

**MANPOWER AND EQUIPMENT CONTROL**  
**FULL-TIME MANNING**  
**STAFFING GUIDE FOR ARMY NATIONAL GUARD**  
**ENGINEERING OFFICE**

**Summary.** This pamphlet outlines the organization, mission and functions of Army National Guard Engineering Office. Staffing tables in this pamphlet reflect the results of manpower staffing standards system studies (MS-3) conducted by the Army National Guard Full-Time Support Division (NGB-ARM).

**Applicability.** This pamphlet (Volume VIII) applies only to the National Guard Engineering Office.

**Interim Changes.** Interim changes are not official unless authenticated by the Chief, Administrative Services. Interim changes will be destroyed on their

expiration dates unless sooner superseded or rescinded.

**Internal Control Systems.** This pamphlet is subject to the requirements of AR 11-2. Internal Control Checklists for this pamphlet are published separately as pertains to AR 570-5.

**Suggested Improvements.** The proponent of this pamphlet is the Army Full-Time Support Division, National Guard Bureau. Users of this pamphlet are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to ARNG OAC, NGB-ARM-ME, Building E6811, Aberdeen Proving Ground, MD 21010-5420.

*Contents (Listed by paragraph number)*

<b>CHAPTER 1</b>		<b>CHAPTER 2</b>		
<b>Introduction</b>		<b>Staffing Sections</b>		
	Para		Para	
<b>Section I</b>				
<b>Nature and Purpose of Staffing Guide</b>				
Purpose.	1-1	<b>Section I</b>		
General Applicability of Staffing Guide	1-2	<b>Organization of the Engineering Office</b>		
Use of Staffing Guide in Manpower Surveys	1-3	General Organization	2-1	
Manpower Utilization	1-4	<b>Section II</b>		
Manpower Management	1-5	<b>Office of the Chief</b>		
<b>Section II</b>				
<b>Using the Staffing Guide</b>				
Staffing Table Code Structure	1-6	Work Center Description	2-2	
Work Center Description	1-7	<b>Section III</b>		
Organization Charts	1-8	<b>Administrative Services Branch</b>		
Staffing Tables	1-9	Work Center Description	2-3	
<b>Section III</b>				
<b>State Headquarters</b>				
Type Organization	1-10	<b>Section IV</b>		
<b>Contract and Management Branch</b>				
Work Center Description				2-4
<b>Section V</b>				
<b>Operations Branch</b>				
Work Center Description				2-5

\* This pamphlet supersedes NGB Pam 570-1, chapter 20, 1 June 1987.

<b>Section VI</b>	<b>Para</b>
<b>Engineer Plans and Services Branch</b>	
Work Center Description	2-6

**APPENDIXES**

- A. List of Army Functional Dictionary (AFD) Codes
- B. Index of Type Standards
- C. Type Standard Requirements
- D. Standard Indirect Categories

**Glossary**

**Chapter 1**  
**Introduction**

**Section I**  
**Nature and Purpose of Staffing Guide**

**1-1. Purpose**

*a.* This staffing guide provides guidance for determining the number and types of full-time personnel required to operate the National Guard Engineering Office.

*b.* The workload factors contained in this guide are designed to be applicable to all ARNG activities with the exception of Guam. These workload factors will assist managers in the field in determining manpower requirements.

**1-2. General Applicability of the Staffing Guide**

*a. Manpower.* Staffing tables indicate all required full-time manpower regardless of source. Staffing tables provide for a 40 hour a week operation unless otherwise noted and include allowances for non-available time such as annual and sick leave, training and orientation and military duties.

***b. Operating situations.***

*(1)* Manpower requirements shown in this guide are those required to perform recognized federal functions under optimum operating situations.

*(2)* The staffing guide does not constitute an authorization for positions or personnel. The Support Personnel Manning Document (SPMD), in conjunction with the manpower voucher, issued by the Full-Time Support Division is authorization for hiring authority to the states.

**1-3. Use of the Staffing Guide in Manpower Surveys**

*a.* This guide will be used as a base document for identification of functions associated with each major work center.

*b.* This staffing guide will be revised periodically to reflect changes in manpower requirements based on current activities, organization and mission. The basic sources of information for revision of this guide are manpower survey reports, TDAs, organization and function manuals, directives issued by the Chief, National Guard Bureau and Department of the Army. Survey reports will be prepared in sufficient detail to provide sufficient information regarding workload, identification and definition of work units, number of personnel used and manhours expended.

