WRITE CAREER DEVELOPMENT COURSE (CDC) MATERIALS	7.03	.02	0	1	1.5
E111 DEVELOP PHASE II COURSE LESSON PLANS	6.95	.24	0	4	4.3
J344 PERFORM ECHOCARDIOGRAPHY FOR VALVE ABNORMALITIES	6.95	1.36	1	0	0.0
A27 WRITE JUSTIFICATIONS FOR EQUIPMENT	6.91	1.87	3	20	60.6
J369 PERFORM OPHTHALMIC ULTRASONOGRAPHY FOR RETINAL DETACHMENT	6.87	1.33	0	0	1.5
J330 PERFORM ADRENAL ULTRASONOGRAPHY	6.86	1.73	2	5	5.3
J373 PERFORM PEDIATRIC ECHOCARDIOGRAPHY	6.85	1.38	1	0	1.5
J338 PERFORM CRANIAL SHUNT ULTRASONOGRAPHY	6.83	1.24	1	3	1.1
J371 PERFORM PANCREATIC ULTRASONOGRAPHY	6.79	1.98	5	10	10.1
C76 WRITE STAFF STUDIES, SURVEYS, OR SPECIAL REPORTS	6.78	.33	1	1	22.3
B54 WRITE REPLIES TO CONGRESSIONAL OR ADMINISTRATIVE INQUIRIES	6.75	.13	0	3	14.4
J337 PERFORM COLOR ULTRASONOGRAPHY FOR TISSUE DIFFERENTIATION	6.70	.87	0	1	.0
J343 PERFORM ECHOCARDIOGRAPHY FOR PERICARDIAL EFFUSION	6.67	1.29	0	0	.0
J362 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR FETAL ANOMALIES	6.66	2.36	6	13	11.6
J370 PERFORM OPHTHALMIC ULTRASONOGRAPHY FOR TUMORS	6.66	1.53	1	0	1.1
A28 WRITE UNIT EMERGENCY OR DISASTER PLANS	6.63	.36	0	8	18.6
J329 PERFORM ABSCESS DRAINAGE ULTRASONOGRAPHY	6.63	1.40	2	3	4.3
I318 PRODUCE RADIOGRAPHS DURING VENTRICULOGRAPHY	6.62	2.67	1	1	.0
J335 PERFORM CAROTID ULTRASONOGRAPHY	6.60	1.36	2	3	2.7
J342 PERFORM ECHOCARDIOGRAPHY FOR CHAMBER SIZE	6.60	1.29	1	0	1.5
J315 PRODUCE RADIOGRAPHS DURING PNEUMOENCEPHALOGRAPHY	6.59	2.58	1	0	1.5
J385 PERFORM THORACENTESIS ULTRASONOGRAPHY	6.59	1.51	1	2	2.6
J354 PERFORM MASS BIOPSY ULTRASONOGRAPHY	6.59	1.53	2	3	4.7
D102 WRITE TEST QUESTIONS OTHER THAN FOR PHASE II COURSE TRAINING	6.59	.20	1	4	6.9
N504 PLOT RADIOACTIVE DECAY TO DETERMINE SOURCE ACTIVITY	6.58	.69	1	0	1.1
J334 PERFORM BREAST ULTRASONOGRAPHY	6.57	1.49	1	3	2.7
I308 PRODUCE RADIOGRAPHS DURING CEREBRAL ANGIOGRAPHY	6.55	3.29	5	5	3.2

TABLE 23

TASKS RATED LOWEST IN TASK DIFFICULTY

TASKS	TASK DIFFICULTY	TRAINING EMPHASIS	FIRST ENLIST	SECOND ENLIST	CAREER
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	3.16	6.71	89	77	73
F126 ADMINISTER PREGNANCY QUESTIONNAIRES	3.15	5.36	47	57	59
F150 MATCH RADIOGRAPHIC FILMS TO SF FORMS 519A (RADIOGRAPHIC REPORT)	3.14	5.62	73	69	75
M446 LOAD OR UNLOAD FILM HANGERS	3.12	3.33	6	7	5
M440 CLEAN MANUAL FILM PROCESSING TANKS	3.10	3.91	7	12	10
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	3.09	5.91	80	76	78
F151 PICK UP, DELIVER, OR SIGN OUT RADIOGRAPHIC FILMS TO PHYSICIANS	3.09	4.93	74	73	77
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	3.03	6.49	88	74	
G168 MEASURE PATIENTS USING CALIPERS	3.01	6.98	70	57	62
F130 DISTRIBUTE COMPLETED RADIOGRAPHIC REPORTS TO PHYSICIANS	3.01	5.00	50	60	69
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	3.01	6.44	89	75	72
F128 ASSIGN IDENTIFICATION TO RADIOGRAPHIC RECORDS	3.00	5.67	49	58	67
F164 UPDATE PATIENT NOMINAL INDEX CARD FILES	2.98	5.80	68	70	75
L432 TRANSPORT PORTABLE RADIOGRAPHIC UNITS BETWEEN DEPARTMENTS	2.97	5.62	64	49	37
F163 UPDATE FILM FOLDERS	2.96	5.47	77	76	79
F136 MAIL RADIOGRAPHIC FILMS	2.93	4.42	38	53	67
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	2.89	6.40	89	76	72
M451 PERFORM AUTOMATIC FILM PROCESSOR TURN-ON PROCEDURES	2.87	5.22	65	73	69
M443 LABEL CASSETTES FOR SCREEN SPEED	2.85	4.36	10	25	32
P544 PERFORM HOUSEKEEPING SERVICES	2.83	2.73	34	39	49
M450 PERFORM AUTOMATIC FILM PROCESSOR TURN-OFF PROCEDURES	2.79	5.33	65	73	69
F152 PREPARE FILM FILE ENVELOPES	2.77	5.29	77	76	80
M454 PROCESS RADIOGRAPHIC FILM AUTOMATICALLY OTHER THAN DURING SURGERY	2.74	5.69	71	66	66
M447 MAINTAIN FILM BINS	2.74	5.47	76	72	64
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	2.73	6.36	90	75	72
M444 LOAD OR UNLOAD CARDBOARD FILM HOLDERS	2.67	3.93	24	22	22
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	2.63	1.91	1	16	48
M449 NUMBER CASSETTES OR SCREENS FOR IDENTIFICATION	2.61	4.82	21	35	45
M445 LOAD OR UNLOAD CASSETTES	2.54	5.76	89	78	77
M441 IDENTIFY RADIOGRAPHIC FILMS WITH IDENTIFIER	2.51	5.91	77	70	67
P559 WEIGH PATIENTS	2.26	.71	3	1	5

TABLE 24

EXAMPLES OF TASKS NOT MATCHED TO THE STS

TASKS	TRAINING EMPHASIS	FIRST JOB	FIRST ENLIST	90330	90350	90370	TASK DIFFICULTY
G209 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	7.18	83	83	85	82	70	4.98
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	6.91	79	80	75	81	74	3.09
F141 MAINTAIN TECHNIQUE CHARTS FOR RADIOGRAPHIC UNITS	5.91	12	21	16	31	50	5.05
O520 IDENTIFY FILM QUALITY PROBLEMS, SUCH AS IMPROPER POSITIONING OR RADIOGRAPHIC TECHNIQUES	5.84	25	28	30	40	34	5.41
O519 EVALUATE RADIOGRAPHIC UNITS USING STEP WEDGE TESTS	5.09	10	12	12	14	23	4.99
F136 MAIL RADIOGRAPHIC FILMS	4.42	21	38	32	49	60	2.93
I311 PRODUCE RADIOGRAPHS DURING FOREIGN BODY LOCALIZATION STUDIES OF OTHER THAN EYES	4.36	28	34	28	35	21	4.92
O534 VISUALLY INSPECT FACILITIES FOR PROPER STORAGE OF RADIOGRAPHIC FILM	4.33	8	13	15	19	37	3.59
F135 KEY PATIENT INFORMATION INTO AUTOMATED DATA SYSTEMS	4.09	18	18	21	17	18	4.71
F137 MAINTAIN CURRENT LISTINGS OF STANDARD RADIOGRAPHIC EXAMINATION PROCEDURES	4.02	14	16	11	29	59	4.09
F144 MAKE ENTRIES ON AP FORMS 584 (X-RAY WORK RECORD)	3.98	12	18	18	27	39	3.53
O526 PERFORM BLJECT ANALYSIS	3.64	5	7	7	9	21	5.49
P558 TRANSPORT PATIENTS ON LITTERS OR WHEEL CHAIRS	3.62	52	54	48	54	38	3.33
I292 MAINTAIN SPECIAL PROCEDURE EQUIPMENT TRAYS	3.60	22	20	21	18	11	5.26
I313 PRODUCE RADIOGRAPHS DURING LOCALIZATION OF BIOLOGICAL ABNORMALITIES, SUCH AS ABSCESSES, LESIONS, OR MASSES	3.60	14	25	15	25	13	5.44
I29 DETERMINE ELIGIBILITY OF INDIVIDUALS FOR MEDICAL CARE	3.58	10	17	13	23	38	3.38
I312 PRODUCE RADIOGRAPHS DURING FOREIGN BODY LOCALIZATION STUDIES OF EYES	3.58	4	6	5	5	1	6.46
D81 CONDUCT OJT	3.53	3	7	6	16	47	5.39
I319 PRODUCE STEREOSCOPIC RADIOGRAPHS	3.49	1	5	2	6	6	5.64
O528 PERFORM SPIN TOP TESTS	3.49	4	4	5	4	9	4.65
P537 ASSIGN PATIENTS TO RADIOGRAPHIC EXPOSURE ROOMS	3.47	47	49	44	48	51	4.05
B48 SUPERVISE APPRENTICE RADIOLOGIC SPECIALISTS (AFSC 90330)	3.40	14	19	13	26	37	4.93
G74 WRITE APB	3.38	0	5	2	22	83	6.05
P550 PREPARE INSTRUMENTS FOR STERILIZATION	3.38	17	21	19	20	20	3.92
M228 ADMINISTER INTRAVENOUS (IV) INJECTIONS	3.18	11	15	18	15	16	5.47
K400 SET UP CARDIAC MONITORING EQUIPMENT	3.07	5	6	5	6	4	5.82
M434 ADJUST ELECTROLYSIS-TYPE SILVER RECOVERY UNITS	2.99	3	3	5	7	26	5.10
A13 ESTABLISH WORK PRIORITIES	2.96	1	6	5	18	65	4.83

