NETWORK MAINTENANCE MANAGEMENT
SCC ORGANIZATION AND ADMINISTRATION
STORED PROGRAM CONTROL SYSTEMS

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PART 1

1. INTRODUCTION

A. General

1.01 This plan advocates and provides general procedures for planning and implementing Switching Control Center (SCC) operations that efficiently centralize the maintenance of Stored Program Control Systems. It also provides detailed procedures for centralized force management, which is an integral part of such operations. These procedures represent fundamental changes in traditional central office maintenance practices. The term Switching Control Center (SCC) means simply: a place where the individual end office administration is centralized. The pricing and loading of work, surveillance of ESS, all index preparation, time reporting, management reports, etc, is done there. Operations support systems are considered maintenance enhancements.

1.02 Whenever these procedures are reissued the reason for reissue will be listed in this paragraph.

1.03 The procedures described in this document are applicable to electronic (stored program control) switching systems and to the maintenance activities associated with the switching machine, trunk and carrier systems, distributing frames, and power systems. Any reference made to central office forces is intended to include the switching, frame, and toll personnel.

B. Documentation Plan

1.04 This practice is one of a series of documents referred to as the Network Maintenance Management Plan (NMMP). The total series of documentation will cover the following areas (parts contained in this practice are noted by an asterisk):

(a) Planning and implementation of SCC*

(b) Organization and responsibilities*

(c) Force management procedures*

(d) SCC operations guidelines*

(e) Frame force management*

(f) Forecasting*

(g) Evaluation procedures*

(h) Performance reviews

(i) Personnel development

(j) Interfaces.

1.05 Additional maintenance documentation is provided in the Controlled Maintenance Plan (CMP) series of practices. These cover troubles and their causes, preventive maintenance (PM) and corrective maintenance (CM) administration, major outage control, portable maintenance equipment, etc.

1.06 The glossary to this practice lists AT&T general letters, and various system descriptions, and technical Bell System Practices (BSPs) that provide greater detailed information on SCCs and operational support systems.

1.07 The procedures in this document replace those in plant management instructions (PMI) for organizing and assigning work, (Part 101—First Level PMI) and job control (Part 6—Second Level PMI). Subsequent issues of the network maintenance management plan will update the remainder of PMI and provide detailed instructions to other aspects of the network manager's job.

C. Motives for Centralizing Maintenance

1.08 Centralized maintenance of stored program control systems from Switching Control Centers is not a new concept within the Bell System. SCC operations in one form or another already exist in most companies. Where maintenance has been centralized, the following benefits have generally been realized:

(a) More efficient utilization of personnel through the pooling of expertise

(b) Improved proficiency and training of the maintenance force

(c) More economical means of continuous service protection.

1.09 Considerable effort has gone into developing the SCC concept for maintaining stored program control system (SPCS) central offices in recent model SCC operations. Many of the procedures recommended in this practice are based on that effort.

D. Motives For Improved Force Management Procedures

1.10 By far, the most compelling reasons for moving toward centralized force management procedures prescribed in this practice are:

(a) To increase management's ability to control the effectiveness of the labor force through centralized pricing and loading of work. This enhanced ability results in significant increases in labor efficiency.

(b) To relieve the central office supervision of much of the administrative and paper work associated with today's CO job. Assigning work, compiling indexes, analyzing trouble tickets and other "paper" tasks have limited the time available for central office supervisors to attend to the technical aspects of their jobs—training, work inspection, quality control, and quality assurance.

1.11 In addition to administrative work, many interruptions exist in a central office that reduce productivity. These stem largely from telephone calls to the central office which interrupt work in progress. Often these calls are requests for data or low priority work requests which would be more effectively handled on a "programmed" basis coordinated by a centralized organization.

1.12 Finally, a significant portion of today's central office time is not tied to particular trouble clearing or testing operations. Work descriptions such as "coverage" or "trick time" are examples.

E. Role of Centralized Administration

1.13 Establishment of an SCC and its associated supervisor and clerical force should be the first phase in any plan for centralizing central office maintenance operations. The SCC force will improve efficiencies by:

(a) Performing such repetitive chores as time keeping, filing, typing, preventive maintenance administration, record keeping, and data gathering for computation of indexes

(b) Acting as a buffer for coordination between offices in the Manager's operation and other groups

(c) Receiving, evaluating, and assigning work inputs requiring central office work

(d) Maintaining indicators of work status including the recording and reporting of results

(e) Analyzing preventive and corrective maintenance results.

1.14 Coincident with the establishment of an SCC group to relieve CO supervisors of much of their administrative work load and interference due to telephone calls, the CO Manager should establish a plan for increasing the emphasis placed on the technical aspects of the CO supervisor's job. Evaluations should place more emphasis on craft training and development and work quality.

1.15 As an aid to the administration of preventive maintenance work, planners should consider the use of the Central Office Maintenance Management System—Preventive Maintenance (COMMS-PM) as this becomes available to stored program control systems (SPCS). This system provides mechanized administration of preventive maintenance.

F. Role of Operations Support Systems

1.16 Experience with operations support systems has shown that the number of trouble indications that require immediate action are a small fraction of the total trouble indications available from these systems. By converting most of today's coverage and corrective maintenance activity to programmed or loaded work leads to large reductions in coverage hours and improvements in the control and efficiency of the corrective maintenance job. Additional gains are realized through the utilization of operations support systems. Once they are installed, these support systems become an integral part of the second level Manager's maintenance operations.

1.17 The principal operations support system for stored program control switching systems is the Switching Control Center System (SCCS). The SCCS is a minicomputer system with remote display terminals providing measurement and testing capabilities to SCC and central office personnel.

G. Description of Parts In This Practice

1.18 ***Part 2—Planning and Implementation:*** This part outlines procedures for the planning and implementation of SCCs, training for those involved, the impact of centralization, and recommendations on center layout.

1.19 ***Part 3—Organization and Responsibility Guidelines:*** This part provides a summary of organizational and responsibility guidelines as well as detailed descriptions of first- and second-level management positions in a SCC operation and craft work assignment lists.

1.20 ***Part 4—SPCS-SCC Operations Support Systems:*** This part provides an overview of operations support systems for stored program control systems.

1.21 ***Part 5—Force Management Procedures:*** This part provides procedures to be used in controlling the work as it is received by the SCC, priced, scheduled, and loaded to the field. Also included are analysis procedures and typical summaries and reports.

1.22 ***Part 6—Administrative Procedures:*** This part provides procedures for preparing trick assignments and work requests, use of the load and work time record, and administration of corrective maintenance.

1.23 ***Part 7—Frame Force Administration:*** This part provides guidelines for end office frame force and load administration as well as some aspects of frame control center operation.

1.24 ***Part 8—Evaluation:*** This part provides suggested criteria for evaluation of management and craft performance, and for evaluation of overall SCC efficiency and effectiveness.

1.25 ***Part 9—Forecasting:*** This part provides procedures to be followed in preparing a "bottom-up" view of maintenance hours required for both monthly and annual forecasts.

1.26 ***Glossary:*** Included is a list of standard abbreviations and terms used in this document, work and disposition codes used by the SCC and central office, and a list of related documents.

H. Ordering Information

1.27 Network Maintenance Management—Force Management Procedures may be ordered using form SDI 80.80 as follows:

(Quantity)

Orders should be addressed to:

WECO
Indiana Publishing Center
POB 26205
Indianapolis, Indiana 46226

All forms assosicated with this plan may be ordered through the local WECO Service Center. These forms are provided in pads of 50 forms per pad, one pad per package. All forms should be ordered by numbers of packages as follows:

E-6831	SCC Telephone Log
E-6832	SCC Weekly Force Performance Report
E-6833	SCC Work Pricing Chart
E-6834	SCC Monthly Work Request Summary
E-6835	SCC Monthly T&I Work List
E-6836	SCC Loading Guide
E-6837	SCC Work Schedule
E-6838	SCC Work Request
E-6839	SCC Daily Time Summary
E-6840	SCC Monthly Time Summary
E-6841	SCC Monthly Forecast
E-6842	SCC Annual Forecast
E-6843	SCC Load and Work Time Record

PART 2

2. SPCS-SCC PLANNING AND IMPLEMENTATION

A. General

2.01 This section outlines procedures for the planning and implementation of centralized maintenance and force management in a SCC environment.

2.02 Establishment of a successful SCC is highly dependent upon the understanding, commitment and support of all involved levels of management. Appropriate company/area staff personnel are required to provide assistance and guidance during all phases of implementation. Staff groups can be effectively used in developing work pricing charts, eliminating SCC interface roadblocks, and conducting performance reviews and evaluations to ensure the realization of cost reduction through effective force utilization. A future part of the Network Maintenance Management Plan will provide procedures and techniques for performance reviews.

2.03 The SCC is designed to function as the administrative control center for a second level manager's area of responsibility. The manager is responsible for the service and cost results for those switching entities under his jurisdiction; he is, therefore, in the best position to set priorities, schedule, and control the work.

B. Planning and Implementation Procedures

2.04 The concepts of this plan are not complicated; however, the procedures may be foreign to many central office managers. The traditional method of central office maintenance is to have each office with its own force dedicated exclusively to the maintenance effort. The concepts of centralized maintenance and management of the craft force allow for greater flexibility in meeting fluctuating demands. Adjustments to central office forces can better be affected by a manager who has all resources at his disposal.

Implementation Team

2.05 Experience has shown that dedicated staff support is required to effectively establish the SCC and to implement centralized force administration. The staff should also evaluate any substitute procedures used to accomplish centralization.

2.06 A project manager must be appointed to coordinate the SCC installation on a full time basis. It is recommended that this be a second-level supervisor with some switching background. Ideally, the project manager would be the second-level manager who would supervise the SCC after its installation. This individual should be made available during the implementation phase and be separated from line responsibilities to handle detailed coordination and organizational planning. If operations support systems are to be installed, this should be done after the establishment of the SCC, and a separate hardware coordinator should be appointed.

2.07 The project manager should chair a cutover committee that would include representation from buildings, installation, marketing, engineering, data or special services, network administration, central office, and others as required. All committee members must be made aware of their responsibilities and be prepared to make commitments to meet all scheduled dates. The detailed list of implementation items may be used to set interim dates and track the progress of the project. The project manager must ensure that time spans are determined for each item and plug them into the critical path.

2.08 It is critical that all departments interacting with the central office attend an orientation meeting(s) early in the implementation schedule. These groups should be kept informed of all the plans and dates which will affect them, and their participation can be used to help form the centralized organization and operating procedures. Significant interface problems will develop where outside groups are not fully aware of the SCC plans and organization.

2.09 It is also recommended that a hardware cutover supervisor be appointed before the installation of equipment. This should be a first-level supervisor with a strong technical background (equipment engineer or CO maintenance), or could be the SCC project manager in single installations. The areas of responsibility for this individual are outlined in the following paragraphs.

2.10 The hardware supervisor should first become familiar with both the central office interface and the SCC located equipment. Care should be taken in ensuring that all miscellaneous piece parts are accounted for. Because some of the apparatus

is vendor provided, a detailed list of the interfaces, cable, power, and other requirements should be prepared.

2.11 A detailed schedule should be prepared in conjunction with WECO on the ship dates of all materials. Periodic status reports should be provided to the supervisor through regular method of procedure (MOP) meetings or some other means. This individual should help track down those items that do not arrive on schedule and escalate any problems to the Project Manager.

2.12 It is recommended that the hardware supervisor or equipment engineer chair a local MOP meeting to closely track the equipment installation. Participants would include the CO supervisor, WECO supervisor, data or special service supervisor, and others as required. A detailed schedule should be prepared with mutually agreed upon intermediate and completion dates. The cutover supervisor should publish minutes for each meeting.