*c.* New or revised functions, when appropriately validated, will be used. Workload data must be expressed in terms of the identified workload factor annotated on each staffing table.

*d.* Development of New Staffing Tables. When sufficient information is available, new staffing tables will be developed and incorporated into future changes or revisions of the guide.

**1-4. Manpower Utilization**

*a.* While intended chiefly as a guide for determining proper manpower requirements for the performance of the Engineering Office functions, this guide also has an important related objective, the conservation of manpower resources. In accordance with the Department of the Army (DA) policy of exercising utmost economy in use of manpower, every effort should be made to operate within recognized requirements or to operate with less manpower than indicated.

*b.* Staffing requirements based on guidelines established in this publication should be reduced when automatic data processing is used to accomplish the function or tasks; e.g., maintenance of records and preparation of reports.

**1-5. Manpower Management**

*a.* A primary goal of the ARNG Directorate is to provide favorable and expeditious response to full time support manpower requests. To achieve desired manpower management objectives and conform to DA policy, the following procedures are followed by NGB-ARM prior to validating manpower requests.

- (1)* Analysis of mission and workload.
- (2)* Analysis of operating procedures.
- (3)* Review of all existing and proposed position descriptions to assist in determination of functional responsibilities.
- (4)* Analysis of current position utilization.
- (5)* Resolution of all personnel/management problems (to include training/organization structure).

**b.** In order to effectively determine manpower requirements, requests for additional manpower must include:

- (1) A statement(s) certifying that all functions have been reviewed and prioritized, unnecessary functions have been eliminated and personnel working in areas of decreased workload have been realigned to areas with increased workload.
- (2) Evidence of new missions assigned by NGB.
- (3) Existing and proposed position descriptions.
- (4) Estimated workload.
- (5) Program contents, including functions to be performed.
- (6) Documentation of existing backlog for individual work centers.
- (7) Copies of Standing Operating Procedures (SOPs).
- (8) Proposed organization structure.

**c.** All manpower requests will be submitted to NGB-ARM for consideration and action. Close coordination of all studies will be made with the appropriate Office of Primary Responsibility (OPR). OPRs will provide technical expertise/liaison on responsibility of functional areas, organizational structure, current management information systems and reports, and technical guidance to facilitate comprehensive study planning.

## **Section II**

### **Using the Staffing Guide**

#### **1-6. Staffing Table Code Structure**

Chapter 2 contains a series of staffing sections, each representing a branch or component of the Engineering Office.

**a. Army Functional Dictionary Coding.** Each staffing table indicates an Army Functional Dictionary (AFD) Code for the work center. This code has been selected ensuring consistency with the overall mission and specific responsibilities of the work center or function. Use of this code is in accordance with Army guidance to develop a data base for effective control of functional information. A list of the codes used in this guide is located in Appendix A.

**b. Manning Document Numbers.** Staffing tables include the Manning Document Number (MD No.) assigned to the Support Personnel Manning Document (SPMD) by the Full-Time Support Division. This will assist managers in cross referencing the table with the appropriate SPMD.

#### **1-7. Work Center Descriptions (WCD)**

Each work center is prefaced by a summary of work performed. The WCD encompasses all federally recognized functions that should be performed by the organization. A detailed functional breakout is available upon request from the Full-Time Support Division, Management Engineering Branch, (NGB-ARM-ME).

#### **1-8. Organization Charts**

The structure depicted by the organization charts were developed with consideration for future needs of the Army National Guard. The organizational structure is employed to facilitate presentation and application of staffing information contained in this guide. Within each staffing section, an organizational block is depicted. Directly below this block are the broad general functional areas for which the branch is responsible. This may assist managers in developing the internal organization within the respective branch.

#### **1-9. Staffing Tables**

Staffing tables provide specific guidance for determining the appropriate numbers and kinds of personnel to staff each organizational element. The contents of the staffing table are further explained below.

##### **a. Quantitative Guidance.**

(1) Workloads are expressed in terms of significant workload factors as annotated on the table, unless otherwise specified.

(2) Minimum manning computations are used in situations where work measurement is not of any benefit. Such computations are so noted within the staffing table.

(3) Whole man position requirements are used for documentation, when requirements are directed.