Average TE = 3.06

High TE = 5.26



TABLE 25

EXAMPLES OF ULTRASOUND TASKS MATCHED TO THE POI

TASKS	TRAINING EMPHASIS		FIRST JOB	FIRST ENLIST	TASK DIFFICULTY
J358	PERFORM OBSTETRIC ULTRASONOGRAPHY FOR AMNIOCENTESIS	1.89	2	4	5.93
J386	PERFORM THYROID ULTRASONOGRAPHY	1.89	3	4	6.34
J331	PERFORM AORTIC ULTRASONOGRAPHY	1.84	3	4	6.39
J382	PERFORM RETROPERITONEAL ULTRASONOGRAPHY	1.80	1	2	6.48
J336	PERFORM CHEST ULTRASONOGRAPHY	1.76	1	1	7.16
J346	PERFORM FEMORAL ARTERY ULTRASONOGRAPHY	1.76	1	1	6.23
J347	PERFORM FETAL CARDIAC STUDY ULTRASONOGRAPHY	1.76	3	4	6.23
J367	PERFORM OPHTHALMIC ULTRASONOGRAPHY FOR FOREIGN BODIES	1.76	1	1	6.08
J330	PERFORM ADRENAL ULTRASONOGRAPHY	1.73	2	2	6.86
J378	PERFORM RENAL ARTERY ULTRASONOGRAPHY	1.73	2	3	6.53
J379	PERFORM RENAL BIOPSY ULTRASONOGRAPHY	1.73	1	1	6.30
J355	PERFORM NECK ULTRASONOGRAPHY	1.71	3	3	6.23
J352	PERFORM INFERIOR VENACAVA ULTRASONOGRAPHY	1.69	1	3	6.33
J376	PERFORM POPLITEAL CYST ULTRASONOGRAPHY	1.69	1	2	6.02
J340	PERFORM DIAPHRAGM ULTRASONOGRAPHY	1.67	1	1	6.09
J377	PERFORM PORTABLE ULTRASONOGRAPHY PROCEDURES	1.67	1	3	5.94
J372	PERFORM PARACENTESIS ULTRASONOGRAPHY	1.64	2	1	6.50
J351	PERFORM ILLIAC ULTRASONOGRAPHY	1.58	1	2	6.13
J332	PERFORM BAKER CYST ULTRASONOGRAPHY	1.53	2	3	6.08
J354	PERFORM MASS BIOPSY ULTRASONOGRAPHY	1.53	2	2	6.59
J370	PERFORM OPHTHALMIC ULTRASONOGRAPHY FOR TUMORS	1.53	1	1	6.66
J385	PERFORM THORACENTESIS ULTRASONOGRAPHY	1.51	1	1	6.59
J334	PERFORM BREAST ULTRASONOGRAPHY	1.49	1	1	6.57
K388	PERFORM ULTRASONIC SUPERFICIAL SCANS	1.47	1	1	6.29
J375	PERFORM POPLITEAL ULTRASONOGRAPHY	1.44	1	3	6.16
J341	PERFORM DOPPLER ULTRASONOGRAPHY	1.42	0	1	6.31
J329	PERFORM ABSCESS DRAINAGE ULTRASONOGRAPHY	1.40	1	2	6.63
J357	PERFORM NEPHRECTOMY ULTRASONOGRAPHY	1.88	1	1	6.29
J368	PERFORM OPHTHALMIC ULTRASONOGRAPHY FOR GLOBE LENGTH	1.38	1	0	6.20
J373	PERFORM PEDIATRIC ECHOCARDIOGRAPHY	1.38	1	1	6.85
J390	PERFORM VIDEO MOTION ULTRASONOGRAPHY STUDIES	1.38	1	1	5.88

AVERAGE TE - 3.06

HIGH TE - 5.26

TABLE 26

EXAMPLES OF COMPUTERIZED TOMOGRAPHY TASKS MATCHED TO THE POI

TASKS	TRAINING	FIRST	FIRST	TASK
	EMPHASIS	JOB	ENLIST	DIFFICULTY
I286 ADJUST COMPUTERIZED TOMOGRAPHIC TOTAL BODY (CT/T) SCANNER GANTRY FOR PATIENT POSITIONING	2.20	4	6	5.88
K397 PERFORM COMPUTERIZED TOMOGRAPHIC TOTAL BODY (CT/T) SCANNER WARM UP PROCEDURES	1.62	1	3	4.91
I296 PERFORM ENHANCED SCANS OF DESIGNATED BODY PARTS USING CT/T SCANNERS	1.56	1	3	5.69
I294 PERFORM CT/T SCANNER ARCHIVE PROCEDURES	1.53	1	3	5.36
I301 PERFORM UNENHANCED SCANS OF DESIGNATED BODY PARTS USING CT/T SCANNERS	1.51	3	4	5.56
I298 PERFORM REFORMATIIONS FOR CT/T SCANS	1.04	1	2	6.21
I320 TRANSCRIBE CT/T DISPLAY CONSOLE INFORMATION ONTO PERMANENT COPY FILM	1.44	1	3	5.09
I299 PERFORM REVIEW PROGRAMS FOR CT/T SCANS BY RESTORING RAW DATA	14.2	1	2	6.10
I295 PERFORM DYNAMIC SCANS	1.24	1	2	5.92
I297 PERFORM PRIORITY QUEUING	1.16	0	2	5.41

AVERAGE TE = 3.06

HIGH TE = 5.26

TABLE 27

EXAMPLES OF RADIOTHERAPY TASKS MATCHED TO THE POI

TASKS	TRAINING EMPHASIS		FIRST JOB	FIRST ENLIST	TASK DIFFICULTY
N477 MAINTAIN STERILE FIELDS	1.29		3	5	4.24
N514 SHIELD PATIENTS DURING RADIATION THERAPY TREATMENTS	1.02		1	2	4.94
N470 IDENTIFY AND REPORT TO PHYSICIAN CONDITION OF PATIENTS DURING RADIATION THERAPY	1.00		1	1	4.32
N463 CHANGE DRESSINGS	.93		1	2	3.71
N495 PERFORM RADIATION PROTECTION PROCEDURES FOR PATIENT AND TECHNOLOGIST DURING RADIATION THERAPY	.93		0	1	5.43
N467 ESTABLISH RAPPORT WITH PATIENTS UNDERGOING RADIOTHERAPY	.91		3	2	5.07
N462 ATTACH CONES AND FILTERS TO X-RAY EQUIPMENT FOR THERAPY	.89		3	2	4.52
N499 PERFORM SAFETY CHECKS ON COBALT THERAPY EQUIPMENT	.89		1	1	5.21
N501 PERFORM STANDARDIZATION PROCEDURES ON RADIATION THERAPY	.89		1	1	5.98
N505 POSITION PATIENTS FOR RADIOTHERAPY TREATMENTS	.89		0	1	4.43
N471 INSTRUCT PATIENTS PRIOR TO ADMINISTRATION OF RADIATION THERAPY	.87		0	1	4.43
N473 INVENTORY RADIOACTIVE SOURCES AFTER RADIATION THERAPY TREATMENTS	.82		1	1	4.65
N492 PERFORM OPERATIONAL CHECKS ON RADIOACTIVE CONTAMINATION DETECTION DEVICES	.82		1	1	5.66
N497 PERFORM RADIOACTIVE DECONTAMINATION PROCEDURES	.82		1	1	5.41
N506 POST RADIATION LEVELS OF RADIOACTIVE MATERIALS UPON RECEIPT	.82		1	1	5.08
N468 FABRICATE SHIELDING MASKS	.80		2	2	6.53
N476 MAINTAIN RECORDS OF PATIENT'S BLOOD COUNT	.80		1	1	4.19
N489 PERFORM FUNCTIONAL CHECKS ON RADIATION THERAPY EQUIPMENT	.80		1	1	5.55
N493 PERFORM OPERATIONAL CHECKS ON RADIOACTIVE SURVEY EQUIPMENT	.80		0	0	5.69
N512 SCHEDULE PATIENTS FOR RADIATION THERAPY TREATMENTS	.80		0	1	4.32
N461 APPLY ROLUS TO TREATMENT AREAS	.78		1	1	5.86
N500 PERFORM SCANS UTILIZING SPECIALIZED ELECTRONIC DETECTORS	.78		1	1	6.35
N511 PRODUCE RADIOGRAPHS OF BRACHYTHERAPY DEVICES IMPLANTED IN PATIENTS	.78		1	1	4.76
N472 INVENTORY BRACHYTHERAPY EQUIPMENT	.76		0	0	4.16
N485 PAINT TREATMENT AREAS WITH CASTELLANI, INVISIBLE PAINT, OR INDIAN INK	.73		1	2	4.88
N491 PERFORM MEGA VOLTAGE (COBALT 60) THERAPY	.73		1	1	6.15
N460 ALIGN OR ADJUST RADIATION THERAPY EQUIPMENT FOR PATIENT SET-UPS	.71		2	2	5.50

TABLE 28

EXAMPLES OF TASKS NOT REFERENCED TO THE POI

TASKS	TRAINING EMPHASIS		FIRST JOB		FIRST ENLIST		TASK
							DIFFICULTY
F131	5.91	74	80	3.09			
F141	5.91	16	27	5.02			
P536	5.87	16	27	5.02			
L432	5.62	67	64	2.97			
F130	5.00	37	50	3.01			
L431	4.96	30	31	3.78			
P543	4.53	39	54	3.99			
F136	4.42	21	38	2.93			
I311	4.36	28	34	4.92			
O534	4.33	8	13	3.59			
P541	4.20	72	73	3.55			
F135	4.09	18	18	4.71			
F137	4.02	14	16	4.09			
F144	3.98	12	18	3.53			
O523	3.82	7	11	4.75			
O526	3.64	5	7	5.49			
H277	3.62	5	3	5.34			
P558	3.62	52	50	3.33			
I292	3.60	22	20	5.26			
I313	3.60	14	25	5.44			
F129	3.58	10	17	3.38			
I312	3.58	4	6	6.48			
D81	3.53	3	7	5.39			
I319	3.49	1	5	5.64			
O528	3.49	4	4	4.65			
P537	3.47	47	49	4.05			

AVERAGE TE = 3.06

HIGH TE = 5.26

#### COMPARISON TO PREVIOUS SURVEY

The last survey of the Radiologic specialty was administered in 1978, with the report being published that same year. Comparison of this survey with the results from the 1978 survey shows the specialty has become less homogeneous. In the 1978 study, 82 percent of the people were general radiographers. In the present study, only 57 percent fell into this category. One of the reasons for the change is that new equipment has been added to the field. The people working on the new equipment are very specialized and rarely perform other duties. Another reason is that the previous survey compared the Radiologic, Medical Laboratory, and Nuclear Medicine career ladders. This study looked for differences only within the Radiologic career ladder. Thus, different levels of analyses were required.