2.13 The hardware supervisor should be a regular member of the SCC Project Committee and report the status of the hardware portion. This individual must be sure that the schedule for the equipment items fits into the overall project schedule and be prepared to make ajustments if necessary.

2.14 The hardware supervisor will be responsible for the overall acceptance of all equipment items, and ensure that thorough test procedures are completed on all items. Test results should be documented by the WECO supervisor for equipment installation and by the special service group on the data links and equipment. Any troubles encountered during testing should be corrected promptly. The hardware supervisor should request assistance where needed to rectify problems.

Planning and Implementation Sequence

2.15 The suggested sequence for implementation is described below.

(a) ***ORGANIZATION PLANNING***—Recommended organizational structure, craft and clerical responsibilities, and SCC staffing and training guidelines are presented in Part 3. The implementation committee should hold a sufficient number of meetings to allow complete understanding of these guidelines and to develop an organization that best suits local conditions.

(b) ***SPACE AND HARDWARE***—Arrange for the necessary furniture and work space for the SCC. Arrange for installation of operations support systems. Space and layout requirements are included in EL-3602. A floor plan is discussed in paragraphs 2.17-2.27. If No. 2 SCCS equipment cannot be installed within a reasonable time or is not planned to be, most functions can be implemented utilizing conditional SCC hardware (remote teletypewriters from each office).

(c) ***STAFF***—Arrange for the necessary SCC staff. Typical requirements and duties are described in Part 3. It is preferable to establish training needs for all SCC personnel and to provide that training concurrent with the implementation of SCC functions and centralization. (Refer to paragraphs 2.29-2.41.) Most SCC functions (office control, analysis, translations, and dispatch and administration) should be started prior to the installation of No. 2 SCCS equipment. While trunk testing responsibilities must remain with field maintenance personnel until remote testing equipment is installed, centralized TOS list processing and TN08 analysis can begin immediately.

(d) ***INTERFACES***—Before any work requests can be redirected from the central offices to the SCC, all originators of these inputs (refer to Fig. 2.1) must be notified and educated about the roles the SCC will play. The importance of this education process cannot be overemphasized since experience has shown this to be very critical to a successful operation.

(1) ***TELEPHONE INPUTS***—Centralize central office incoming telephone lines to the SCC. Paragraphs 2.42-2.51 will assist in determining the required arrangements for stored program control system SCCs. In those cases where full centralization is not practical, groups such as the repair service bureau (RSB), plant service center (PSC), circuit provision, network administration, and construction must be instructed to call the SCC with their requests, rather than the central office. This allows the SCC to establish priorities for work items and minimize interruptions to the central office work force.

(2) ***DOCUMENT INPUTS***—Arrange with other groups and departments to receive all document inputs in the SCC. Until daily loading begins, the document inputs should be loaded to the field as soon as they are received in the SCC.

(3) ***SERVICE ORDERS***—The daily loading of service orders to central office frame employees is accomplished by determining the actual work load and matching the work force to the load. Frame force administration (Part 7) provides the tools for determining the load, and the procedures to be followed.

Implementation Meetings

2.16 Organizational and procedural changes that accompany the implementation of centralized maintenance can disrupt employees perceptions of their jobs and their attitudes towards its management. To reduce these complications or employee discontent, such changes should be implemented through a series of meetings. At these meetings the purpose of the changes, the changes themselves, and possible ramifications should be discussed openly. Feedback on proposed operations should be sought and every effort made to incorporate valid ideas. These meetings should precede each major change in procedures and should be held at each organizational level, ie, second-level management, first-level supervisors, and craft and clerical levels.

C. Buildings and Furniture Considerations

2.17 Planning for the SCC locations must be done early in the SCC implementation. It should be preceded by an operational plan developed by the Network Maintenance Department. Every effort should be made to make the physical environment as comfortable and attractive as possible consistent with sound economic policies.

2.18 ***Site Selection***—The most desirable location for the SCC can be selected when the following considerations are included in the decision making process:

- Geographical relationship of the proposed location to the equipment offices being served, ie, travel time, traffic conditions
- Communcations requirements (paragraphs 2.42-2.51)
- Stand-by power for all equipment, air-conditioning and lighting
- Availability of floor space for future growth, if required
- Parking (company and employees) if in an area where applicable
- Employee safety (all hours)
- Electrical power service applicable to serve equipment and availability of stand-by power
- Environmental requirements, ie, interior finishes, lighting, air-conditioning and acoustics
- Existing amenities, ie, lunchroom, lounges.

A site meeting all or most of these requirements will reflect in lower building costs as well as providing better operational efficiencies.

2.19 ***Floor Space***—Space requirements will depend on the number of central offices being served initially and in the projected future, and the personnel force needed to operate the facility.

Listed below is basic information which will assist in determining space needs for the growth period:

- Number of COs to be served initially and ultimately
- Personnel forecast according to job function (Part 3)
- Equipment at each employee position (furniture, typewriters, calculator, etc)
- Common equipment (copiers, calculators, files)
- Document storage by type in lineal feet
- Storage space (equipment, records, office supplies, etc).

To prepare these requirements, an operational plan must be developed by the proposed SCC manager with company staff assistance. This information must precede any building plans and should be included with the initial request for building space.

After the site has been selected, a study plan can be prepared by the space planner. The plan will show all employee work stations and common areas as they relate to the work flow chart. Other information which should be included on the study plan are:

- Electrical requirements (commercial and stand-by) at each work station and common area
- Communication requirements (telephone, keyboard printer, display terminal) for each work station
- Environmental requirements (sound control, lighting, air-conditioning).

Recommended personnel space allocations:

120 square feet	—	Manager
100 square feet	—	First-level supervisors
100 square feet	—	Surveillance and Office Control
100 square feet	—	Analysis
100 square feet	—	Trunk maintenance
100 square feet	—	Translations
100 square feet	—	Manager's clerk
100 square feet	—	Administrative/Dispatch clerk
80 square feet	—	Other clerks

Common areas are defined as areas where work is performed that serves all personnel in the operation of the facility, ie, equipment room (teletypewriter [TTY] and/or computer), storage room, conference room and lounge (if required), files, copiers, and mail handling. Recommended space allocations are:

265 square feet	—	Equipment
200 square feet	—	Storage
150 square feet	—	Conference (if required)
200 square feet	—	Lounge (if required)

If the SCC is to be located in an existing building where conference rooms and lounges are already provided, these areas are not required as a part of this facility. It is important that the SCC forces have convenient access to these facilities at their location.

2.20 ***Equipment***—Environmental conditions should be established and considered in the site process. The location should be adaptable to basic office interior treatment at a reasonable cost whether it is in company owned or leased buildings.

- Interior Finishes—durable, easy to maintain, reduce eye fatigue.
- Acoustics—acoustical ceilings, static-free carpet and drapes. Carpet is not recommended near support system headware sensitive to dust or static electricity.
- Lighting—50 to 70 footcandles at all work surfaces; emergency lighting during power failures.
- Air Conditioning—normal comfort for all areas.

2.21 ***Inter-Office Cabling***—A distribution system for cabling from the computer in the equipment room to all surveillance and control work stations is required. This can be done by installing a distributing system above the suspended ceiling and terminating at the work station by the use of communication/power service poles. Caution should be taken so that the service poles do not obstruct viewing of the critical indicator display. Another method is an underfloor duct system. When applying this method, it is important that the ducts are sized sufficiently to handle the cabling requirements. The cabling is only required when the computer is collocated with the SCC. In many cases the computer will be located at a central computer site with the SCC getting access via data links.

2.22 ***Power***—Since brief interruptions are acceptable, standby power can be provided by an engine, rather than by more expensive inverters. Work station circuits, alarm monitor system, and lighting should be on stand-by power.

2.23 ***Building Status Indication***—Because not all SCCs will be staffed on a 24 hour basis, surveillance of building alarms must be designed to meet the requirements of the local organization. Present alarm systems should probably be left intact until suitable surveillance and control systems can be installed. The central office fire detection system, sump pump, high-low temperature, power failure (commercial and stand-by), security (open door, etc) should be connected to the alarm system.

2.24 A diagram of a typical SCC layout is depicted in Fig. 2.2. Because of the many organizational differences that will exist, this floor plan should not be construed as a force sizing or organizational recommendation.

Furniture

2.25 The SCC organization must be decided upon before the final furniture requirements can be established. An inventory of presently available furniture may be taken and the furniture inspected to determine if any is usable. The same style and color of furniture should be used throughout the SCC. Used furniture may sometimes be painted, but whenever the condition is poor, new furniture should be purchased.

2.26 A recommended list of furniture required is provided in this section by functional positions. Specific requirements on such items as desks, chairs, etc, will depend on the size of the SCC work force. If lounge and conference facilities already exist at the SCC location, there will be no need to equip those rooms. Furniture should be provided for all supervisors except those assigned to a dedicated central office(s).

- Manager
  - (a) Double pedestal desk
  - (b) Desk chair
  - (c) Three or more side chairs (table optional)
  - (d) Credenza (bookcase optional)
  - (e) Bulletin board or blackboard
- First-Level Supervisors
  - (a) Double pedestal desk
  - (b) Desk chair
  - (c) One side chair
  - (d) Bookcase (may be shared by two supervisors)
- Administrative/Dispatch Clerks

As these clerks will share the same files, they need to be located in close proximity to each other. One recommendation is to place their desks around a rotating wheel (lazy susan) on which the commonly shared logs and dispatch files would be placed. If each clerk is at a separate desk, shared file space must be accessible by each individual. An open tub file can be used efficiently for this purpose. Each clerk will need a desk chair.

- Manager's Clerk
  - (a) Secretarial desk
  - (b) Desk chair (armless)
  - (c) Electric typewriter
  - (d) Bookcase
  - (e) Four drawer file (or equivalent)
- Office Control Craftsperson
  - (a) "L" shaped desk
  - (b) Desk chair (armless)
  - (c) Bookcase (may be shared)
  - (d) Two drawer file (or equivalent)
- Analysis Craftsperson
  - (a) Single or double pedestal desk
  - (b) Work table
  - (c) Desk chair (armless)
  - (d) Four drawer file (or equivalent)
- Translation Craftsperson
  - (a) Single or double pedestal desk

(b) Work table

(c) Desk chair

(d) Four drawer file (or equivalent)

- Trunk Maintenance Craftsperson

(a) Single or double pedestal desk

(b) Work table

(c) Desk chair

(d) Four drawer file (or equivalent)

- Conference Room

(a) Conference table

(b) Eight or more side chairs

(c) Easel and/or blackboard

- Lounge

(a) Lounge chairs and/or sofa

- Miscellaneous Furniture Requirements

(a) Bookcases for BSPs, standard documentation

(b) File cabinets for office records, correspondence, etc

(c) Waste baskets

(d) Copying machine

(e) Extra typewriter (optional)

(f) Calculating machines

(g) Lockers and/or coat racks

(h) Pencil sharpeners

(i) Storage cabinet for supplies (optional if secured room is available)

2.27 In addition to the above requirements, status boards should be provided to post index results, organizational deployment, frame load, ETL status, etc. The recommended type of board is that of a magnetic composition which can be written on by washable felt markers and easily erased. A combination of bulletin and magnetic boards should be used as an alternative. The status boards should be located where they may be readily observed by the SCC force responsible for that activity and by visitors to the center. Examples of status boards are shown in Part 5.