(4) Where no staffing requirement could be developed because of lack of experience data, unmeasurable nature of work, or other reasons, minimum manning has been provided and annotated as a footnote to the table.

(5) Worksheets are provided, where appropriate, to assist the user in properly determining requirements.

(6) Standards developed for each work center are classified into one of five types. A detailed explanation of the statistical parameters for each type standard is contained in **appendix C**. Each table is prefaced by the standard type. If an individual position deviated from the overall work center type, it is annotated separately as a footnote to the table.

##### **b. Qualitative Guidance.**

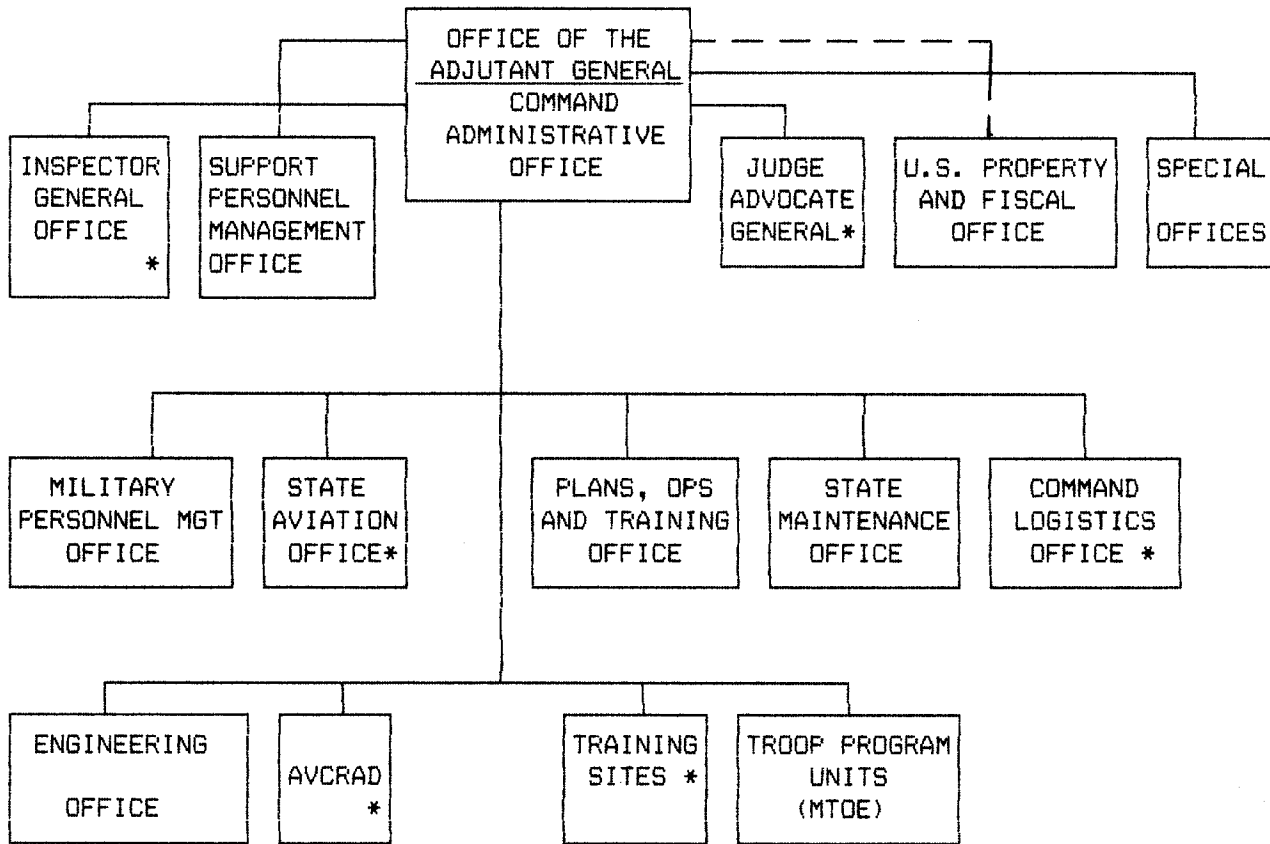
(1) Military Position Titles given to military positions (both Active Guard Reserve (AGR) and technician) are descriptive to the duties performed, and

where applicable, conform to the speciality titles under Plans, Operations and Training systems. Official titles for technician positions are determined by NGB-PR.