The job satisfaction data for the two surveys are about the same (see Table 29).

TABLE 29

COMPARISON OF JOB SATISFACTION INDICATORS BY SURVEY  
(PERCENT MEMBERS PERFORMING)

<u>EXPRESSED JOB INTEREST:</u>	<u>1978</u>	<u>PRESENT</u>
DULL	7	8
SO-SO	15	13
INTERESTING	76	78
NOT REPORTED	2	1
<u>PERCEIVED UTILIZATION OF TALENTS:</u>		
LITTLE OR NOT AT ALL	16	17
FAIRLY WELL OR BETTER	82	83
NOT REPORTED	2	0
<u>PERCEIVED UTILIZATION OF TRAINING:</u>		
LITTLE OR NOT AT ALL	14	14
FAIRLY WELL OR BETTER	85	85
NOT REPORTED	1	1
<u>REENLISTMENT INTENTIONS:</u>		
NO, OR PROBABLY NO	34	35
YES, OR PROBABLY YES	66	59
WILL RETIRE	0	6
NOT REPORTED	0	0

NOTE: Percentages may not equal 100 due to rounding

## ANALYSIS OF WRITE-IN COMMENTS

Write-in comments volunteered by survey respondents can sometimes give insight into problems that may exist in the field. Comments received indicate that two problems may exist. First, many people feel staffing levels are too low. Second, people at small facilities feel disadvantaged because they don't get to use any of the new equipment or perform any complex procedures. Examples of write-in comments that illustrate these feelings are quoted below:

"Although I fill the NCO position, I also must fulfill responsibilities as a working technologist and perform my administrative supervisor's duties after normal duty hours and cannot perform direct supervision on any of my subordinates as a result of the unrealistic staffing levels."

". . . I am expected to be an administrative, supervisory NCO, and yet I am 50 percent manned."

"The only complaint I have is the management of manpower."

"I have never been assigned to a hospital, with the exception of Phase II; therefore, my knowledge is extremely limited."

"We do no, repeat no, specials. It is very boring after three years of chests, heads, and L-spines."

Comments like these indicate there may be a problem keeping people motivated at some bases.

## ISSUES AND SURVEY CONSIDERATIONS

New Equipment: As discussed earlier in the TRAINING ANALYSIS and Career Ladder Structure sections of this report, very few people (less than 10 percent) are working with radiotherapy, ultrasound and computerized tomography equipment. These people clearly break out from the remainder of the career field. For a more detailed description of the job groups relating to these areas, refer to the Career Ladder Structure section.

Automated Data Systems: Approximately 18 percent of the entire career field now uses automated data systems. By skill level, the breakdown is as follows:

- 21 percent of the 3-skill level personnel
- 17 percent of the 5-skill level personnel
- 18 percent of the 7-skill level personnel

In terms of TAFMS, the breakdown is as follows:

- 18 percent of first-term enlisted personnel
- 17 percent of second-term enlisted personnel
- 18 percent of career personnel

Quality Control (QC) Test and American Registry of Radiologist Technologists (ARRT): More than half (58 percent) of the people said they have never taken the QC test. Only 284 people have taken the test: 77 percent passed on the first try, 14 percent on the second, 2 percent on the third. The remainder have taken the test five or more times and have not passed.

Only 30 percent of the Radiologic personnel reported that they were members of the ARRT.



## IMPLICATIONS

The primary purpose of the survey was to see how many people worked in the ultrasound, computerized tomography, and radiotherapy areas. As discussed earlier, very few people work in these areas. Therefore, computerized tomographers, ultrasound technicians, radiotherapists, and, possibly, angiographers, may need some type of special identification to prevent their reassignment to facilities without such equipment. The jobs performed by these people are separate and distinct from the rest of the career ladder. It takes a year or more of OJT for someone to become proficient in these areas. It does not seem cost-effective to transfer these people shortly after they become proficient, unless that reassignment is to a similar facility.

With the small number of people in these job groups, training in the areas of ultrasound computerized tomography and radiography in the ABR Course does not seem justified. It seems more cost-effective to provide some form of orientation course just to people who are selected for such assignments.

AFR 39-1 was examined and found slightly deficient at the specialist level. A revision of the 5-skill level description is needed and should include special imaging procedures and radiation treatment of diseases.

Most people in the Radiologic career ladder seem satisfied with their jobs but reenlistment intentions do not reflect this. Corrective actions should be taken to remedy this problem. Each person who reenlists will save the Air Force thousands of dollars in training costs, and will help maintain experience levels.

**APPENDIX A**  
**REPRESENTATIVE TASKS OF CAREER LADDER JOB GROUPS**

TABLE A1

GROUP ID NUMBER AND TITLE: GENERAL RADIOLOGIC TECHNICIANS CLUSTER (GRP107)  
 NUMBER IN GROUP: 395 PERCENT OF SAMPLE: 57  
 AVERAGE GRADE: E-4 AVERAGE TICF: 44 TAFMS: 47  
 AVERAGE NUMBER OF TASKS PERFORMED: 127 JOB DIFFICULTY INDEX: 12.8  
 DAFSC DISTRIBUTION: (90330) 21 (90350) 71 (90370) 8

TASKS	PERCENT MEMBERS PERFORMING
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	99
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	99
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	99
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	99
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	99
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	99
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	99
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	99
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	99
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	99
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	99
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	99
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	99
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	99
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	99
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	99
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	98
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	98
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	98
G190 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HUMERUS	98
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCANEUS (OS CALCIS)	98
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	98
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	98
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	97
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	97
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	97
G203 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACROILIAC (S-I) JOINTS	97
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	96
G175 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ACROMIO CLAVICULAR (A-C JOINTS)	96
G181 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE COCCYX	96
M445 LOAD OR UNLOAD CASSETTES	96

TABLE A2

GROUP ID NUMBER AND TITLE: CLINIC RADIOTECHNOLOGISTS (GRP136)  
 NUMBER IN GROUP: 54 PERCENT OF SAMPLE: 8  
 AVERAGE GRADE: E-5 AVERAGE TICF: 76 TAFMS: 84  
 AVERAGE NUMBER OF TASKS PERFORMED: 112 JOB DIFFICULTY INDEX: 10.5  
 DAFSC DISTRIBUTION: (90330) 4 (90350) 72 (90370) 24

TASKS	PERCENT MEMBERS PERFORMING
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
M445 LOAD OR UNLOAD CASSETTES	100
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	100
F152 PREPARE FILM FILE ENVELOPES	100
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	100
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	100
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	100
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	100
M447 MAINTAIN FILM BINS	100
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	100
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	100
M437 CLEAN AUTOMATIC FILM PROCESSOR DEEP RACKS	100
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	100
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	100
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	100
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	100
G190 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HUMERUS	100
G197 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE NASAL SERIES	100
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	98
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	98
F150 MATCH RADIOGRAPHIC FILMS TO SF FORMS 519A (RADIOGRAPHIC REPORT)	98
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	98
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	98
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	98
M436 CLEAN AUTOMATIC FILM PROCESSOR CROSSOVERS	98
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	98
M438 CLEAN DARKROOM FACILITIES	98
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	98
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	98
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	96
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	96
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	96
F163 UPDATE FILM FOLDERS	96
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	96

TABLE A3

GROUP ID NUMBER AND TITLE: HOSPITAL RADIOTECHNOLOGISTS (GRP146)  
 NUMBER IN GROUP: 298 PERCENT OF SAMPLE: 43  
 AVERAGE GRADE: E-4 AVERAGE TICF: 39 TAFMS: 41  
 AVERAGE NUMBER OF TASKS PERFORMED: 136 JOB DIFFICULTY INDEX: 13.7  
 DAFSC DISTRIBUTION: (90330) 24 (90350) 71 (90370) 5

TASKS	PERCENT MEMBERS PERFORMING
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	100
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	100
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	100
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	99
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	99
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	99
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	99
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	99
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	99
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	99
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	99
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	99
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	99
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	99
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	99
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	99
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	99
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	99
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	99
G203 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACROILLIAC (S-I) JOINTS	99
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	98
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	98
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	98
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCANEUS (OS CALCIS)	98
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	98
G190 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HUMERUS	98
G227 SHIELD PATIENTS DURING PERFORM EXAMINATIONS	97
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	97
G175 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ACROMIO CLAVICULAR (A-C) JOINTS	97
G181 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE COCCYX	97
M445 LOAD OR UNLOAD CASSETTES	96

TABLE A4

GROUP ID NUMBER AND TITLE: MEDICAL CENTER RADIOTECHNOLOGISTS (GRP121)  
 NUMBER IN GROUP: 41 PERCENT OF SAMPLE: 6  
 AVERAGE GRADE: E-3 AVERAGE TICF: 40 TAFMS: 43  
 AVERAGE NUMBER OF TASKS PERFORMED: 21 JOB DIFFICULTY INDEX: 8.7  
 DAFSC DISTRIBUTION: (90330) 27 (90350) 68 (90370) 5

TASKS	PERCENT MEMBERS PERFORMING
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	100
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	100
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	100
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	100
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	100
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	100
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	100
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	100
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	100
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCANEUS (OS CALCIS)	100
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	100
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	98
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATION	98
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	98
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	98
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	98
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	98
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	98
G190 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HUMERUS	98
G175 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ACROMIO CLAVICULAR (A-C) JOINTS	98
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	95
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	95
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	95
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	95
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS <sup>93</sup>	
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	93
G203 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACROILIAC (S-I) JOINTS	93
G181 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE COCCYX	93
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	90
G205 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SCAPULA	90
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	88

TABLE A5

GROUP ID NUMBER AND TITLE: SMALL FACILITY SUPERVISORS CLUSTER (GRP097)  
 NUMBER IN GROUP: 113 PERCENT OF SAMPLE: 16  
 AVERAGE GRADE: E-5 AVERAGE TICF: 109 TAFMS: 132  
 AVERAGE NUMBER OF TASKS PERFORMED: 194 JOB DIFFICULTY INDEX: 7.1  
 DAFSC DISTRIBUTION: (90330) 3 (90350) 50 (90370) 47