D. Hardware Considerations

2.28 One of the major areas of consideration during the implementation of the SCC is the equipment and hardware associated with the operations support systems. Experience has shown that because of the unfamiliarity with this new equipment, many problems arise that can impede and delay the entire project. Planning information for No. 2 SCCS is provided in Engineering Letters 3600, 3601 and 3602.

E. Training Considerations

2.29 The SCC concept represents a significant change in traditional methods of managing the central office. The success of the new organization will rely heavily on the training level of all personnel prior to their assignment in the SCC. The first step should be the determination of the training needs of the SCC organization.

2.30 A schedule should be prepared to allow adequate time to accomplish required training. Care should be taken in not providing the training too far in advance so that its effect might be weakened. Where possible, the work functions explained should be incorporated into the job prior to SCC implementation. For example, if a clerk was trained on indexes and time sheets, that individual could be given those assignments in the pre-SCC mode. The use of SCC load and work time records by craftspersons can be initiated prior to the SCC start-up to smooth over that transition.

Management Training

2.31 All management personnel working as part of the SCC should be thoroughly trained in their area of responsibility. The concept of centralization requires that supervisors be able to function effectively together, with a good understanding

of each other's responsibilities. A need exists for management training in three basic areas:

(a) Management Introduction

(b) SCC Administration

(c) Use of Operations Support Systems.

In addition to this specialized training, the SCC management team should be knowledgeable in the technical aspects of the particular switching offices involved.

2.32 ***Management Introduction:*** An introduction to the concept and functions of the SCC should be presented to all management people at the start of the project. This can be done through a half day slide presentation prepared by the training staff. This talk should include:

(a) Concept of centralized maintenance

(b) Benefits of centralization

(c) Planned organization for the local area

(d) Projected timetable for implementation

(e) Brief description of SCCS and other support systems

(f) Question and answer period.

All levels of CO management through Division must receive this presentation. It is recommended that second-and third-level managers in all departments having any interface with the central office be strongly encourged to become acquainted with the SCC through this overview.

2.33 ***SCC Administration***—Supervisors should become thoroughly familiar with all areas of SCC administration. Until standard training courses are developed, the following modules represent key areas in which local training should be conducted.

- MODULE 1: Group Work Inventory Record

(a) Introduction to the control center concept

(b) Documentation of work functions in CO

(c) SCC Monthly Work Request Summary (E-6834)

(d) Procedure for dividing work into trick, corrective maintenance, and service order types

(e) Identification of time objectives for each job category.

- MODULE 2: Trick Inventory Record and Control Center Loading Guide

(a) Introduction of craft loading

(b) Definition of individual tricks

(c) Division of work items on group inventory record

(d) Minimizing demand tricks to increase productivity

(e) Interaction of tricks and how to minimize abandoning assignments

(f) Introduction of the control center loading preferences

(g) Preparation of loading guide.

- MODULE 3: Work Assignment List and Work Schedule

(a) Introduction of Work Assignment List (E-5848)

(b) Examples of work assignment lists and need for detail

(c) Work code matrix

(d) Penalties in breaking loading

(e) Work schedule

(f) Preparation of an example work schedule.

- MODULE 4: Load and Work Time Record

(a) Introduction of SCC load and work time record (E-6843)

(b) Self-paced course on preparation of load and work time record

(c) Criteria for evaluating craft use of load and work time records

(d) Procedures used to verify that work operations were completed satisfactorily

(e) Validation of time entries

(f) Review of other documents for evaluation procedure (trouble tickets, ETLs service order [SO], etc)

(g) Summarization of evaluation procedure.

This material should be presented to the second level manager and the person designated as SCC supervisor with training completed well in advance of the operational date of the control center. This is necessary to allow time to properly prepare administrative records, files, and procedures before operations begin. It is recommended that all supervisors reporting to the SCC manager be exposed to this material sometime within the first year of the SCC operation.

2.34 ***Operations Support Systems***—A SCC Supervisor normally has responsibility for the administration of the maintenance related operations support systems used within the SCC. The training emphasis for this individual should be on the administrative techniques required to utilize these tools, and on the maintenance techniques required to ensure their reliability. BSP documentation is available for operations support systems which may be utilized in the SCC.

Clerical Training

2.35 A key element in the SCC will be the effectiveness of the clerical force. They are expected to remove most of the "paper work burden" from the supervisors and craftspeople. Because the majority of this work will be new to the individuals, an effective training package must be presented to the clerks before the operation of the center.

2.36 Although the clerks in the SCC will work primarily in one or more general areas of responsibility, they should be provided exposure and training in all areas so that they may fill in during periods of vacation or absence. Some of this cross training can be done by the SCC supervisor on an "on the job" basis.

2.37 If clerks are used in a central office prior to establishing a SCC, these individuals would be likely candidates for the SCC clerical jobs. A review should be made as to their present level of expertise to help modify the training material presented. In addition to the manager's clerk, one clerk should have typing skills for preparation of reports or correspondence.

2.38 Modules 1, 2, and 3 (described in paragraph 2.33) should be presented to all clerks. The remainder should be given initially to the administrative clerk(s) and individually to other clerks as required. For example, the frame and dispatch clerk should be familiar with the load and work time record and the Manager's clerk with Module 4. In addition, an equipment appreciation course should be given to all clerks of the type of offices they will be working with.

The SCC supervisor should assure that all clerks are trained in their area of responsibility. The following modules represent key areas of concern.

- Module 1: Introduction
  - (a) Orientation to company
  - (b) SCC interface with other departments
- Module 2: Telephone Language
  - (a) Technical names
  - (b) Acronyms
- Module 3: Telephone Procedures
  - (a) Input log
  - (b) Ticket preparation
  - (c) Ticket classification
  - (d) Call forwarding
- Module 4: Preventive Maintenance
  - (a) Manual ETLs, logs

(b) Report preparation

- Module 5: Work Files

(a) Document input work requests

(b) Trunk orders, carrier work, cable transfers, etc

(c) Work file set-up and use

- Module 6: Loading

(a) Overview of loading principles

(b) Work assignment list

(c) SCC load and work time record

(d) Pricing lists

(e) Work schedules

- Module 7: Reports

(a) CO indexes

(b) Sources of data

(c) Work unit forms

(d) Other SCC reports

- Module 8: Supply Procedures

(a) Ordering supplies and materials

(b) Receiving

(c) Distribution

- Module 9: Time Reporting

(a) Time sheet procedures

(b) Mechanized time reporting

Craft Training

2.39 The craft training requirements can be broken down into two general areas. Those craftspeople working in the SCC will require training on loading procedures and use of the operational support systems. This training should be documented locally and followed up with formal training if required.

2.40 All craftspeople should be given an introduction to the SCC and its support systems prior to its implementation. One technique is to use slides to present an overview of the SCC concept. There should be opportunity to ask questions about the functions of the new system. This initial training should smooth the transition into the SCC environment, and might identify some problems during the planning.

2.41 The remaining craft training can be divided into the following functional areas:

- ***SCC Load and Work Time Records***

(a) Introduction

(b) Heading

(c) Type of work

(d) Item identification

(e) Time accounting

(f) Work codes and disposition

(g) Time summaries and remarks

(h) Practice session and review

(i) Loading procedures.

- ***SCC Surveillance and Office Control***

(a) Corrective maintenance loading concept

(b) Trouble priorities

(c) Exception report procedures

(d) Loading and dispatch procedures.

- ***SCC TMP and Analysis***

(a) Transmission results

(b) Trunk outage procedures

(c) Equipment outage procedures

(d) Trunk maintenance position (TMP)

(e) Trunk order procedures

(f) Pricing techniques

(g) Analysis techniques for all types of tickets.

F. Communications Considerations

2.42 The communications plan for a SCC should be designed to route the majority of incoming calls to the SCC without isolating the central office forces and without causing repeated retries or excessive waiting time by the calling party. A policy of intercepting all calls directed toward the central office during the early stages appears to be undesirable and in most cases will probably be circumvented. The following information is provided as a guide in formulating SCC communication plans.

2.43 Calls to the SCC will generally fall into six categories:

(a) Work groups reporting a central office trouble condition

(b) Work groups requesting an appointment with the CO forces

(c) Notification of a change in/or the status of a previously received document or work input item

(d) Requests for general information about the SCC or central offices

(e) Calls directed to a specific individual in the SCC

(f) Requests for the status of pending work.

2.44 The majority of calls to the SCC must not result in another call to the central office. This second call introduces a delay and annoyance factor to the caller. Therefore, the SCC should be in a position to successfully dispose of most of the calls that it receives. Specific numbers should be established at the main distributing frame, main carrier system panel, and at the trunk test position. These locations receive the calls that would necessarily be passed directly from the SCC to the central office.

2.45 The central office telephone numbers should not be changed when the SCC is established. A detailed list of calls that can be accepted by the central office work force should be prepared and distributed to all craft forces within the central office and to the supervisors of interacting work groups. The intent of the list is to define the calls that are to be made directly to the central office. The craft forces within the central offices will be instructed not to perform work functions that are not on the list or have not been loaded by the SCC. Examples of work requests that would be acted upon as a result of a direct call to the central office are carrier system failures or service affecting trunk outage.

2.46 Requests for programmable work (or work items not on the "direct call list") should be directed to SCC for establishment of an appointment. The SCC clerk will give the requesting office an appointment date and time on which they will be called. This work item is then loaded on a craftsperson for the appropriate date and time.

2.47 Calls to the central office can be expected to decrease after the establishment of the SCC. The SCC should establish a two-way private line or dial-up paging system between themselves and each central office they serve. Calls to the central office should generally come from one individual at the SCC to better control the status of work items and the establishment of priorities. Specific trick assignments should be designed to assign a person(s) on the central office force to receive calls from the SCC. The objective is to use the SCC loading procedures to control the central office maintenance functions.

General Requirements

2.48 The communication equipment at the SCC should be designed to meet the functional needs of each individual. Preference should be given to serving the SCC from an ESS office. This will provide for custom calling features that can streamline the communications system.

2.49 A block of numbers should be reserved for the SCC. A suggested method of assignments, using an example with 50 numbers, is:

(a) Lines 1-10—An incoming service group (ISG) with the key number published for the SCC

(b) Lines 11-20—An ISG for trunk order calls serving all offices

(c) Lines 21-30—Published as management contact numbers with 21, 22 for the manager and the other individual lines for each supervisor at the SCC

(d) Lines 31-50—Unpublished numbers for outgoing service and growth.

The number of working lines in the first two groups will depend on the volume of calls and should be adjusted periodically.

2.50 In addition to the above lines, a group of 3-5 FX lines should be provided for emergency service to prevent isolation in a catastrophe. A dial-up intercom should be provided between the SCC and each central office with speakers in the central office. In lieu of this system, a two-way private line should be established to both the CO maintenance center and frame. Telefacsimile equipment should be given serious consideration to facilitate the movement of paper documents. An inserted connection loss (ICL) intercom should be provided at the SCC for communications from one station to another. Phones on the clerks' desk should overlap for efficient operation during absences (lunch, vacations, etc). Clerks are then able to perform their specific job assignments at their own desk while covering for another clerical position.