(2) Footnotes. Explanatory or qualifying footnotes or remarks intended to supplement information given in the staffing tables are provided immediately below the table in the appropriate "Remarks" section.

**Section III  
State Headquarters**

**1-10. Type Organization**



**SPECIAL OFFICES (For Example):**

- Marksmanship Training Unit (AR)
- Eastern ARNG Aviation Training Site (PA)
- Western ARNG Aviation Training Site (AZ)
- Los Alamitos Flight Line Activity (CA)
- Components Listing (ME)
- ARNG Multi-Media Center (AL)

**NOTE:** Type organization for each Office is in the applicable portion of this pamphlet except where noted.

\* Full-Time Support requirements not recognized for all states.

**Chapter 2  
Staffing Sections**

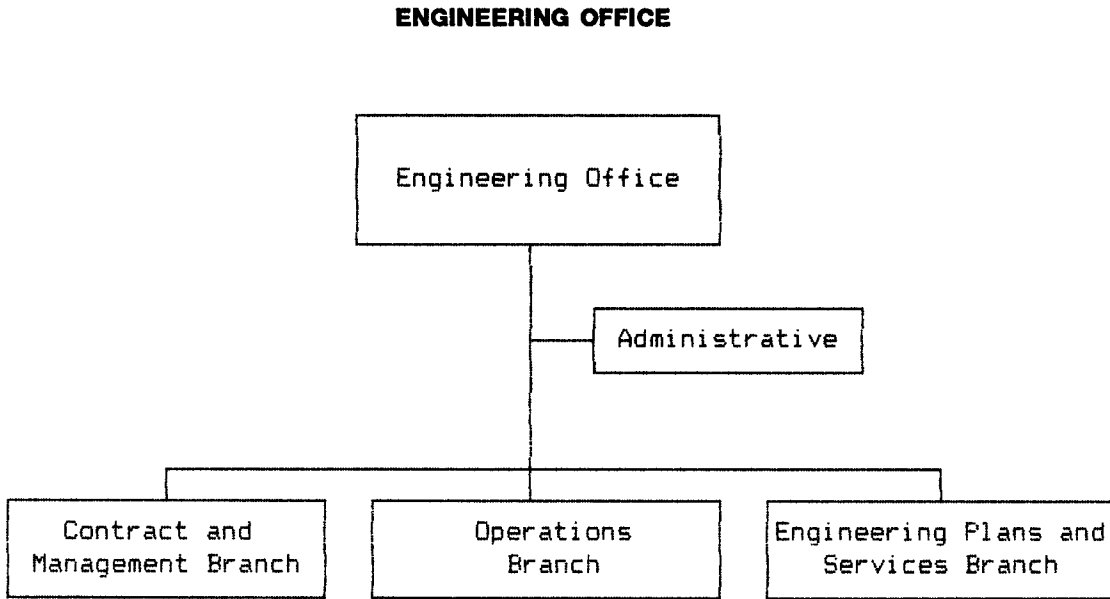
**Section I  
Organization of the Engineering Office**

**2-1. General Organization**

The general organization of the Engineering Office is depicted in Figure 2-1. Staffing tables have been developed reflecting this structure. Work Center Descriptions for each branch are outlined in subsequent sections of this pamphlet. These descriptions are intended to present the major functional re-

quirements for each branch. Primary elements of the Engineering Office are:

- a. Office of the Chief
- b. Administrative Services Branch
- c. Contract and Management Branch
- d. Operations Branch
- e. Engineer Plans and Services Branch



**Figure 2-1. Engineering Office organization**

**Requirements Worksheet**

- 1. Manpower Requirement 1 (from Table 1) \_\_\_\_\_
- 2. Manpower Requirement 2 (from Table 2) + \_\_\_\_\_
- 3. Total Manpower Requirement (Line 1 + Line 2) = \_\_\_\_\_

Requirements Table 1, Engineering Office												
Workload Factor 1:												
Number of Parent Units	1	16	31	46	56	71	86	101	116	131	146	
(** in NGB-ARD Buff Book)	15	30	45	55	70	85	100	115	130	145	160	
Manpower Requirement 1	3	4	5	6	7	8	9	10	11	12	13	