TASKS	PERCENT MEMBERS PERFORMING
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	100
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	100
G217 PERFORM EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	100
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	100
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	100
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	100
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	100
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	100
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	100
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	100
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	100
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	100
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	100
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	100
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCANEUS (OS CALCIS)	100
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	99
G197 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	99
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	99
F152 PREPARE FILM FILE ENVELOPES	99
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	99
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	99
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	99
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	99
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	99
G175 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ACROMIO CLAVICULAR (A-C) JOINTS	99
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	98
F163 UPDATE FILM FOLDERS	98
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	98
F164 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	98
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	98

TABLE A6

GROUP ID NUMBER AND TITLE: STANDARD PROCEDURES SUPERVISORS (GRP099)  
 NUMBER IN GROUP: 81 PERCENT OF SAMPLE: 12  
 AVERAGE GRADE: E-6 AVERAGE TICF: 125 TAFMS: 155  
 AVERAGE NUMBER OF TASKS PERFORMED: 196 JOB DIFFICULTY INDEX: 168  
 DAFSC DISTRIBUTION: (90330) 3 (90350) 38 (90370) 59

TASKS	PERCENT MEMBERS PERFORMING
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	100
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	100
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
G176 PERFORM PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	100
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
F163 UPDATE FILM FOLDERS	100
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	100
F164 UPDATE PATIENT NOMINAL INDEX CARD FILES	100
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	100
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	100
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	100
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	100
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	100
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	100
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	100
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	100
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	100
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	100
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	100
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	100
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCANEUS (OS CALCIS)	100
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	100
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE NASAL SINUSES	99
F152 PREPARE FILM FILE ENVELOPES	99
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	99
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	99
F151 PICK UP, DELIVER, OR SIGN OUT RADIOGRAPHIC FILMS TO PHYSICIANS	99
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	99
F161 SCHEDULE PATIENTS FOR RADIOGRAPHIC EXAMINATIONS	99
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	99
G209 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	99
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	99



TABLE A7

GROUP ID NUMBER AND TITLE: ULTRASOUND AND STANDARD PROCEDURES FIRST-LINE SUPERVISORS (GRP102)

NUMBER IN GROUP: 32 PERCENT OF SAMPLE: 5  
 AVERAGE GRADE: E-4 AVERAGE TICF: 67 TAFMS: 73  
 AVERAGE NUMBER OF TASKS PERFORMED: 191 JOB DIFFICULTY INDEX: 17.9  
 DAFSC DISTRIBUTION: (90330) 6 (90350) 78 (90370) 16

TASKS	PERCENT MEMBERS PERFORMING
J361 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR FETAL AGE DETERMINATION	100
J364 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR LOCALIZATION OF PLACENTA	100
J362 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR FETAL ANOMALIES	100
J365 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR MISCARRIAGES	100
J324 ADVISE PATIENTS OF ULTRASONOGRAPHY EXAMINATION PREPARATION PROCEDURES	100
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	100
J360 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR ECTOPIC PREGNANCIES	100
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
J366 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR MULTIPLE GESTATION DETERMINATION	100
M445 LOAD OR UNLOAD CASSETTES	100
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	100
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	100
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	100
F152 PREPARE FILM FILE ENVELOPES	100
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	100
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	100
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	100
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	100
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	100
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	100
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	100
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	100
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE BOW	100
G189 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HIPS	100
G193 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LOWER LEG	100
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	100
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	100
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	100

TABLE A8

GROUP ID NUMBER AND TITLE: STANDARD RADIOGRAPHERS FIRST-LINE SUPERVISORS  
(GRP092)

NUMBER IN GROUP: 6	PERCENT OF SAMPLE: 1
AVERAGE GRADE: E-5	AVERAGE TICF: 79 TAFMS: 109
AVERAGE NUMBER OF TASKS PERFORMED: 108	JOB DIFFICULTY INDEX: 13.5
DAFSC DISTRIBUTION: (90330) 17 (90350) 50 (90370) 33	

TASKS	PERCENT MEMBERS PERFORMING
G209 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	100
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	100
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	100
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	100
G175 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ACROMIO CLAVICULAR (A-C) JOINTS	100
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	100
G183 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FACIAL BONES	100
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
G205 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SCAPULA	100
G177 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CALCANEUS (OS CALCIS)	100
G203 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACROILIAC (S-I) JOINTS	100
G181 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE COCCYX	100
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	100
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	100
G200 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PATELLA	100
G211 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE STERNUM	100
G197 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE NASAL SERIES	100
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	100
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	100
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	100
G210 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE STERNOCLAVICULAR ARTICULATION (S-C JOINTS)	100
G172 PERFORM LONG BONE STUDIES	100
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	100
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	100
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	100
G196 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE MASTOIDS	100
G204 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SACRUM	100
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	83
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	83

TABLE A9

GROUP ID NUMBER AND TITLE: STANDARD AND SPECIAL DIAGNOSTIC RADIOLOGISTS  
(GRP087)

NUMBER IN GROUP: 10	PERCENT OF SAMPLE: 1
AVERAGE GRADE: E-3	AVERAGE TICF: 36     TAFMS: 38
AVERAGE NUMBER OF TASKS PERFORMED: 50	JOB DIFFICULTY INDEX: 9.7
DAFSC DISTRIBUTION: (90330) 40    (90350) 50    (90370) 10	

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	100
H275 PRODUCE RADIOGRAPHS DURING UPPER GASTROINTESTINAL (UGI) SERIES	100
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	100
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
G174 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ABDOMEN	100
G199 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PARANASAL SINUSES	100
H273 PRODUCE RADIOGRAPHS DURING SMALL BOWEL SERIES	100
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	100
H244 PREPARE AND POSITION PATIENTS FOR SPECIAL RADIOGRAPHIC PROCEDURES	90
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	90
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	90
H234 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM SWALLOW EXAMINATIONS USING FLUOROSCOPIC EQUIPMENT	90
G223 PRODUCE RADIOGRAPHS OF ADDITIONAL PROJECTIONS OF THE CHEST	90
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	90
G215 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE WRIST	90
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	90
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	90
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	90
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	90
G202 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE RIBS	90
G176 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ANKLE	90
G201 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE PELVIS	90
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	90
H240 PARTICIPATE IN TAKING SPOT FILMS DURING UPPER GASTROINTESTINAL (UGI) SERIES USING FLUOROSCOPIC EQUIPMENT	80
H245 PREPARE EQUIPMENT AND SUPPLIES FOR SPECIAL RADIOGRAPHIC PROCEDURES	80
H239 PARTICIPATE IN TAKING SPOT FILMS DURING SMALL BOWEL SERIES USING FLUOROSCOPIC EQUIPMENT	80

TABLE A10

GROUP ID NUMBER AND TITLE: HOSPITAL PHASE II COURSE SUPERVISORS AND INSTRUCTORS (GRP078)  
 NUMBER IN GROUP: 9 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-5 AVERAGE TICF: 81 TAFMS: 91  
 AVERAGE NUMBER OF TASKS PERFORMED: 232 JOB DIFFICULTY INDEX: 18.9  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 44 (90370) 56

TASKS	PERCENT MEMBERS PERFORMING
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	100
H246 PRODUCE RADIOGRAPHS DURING AIR CONTRAST ENEMAS	100
G178 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CERVICAL SPINE	100
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	100
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	100
H275 PRODUCE RADIOGRAPHS DURING UPPER GASTROINTESTINAL (UGI) SERIES	100
L417 PERFORM BEDSIDE RADIOGRAPHY ON PATIENTS IN TRACTION	100
G213 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE THORACIC SPINE	100
G183 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FACIAL BONES	100
G187 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOOT	100
G194 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE LUMBAR SPINE	100
G209 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SKULL WITHOUT HEAD UNITS	100
G179 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CHEST	100
L426 PRODUCE RADIOGRAPHS IN INTENSIVE CARE	100
G192 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE KNEE	100
G216 PREPARE AND POSITION PATIENTS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
G217 PREPARE EQUIPMENT AND MATERIALS FOR STANDARD RADIOGRAPHIC EXAMINATIONS	100
G180 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE CLAVICLE	100
G185 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FINGERS	100
G186 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FOREARM	100
G184 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE FEMUR	100
G224 PRODUCE RADIOGRAPHS OF ADDITIONAL PROJECTIONS OF THE ABDOMEN	100
H273 PRODUCE RADIOGRAPHS DURING SMALL BOWEL SERIES	100
G225 PRODUCE RADIOGRAPHS OF ADDITIONAL PROJECTIONS OF THE RIBS	100
G214 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE TOES	100
L421 PRODUCE RADIOGRAPHS DURING CLOSED REDUCTIONS	100
G188 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE HAND	100
G207 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE SHOULDER	100
G182 PERFORM RADIOGRAPHIC EXAMINATIONS OF THE ELBOW	100
L427 PRODUCE RADIOGRAPHS IN NURSERIES	100
G221 PRODUCE RADIOGRAPHS OF ADDITIONAL PROJECTIONS OF THE LOWER EXTREMITIES	100

TABLE A11

GROUP ID NUMBER AND TITLE: SPECIAL DIAGNOSTIC RADIOGRAPHERS (GRP059)  
 NUMBER IN GROUP: 5 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-4 AVERAGE TICF: 29 TAFMS: 33  
 AVERAGE NUMBER OF TASKS PERFORMED: 105 JOB DIFFICULTY INDEX: 12.8  
 DAFSC DISTRIBUTION: (90330) 20 (90350) 80 (90370) 0