2.51 A recommended arrangement for each possible station at the SCC follows.

(a) Manager: Key Set (6 button)
Two (2) incoming lines (ISG)
One (1) outgoing line
Add-on conference
Speakerphone

(b) Manager's Clerk: CALL DIRECTOR® (18 button)
One (1) incoming line
One (1) outgoing line
Manager's incoming lines
Supervisor's (SCC located) incoming line

(c) SCC Supervisor: Key Set (10 button)
One (1) Line
SCC listed numbers (6 lines)
Add-on conference

(d) Office control and analysis supervisor:
Key set (10 button)
One (1) line
SCC listed numbers (6 lines)
Add-on conference

(e) Dispatch and administration supervisor:
Key set (10 button)
One (1) line
SCC listed numbers (6 lines)
Add-on conference

(f) Evening and Night Supervisor: Key Set (6 button)
One (1) line
Add-on conference

(g) Trunk Maintenance & Translations Supervisor: Key Set (10) button
One (1) line
Trunk line listed number (4 lines)
Add-on conference

(h) Cutover and growth supervisor:
One (1) line
Trunk line listed number (4 lines)
Add-on conference

(i) Administrative/Dispatch Clerk: CALL DIRECTOR (30 button)
Manager's incoming lines
SCC supervisor's line
One (1) line
SCC listed numbers (6 lines)
CO private lines
Code A phone(s)

(j) Tranlations Craftsperson: CALL DIRECTOR (18 button)
One (1) line
Off-hour supervisor's line
SCC listed number (6 lines)

(k) Trunk Maintenance Craftsperson: CALL DIRECTOR (18 button)
One (1) line
Trunk and carrier supervisor's line
Trunk line listed numbers (4 lines)

(l) Frame Clerk: CALL DIRECTOR (18 button)
One (1) line
Private line to each frame
SCC trunking number (4 lines)

(m) Surveillance and Control Craftsperson: CALL DIRECTOR (18 button)
Three (3) lines (night closing)
Add-on conference
One (1) line per position
CO private lines

(n) Layout and Analysis Craftsperson: Key Set
Two (2) lines
Add-on conference

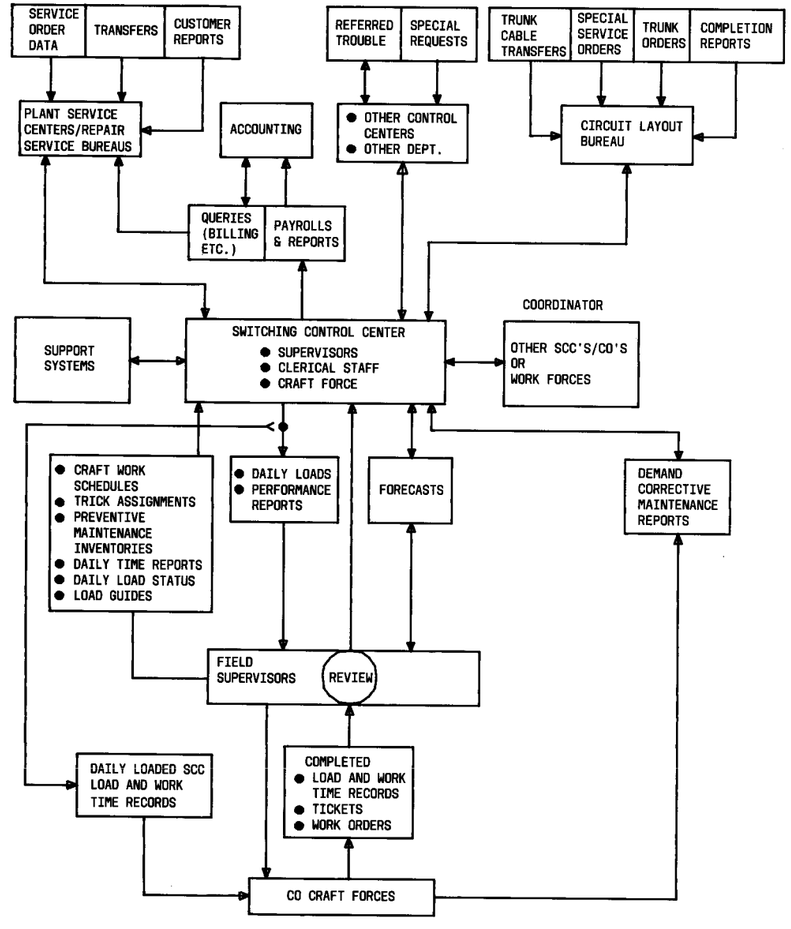
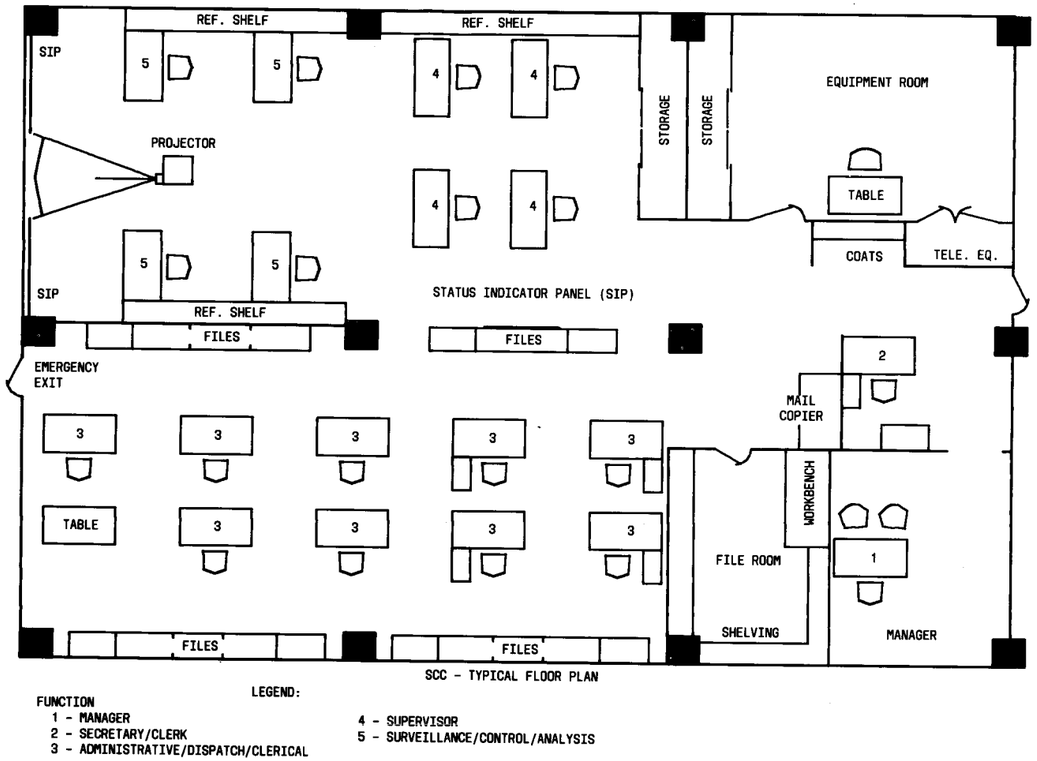


Fig. 2.1—SCC Interface With Other Groups



SCC - TYPICAL FLOOR PLAN

LEGEND:

FUNCTION
1 - MANAGER
2 - SECRETARY/CLERK
3 - ADMINISTRATIVE/DISPATCH/CLERICAL
4 - SUPERVISOR
5 - SURVEILLANCE/CONTROL/ANALYSIS

Fig. 2.2—Typical Floor Plan

PART 3

3. SPCS-SCC ORGANIZATION AND RESPONSIBILITY GUIDELINES

A. General

3.01 The term SCC denotes a place for the centralized maintenance of switching offices. The organization at the SCC is created by establishing new work groups and positions, and by modifying traditional central office jobs. This part discusses the factors that influence the configuration of the network maintenance organization. It also provides recommendations on the organization and the assignment of responsibilities for network maintenance in a SCC for stored program control systems.

B. Factors Influencing SPCS-SCC Organization Design

3.02 Various factors must be considered when determining the configuration of the network maintenance organization. Major factors to consider are discussed below.

Functionalization

3.03 Work activities should be grouped by function in order to gain efficiency and expertise. The SCC is designed to centralize the central office operations at the second level. This will include responsibility for switching equipment, trunks and frame activity. In organizations where the second-level manager has responsibility for plant or other functions, consideration should be given to functionalizing the central office maintenance responsibilities under one individual. In a functional arrangement, a switching district may have two or more SCCs as well as a second-level network administration group within the district. In a nonfunctional arrangement, a district might have one SCC and other second-level groups for plant operations.

Specialization

3.04 Specializing work groups and supervisors by type of SPCS and work function (office control, analysis, translations, etc.) is another important organizational consideration. The primary advantage of a work group or supervisor having responsibility for only one type of SPCS and work operation is that expertise can be developed that is not usually possible with combined SPCS responsibility. Because there is a need for technically competent work groups and management, specialization is generally recommended wherever possible. However, the definition of separate work functions does not reflect on whether or not people rotate through these functions. In general, there are advantages to rotating both craft and supervision if done at a frequency that does not impair service or personnel evaluation. Specialization will be most prevalent in metropolitan areas but may also be applicable in nonmetropolitan areas where the concentration of offices is such that they can be grouped and managed by SPCS types.

3.05 Another consideration is the amount of retraining that will be required for management, craft, and clerical forces. The initial SCC planning should try to minimize these requirements by keeping people in their area of expertise.

Geography

3.06 Any organization recommended for centralized operation must ensure that it accounts for geographic environmental considerations. The nature of the maintenance responsibility can take on different characteristics depending on the geographical area. A practical distinction can be made between a predominately metropolitan area and a nonmetropolitan area.

- Metropolitan area
  - (a) Multientity buildings
  - (b) Small geographic area
  - (c) Higher centrex development
  - (d) More main stations per entity
  - (e) More service order changes
  - (f) Distinct trunking arrangement
  - (g) Higher percentage of "business" customers
  - (h) More interdepartmental contacts
  - (i) Higher toll/tandem concentration
- Nonmetropolitan area

(a) Large geographic area

(b) Fewer main stations per entity

(c) More entities

(d) Distinct trunking arrangements (more direct routing)

(e) Fewer toll/tandem entities.

The SCC in the metropolitan area will generally be composed of a few large offices and will lend itself to more functionalization at the first level than one composed of small offices. The team concept of specialized craft forces is more applicable where the close proximity of central offices makes the transfer of craft forces less expensive and time consuming.

3.07 One geographic constraint is that the flow of paper from the SCC to the central offices is made more difficult in the nonmetropolitan areas where mail service may not be as frequent.

Nature and Complexity

3.08 There are inherent characteristics in the maintenance job which can have a bearing on the organization. Metropolitan areas tend to have a higher percentage of service order and trunk order work which can be classified as "production" type jobs. This is in contrast to offices where most of the activity is of a trouble shooting nature or a "service" type job.

3.09 The age of the central office may affect the maintenance requirements as will the present service conditions. Provision of special features such as Incoming Wide Area Telecommunications Service (INWATS) and centrex can increase the complexity of the job. In general, the number of offices in a second-level SCC organization will be lower in areas of high activity and complex services.

Staffing and Sizing

3.10 Proper staffing of the SCC is critical to the success of the overall operation. The needs of each SCC will vary depending upon the numbers and types of central office work groups involved, whether surveillance, analysis and control functions are performed at the center, and to what extent loading of the field maintenance force is being accomplished. A fully implemented SCC that is performing the above-mentioned functions and is loading several work groups (switching maintenance, trunk/carrier work, and frame activity) will require one or more supervisors, and a staff of clerks and craft employees to perform SCC functions.

3.11 The sizing of the management and nonmanagement force in a centralized operation will depend upon the complexity of operation (percent centrex, etc), experience levels of supervisors and craft personnel, geographic environment, etc. Care must be taken in trying to increase the span of control too much at the start. Because significant maintenance hours savings with SCCs are anticipated, the supervisor's scope of responsibility will increase and a reduction in craft to management ratios can be anticipated. The same is true for the ratio of first level supervisors to manager, so that the organization should not be expanded to a size which hampers the manager's ability to train and guide new supervisors. Sometime after the implementation of SCCs has taken place, some reduction in management ranks should be expected as the maintenance hour requirements decrease, and more effective surveillance and control tools become available.