Requirements Table 2, Engineering Office												
Workload Factor 2:												
Millions Sq Ft Supported	0.0	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0	
as reported by the FISP.	0.9	1.9	2.9	3.9	4.9	5.9	6.9	7.9	8.9	9.9	10.9	
Manpower Requirement 2	3	4	5	6	7	8	9	10	11	12	13	

**Section II  
Office of the Chief**

(AFD: KA MD# 3313 TYPE: III)

**2-2. Work Center Description**

**Direct Functions:** Functions as the Engineer Staff Officer for the Adjutant General. Directs and administers the Installations Program of the State. The Engineering Office directs and administers all activities including, but not limited to engineering design, inspection, construction, master planning, real estate management, operation of utility plants and systems, operations of construction material production equipment, operation of forestry and fish and wildlife programs, maintenance and repair of all real property (buildings, grounds, railroads, surfaced areas, utility plants and systems), organization maintenance of Engineer Maintenance and Service (M&S)

equipment, fire prevention and protection, custodial, entomology, packing and crating, refuse collection and disposal, supply and storage of engineer materials, and other miscellaneous Facilities Engineering services and operations. Serves on the Program Budget Advisory Committee (PBAC) and the Environmental Protection Committee. Serves as State ARNG Fire Marshal. At the direction of the State Adjutant General performs non-Real Property maintenance activities mission support work. When so appointed by the Adjutant General, performs the function of Assistant USPFO for Real Property and is responsible for the supervision, coordination, and directions of all matters pertaining to real estate leased, licensed or permitted for use of the Army National Guard of the State. Responsible for approval and coordination of all construction matters presented to the Army Installations Division, National Guard Bureau.

**ENGINEERING OFFICE**

**Office of the Chief**

Office of the Chief, Engineering Office		
Workload Factor:		
Parent Units & Square Feet		
Manpower Requirement		Computed from Requirements Worksheet.
Line	Job Title	Distribution of Positions
1	Supervisory General Engineer or Facility Management Ofcr	1
2	Secretary Typist/Steno	a/

a/ Distribution of the computed Manpower Requirement for the Engineering Office is determined by the State with request to NGB-ARM-RD.

**Section III  
Administrative Services Branch**

(AFD: KC MD# 2880 TYPE: III)

**2-3. Work Center Description**

**Direct Functions:** Assists and advises the Engineering Office in the development, formulation and direction of administrative directives and procedures. Reviews incoming correspondence and directives to determine appropriate routing, posting,

filling, and coordination as required. Prepares replies to reports and administrative correspondence. Maintains a suspense file. Performs general office services, operates the official mail desk, maintains files and classified documents, performs records management services, processes requests for travel and transportation. Obtains duplicating and printing services for the Engineering Office organization and maintains the property book for the accounting of TDA/CTA and other Engineering Office equipment and non-real property.

Administrative Services Branch, Engineering Office		
Workload Factor:		
Parent Units & Square Feet		
Manpower Requirement		Computed from Requirements Worksheet.
Line	Job Title	Distribution of Positions
1	Management Assistant	a/
2	Administrative Clerk	a/
3	Clerk Typist	a/

a/ Distribution of the computed Manpower Requirement for the Engineering Office is determined by the State with request to NGB-ARM-RD.

**Section IV**  
**Contract and Management Branch**  
 (AFD: KC MD# 2880 TYPE: III)

**2-4. Work Center Description**

**Direct Functions:** Supervises and renders technical judgments in areas of Engineering. Programs, coordinates and schedules resources for accomplishment of work. Responsible for preparation of

real property records, FISP, Federal/State Agreements, Certificate of Title, maintenance reports, operations of the work management system, assets accounting contract administration and analysis of completed work including shop performance. Recommends corrective actions for improvement of performance and productivity. Provides military construction and Base Operations (RPMA) programming/budgetary and fiscal guidance to the Engineering Office elements.

Contract and Management Branch, Engineering Office		
Workload Factor:		
Parent Units & Square Feet		
Manpower Requirement		Computed from Requirements Worksheet
Line	Job Title	Distribution of Positions
1	Contracting & Management Admin	a/
2	Accounting Technician	a/
3	Real Property Technician	a/

a/ Distribution of the computed Manpower Requirement for the Engineering Office is determined by the State with request to NGB-ARM-RD.