TASKS	PERCENT MEMBERS PERFORMING
M441 IDENTIFY RADIOGRAPHIC FILMS WITH IDENTIFIER	100
H246 PRODUCE RADIOGRAPHS DURING AIR CONTRAST ENEMAS	100
H231 PARTICIPATE IN TAKING SPOT FILMS DURING AIR CONTRAST ENEMAS USING FLUOROSCOPIC EQUIPMENT	100
H249 PRODUCE RADIOGRAPHS DURING BARIUM ENEMAS	100
H233 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM ENEMAS USING FLUOROSCOPIC EQUIPMENT	100
H240 PARTICIPATE IN TAKING SPOT FILMS DURING UPPER GASTROINTESTINAL (UGI) SERIES USING FLUOROSCOPIC EQUIPMENT	100
H275 PRODUCE RADIOGRAPHS DURING UPPER GASTROINTESTINAL (UGI) SERIES	100
H250 PRODUCE RADIOGRAPHS DURING BARIUM SWALLOW EXAMINATIONS	100
H234 PARTICIPATE IN TAKING SPOT FILMS DURING BARIUM SWALLOW EXAMINATIONS USING FLUOROSCOPIC EQUIPMENT	100
H232 PARTICIPATE IN TAKING SPOT FILMS DURING ARTHROGRAMS USING FLUOROSCOPIC EQUIPMENT	100
M445 LOAD OR UNLOAD CASSETTES	100
H238 PARTICIPATE IN TAKING SPOT FILMS DURING ORAL CHOLECYSTOGRAPHY USING FLUOROSCOPIC EQUIPMENT	100
H248 PRODUCE RADIOGRAPHS DURING ARTHROGRAPHY	100
G227 SHIELD PATIENTS DURING RADIOGRAPHIC EXAMINATIONS	100
H273 PRODUCE RADIOGRAPHS DURING SMALL BOWEL SERIES	100
H252 PRODUCE RADIOGRAPHS DURING CYSTOGRAPHY	100
K405 SET UP FLUOROSCOPIC EQUIPMENT WITH TV MONITOR	80
H245 PREPARE EQUIPMENT AND SUPPLIES FOR SPECIAL RADIOGRAPHIC PROCEDURES	80
K404 SET UP FLUOROSCOPIC EQUIPMENT WITH IMAGE INTENSIFICATION	80
H244 PREPARE AND POSITION PATIENTS FOR SPECIAL RADIOGRAPHIC PROCEDURES	80
0520 IDENTIFY FILM QUALITY PROBLEMS, SUCH AS IMPROPER POSITIONING OR RADIOGRAPHIC TECHNIQUES	80
H260 PRODUCE RADIOGRAPHS DURING ORAL CHOLECYSTOGRAPHY	80
H235 PARTICIPATE IN TAKING SPOT FILMS DURING ESOPHOGRAMS USING FLUOROSCOPIC EQUIPMENT	80
H254 PRODUCE RADIOGRAPHS DURING INTRAVENOUS (EXCRETORY) PYELOGRAPHY	80

TABLE A12

GROUP ID NUMBER AND TITLE: ROTATING COMPUTERIZED TOMOGRAPHY TECHNICIANS  
(GRP065)

NUMBER IN GROUP: 5 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-5 AVERAGE TICF: 99 TAFMS: 106  
 AVERAGE NUMBER OF TASKS PERFORMED: 105 JOB DIFFICULTY INDEX: 13.9  
 DAFSC DISTRIBUTION: (90330) 20 (90350) 40 (90370) 40

TASKS	PERCENT MEMBERS PERFORMING
F161 SCHEDULE PATIENTS FOR RADIOGRAPHIC EXAMINATIONS	100
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	100
I297 PERFORM PRIORITY QUEUING	100
H228 ADMINISTER INTRAVENOUS (IV) INJECTIONS	100
I294 PERFORM CT/T SCANNER ARCHIVE PROCEDURES	100
I320 TRANSCRIBE CT/T DISPLAY CONSOLE INFORMATION ONTO PERMANENT COPY FILM	100
I296 PERFORM ENHANCED SCANS OF DESIGNATED BODY PARTS USING CT/T SCANNERS	100
I301 PERFORM UNENHANCED SCANS OF DESIGNATED BODY PARTS USING CT/T SCANNERS	100
I286 ADJUST COMPUTERIZED TOMOGRAPHIC TOTAL BODY (CT/T) SCANNER GANTRY FOR PATIENT POSITIONING	100
I291 KEY PATIENT BIOGRAPHICAL INFORMATION INTO CT/T SCANNER COMPUTERS	100
I287 ADJUST FLOW RATE OF INTRAVENOUS (IV) INJECTIONS DURING ENHANCED SCANS	100
A22 PLAN OR SCHEDULE WORK ASSIGNMENTS	100
F134 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	100
I288 COPY RADIOGRAPHS	100
H230 IDENTIFY PATIENT'S REACTION TO CONTRAST MEDIA	100
H229 APPLY EMERGENCY TREATMENT TO PATIENTS EXHIBITING REACTIONS CONTRAST MEDIA	100
B48 SUPERVISE APPRENTICE RADIOLOGIC SPECIALISTS (AFSC 90330)	80
F135 KEY PATIENT INFORMATION INTO AUTOMATED DATA SYSTEMS	80
F163 UPDATE FILM FOLDERS	80
F128 ASSIGN IDENTIFICATION TO RADIOGRAPHIC RECORDS	80
I298 PERFORM REFORMATIONS FOR CT/T SCANS	
F151 PICK UP, DELIVER, OR SIGN OUT RADIOGRAPHIC FILMS TO PHYSICIANS	80
M445 LOAD OR UNLOAD CASSETTES	80
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	80
F146 MAKE ENTRIES ON AUTHORIZATION FORMS FOR ADMINISTRATION OF ANESTHESIA OR INJECTIONS OF CONTRAST MEDIA	80
P555 SCHEDULE RADIOLOGY SERVICES WITH OTHER DEPARTMENTS	80
A13 ESTABLISH WORK PRIORITIES	80
F152 PREPARE FILM FILE ENVELOPES	80

TABLE A13

GROUP ID NUMBER AND TITLE: ANGIOGRAPHY TECHNICIANS (GRP069)  
 NUMBER IN GROUP: 7 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-4 AVERAGE TICF: 48 TAFMS: 50  
 AVERAGE NUMBER OF TASKS PERFORMED: 60 JOB DIFFICULTY INDEX: 10.9  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 86 (90370) 14

TASKS	PERCENT MEMBERS PERFORMING
I306 PRODUCE RADIOGRAPHS DURING ABDOMINAL ANGIOGRAPHY	100
I308 PRODUCE RADIOGRAPHS DURING CEREBRAL ANGIOGRAPHY	100
I289 EMPLOY FILM SUBTRACTION TECHNIQUES	100
I313 PRODUCE RADIOGRAPHS DURING LOCALIZATION OF BIOLOGICAL ABNORMALITIES, SUCH AS ABSCESSSES, LESIONS, OR MASSES	100
P550 PREPARE INSTRUMENTS FOR STERILIZATION	100
I302 PREPARE AND POSITION PATIENTS FOR ADVANCED RADIOGRAPHIC PROCEDURES	100
I303 PREPARE EQUIPMENT AND SUPPLIES FOR ADVANCED RADIOGRAPHIC PROCEDURES	100
K398 SET UP AUTOMATIC PRESSURE INJECTORS	100
I292 MAINTAIN SPECIAL PROCEDURE EQUIPMENT TRAYS	100
I293 MONITOR PATIENT CONDITION DURING ANGIOGRAPHY OF ARTERIALGRAMS	100
I288 COPY RADIOGRAPHS	100
K399 SET UP AUTOMATIC SERIAL FILM CHANGERS	100
I310 PRODUCE RADIOGRAPHS DURING EXTREMITAL (PERIPHERAL) ANGIOGRAPHY	100
I316 PRODUCE RADIOGRAPHS DURING THORACIC ANGIOGRAPHY	100
K405 SET UP FLUOROSCOPIC EQUIPMENT WITH TV MONITOR	100
M447 MAINTAIN FILM BINS	100
M448 MIX CHEMICAL PROCESSING SOLUTIONS	100
H244 PREPARE AND POSITION PATIENTS FOR SPECIAL RADIOGRAPHIC PROCEDURES	86
I317 PRODUCE RADIOGRAPHS DURING VENOGRAPHY	86
K409 SET UP RADIOGRAPHIC STEP TABLES FOR RUNOFF PROCEDURES	86
M441 IDENTIFY RADIOGRAPHIC FILMS WITH IDENTIFIER	86
M450 PERFORM AUTOMATIC FILM PROCESSOR TURN-OFF PROCEDURES	86
M436 CLEAN AUTOMATIC FILM PROCESSOR CROSSOVERS	86
M437 CLEAN AUTOMATIC FILM PROCESSOR DEEP RACKS	86
M451 PERFORM AUTOMATIC FILM PROCESSOR TURN-ON PROCEDURES	86
K400 SET UP CARDIAC MONITORING EQUIPMENT	86
H245 PREPARE EQUIPMENT AND SUPPLIES FOR SPECIAL RADIOGRAPHIC PROCEDURES	71
M454 PROCESS RADIOGRAPHIC FILM AUTOMATICALLY OTHER THAN DURING SURGERY	71
K404 SET UP FLUOROSCOPIC EQUIPMENT WITH IMAGE INTENSIFICATION	71

TABLE A14

GROUP ID NUMBER AND TITLE: SENIOR NCOIC CLUSTER (GRP022)  
 NUMBER IN GROUP: 45 PERCENT OF SAMPLE: 7  
 AVERAGE GRADE: E-6 AVERAGE TICF: 148 TAFMS: 182  
 AVERAGE NUMBER OF TASKS PERFORMED: 115 JOB DIFFICULTY INDEX: 14.7  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 56 (90370) 44

TASKS	PERCENT MEMBERS PERFORMING
C74 WRITE APR	89
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	89
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	89
A10 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	87
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	87
A13 ESTABLISH WORK PRIORITIES	84
B44 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	84
A7 DEVELOP WORK METHODS OR PROCEDURES	84
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	84
A22 PLAN OR SCHEDULE WORK ASSIGNMENTS	82
C60 EVALUATE COMPLIANCE WITH WORK STANDARDS	80
C71 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	80
B30 COORDINATE PREVENTIVE MAINTENANCE OF RADIOGRAPHIC EQUIPMENT WITH MEDICAL EQUIPMENT REPAIR PERSONNEL	80
A25 SCHEDULE LEAVES OR PASSES	80
A15 MAINTAIN CORRESPONDENCE FILES	78
A9 ESTABLISH ORGANIZATIONAL POLICIES, LOCAL OPERATING INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	76
B37 EDIT OR REVIEW INCOMING OR OUTGOING CORRESPONDENCE	76
C70 EVALUATE WORK SCHEDULES	73
A6 COORDINATE WORK ORDERS OR REQUESTS WITH PLANT MANAGEMENT PERSONNEL	73
B36 DRAFT CORRESPONDENCE	71
C64 EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	71
A16 MAINTAIN OPERATING FILES OF REGULATIONS, INSTRUCTIONS, OR POLICIES	71
C55 ANALYZE WORKLOAD REQUIREMENTS	69
F134 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	69
A14 MAINTAIN CALL ROSTERS OF TECHNOLOGISTS	69
B34 DIRECT MAINTENANCE OR UTILIZATION OF EQUIPMENT OR SUPPLIES	69
A21 PLAN OR PREPARE BRIEFINGS	69
A27 WRITE JUSTIFICATIONS FOR EQUIPMENT	67
B35 DIRECT PATIENT CARE PROCEDURES	67
A12 ESTABLISH REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	67