C. Recommended Functions Within a SPCS-SCC Organization

3.12 The following paragraphs provide descriptions of basic SPCS-SCC work functions. These briefly itemize the responsibilities, training requirements, and shift coverage associated with each work function, and they illustrate the several key principles that experience has shown will result in effective SPCS-SCC operations. These include:

(a) Centralized monitoring and control of SPCS systems and their associated trunks from the SCC

(b) Centralized control and assignment of the majority of field maintenance work using the force management procedures outlined in other parts of this practice

(c) Significant functionalization of both SCC and forces

(d) Maximum use of operations support systems including the SCCS and CAROT systems

(e) Increased emphasis on communications among SCC first- and second-level managers.

The descriptions assume that the SCC is equipped with a No. 2 SCCS and remote trunk testing equipment, and that its offices are served by CAROT.

3.13 ***Office Control Function***—This SCC function is performed by trained SPCS craftspeople called office controllers. With the exception of trunk-related alarms monitored during the dayshift by the SCC trunk maintenance function described below, office controllers are responsible for monitoring all of the output of the SCCS and SPCS machines served by the center and for responding to these alarms with appropriate service protection, trouble verification, and remote repair actions. To enable rapid response to serious alarm conditions, office controllers should be relatively free from extensive analysis work. Additionally, as a necessary part of their responsibilities for switching performance and service, office controllers maintain appropriate central office and equipment outage logs. (See BSP-231-001-010 and 201-114-001 for descriptions of these logs.) As the nature of this work implies, the office control function would cover all workshifts. Although controllers would not take incoming calls during the day-shift, they would handle all telephoned referrals and requests during off-hour shifts.

3.14 ***Analysis Function***—This function is also performed by SPCS trained craftspeople at the SCC. Analyzers, as they are called, are responsible for the detailed troubleshooting on those complex problems that office controllers lack the time or, perhaps, the experience to solve. This function would generally include the analysis required for customer line troubles referred from the RSB and the SCCS Batch Network Analyses. In addition, analyzers would compile trouble histories from completed trouble tickets as well as provide technical assistance to other TELCO departments on matters related to their offices. They would also assist office controllers during peak work periods and may, on a regulr basis, visit SPCS offices to effect repairs of complex troubles. One SCC analyzer would be given the responsibility to administer and maintain all SCCS equipment. Analysis would generally be a day-shift only function.

3.15 ***Trunk Maintenance Function***—This SCC function is performed by craftspeople trained for remote trunk maintenance. Among their responsibilitis are: (1) processing TOS lists; (2) responding to SCCS real-time and batch trunk ineffective attempt (TN08) analysis reports; (3) processing trunk transmission and test call failure reports from CAROT; (4) responding to trunk trouble referrals and calls for testing assistance; (5) writing, referring, following-up, closing and analyzing trunk trouble tickets; (6) performing trunk diagnostics and trunk trouble sectionalization using remote trunk testing capabilities where provided; (7) maintaining trunk outage logs—See BSP-600-400-010; (8) maintaining SCC trunk records; (9) logging and coordinating trunk orders; (10) testing and turning up new or rearranged trunks; and (11) completing trunk transmission measurement reports. While this work may not require SPCS training, it does require familiarity with SPCS methods for trunk access; SPCS trunk maintenance features and messages; signaling, pulsing, and transmission operations of trunks; far-end office testing arrangements; and trunk testing methods. Generally trunk maintenance would be a day-shift only function.

3.16 ***Translation Function***—This SCC function is responsible for all ordinary stored program control system software changes. This includes entering required translation changes associated with trunk orders, routing and charging code changes, centrex installation, and service observing shoe rearrangements. Additionally, the translations function is responsible for entering and coordinating program changes associated with broadcast warnings. The function also monitors and schedules updates. In most SCC operations this would be a day-shift function performed by SPCS trained craftspeople.

3.17 ***Dispatch and Administration Function***—The SCC function has primary responsibilities for (1) force managing (controlling and dispatching work to) field maintenance, SCC translations, and, possibly, other SCC craftspeople and (2) processing all document and day-shift telephone inputs to the SCC with the exception of trunk orders and trunk trouble referrals handled by the SCC trunk maintenance function. The duties related to these responsibilities include pricing (establishing the priority, expected work time, and/or commitment dates) and administering all pending field maintenance and translations work, assigning work to individual craftspeople on both a demand and bulk basis, and recording completion information associated with controlled work. (The

body of this plan provides necessary procedures for performing this work.) Personnel in this function also administer preventive maintenance work schedules, complete service results and other management reports, and process time report data. While local contractual restrictions may require craftspeople for some tasks included here, the nature of this work is largely clerical.

3.18 ***Field Maintenance Function***—Field maintenance personnel are SPCS trained craftspeople who do all required on-site maintenance work for in-service SPCS offices. With the possible exception of short-duration requests for assistance on uncovered main frames, all work performed by SPCS field personnel would be scheduled by the dispatch function. Field work includes clearing SPCS, trunk, and other central office equipment troubles, performing required preventive maintenance, and completing necessary on-site SPCS change work. To maximize the effectiveness of the field forces, operating companies have generally found advantages in defining special rotational assignments for a subset of field personnel. For example, many companies have organized preventive maintenance teams responsible for the completion of difficult or infrequent preventive maintenance routines in a group of SPCS offices. In other instances, companies have assigned major projects such as large trunk orders or centrex installation to a single craftsperson. The number of field maintenance shifts may vary.

3.19 ***Central Office Installation (COI) and Coordination Function***—This combination SCC and field function, largely consisting of SPCS trained personnel, is responsible for cutting new ESS machines into service, coordinating major growth activities, implementing ESS change notices, and completing major rearrangements of SPCS equipment. Personnel that are not trained in SPCS may perform non-SPCS work operations associated with central office installations such as installing new trunks. Since this is a relatively autonomous function, separate workflows for COI tasks have not been provided. If the volume of this work is small, it may be done by the field maintenance personnel.

D. Management Organization and Recommended Responsibilities

3.20 Figure 3.1 illustrates a typical SCC organization for stored program control systems. The SCC is headed by a second-level manager who has full control of and responsibility for all SCC and central office maiintenance activity, including service and cost results. Reporting to the manager are supervisors having one or more of the following general responsibilities:

(a) Office control

(b) Analysis

(c) Trunk maintenance

(d) Translations

(e) Dispatch

(f) Administration

(g) Field maintenance

(h) Evening surveillance

(i) Cutover and growth.

3.21 Job descriptions for the management jobs within this organization are provided under paragraph heading H. Each description includes a job summary, a list of duties and responsibilities, and a description of the scope and nature of supervision.

3.22 While this organization and job descriptions assume that the SCC is equipped with a No. 2 SCCS and remote trunk testing equipment, only minor changes would be necessary for a SCC that chooses not to use an operations support system or has not yet acquired this equipment.

E. Recommended Craft and Clerical Responsibilities

3.23 Work assignment lists for each SPCS-SCC work function are contained in Figures 3.2 through 3.8. These should provide further understanding of recommended SPCS-SCC work functions and aid SCC implementors in constructing such lists which reflect local conditions. Job descriptions must be specific so that each group is aware of their responsibilities. Subtitles on each work assignment list identify major areas of responsibility that might be assigned to different employees within the same functional SCC group.

F. SCC Staffing Guidelines

3.24 As has been stated earlier, staffing requirements in the SCC and central offices depend on a multitude of factors. To assist in the early SCC implementation phases, the anticipated craft and clerical personnel requirements for each SCC work function are presented below. These reflect current personnel levels in existing SCC operations. Staff requirements for field maintenance and central office installation forces depend solely on work load.

- ***Office controllers***

  — One craftsperson per four to eight No. 1 ESS offices

- ***Analyzers***

  — One craftsperson per two to three No. 1 ESS offices (assuming that these craftspeople will occassionally be dispatched to the field to work on complex troubles)

- ***Trunk maintenance***

  — One craftsperson per seven to eight thousand No. 1 ESS outgoing and incoming trunks for testing

  —One craftsperson per fourteen to twenty thousand trunks for TN08 analysis

Note: Where there is a high concentration of switched special services (tie trunks, etc) additional craftspeople may be required.

- ***Translations***

  — Depends on activity

- ***Dispatch and administration***

  — One person per 20 craftspeople for force loading

  — One person per 10 No. 1 ESS offices for handling telephone inputs

  — One person per 10 No. 1 ESS offices for posting trunk orders and administering preventive maintenance work

  — Additional persons as required for frame force management, central office installation coordination, and time report processing

  — One craftsperson per 10 No. 1 ESS offices to assist with setting priorities, coordinating trunk orders, etc.

G. Work Flow Descriptions

3.25 The following work flow descriptions list the general tasks for selected work items performed by the above mentioned work functions. The associated work flow figures trace the movement of these work items through the SCC. To assist in understanding the work flows, three general comments are in order. First, the work flows primarily illustrate an SCC operation for local ESS offices that have remote trunk testing capabilities, but are representative of flows for other SPCS offices. Secondly, each flow gives the general category of work items addressed and the work functions involved in completing those work items at the top of the flow. The work flows show the actual work inputs (circled) and tasks (in boxes) that each function performs. Finally, the general flow of work is from the top to the bottom of each chart.

(a) ***SPCS or SCCS Reported Equipment Trouble (Fig. 3.9):*** Craftspeople performing the office control function monitor the output of served SPCS and the SCCS to identify equipment troubles. They are responsible for retesting troubles to verify that the trouble persists, for making the equipment busy or other actions to protect service, and for documenting their actions with a trouble ticket and appropriate log entries. Controllers next determine whether further analysis or field action is requied and refer to the ticket appropriately. Where repairs can be made remotely, controllers may effect and verify these repairs themselves, restore the equipment to service if required, complete the necessary entries on the ticket, and close the log entries.

If the controller refers the ticket to an analyzer, the analyzer performs the necessary analysis or diagnostic work, determining whether the trouble can be repaired remotely or that field assistance is required for further localization or repair. Where repairs can be done remotely, the analyzer effects and

verifies those repairs, restores the equipment to service, completes necessary trouble ticket entries and refers the ticket back to the originating controller for closing the log entries.

If either the office controllers or analyzers requests field assistance, personnel in the dispatch function price the trouble tickets (that is, assign a priority and estimated work time from an estimating chart for corrective maintenance work) and load the ticket to the field according to its priority. When the field has taken the requested action, perhaps under the direction of an analyzer or controller, dispatch closes the load and returns the ticket to the person who requested the field work.

When dispatch returns tickets to the analyzers or controllers who requested the field work, the analyzers verify that the trouble is cleared, restore the equipment to service if the field craftsperson has not already, complete the ticket, and close the log entries as they did for repairs they affected themselves. All tickets are returned to an analyzer for filing and later analysis.

(b) ***Network Batch Analysis (Fig. 3.10):*** The SCC analysis function is responsible for processing and analyzing the results of the SCCS batch analysis of network errors (NNSUM, multiple occurrence, and switchpictures). If analyzers can use these results to directly identify specific faulty units and if service protection is both necessary and possible, the analyzers make the equipment busy, initiate a trouble ticket and record the troubles on both the equipment outage and central office log at the appropriate office control position. After this is accomplished, analyzers refer trunk troubles to the SCC trunk maintenance function, line troubles to the repair service bureau (RSB), or equipment troubles to dispatch for loading to field maintenance forces for repairs. If a faulty unit is identified but service protection is not possible or warranted, the analyzer omits the steps involving making the equipment busy and logging the action on the office controller's equipment outage log.