**Section V**  
**Operations Branch**  
 (AFD: KC MD# 2880 TYPE: III)

**2-5. Work Center Description**

**Direct Functions:** Develops program documents and information to support the total Construction Program of the Engineering Office to include the development of program scope documents (DD Form 1390/91's, NGB Form 420's). Provides technical

support for the administration of the fire prevention and protection activities to include aircraft rescue and fire fighting, as well as providing the technical security support for Army National Guard facilities. Provides for the environmental and energy programs to include the preparation the necessary National Environmental Protection Act (NEPA) documents in support of preservation, protection and enhancement of the environment. Provides support to the Engineering Office for non-real property management activity.



Operations Branch, Engineering Office		
Workload Factor:		
Parent Units & Square Feet		
Manpower Requirement		Computed from Requirements Worksheet.
Line	Job Title	Distribution of Positions
1	Supervisory Facility Mgt Spec	a/
2	Facility Management Specialist	a/
3	Environmental Protection Spec	a/

a/ Distribution of the computed Manpower Requirement for the Engineering Office is determined by the State with request to NGB-ARM-RD.

**Section VI**  
**Engineer Plans and Services Branch**  
**(AFD: KCB MD#: 2880 TYPE: III)**

**2-6. Work Center Description**

**Direct Functions:** Responsible for the design, preparation of drawings and specifications on all construction, maintenance and repair projects. Coordinates design with using agency and Engineering Office organizational elements. Reviews all nonappropriated fund projects. Develops master plans for ARNG training sites and facilities and assists in the project development for functional areas and technical requirements for all construction projects. Serves as liaison with design agencies. Provides technical assistance to the contracting officer in selections of materials, construction methods, and

project supervision and inspection. Reproduces and maintains engineering data, files of maps, drawings and specifications which relate to the real property of the installation. Represents the Engineering Office at design conferences on projects executed by district engineers or other construction agencies. Accomplishes design of projects and supervises in-progress and final inspection assistance. Develops engineering analysis as well as plans and specifications. Provides input to environmental documentation. Determines most cost effective design in coordination with Engineer and other Engineering Office elements. Provides technical engineering support to activities. Performs facilities damage assessment and provides any design, drawings, and specifications required to replace such structures upon direction to do so.

Engineer Plans and Services Branch, Engineering Office		
Workload Factor:		
Parent Units & Square Feet		
Manpower Requirement		Computed from Requirements Worksheet.
Line	Job Title	Distribution of Positions
1	General Engineer	a/
2	Community Planner	a/
3	Engineering Technician	a/

a/ Distribution of the computed Manpower Requirement for the Engineering Office is determined by the State with request to NGB-ARM-RD.

**APPENDIX A**  
**INDEX OF AFD CODES**

<b>CODE</b>	<b>OFFICE</b>	<b>WORKCENTERS</b>
KA	EO	Office of the Chief
KC	EO	Administrative Services Branch
KC	EO	Contract and Management Branch
KC	EO	Operations Branch
KCB	EO	Engineer Plans and Services Branch

**APPENDIX B**  
**INDEX OF TYPE STANDARDS**

<b>CODE</b>	<b>OFFICE</b>	<b>WORKCENTERS</b>
III	EO	Office of the Chief
III	EO	Administrative Services Branch
III	EO	Contract and Management Branch
III	EO	Operations Branch
III	EO	Engineer Plans and Services Branch

**APPENDIX C  
TYPE STANDARD - REQUIREMENTS**

Standards are classified by the following information

DATA SOURCE AND STATISTICAL REQUIREMENTS			
A Standard Classification	B at least 80% of Data Based on	C With the Following Requirements	D *Criteria for the Standard Equation
TYPE I (AT LEAST ONE OR A COMBINATION OF ALL)	Work Sampling	95% confidence level Complete work cycle(s) sampled At least 2 work weeks sampled Minimum number of input locations used	Regression analysis used to obtain equation and....  R2 > .75 V < .15 F > F .95, m-1 n-m (N/A if N<5)
	Time Study	95% confidence level Complete work cycle sampled	
	Standard Time Data: Approved engineered standard time data that is documented and the statistical parameters identified.		
TYPE II (AT LEAST ONE OR A COMBINATION OF ALL)	Work Sampling	95% confidence level Complete work cycle sampled At least 1 work week sampled Minimum number of input locations used	Regression analysis used to obtain equation and ....  R2 > .50 V < .25 F > F .90, m-1 n-m (N/A if N<5)
	Time Study	95% confidence level Minimum number of input locations used	
	Operational Audit	Operational Audit with minimum number of input locations.	
TYPE III		A baseline standard issued in the absence of historical data or mission refinement to allow workcenter activity to begin or resume.	
TYPE IV		A standard adopted from another agency, examined, and found to be applicable.	
TYPE V		A directed standard.	