TABLE A15

GROUP ID NUMBER AND TITLE: DIAGNOSTIC RADIOLOGY NCOIC (GRP089)  
 NUMBER IN GROUP: 8 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-1 AVERAGE TICF: 123 TAFMS: 196  
 AVERAGE NUMBER OF TASKS PERFORMED: 66 JOB DIFFICULTY INDEX: 12.6  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 0 (90370) 88

TASKS	PERCENT MEMBERS PERFORMING
A13 ESTABLISH WORK PRIORITIES	100
C60 EVALUATE COMPLIANCE WITH WORK STANDARDS	100
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	100
A9 ESTABLISH ORGANIZATIONAL POLICIES, LOCAL OPERATING INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	100
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	100
A22 PLAN OR SCHEDULE WORK ASSIGNMENTS	100
A10 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	100
A25 SCHEDULE LEAVES OR PASSES	100
A14 MAINTAIN CALL ROSTERS OF TECHNOLOGISTS	100
C71 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	100
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	100
B52 SUPERVISE RADIOLOGIC TECHNICIANS (AFSC 90370)	88
A7 DEVELOP WORK METHODS OR PROCEDURES	88
B44 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	88
C74 WRITE APR	88
B34 DIRECT MAINTENANCE OR UTILIZATION OF EQUIPMENT OR SUPPLIES	88
B30 COORDINATE PREVENTIVE MAINTENANCE OF RADIOGRAPHIC EQUIPMENT WITH MEDICAL EQUIPMENT REPAIR PERSONNEL	88
B49 SUPERVISE CIVILIAN PERSONNEL	88
C72 INVESTIGATE ACCIDENTS OR INCIDENTS	88
B39 IMPLEMENT GROUND SAFETY PROGRAMS	88
A3 CONSTRUCT ORGANIZATIONAL CHARTS	88
B36 DRAFT CORRESPONDENCE	75
C55 ANALYZE WORKLOAD REQUIREMENTS	75
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	75
B29 CONDUCT STAFF MEETINGS	75
A15 MAINTAIN CORRESPONDENCE FILES	75
B35 DIRECT PATIENT CARE PROCEDURES	75
C75 WRITE CIVILIAN PERFORMANCE RATINGS OR SUPERVISORY APPRAISALS	75
A6 COORDINATE WORK ORDERS OR REQUESTS WITH PLANT MANAGEMENT PERSONNEL	75
F137 MAINTAIN CURRENT LISTINGS OF STANDARD RADIOGRAPHIC EXAMINATION PROCEDURES	75
C61 EVALUATE INDIVIDUALS FOR PROMOTION, DEMOTION, OR RECLASSIFICATION	75

TABLE A16

GROUP ID NUMBER AND TITLE: RADIOLOGY NCOIC (GRP077)  
 NUMBER IN GROUP: 22 PERCENT OF SAMPLE: 3  
 AVERAGE GRADE: E-7 AVERAGE TICF: 180 TAFMS: 206  
 AVERAGE NUMBER OF TASKS PERFORMED: 168 JOB DIFFICULTY INDEX: 17.3  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 5 (90370) 91

TASKS	PERCENT MEMBERS PERFORMING
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	100
A9 ESTABLISH ORGANIZATIONAL POLICIES, LOCAL OPERATING INSTRUCTIONS (OI), OR STANDING OPERATING PROCEDURES (SOP)	100
A27 WRITE JUSTIFICATIONS FOR EQUIPMENT	100
A16 MAINTAIN OPERATING FILES OF REGULATIONS, INSTRUCTIONS, OR POLICIES	100
A13 ESTABLISH WORK PRIORITIES	100
B44 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	100
B30 COORDINATE PREVENTIVE MAINTENANCE OF RADIOGRAPHIC EQUIPMENT WITH MEDICAL REPAIR PERSONNEL	100
A7 DEVELOP WORK METHODS OR PROCEDURES	100
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	100
C64 EVALUATE MAINTENANCE OR USE OF WORKSPACE, EQUIPMENT, OR SUPPLIES	100
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	100
A8 DRAFT BUDGET AND FINANCIAL REQUIREMENTS	95
C70 EVALUATE WORK SCHEDULES	95
C74 WRITE APR	95
C60 EVALUATE COMPLIANCE WITH WORK STANDARDS	95
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	95
C63 EVALUATE JOB DESCRIPTIONS	95
A26 WRITE JOB DESCRIPTIONS	95
A25 SCHEDULE LEAVES OR PASSES	95
A15 MAINTAIN CORRESPONDENCE FILES	95
A10 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	91
C55 ANALYZE WORKLOAD REQUIREMENTS	91
C71 ENDORSE AIRMAN PERFORMANCE REPORTS (APR)	91
C59 EVALUATE BUDGET OR FINANCIAL REQUIREMENTS	91
F145 MAKE ENTRIES ON AF FORMS 601 (EQUIPMENT ACTION REQUEST)	91
A12 ESTABLISH REQUIREMENTS FOR SPACE, PERSONNEL, EQUIPMENT, OR SUPPLIES	91
C62 EVALUATE INSPECTION REPORTS OR PROCEDURES	91
B37 EDIT OR REVIEW INCOMING OR OUTGOING CORRESPONDENCE	91
F137 MAINTAIN CURRENT LISTINGS OF STANDARD RADIOGRAPHIC EXAMINATION PROCEDURES	91

TABLE A17

GROUP ID NUMBER AND TITLE: MEDICAL CENTER AND REGIONAL HOSPITAL PHASE II  
 COURSE SUPERVISORS (GRP088)  
 NUMBER IN GROUP: 7 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-6 AVERAGE TICF: 138 TAFMS: 160  
 AVERAGE NUMBER OF TASKS PERFORMED: 67 JOB DIFFICULTY INDEX: 13.4  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 14 (90370) 86

TASKS	PERCENT MEMBERS PERFORMING
E123 PROCURE TRAINING AIDS, SPACE, OR EQUIPMENT FOR PHASE II TRAINING	100
E111 DEVELOP PHASE II COURSE LESSON PLANS	100
E106 CONDUCT PHASE II COURSE CLASSROOM TRAINING	100
E115 EVALUATE PROGRESS OF PHASE II STUDENTS	100
E122 PLAN OR SCHEDULE PHASE II COURSE PERFORMANCE TRAINING	100
E121 PLAN OR SCHEDULE PHASE II COURSE CLASSROOM TRAINING	100
E119 MAINTAIN PHASE II COURSE TRAINING RECORDS, CHARTS, OR GRAPHS	100
E109 COUNSEL PHASE II TRAINEES ON TRAINING PROGRESS	100
E107 CONDUCT PHASE II TRAINING CONFERENCE OR BRIEFINGS	100
B48 SUPERVISE APPRENTICE RADIOLOGIC SPECIALISTS (AFSC 90330)	100
E110 DETERMINE PHASE II COURSE TRAINING REQUIREMENTS	100
A22 PLAN OR SCHEDULE WORK ASSIGNMENTS	100
E118 MAIL PHASE II COURSE TRAINING RECORDS TO OTHER UNITS OR AGENCIES	100
E108 COORDINATE PHASE II COURSE TRAINING POLICIES WITH OTHER UNITS OR AGENCIES	100
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	100
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	100
E116 INITIATE HONOR GRADUATE RECOGNITION FOR PHASE II STUDENTS	100
E104 ADMINISTER TEST FOR PHASE II TRAINING	100
E124 SCORE PHASE II TRAINING WRITTEN TESTS	100
E125 WRITE RECOMMENDED CHANGES TO PHASE II COURSE TEST QUESTIONS	100
E117 INITIATE RECOMMENDATIONS FOR PROFICIENCY ADVANCEMENT OR EXTENDED TRAINING OF PHASE II STUDENTS	100
E120 PARTICIPATE IN PHASE II INSTRUCTORS COURSE	100
E113 DISPOSE OF OBSOLETE FILES FOR GRADUATED OR DISENROLLED PHASE II STUDENTS	100
E112 DIRECT PHASE II COURSE TRAINING PROGRAMS	86
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	86
F140 MAINTAIN TECHNICAL REFERENCE FILES	86
B37 EDIT OR REVIEW INCOMING OR OUTGOING CORRESPONDENCE	86
C74 WRITE APR	86
C70 EVALUATE WORK SCHEDULES	86
A2 ASSIGN SPONSORS FOR NEWLY ASSIGNED PERSONNEL	86
A15 MAINTAIN CORRESPONDENCE FILES	86
A10 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	71

TABLE A18

GROUP ID NUMBER AND TITLE: RADIATION THERAPISTS (GRP070)  
 NUMBER IN GROUP: 7 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-5 AVERAGE TICF: 76 TAFMS: 84  
 AVERAGE NUMBER OF TASKS PERFORMED: 73 JOB DIFFICULTY INDEX: 10.9  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 71 (90370) 29