If a specific faulty unit cannot be directly identified, the analyzer may request that dispatch provide field assistance for testing or localization. The analyzer may guide this effort, as well as field repair actions, from the center if required. (Because trouble localization may be time consuming for many network faults, it may be more efficient for analyzers to accumulate several troubles and to perform on-site work themselves.)

The field maintenance craftspeople are responsible for restoring the equipment to service when repairs are complete. Dispatch should refer trouble tickets back to the analyzer who requested the field effort for job feedback. Analyzers should in turn close log entries, complete the tickets, and file them.

(c) ***SCC-Detected Trunk Troubles and Trunk Troubles Referrals (Fig. 3.11):*** Although office controllers and analyzers may occasionally identify trunk troubles through SCCS network analysis reports, craftspeople in the SCC trunk maintenance function will identify the majority of trunk troubles directly or as a result of trunk trouble referrals from other offices, other SCCs, or from serving Network Service Centers (NSC). (The case of a referred incoming trunk trouble is treated separately on the next work flow.) When controllers and anlayzers do identify a trunk trouble, they should verify the trouble by retesting, remove the trunk from service, initiate a ticket and refer it to the trunk maintenance function. Similarly, craftspeople in trunk maintenance must verify troubles before removing trunks from service and initiating tickets. Trunk maintenance craftspeople are responsible for logging all trunk trouble tickets for the purpose of taking outage time on measured trunks. They are also responsible for remote repair of trunk translation troubles and for the sectionalization and referral of central office and facility troubles. Troubles in controlled offices are priced and loaded to field forces by dispatch in the same manner as equipment troubles.

When troubles are referred to field maintenance, other SCCs, or force groups, trunk maintenance craftspeople are responsible for providing necessary technical guidance and information or testing assistance to ensure prompt repair. When a trouble is repaired, trunk maintenance must verify

that the trouble is cleared; restore the trunk to service if the field forces have not been involved; close the ticket, log entries or other reports; and return the ticket to analysis for filing.

(d) ***Referred Incoming Trunk Trouble (Fig. 3.12):*** Handling of incoming trunk trouble referrals by the SCC trunk maintenance function is much the same as for other trunks. The basic difference is that the trunk repair must be verified with the originating office before the report can be closed. This is required since the incoming trunk cannot be properly tested from the incoming office by the SCC (assuming the other end of the trunk is not associated with this SCC). Testing with the originating end is the responsibility of the person who effects the repair whether at the SCC or in the field.

(e) ***Customer Trouble (Fig. 3.13)***

Personnel in the SCC dispatch function take customer trouble report referral from the RSB, initiate trouble tickets, and log each report on the telephone input log. Dispatch then refers the trouble tickets to an analyzer for verification and possible remote repair of software troubles. If the report requires field work, the analyzer must refer the ticket back to dispatch for pricing and loading to the field force and may, in some cases, direct the field repair actions. The analyzers would refer reports indicating possible trunk troubles to the SCC trunk maintenance function.

When repairs are completed and the ticket returned to dispatch, dispatch closes the ticket and log entries and refers the ticket to analysis for filing.

(f) ***Trunk Order (Fig. 3.14):*** The SCC trunk maintenance function receives and logs all trunk orders and compares them with existing records to identify possible errors. Trunk maintenance then negotiates completion dates for frame and facility work with other forces if the SCC is controlling the order, initiates a work request, progress sheet, and/or work file fact sheet itemizing the translation and field maintenance work required for the order, and routes these to dispatch for loading this work.

When dispatch has priced and assigned the order to the field, the field craftsperson completes required on-site work (crossconnection and circuit pack provisioning). Likewise, the craftsperson in translations who is assigned the order constructs and enters the required recent change messages as well as coordinates necessary cardwriting through dispatch.

After all required on-site work is completed and translation information verified, dispatch routes the order back to trunk maintenance for completion testing, turn-up, records updating, and order and log close out. (The SCC will not be able to perform all required completion testing on dial-pulse trunks. For these trunks, trunk maintenance will have to request that field maintenance forces be assigned this work.)

(g) ***Routing and Charging Changes (Fig. 3.15):*** Routing and charging change orders, as well as other miscellaneous translation change notices, are received and logged by the dispatch function for the purpose of being priced and loaded to the SCC translations function for processing.

When assigned the order, translations must first verify that the order has the correct information by crosschecking with existing office records before processing the change. If cardwrites are necessary to meet the order due dates, the translations craftsperson must request the cardwrite through dispatch and possibly coordinate them with field craftspeople. When all necessary work is complete, translations verifies the change, records work unit credit, updates office records, and returns the order to dispatch for closing the associated log entry.

(h) ***Updates (Fig. 3.16):*** Craftspeople performing the translations function initially schedule the next recent change area update according to trends in recent change area usage. The craftspeople monitor the recent change activity daily, revising the schedule as necessary. When ultimately scheduled, dispatch loads the update to the field force. After the update is complete, all translations that the update has activated are verified by translations craftspeople. (Recent changes tapes should be maintained by

translations until successfully activated by an update.)

(i) ***Service Observing Shoes (Fig. 3.17):*** Orders for rearranging service observing shoes are received and logged by the SCC dispatch function, then loaded to translation and field maintenance craftspeople for processing. Local practices and equipment options will dictate whether or not the required on-site rearrangements are done by framepeople or SPCS trained craftspeople.

(j) ***Incoming Telephone Requests for Assistance (Fig. 3.18):*** General incoming calls for assistance (which include frame and carrier assistance) are handled by the SCC dispatch function. If the request is deferrable, dispatch records the request on a telephone input log, indicates an estimated time and priority, and assigns the request to an appropriate SCC or field group. If the request requires prompt action, the call is immediately transferred to the appropriate group. The trunk maintenance function takes calls for trunk testing assistance directly.

(k) ***Preventive Maintenance (Fig. 3.19):*** The SCC dispatch function is responsible for administering preventive maintenance (PM) schedules, records, and estimated work times, and for loading this work to the appropriate field or SCC force. (Analyzers, off-hours office controllers, can perform routines that involve only TTY input as well as those associated with SCCS equipment.) PM work orders can be mailed to field forces with the loads or maintained at each SPCS office to reduce mailings and allow more flexibility in loading PM work.

If troubles requiring time consuming repairs are found while performing the routines, a trouble ticket can be initiated with dispatch who in turn can schedule the repairs later. Minor repairs should be completed immediately.

As soon as the routine is completed and all troubles cleared, dispatch can close the ticket and transcribe necessary completion information onto PM records and summaries. Dispatch then summarizes and prepares necessary weekly or monthly reports on completed routines.

(l) ***Time Reporting (Fig. 3.20):*** The often time-consuming task of processing time report information is the responsibility of the SCC dispatch function. The source document for work time information is, of course, the SCC load and work time record which is normally maintained by each craftsperson. Records are either mailed to dispatch each day or alternately an official copy is maintained in dispatch and the work time called in.

After the load and work time records are submitted for supervisory approval, and for pay processing, dispatch compiles maintenance hours from the records, files the load and work time records, and completes necessary summaries and reports.

(m) ***Service Results Computation (Fig. 3.21):*** Dispatch is responsible for completing the Network Switching Performance Measurement Plan index, the Trunk Service Results Plan index, and the Trunk Transmission Measurement index reports for the offices and equipment controlled by the SCC. Personnel in dispatch gather necessary data from other network organizations (the Repair Service Bureau, Dial, etc) and are provided outage and plant measurement results by office control and trunk maintenance at the SCC.

H. SPCS Job Descriptions

3.26 Stored program control system job descriptions are contained in the pages that follow.

SWITCHING CONTROL CENTER (SCC) MANAGER

JOB SUMMARY

Supervises a group of six to nine first-level supervisors responsible for the maintenance and central office equipment installation activity in a group of SPCSs. Installation activity deals with acceptance testing and the placement of new equipment in service. Directs the maintenance activity (corrective and preventive maintenance as well as rearrangement and change work) performed in these offices and at the Switching Control Center (SCC). Directly responsible for both the service provided by those SPCSs and the maintenance and installation costs associated with providing that service. Coordinates major projects such as area cutovers, centrex conversions and equipment rearrangements with other departments.

A. Directs SPCS Maintenance and Installation Activity (60%)

(1) Provides each first-level supervisor a functional assignment in supervising all maintenance (corrective, preventive, and change work) and installation activities in associated stored program control systems.

(2) Answers for the service results provided by each SPCS as measured by standard indexes [Network Service Performance Measurement Plan (NSPMP), Trunk Service Results Plan (TSRP), Transmission Maintenance Index (TTMI), etc].

(3) Answers for the productivity of the combined maintenance force as measured by work unit per hour results [for example, equipment upkeep (77R, 17R), changes (77M, 17M), and trunk testing (603-04)].

(4) Answers for the TELCO service and craft labor expense associated with central office installation activity, for the meeting of cutover dates, and for the protection of service and staying within allocated project budgets during the installation phase.

(5) Reviews current projects, personnel requirements, and operational problems with subordinates weekly through a regularly scheduled meeting.

(6) Adjusts subordinates' job assignments and methods to improve the management of both SCC and field work.

(7) Establishes priorities and develops specific plans, in conjunction with subordinates, to alleviate service and performance soft spots.

(8) Prepares force level forecasts in conjunction with subordinates. Tracks actual force levels and productivity against objectives and provides an explanation for discrepancies. Adjusts the work force (by loaning or borrowing personnel or by approving the use of overtime) to match the work load consistent with established budgets, workload forecasts, and maintenance technologies.

(9) Promotes the maximum utilization of SCC organizational and operational concepts, of operational support systems (SCCS, CAROT, COMMS-PM) and of established maintenance plans (SPCS Controlled Maintenance and Network Maintenance Management Plans) in meeting productivity and service objectives.

(10) Oversees SCC administrative functions including time report processing, preventive maintenance administration, and report preparation.

B. Develops Subordinates (20%)

(1) Establishes, in conjunction with each subordinate, obtainable objectives for service and cost results as well as for subordinate development.

(2) Evaluates and critiques the performance of each first-level supervisor on a quarterly basis in terms of meeting established service, cost, and subordinate development objectives. Makes positive suggestions for self-development, schedules supervisor training, offers praise, and recommends promotion on the basis of performance.

(3) Provides subordinates an opportunity for exposure to other departments or outside groups by assigning them to represent the SCC at interdepartmental meetings (such as those for cutovers, equipment additions, central installations, etc), or the telephone company (TELCO) at public meetings or activities.

(4) Provides subordinates an opportunity for on-the-job growth by rotating them among SCC supervisory jobs. Develops and implements a SCC-wide plan for rotating vocational people.

(5) Controls formal training expenses.

C. Miscellaneous Duties (20%)

(1) Coordinates major projects, 911 installations, cutovers, Bell Laboratories and AT&T studies with other departments.

(2) Improves the SCC interfaces with other departments and work groups (Repair Service Bureaus, Trunk Order Groups, CAROT Centers, Dial Administration, etc) by developing or negotiating improved intergroup operations and procedures.

(3) Resolves union grievances or problems that cannot be handled by subordinates.

(4) Represents District Manager at meetings when requested.

(5) Resolves problems concerning the SCC or individual SPCS referred in by other managers or that subordinates escalate.

SCOPE AND NATURE OF SUPERVISION

A. Supervision

(1) Reports to a District Manager along with two to five other managers involved with the maintenance and dial administrative functions associated with central offices.