\* As defined in AR 570-5

**APPENDIX D**

**ENGINEERING OFFICE  
WORKCENTER DESCRIPTION**

**STANDARD INDIRECT CATEGORIES:**

**I1. SUPERVISION**

- I1.1. Administers personnel.
  - I1.1.1. Indoctrinates personnel.
  - I1.1.2. Rates performance.
  - I1.1.3. Nominates personnel for award.
  - I1.1.4. Monitors Management Improvement Program.
- I1.2. Supervises personnel.
  - I1.2.1. Schedules personnel.
  - I1.2.2. Develops directives.
  - I1.2.3. Directs work center activity.
  - I1.2.4. Counsels personnel.
  - I1.2.5. Prepares correspondence.
- I1.3. Reviews incoming/outgoing distribution.
- I1.4. Reviews report and statistical data.
- I1.5. Develops budget estimate.
- I1.6. Inspects facility.
- I1.7. Receives and assists visiting official.
- I1.8. Investigates accident or incident.

**I2. ADMINISTRATION**

- I2.1. Types communication.
- I2.2. Processes unclassified distribution.
  - I2.2.1. Processes incoming distribution.
  - I2.2.2. Processes outgoing distribution.
- I2.3. Maintains unclassified correspondence file.
  - I2.3.1. Establishes file.
  - I2.3.2. Files correspondence.
  - I2.3.3. Maintains suspense file.
  - I2.3.4. Disposes of records.
  - I2.3.5. Maintains log and register.
  - I2.3.6. Maintains security file.
  - I2.3.7. Maintains personnel locator file.
- I2.4. Maintains classified material.
  - I2.4.1. Controls material.
  - I2.4.2. Safeguards material.
  - I2.4.3. Destroys material
- I2.5. Maintains unclassified publication file.
- I2.6. Operates copying machine.
- I2.7. Maintains stock of blank forms.
- I2.8. Receives telephone calls.
- I2.9. Maintains status chart or bulletin board.
- I2.10. Provides stenographic service.
- I2.11. Maintains time and attendance card.
- I2.12. Maintains appointment calendar.
- I2.13. Acknowledges visitor.

**I3. MEETINGS**

- I3.1. Prepares for meeting.
- I3.2. Conducts or attends meeting.

**I4. TRAINING**

- I4.1. Administers training.
- I4.2. Develops training material.
- I4.3. Conducts training.
  - I4.3.1. Prepares for training.
  - I4.3.2. Instructs training.
  - I4.3.3. Administers test.
- I4.4. Receives training.
  - I4.4.1. Receives instruction.
  - I4.4.2. Takes test.
  - I4.4.3. Reads publication.

**I5. SUPPLY**

- I5.1. Processes equipment request.
- I5.2. Conducts inventory.
- I5.3. Maintains custodian document.
- I5.4. Obtains expendable supplies.

**I6. EQUIPMENT MAINTENANCE**

- I6.1. Maintains office equipment.
- I6.2. Maintains shop equipment.
- I6.3. Maintains assigned vehicle.

**I7. CLEANUP**

- I7.1. Prepares work area.
- I7.2. Puts work away.
- I7.3. Cleans work area.

**GLOSSARY**

**AFD**

Army Functional Dictionary

**AGR**

Active Guard/Reserve

**ARNG**

Army National Guard

**CTA**

Common Table of Allowances

**DA**

Department of the Army

**MD**

Manning Document Number

**MTOE**

Modified Table of Organization and Equipment

**MS-3**

Manpower Staffing Standards System

**NGB**

National Guard Bureau

**OAC**

Operating Activity Center

**OPR**

Office of Primary Responsibility

**SPMD**

Support Personnel Manning Document

**SOP**

Standing Operating Procedures

**TDA**

Table of Distribution and Allowance

**WCD**

Work Center Description

**By Order of the Secretary of the Army:**

**JOHN B. CONAWAY**  
Lieutenant General, USAF  
Chief, National Guard Bureau

**Official:**

**E. DARDEN BAINES.**

Chief

Administrative Services

**Distribution: C**