TASKS	PERCENT MEMBERS PERFORMING
N496 PERFORM RADIATION THERAPY SIMULATIONS	100
N491 PERFORM MEGA VOLTAGE (COBALT 60) THERAPY	100
N485 PAINT THERAPY AREAS WITH CASTELLANI, INVISIBLE PAINT, OR INDIAN INK	100
N512 SCHEDULE PATIENTS FOR RADIATION THERAPY TREATMENTS	100
N499 PERFORM SAFETY CHECKS ON COBALT THERAPY EQUIPMENT	100
N514 SHIELD PATIENTS DURING RADIATION THERAPY TREATMENTS	100
N489 PERFORM FUNCTIONAL CHECKS ON RADIATION THERAPY EQUIPMENT	100
N467 ESTABLISH RAPPORT WITH PATIENTS UNDERGOING RADIOTHERAPY	100
N470 IDENTIFY AND REPORT TO PHYSICIAN CONDITION OF PATIENTS DURING RADIATION THERAPY	100
N460 ALIGN OR ADJUST RADIATION THERAPY EQUIPMENT FOR PATIENT SET-UPS	100
N476 MAINTAIN RECORDS OF PATIENT'S BLOOD COUNT	100
N461 APPLY BOLUS TO TREATMENT AREAS	100
N463 CHANGE DRESSINGS	100
N505 POSITION PATIENTS FOR RADIOTHERAPY TREATMENTS	86
N471 INSTRUCT PATIENTS PRIOR TO ADMINISTRATION OF RADIATION THERAPY	86
N468 FABRICATE SHIELDING MASKS	86
P559 WEIGH PATIENTS	86
N462 ATTACH CONES AND FILTERS TO X-RAY EQUIPMENT FOR THERAPY	86
N495 PERFORM RADIATION PROTECTION PROCEDURES FOR PATIENT AND TECHNOLOGIST DURING RADIATION THERAPY	86
N486 PARTICIPATE WITH RADIOTHERAPIST OR PHYSICIST IN MANUAL DOSIMETRY	86
N466 COUNSEL PATIENTS ADJUSTING TO SPECIAL PROBLEMS RELATED TO RADIATION THERAPY	86
N487 PARTICIPATE WITH RADIOTHERAPIST OR PHYSICIST IN DOSIMETRY USING MECHANICAL OR ELECTRONIC DEVICES	86
I288 COPY RADIOGRAPHS	86
P541 ESCORT PATIENTS TO OR FROM LITTERS OR WHEEL CHAIRS	71
M454 PROCESS RADIOGRAPHIC FILM AUTOMATICALLY OTHER THAN DURING SURGERY	71
M436 CLEAN AUTOMATIC FILM PROCESSOR CROSSOVERS	71
G168 MEASURE PATIENTS USING CALIPERS	71
P554 SCHEDULE PATIENTS FOR CONSULTANT EXAMINATIONS	71

TABLE A19

GROUP ID NUMBER AND TITLE: ULTRASOUND TECHNICIANS (GRPO90)  
 NUMBER IN GROUP: 12 PERCENT OF SAMPLE: 2  
 AVERAGE GRADE: E-5 AVERAGE TICF: 78 TAFMS: 90  
 AVERAGE NUMBER OF TASKS PERFORMED: 69 JOB DIFFICULTY INDEX: 16.2  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 50 (90370) 50

TASKS	PERCENT MEMBERS PERFORMING
J361 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR FETAL AGE DETERMINATION	100
J363 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR LOCALIZATION OF FETUS	100
J362 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR FETAL ANOMALIES	100
J348 PERFORM GALL BLADDER ULTRASONOGRAPHY	100
J328 PERFORM ABDOMINAL (GENERAL) ULTRASONOGRAPHY	100
J333 PERFORM BILIARY SYSTEM ULTRASONOGRAPHY	100
J374 PERFORM PELVIC ULTRASONOGRAPHY 100	
J364 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR LOCALIZATION OF PLACENTA	100
J327 MAINTAIN ULTRASOUND RECORDS	100
J353 PERFORM LIVER ULTRASONOGRAPHY 100	
J360 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR ECTOPIC PREGNANCIES	100
J350 PERFORM HEPATIC ULTRASONOGRAPHY	100
J365 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR MISCARRIAGES	100
J331 PERFORM AORTIC ULTRASONOGRAPHY 100	
J358 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR AMNIOCENTESIS	100
J383 PERFORM SPLENIC ULTRASONOGRAPHY	100
J371 PERFORM PANCREATIC ULTRASONOGRAPHY	92
J324 ADVISE PATIENTS OF ULTRASONOGRAPHY EXAMINATION PREPARATION PROCEDURES	92
J381 PERFORM RENAL ULTRASONOGRAPHY	92
J366 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR MULTIPLE GESTATION DETERMINATION	92
J359 PERFORM OBSTETRIC ULTRASONOGRAPHY FOR AMNIOTIC FLUID DETERMINATION	92
J386 PERFORM THYROID ULTRASONOGRAPHY	92
J352 PERFORM INFERIOR VENACAVA ULTRASONOGRAPHY	92
J378 PERFORM RENAL ARTERY ULTRASONOGRAPHY	92
J332 PERFORM BAKER CYST ULTRASONOGRAPHY	92
J382 PERFORM RETROPERITONEAL ULTRASONOGRAPHY	83
J392 PREPARE EQUIPMENT AND SUPPLIES FOR ULTRASONOGRAPHY PROCEDURES	75
J377 PERFORM PORTABLE ULTRASONOGRAPHY PROCEDURES	75
J375 PERFORM POPLITEAL ULTRASONOGRAPHY 75	
J321 ADJUST CONTRAST OF ULTRASONOGRAPHY CAMERAS	75
J325 COORDINATE ULTRASOUND EQUIPMENT REPAIRS WITH EQUIPMENT MANUFACTURERS OR MEDICAL MAINTENANCE PERSONNEL	75

TABLE A20

GROUP ID NUMBER AND TITLE: ADMINISTRATIVE PERSONNEL (GRPO53)  
 NUMBER IN GROUP: 7 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-4 AVERAGE TICF: 50 TAFMS: 59  
 AVERAGE NUMBER OF TASKS PERFORMED: 10 JOB DIFFICULTY INDEX: 2.1  
 DAFSC DISTRIBUTION: (90330) 14 (90350) 86 (90370) 0

<u>TASKS</u>	<u>PERCENT MEMBERS PERFORMING</u>
F152 PREPARE FILM FILE ENVELOPES	100
F163 UPDATE FILM FOLDERS	100
F151 PICK UP, DELIVER, OR SIGN OUT RADIOGRAPHIC FILMS TO PHYSICIANS	86
F131 FILE RADIOGRAPHIC FILMS OR REPORTS	86
F132 IDENTIFY FILMS RECEIVED FROM HOSPITALS, CLINICS, CIVILIAN FACILITIES, OR GOVERNMENT AGENCIES	71
F150 MATCH RADIOGRAPHIC FILMS TO SF FORMS 519A (RADIOGRAPHIC REPORT)	57
F154 PREPARE REQUESTS FOR FILMS FROM OTHER HOSPITALS, CLINICS, CIVILIAN FACILITIES, OR GOVERNMENT AGENCIES	57
F136 MAIL RADIOGRAPHIC FILMS	57
F130 DISTRIBUTE COMPLETED RADIOGRAPHIC REPORTS TO PHYSICIANS	43
F135 KEY PATIENT INFORMATION INTO AUTOMATED DATA SYSTEMS	29
A7 DEVELOP WORK METHODS OR PROCEDURES	29
P553 RECORD RESULTS OF EXPERIMENTS	14
A14 MAINTAIN CALL ROSTERS OF TECHNOLOGISTS	14
F156 REPLY TO INQUIRIES FROM MEDICAL PERSONNEL REGARDING PATIENT'S CONDITION	14
F140 MAINTAIN TECHNICAL REFERENCE FILES	14
F161 SCHEDULE PATIENTS FOR RADIOGRAPHIC EXAMINATIONS	14
O522 INSPECT FILM FOR PROPER LABELING	14
F128 ASSIGN IDENTIFICATION TO RADIOGRAPHIC RECORDS	14
F134 INVENTORY SUPPLIES, EQUIPMENT, OR TOOLS	14
F145 MAKE ENTRIES ON AF FORMS 601 (EQUIPMENT ACTION REQUEST)	14
F147 MAKE ENTRIES ON DD FORMS 1150 (REQUEST FOR ISSUE OR TURN-IN)	14
F149 MAKE ENTRIES ON SF FORMS 135 (RECORDS TRANSMITTAL AND RECEIPT)	14
F145 PREPARE REQUESTS FOR LOCAL PURCHASE OF ITEMS	14
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	14
F160 REVIEW, RETIRE, OR DISPOSE OF RADIOGRAPHIC FILMS AND INDEXES	14
H283 PRODUCE RADIOGRAPHS OF MAMMOGRAPHIC LOCALIZATIONS	14
F162 TYPE CORRESPONDENCE	14
B37 EDIT OR REVIEW INCOMING OR OUTGOING CORRESPONDENCE	14
B48 SUPERVISE APPRENTICE RADIOLOGIC SPECIALISTS (AFSC 90330)	14
C74 WRITE APR	14

TABLE A21

GROUP ID NUMBER AND TITLE: PHASE I INSTRUCTORS (GRPO20)  
 NUMBER IN GROUP: 18 PERCENT OF SAMPLE: 3  
 AVERAGE GRADE: E-5 AVERAGE TICF: 80 TAFMS: 89  
 AVERAGE NUMBER OF TASKS PERFORMED: 27 JOB DIFFICULTY INDEX: 7.1  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 56 (90370) 44

TASKS	PERCENT MEMBERS PERFORMING
D82 CONDUCT PHASE I COURSE CLASSROOM TRAINING	89
D100 SCORE TEST OTHER THAN FOR PHASE II COURSE TRAINING	83
D93 EVALUATE PROGRESS OF PHASE I RESIDENT COURSE STUDENTS	72
D102 WRITE TEST QUESTIONS OTHER THAN FOR PHASE II COURSE TRAINING	72
D78 ADMINISTER TEST OTHER THAN FOR PHASE II COURSE TRAINING	61
O521 IDENTIFY RADIOGRAPHIC FILM ARTIFACTS	61
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	56
M450 PERFORM AUTOMATIC FILM PROCESSOR TURN-OFF PROCEDURES	56
M451 PERFORM AUTOMATIC FILM PROCESSOR TURN-ON PROCEDURES	56
D84 COUNSEL TRAINEES ON TRAINING PROGRESS OTHER THAN FOR PHASE II COURSE TRAINING	50
P543 PARTICIPATE IN DISASTER EXERCISES	50
M459 VISUALLY INSPECT PROCESSING EQUIPMENT	50
D88 DEVELOP BASIC RESIDENT COURSE CURRICULA, PLANS OF INSTRUCTION (POI), OR SPECIALTY TRAINING STANDARDS (STS)	44
B53 WRITE RECOMMENDED CHANGES TO MANUALS OR TECHNICAL PUBLICATIONS	44
M448 MIX CHEMICAL PROCESSING SOLUTIONS	44
O522 INSPECT FILM FOR PROPER LABELING	39
O520 IDENTIFY FILM QUALITY PROBLEMS, SUCH AS IMPROPER POSITIONING OR RADIOGRAPHIC TECHNIQUES	39
M445 LOAD OR UNLOAD CASSETTES	39
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	33
D94 EVALUATE TRAINING METHODS, TECHNIQUES, OR PROGRAMS OTHER THAN PHASE II COURSE TRAINING	33
M447 MAINTAIN FILM BINS	33
A7 DEVELOP WORK METHODS OR PROCEDURES	33
C74 WRITE APR	33
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	33
M433 ADJUST COMPONENTS OF AUTOMATIC FILM PROCESSING MACHINES, SUCH AS, ROLLERS, SPRINGS OR REPLENISHER RATES	33
O516 CORRECT RADIOGRAPHIC FILM ARTIFACTS	33
O517 EVALUATE FILM STRIPS BY VISUAL INSPECTIONS	33
P547 PERFORM RADIOLOGIC RESEARCH	28
C60 EVALUATE COMPLIANCE WITH WORK STANDARDS	28