(2) Operates independently on most day to day matters to meet objectives.

(3) Immediate supervisor is generally available for consultation, although guidance is normally sought only in unusual situations. District Manager generally makes monthly reviews of work progress.

(4) Uses detailed departmental and AT&T operating procedures as a guide in making most decisions. Follows local guidelines for the control of personnel in matters such as overtime, job assignments, and labor relations.

(5) General managerial reviews of current projects, future plans, and personnel requirements are held quarterly.

B. Direction of Others

(1) Subordinate organization consists of six to nine first-level supervisors who are located at the SCC or in associated central offices. Each supervisor is responsible for five to eight craftspeople or clerks.

(2) Provides subordinates feedback on work performance quarterly through the use of supervisory evaluations.

OFFICE CONTROL AND ANALYSIS SUPERVISOR

JOB SUMMARY

Supervises a force of five to eight craftspeople located at the SCC who perform the office control and analysis functions for SPCSs. This involves the responsibilities for the centralized verification, service protection, analysis and, in some cases, repair of switching equipment and customer troubles; for the majority of component indexes reported by the Network Service Performance Measurement Plan results; and for the use, administration, and maintenance of the SCCS.

JOB DUTIES AND RESPONSIBILITIES

A. Directs SCC Office Control Function (20%)

(1) Supervises the craftspeople performing the office control function in making prompt and effective service protection, trouble verification, and emergency system recovery actions in response to SPCS and SCCS alarms. Develops guidelines for responding to locally defined alarms.

(2) Coordinates the efforts of SCC and field supervisors and craft to ensure rapid restoral of common equipment to minimize the potential of an office outage.

(3) Determines whether updates, program changes or other potentially service-affecting work may be done. Makes determination by observing alarm indications, teletype output messages and equipment outage logs. Reports this to the SCC dispatch supervisor.

(4) Establishes the relative priority for on-site equipment repairs and trouble verification work requested by office controllers through negotiation with other SCC and field supervisors.

(5) Answers for the NSPMP results associated with switching service and performance. (Trunking and main frame related NSPMP results are the responsibility of other SCC and field supervisors.) Develops and implements programs or adjusts procedures to correct deficient results.

B. Directs Analysis (40%)

(1) Supervises the craftspeople involved in the centralized troubleshooting of SPCS common control and network troubles, in verifying and remote repair of line troubles, and in administering and maintaining SCCS equipment.

(2) Coordinates SCC and on-site trouble clearing efforts on SPCS common equipment outages. Executes and controls normal trouble excalation to corporate staffs, engineering, and Western Electric Company when local action does not resolve major problems in a timely fashion.

(3) Resolves any problems with craft loading and trouble analysis procedures with SCC dispatch supervisor.

(4) Develops local procedures and guidelines for the use of the Centralized Automatic Trouble-Locating and Analysis System (CATLAS).

(5) Establishes the relative priority for on-site equipment repairs and trouble verification work requested by analyzers through negotiation with other SCC and field supervisors.

(6) Analyzes equipment trouble tickets to identify problem areas, and develops corrective procedures such as the indication of operational trouble reports or additional analysis effort.

(7) Reviews central office caused customer trouble reports for proper disposition and control of unfavorable trends.

(8) Resolves service and other operational problems with other Network Organizations (Repair Bureaus, Dial Administration and Construction) by taking positive steps to communicate information and negotiate improved procedures.

(9) Analyzes billing trouble reports from customers and accounting to identify and correct trouble conditions.

C. Directs the Administration of SCCS Equipment (5%)

(1) Establishes procedures for sharing the SCC computer subsystem through negotiations with other users, when the computer is shared by more than one group.

(2) Coordinates SCCS trouble reporting.

(3) oversees SCCS and facility recovery as well as repair.

(4) Directs the completion of SCCS installation work and acceptance testing performed by analyzers.

D. Develops Subordinates (20%)

(1) Prepares job assignments for craftspeople who performs the SCC office control and analysis functions.

(2) Reviews each subordinate's work log daily to monitor the productivity and effectiveness of their efforts.

(3) Performs regular reviews of the performances of each subordinate. Prepares work evaluations and reviews these with each subordinate. Offers praise or constructive criticism regarding performance to provide incentive for improvement. Recommends subordinates for promotion when warranted.

(4) Identifies the need for and provides on-the-job training of subordinates on specific areas of remote trouble verification, network failure anlaysis, emergency action for recovering stored program control systems, audit and interrupt analysis, and SCCS utilization.

(5) Identifies the need for formal craft or clerical training and coordinates its scheduling through the dispatch supervisor.

(6) Monitors the absence and safety records of each subordinate.

(7) Provides subordinates an opportunity for on-the-job growth by rotating them among SCC and field maintenance jobs.

E. Other Responsibilities (15%)

(1) Monitors hoursekeeping conditions in the office control/analysis work areas as well as all security provisions at the SCC.

(2) Represents the SCC manager when requested.

(3) Provides the SCC manager current information on the status of controlled office, any major outages, the SCCS, and office control/analysis personnel requirements.

(4) Informs the SCC manager of any serious or potentially serious problems affecting controlled SPCSs or the SCC office control and analysis work force.

(5) Maintains relations with the labor organizations that represent subordinates and resolves grievances originated by them.

(6) Administers tour and vacation schedules for office control/analysis craftpeople.

SCOPE AND NATURE OF SUPERVISION

A. Supervision Received

(1) Reports to the SCC manager along with five to eight other SCC and field supervisors.

(2) Operates independently on most day to day matters to meet objectives.

(3) Immediate supervisor is generally available for consultation, though guidance is normally sought only in unusual situations. Supervisor generally makes biweekly reviews of work progress.

(4) Uses detailed departmental and AT&T operating procedures as a guide in making most decisions. Follows local guidelines for the control of personnel in matters such as overtime, job assignments, and labor relations.

(5) General supervisory reviews of current projects, future plans, and personnel requirements are held weekly.

B. Direction of Others

(1) Subordinate organization consists of five to eight craftspeople at the SCC during the day shift or possibly during off-hours shifts (if there is not an evening and night supervisor).

(2) Provides subordinates with feedback on work performance on a weekly basis through the use of work evaluations.

(3) Directly responsible for training and development of subordinates.

DISPATCH AND ADMINISTRATION SUPERVISOR

JOB SUMMARY

Supervises the clerical force (or in some cases a combined craft and clerical force) located at the SCC who perform the centralized dispatch and administrative functions. This responsibility includes directing the processing of both telephone calls and documents received by the SCC, the force management of all field craft forces, as well as several SCC craftspeople, the processing of time report information, and finally, the preparation of reports and service indexes. Force management includes pricing jobs, building individual daily work loads, tracking completion, and monitoring the total work volume.

A. Directs SCC Dispatch Function (35%)

(1) Supervises the processing of all telephone calls and documents (with the exception of trunk orders and trunk trouble referrals handled by the SCC trunk maintenance force) received by the SCC. Establishes procedures for initiating work requests as well as for handling trouble reports and status inquiries concerning work progress or central offices.

(2) Supervises the administration of SCC work files used in the assignment and tracking of pending and in-progress work.

(3) Supervises the clerks or craftspeople responsible for pricing, scheduling and loading work to SCC and field forces. Adjusts procedures for using estimated work time charts, assigning work, and recording completion data to best accommodate local conditions.

(4) Reviews pending work and craft work progress to determine the need for revising work loads or deferring work.

(5) Develops loading guides with nominal estimated work times, priorities, and lead times for all work normally handled by dispatch through negotiation with other SCC and field supervisors. Reviews work times for completed tasks to revise estimated work times if discrepancies dictate.

(6) Supervises the calculation of frame loads based on the daily verbal input of service order volumes from the central offices. Supervises the assignment of frame work by the clerks and the calculation of work units and productivity results according to the AT&T Frame Force Management and Control Plans.

(7) Determines the requirement for the transfer of craft forces between offices to match force with work load by evaluating the priorities of work items referred by the clerks. Contacts other supervisors to effect the transfer and refers any problems to the manager.

B. Coordinates SCC Interfaces with Field Operations and Other Departments (20%)

(1) Coordinates the SCC interface with other work groups, such as Repair Service Bureau and Dial Administration, to establish procedures for tracking trouble reports, for scheduling work requests, and for contacting SCC, field force, and other work groups.

(2) Coordinates special projects and WECo work that is applicable to all offices. Represents the manager or field supervisor at meetings to plan these projects in conjunction with field and central office installation supervisors.

(3) Initiates jeopardy reports for items controlled by the clerks.

(4) Maintains the overtime list(s) for the manager's area.

(5) Maintains daily contact with the field supervisors to report office results, upcoming work, and craft movement, in both verbal and written form.

C. Directs Other Administrative Functions (15%)

(1) Directs the processing and summarization of craft time report information from craft work logs.

(2) Supervises the scheduling, assignment and summarizing of all routine tests associated with the preventive maintenance requirements of each central office.

(3) Directs the preparation of budgets, indexes, and reports for the manager's area.

(4) Prepares and maintains the training requirements and schedule for all craftspeople in the manager's area with input from the SCC and field supervisors. Schedules craft training with the general staff.

D. Develops Subordinates (15%)

(1) Prepares job assignments for craft and clerical personnel involved in the SCC dispatch and administerative functions.

(2) Reviews each subordinate's work log on a daily basis to monitor the productivity and effectiveness of their efforts.

(3) Performs regular reviews of the performance of each subordinate. Prepares work evaluations and reviews these with each subordinate. Offers praise or constructive criticism of performance to provide incentive for improvement. Recommends subordinates for promotion when warranted.

(4) Identifies the need for and provides on-the-job training of subordinates on specific areas of processing trouble referrals, work request and document inputs; force management; time report processing, and report preparation.

(5) Identifies the need for formal craft or clerical training and schedules it appropriately.

(6) Monitors the absence and safety records of each subordinate.

E. Other Responsibilities (15%)

(1) Monitors housekeeping conditions in the dispatch/administrations work area.

(2) Represents the SCC manager when requested.

(3) Provides the SCC manager current information on the status of workload for each loaded craft group, missed due dates, preventive maintenance completion, maintenance hours expended, and future personnel requirements.

(4) Maintains relations with the labor organizations that represent subordinates and resolves grievances originated by them.

(5) Administers tour and vacation schedules for clerks and craftspeople in the dispatch/administration funtion as well as all field maintenance, central office installation, and off-hour office control craftspeople.

SCOPE AND NATURE OF SUPERVISION

A. Supervision Received

(1) Reports to the SCC manager, along with five to eight other SCC and field supervisors.

(2) Uses detailed departmental and AT&T operating procedures as a guide in making most decisions. Follows local guidelines for the control of personnel in matters such as overtime, job assignments, and labor relations.

(3) Immediate supervisor is generally available for consultation, though guidance is normally sought only in unusual situations. Supervisor generally makes biweekly reviews of work progress.

(4) Operates independently on most day to day matters to meet objectives.

(5) General supervisory reviews of current projects, future plans, and personnel requirements are held.

B. Direction of Others

(1) Subordinate organization consists of five to eight clerks and craftspeople located at the SCC during the dayshift.

(2) Provides subordinates feedback on work performance on a weekly basis through the use of work evaluations.

(3) Directly responsible for training and development of subordinates.

(4) Serves as force manager (assigns work) to roughly two-thirds of the combined SCC and field maintenance craft force.

TRANSLATIONS AND TRUNK MAINTENANCE SUPERVISOR

In small operations, responsibilities of this position may be combined with the responsibilities of another SCC or field supervisor.