TABLE A22

GROUP ID NUMBER AND TITLE: A- AND B-SHIFT INSTRUCTORS (GRP050)  
 NUMBER IN GROUP: 5 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-5 AVERAGE TICF: 79 TAFMS: 81  
 AVERAGE NUMBER OF TASKS PERFORMED: 46 JOB DIFFICULTY INDEX: 7.5  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 60 (90370) 40

TASKS	PERCENT MEMBERS PERFORMING
D82 CONDUCT PHASE I COURSE CLASSROOM TRAINING	100
P543 PARTICIPATE IN DISASTER EXERCISES	100
M459 VISUALLY INSPECT PROCESSING EQUIPMENT	100
M448 MIX CHEMICAL PROCESSING SOLUTIONS	100
M450 PERFORM AUTOMATIC FILM PROCESSOR TURN-OFF PROCEDURES	100
M451 PERFORM AUTOMATIC FILM PROCESSOR TURN-ON PROCEDURES	100
M445 LOAD OR UNLOAD CASSETTES	100
D100 SCORE TEST OTHER THAN FOR PHASE II COURSE TRAINING	80
D102 WRITE TEST QUESTIONS OTHER THAN FOR PHASE II COURSE TRAINING	80
M447 MAINTAIN FILM BINS	80
M433 ADJUST COMPONENTS OF AUTOMATIC FILM PROCESSING MACHINES, SUCH AS, ROLLERS, SPRINGS OR REPLENISHER RATES	80
0521 IDENTIFY RADIOGRAPHIC FILM ARTIFACTS	80
0516 CORRECT RADIOGRAPHIC FILM ARTIFACTS	80
0519 EVALUATE RADIOGRAPHIC UNITS USING STEP WEDGE TESTS	80
0517 EVALUATE FILM STRIPS BY VISUAL INSPECTIONS	80
0518 EVALUATE FILM STRIPS USING DENSITOMETERS	80
0524 PERFORM FILM PROCESSING CONTROL PROCEDURES USING SENSITOMETER	80
0525 PERFORM FILM PROCESSING CONTROL PROCEDURES USING STEPWEDGES	80
M436 CLEAN AUTOMATIC FILM PROCESSOR CROSSOVERS	80
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	60
G167 DETERMINE EXPOSURE FACTORS USING STANDARDIZED RADIOGRAPHIC TECHNIQUE CHARTS	60
P544 PERFORM HOUSEKEEPING SERVICES	60
D81 CONDUCT OJT	60
D93 EVALUATE PROGRESS OF PHASE I RESIDENT COURSE STUDENTS	60
A1 ASSIGN PERSONNEL TO DUTY POSITIONS	60
M435 CHECK DARKROOM PASSBOXES OR PORTS FOR LIGHT LEAKS	60
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	60
M449 NUMBER CASSETTES OR SCREENS FOR IDENTIFICATION	60
0520 IDENTIFY FILM QUALITY PROBLEMS, SUCH AS IMPROPER POSITIONING OR RADIOGRAPHIC TECHNIQUES	60
0522 INSPECT FILM FOR PROPER LABELING	60
0533 TEST FOR SECONDARY (SCATTER) RADIATION	60
M443 LABEL CASSETTES FOR SCREEN SPEED	60
M438 CLEAN DARKROOM FACILITIES	60



TABLE A23

GROUP ID NUMBER AND TITLE: C-SHIFT INSTRUCTORS (GRP051)  
 NUMBER IN GROUP: 7 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-5 AVERAGE TICF: 67 TAFMS: 69  
 AVERAGE NUMBER OF TASKS PERFORMED: 19 JOB DIFFICULTY INDEX: 7.9  
 DAFC DISTRIBUTION: (90330) 0 (90350) 71 (90370) 29

TASKS	PERCENT MEMBERS PERFORMING
D93 EVALUATE PROGRESS OF PHASE I RESIDENT COURSE STUDENTS	100
D82 CONDUCT PHASE I COURSE CLASSROOM TRAINING	100
D100 SCORE TEST OTHER THAN FOR PHASE II COURSE TRAINING	100
D78 ADMINISTER TEST OTHER THAN FOR PHASE II COURSE TRAINING	100
D102 WRITE TEST QUESTIONS OTHER THAN FOR PHASE II COURSE TRAINING	100
D84 COUNSEL TRAINEES ON TRAINING PROGRESS OTHER THAN FOR PHASE II COURSE TRAINING	86
D94 EVALUATE TRAINING METHODS, TECHNIQUES, OR PROGRAMS OTHER THAN PHASE II COURSE TRAINING	71
B31 COUNSEL PERSONNEL ON PERSONAL OR MILITARY-RELATED PROBLEMS	71
D88 DEVELOP BASIC RESIDENT COURSE CURRICULA, PLANS OF INSTRUCTION (POI)S, OR SPECIALTY TRAINING STANDARDS (STS)	57
P547 PERFORM RADIOLOGIC RESEARCH	57
O521 IDENTIFY RADIOGRAPHIC FILM ARTIFACTS	57
B48 SUPERVISE APPRENTICE RADIOLOGIC SPECIALISTS (AFSC 90330)	43
C60 EVALUATE COMPLIANCE WITH WORK STANDARDS	43
B53 WRITE RECOMMENDED CHANGES TO MANUALS OR TECHNICAL PUBLICATIONS	43
O520 IDENTIFY FILM QUALITY PROBLEMS, SUCH AS IMPROPER POSITIONING OR RADIOGRAPHIC TECHNIQUES	43
B44 INTERPRET POLICIES, DIRECTIVES, OR PROCEDURES FOR SUBORDINATES	43
A7 DEVELOP WORK METHODS OR PROCEDURES	43
P543 PARTICIPATE IN DISASTER EXERCISES	43
A10 ESTABLISH PERFORMANCE STANDARDS FOR SUBORDINATES	43
M450 PERFORM AUTOMATIC FILM PROCESSOR TURN-OFF PROCEDURES	43
M451 PERFORM AUTOMATIC FILM PROCESSOR TURN-ON PROCEDURES	43
D85 DEMONSTRATE HOW TO LOCATE TECHNICAL INFORMATION	29
D95 MAINTAIN TRAINING RECORDS, CHARTS, OR GRAPHS OTHER THAN FOR PHASE II COURSE TRAINING	29
A16 MAINTAIN OPERATING FILES OF REGULATIONS, INSTRUCTIONS, OR POLICIES	29
F148 MAKE ENTRIES ON DD FORMS 844 (REQUISITION FOR LOCAL DUPLICATION SERVICE)	29
F127 ADVISE PATIENTS REGARDING HAZARDS OF RADIOGRAPHIC EXAMINATIONS DURING PREGNANCY	29
M448 MIX CHEMICAL PROCESSING SOLUTIONS	29

TABLE A24

GROUP ID NUMBER AND TITLE: COMPUTERIZED TOMOGRAPHY TECHNICIANS (GRP049)  
 NUMBER IN GROUP: 5 PERCENT OF SAMPLE: 1  
 AVERAGE GRADE: E-4 AVERAGE TICF: 70 TAFMS: 71  
 AVERAGE NUMBER OF TASKS PERFORMED: 21 JOB DIFFICULTY INDEX: 8.8  
 DAFSC DISTRIBUTION: (90330) 0 (90350) 80 (90370) 20

TASKS	PERCENT MEMBERS PERFORMING
I296 PERFORM ENHANCED SCANS OF DESIGNATED BODY PARTS USING CT/T SCANNERS	100
I294 PERFORM CT/T SCANNERS ARCHIVE PROCEDURES	100
I286 ADJUST COMPUTERIZED TOMOGRAPHIC BODY (CT/T) SCANNER GANTRY FOR PATIENT POSITIONING	100
I287 ADJUST FLOW RATE OF INTRAVENOUS (IV) INJECTIONS DURING ENHANCED SCANS	100
I320 TRANSCRIBE CT/T DISPLAY CONSOLE INFORMATION ONTO PERMANENT COPY FILM	80
I299 PERFORM REVIEW PROGRAMS FOR CT/T SCANS BY RESTORING RAW DATA	80
I295 PERFORM DYNAMIC SCANS	80
I298 PERFORM REFORMATIONS FOR CT/T SCANS	80
I301 PERFORM UNENHANCED SCANS OF DESIGNATED BODY PARTS USING CT/T SCANNERS	80
I297 PERFORM PRIORITY QUEUING	80
I291 KEY PATIENT BIOGRAPHICAL INFORMATION INTO CT/T SCANNER COMPUTERS	80
I305 PRODUCE MAGNIFICATION RADIOGRAPHS FOR CT/T SCANS	80
K397 PERFORM COMPUTERIZED TOMOGRAPHIC TOTAL BODY CT/T SCANNER WARM UP PROCEDURES	60
B48 SUPERVISE APPRENTICE RADIOLOGIC SPECIALISTS (AFSC 90330)	40
F161 SCHEDULE PATIENTS FOR RADIOGRAPHIC EXAMINATIONS	40
F152 PREPARE FILM FILE ENVELOPES	40
B51 SUPERVISE RADIOLOGIC SPECIALISTS (AFSC 90350)	40
C74 WRITE APR	40
H230 IDENTIFY PATIENT'S REACTION TO CONTRAST MEDIA	40
M445 LOAD OR UNLOAD CASSETTES	40
H229 APPLY EMERGENCY TREATMENT TO PATIENTS EXHIBITING REACTIONS TO CONTRAST MEDIA	40
M450 PERFORM AUTOMATIC FILM PROCESSOR TURN-OFF PROCEDURES	40
M451 PERFORM AUTOMATIC FILM PROCESSOR TURN-ON PROCEDURES	40
P455 SCHEDULE RADIOLOGY SERVICES WITH OTHER DEPARTMENTS	20
P554 SCHEDULE PATIENTS FOR CONSULTANT EXAMINATIONS	20
H228 ADMINISTER INTRAVENOUS (IV) INJECTIONS	20
H243 PERFORM SENSITIVITY TEST FOR ALLERGIC REACTIONS TO CONTRAST MEDIA	20