JOB SUMMARY

Supervises a force of five to eight craftspeople located at the SCC who perform the translation and trunk maintenance functions at the SCC. Translation responsibilities include the entering of recent change messages for trunk orders, translation change notices, and centrex installations as well as the scheduling and coordination of recent change area updates. Trunk maintenance responsibilities include the control of trunk outage, trunk ineffective attempt control and analysis, the handling of trouble referrals and reports, trunk trouble sectionalization and testing assistance, and trunk order coordination.

JOB DUTIES AND RESPONSIBILITIES

A. Directs Translations Processing (30%)

(1) Oversees the entering of recent change messages for trunk orders, translation change notices, routing and rate changes, service observing rearrangements, and centrex installation. Coordinates the scheduling and assignment of this work with the SCC dispatch supervisor.

(2) Coordinates corrections in recent change requirements, which cannot be resolved by subordinates, with marketing or facility assignment organizations.

(3) Coordinates requirements for recent change updates (single card writer, etc) with dispatch supervisor when this work requires more than four hours of work activity.

(4) Ensures that translations are entered correctly by defining standard procedures.

(5) Establishes the relative priority of on-site updates or other work requested by translations through negotiation with other SCC supervisors. Provides standard lead times and estimated work times for all translation work.

B. Directs SCC Trunk Maintenance Operating (35%)

(1) Supervises the craftspeople responsible for trunk maintenance at the SCC in controlling trunk outage, in controlling and analyzing SCCS trunk ineffective attempt (TN08) analysis reports (such as those from CAROT), in trouble localization and referring trunk troubles, and in coordinating trunk orders.

(2) Answers for the Trunk Service Results Plan results, for the transmitter and receiver time-out component indexes on the Network Performance Measurement Plan results, and for the Trunk Transmission Measurement Index in all controlled offices.

(3) Resolves trunk design problems with transmission engineers when subordinates escalate such problems.

(4) Establishes the relative priority for on-site trunk trouble reports requested by the SCC trunk maintenance force through negotiation with office control and dispatch supervisors.

(5) Establishes the relative priority of field maintenance work associated with trunk and special service circuit orders and rearrangements with dispatch supervisors.

(6) Resolves coordination problem with other SCCS or central office maintenance organizations regarding intermediate and far-end office maintenance problems.

(7) Works with supervisors at other maintenance organizations to resolve escalated referred-in troubles as well as SCC observed troubles in their equipment. Develops standard trouble referral procedures through negotiations with other supervisors involved in trunk maintenance (such as CAROT Center, other SCCS, or trunk and facility maintenance supervisors).

(8) Analyzes network trouble reports such as Network Operations Trouble Information System (NOTIS) of Network Service Center (NSC) reports to identify possible trouble conditions. NOTIS is a report of TSPS operator troubles, and NCS is a Network Service Center which oversees DDD network troubles.

C. Develops Subordinates (20%)

(1) Prepares job assignments for craftspeople involved in the SCC translations and trunk maintenance functions.

(2) Reviews each subordinate's work log on a daily basis to monitor the productivity and effectiveness of their efforts.

(3) Performs regular reviews of the performances of each subordinate. Prepares work evaluations and reviews these with each subordinate. Offers praise or constructive criticism regarding performance to provide incentive for improvement. Recommends subordinates for promotion when warranted.

(4) Identifies the need for and provides on-the-job training of subordinates on specific areas of entering translation information without causing service problems; SPCS and electromechanical methods of trunk access and maintenance; remote trunk testing equipment and utilization; and signaling, pulsing, and transmission equipment operation.

(5) Identifies the need for formal craft or clerical training and coordinates its scheduling through the dispatch supervisor.

(6) Monitors the absence and safety records of each subordinate.

D. Other Responsibilities (15%)

(1) Monitors housekeeping conditions and security provisions in the translations/trunk maintenance work areas.

(2) Represents the SCC manager when requested.

(3) Provides the SCC manager with current information on the status of trunk outage, trunk ineffective attempt (TN08) performance, trunk order or change order jeopardies, and translations/trunk maintenance personnel requirements.

(4) Informs the SCC manager of any serious or potentially serious problems affecting trunking performance, translations work, or the SCC translations/trunk maintenance work force.

(5) Maintains relations with the labor organizations that represent subordinates and resolves grievances originated by them.

(6) Administers tour and vacation schedules for the translations/trunk maintenance craftspeople.

SCOPE AND NATURE OF SUPERVISION

A. Supervision Revised

(1) Reports to the SCC manager along with five to eight other SCC and field supervisors.

(2) Operates independently on most day to day matters to meet objectives.

(3) Immediate supervisor is generaly available for consultation, though guidance is normally sought only in unusual situations. Supervisor generally makes biweekly reviews of work progress.

(4) Uses detailed departmental and AT&T operating procedures as a guide in making most decisions. Follows local guidelines for the control of personnel in matters such as overtime, job assignments, and labor relations.

(5) General supervisory reviews of current projects, future plans, and personnel requirements are held.

B. Direction of Others

(1) Subordinate organization consists of five to eight craftspeople at the SCC during the day shift.

(2) Provides subordinate's feedback on work performance weekly through the use of work evaluations.

FIELD SUPERVISOR

Where the SCC is responsible for the maintenance of facilities, transmission, and related equipment, this supervisor may also acquire responsibilities similar to those listed for the trunk and facilities supervisor in the electromechanical SCC guidelines.

JOB SUMMARY

Supervises a force of five to eight craftspeople responsible for completing the on-site corrective and preventive maintenance, as well as necessary rearrangements and changes, of switching, trunking, power and miscellaneous equipment in from one to six central offices. This involves the control of both the quality and productivity of this work.

A. Oversees On-site Corrective Maintenance Activity (20%)

(1) Supervises the on-site corrective maintenance on switching, trunking, power, and miscellaneous equipment within the central offices. Coordinates the assignment and scheduling of this work with the SCC dispatch supervisor. Establishes procedures that ensure an adequate margin of service protection.

(2) Coordinates the restoral of out-of-service equipment to minimize the potential of a major service-affecting outage, in conjunction with the SCC office control and analysis function. Ensures that field craft properly document all corrective maintenance work. Answers for service-affecting conditions caused by field craft activity.

(3) Provides technical assistant to field craft related to a wide variety of equipment troubles.

(4) Analyzes completed trouble ticket and performs regular inspections to monitor and control the quality of corrective maintenance activity.

(5) Directs off-hour response to emergency situations when called by the SCC or the on-site craft force.

(6) Ensures that an adequate supply of tools and spare parts are readily available at each central office to meet normal maintenance requirements.

B. Oversees On-Site Preventive Maintenance (PM) Activity (15%)

(1) Oversees the on-site PM work to ensure its timely and productive completion. Coordinates the assignment and scheduling of this work with the SCC dispatch supervisor. (This responsibility is assumed by one field supervisor only.)

(2) Coordinates the activity of PM teams, organized to complete technically complex or infrequent routines, with the dispatch supervisor and other field supervisors when the team is in their offices.

(3) Inspects completed PM work orders for completeness and accuracy, and approves them prior to forwarding to the SCC.

(4) Supervises the completion of assigned transmission and noise readings on all trunks not measured by CAROT.

C. Oversees On-site Rearrangement and Change Activity (15%)

(1) Supervises the on-site rearrangement and change activity, ensuring the completion of all orders in a timely and productive manner. Coordinates the assignment and scheduling of this work with the SCC dispatch supervisor.

(2) Develops procedures, in conjunction with the SCC dispatch and trunk maintenance supervisors, for the completion of major rearrangement and change projects.

(3) Establishes installation and cutover schedules for new centrex customers, in conjunction with dispatch and trunk maintenance supervisors and other TELCO departments and network groups.

D. Directs Frame Activity (15%)

(1) Supervises the cross-connection work on distributing frames for service orders, cable transfers, line equipment transfers, and other general work requests. Coordinates the assignment and scheduling of this work with the SCC dispatch supervisor.

(2) Supervises trouble clearance on distributing frames and ensures that there is prompt craft response to the Repair Bureau requests for line tests.

(3) Analyzes customer trouble reports found on the frame to identify the cause of work errors or the need for a frame rehabilitation project, eg, old crosswire removal, stenciling, etc.

(4) Answers for the frame Code 5 report results on the Network Performance Measurement Plan.

E. Develops Subordinates (20%)

(1) Reviews each subordinate's work log daily to monitor the productivity and effectiveness of their efforts.

(2) Performs regular reviews of the performances of each subordinate. Prepares work evaluations and reviews these with each subordinate. Offers praise or constructive criticism of performance to provide incentive for improvement. Recommends subordinates for promotion when warranted.

(3) Identifies the need for and provides on-the-job training of subordinates on specific areas of equipment operation, trouble localization and repair techniques, emergency actions for system recovery, and preventive maintenance and change work procedures.

(4) Identifies the need for formal craft or clerical training and coordinates its scheduling through the dispatch supervisor.

(5) Monitors the absence and safety records of each subordinate.

F. Other Responsibilities (15%)

(1) Supervises work on special projects such as WECo installation and testing and major rearrangements or circuit order work not assigned to the central office installation supervisor.

(2) Monitors housekeeping conditions and security provisions in assigned central office.

(3) Represents the SCC manager when requested.

(4) Provides the SCC manager with current information on the status of equipment repairs; main frame activity, major projects, centrex installations, and field personnel requirements.

(5) Assists the SCC dispatch supervisor in establishing estimated work times for routine on-site work.

(6) Maintains relations with the labor organizations that represent subordinates and resolves grievances originated by them.

SCOPE AND NATURE OF SUPERVISION

A. Supervision Received

(1) Reports to the SCC manager, along with five to eight other SCC and field supervisors.

(2) Uses detailed departmental and AT&T operating procedures as a guide in making most decisions. Follows local guidelines for the control of personnel in matters such as overtime, job assignments, and labor relations.

(3) Immediate supervisor is generally available for consultation, although guidance is normally sought only in unusual situations. Supervisor generally makes biweekly reviews of work progress.

(4) Operates independently on most day to day matters to meet objectives.

(5) General supervisory reviews of current projects, future plans, and personnel requirements are held.

B. Direction of Others

(1) Subordinate organization consists of five to ten craftspeople working in a small group of central offices.

(2) Provides subordinates with feedback on work performance on a weekly basis through the use of work evaluations.

(3) Directly responsible for training and development of subordinates.

EVENING AND NIGHT SUPERVISOR

JOB SUMMARY

Supervises a force of five to eight craftspeople who perform the off-hours office control and field maintenance functions. For stored program control systems normally controlled by the SCC, this involves the responsibilities for monitoring off-hour switching and trunking service; for taking prompt service protection, verification, and, if necessary, repairs of switching, trunking and customer troubles that arise during off-hours shifts; and for overseeing the completion of off-hours SCC and field maintenance work assigned through dispatch. For additional stored program control systems for which the SCC provides off-hour surveillance, this may involve only the responsibilities for monitoring off-hour switching and trunking service; for taking prompt service protection and verification actions for switching, trunking, and customer troubles that arise during off-hour shifts; and for the proper notification of the supervision directly responsible for those systems.

JOB DUTIES AND RESPONSIBILITIES

A. Directs SCC Off-hours Office Control Function (20%)

(1) Supervises the craftspeople performing the office control function in taking prompt and effective service protection, trouble verification and emergency system recovery actions in response to monitored SPCS and SCCS alarms. Develops guidelines for responding to alarms and trouble conditions in SPCS, for which the SCC provides off-hour surveillance.

(2) Coordinates the efforts of SCC and field craft to ensure rapid restoral of common equipment in controlled SPCSs to minimize the potential of an office outage.

(3) Determines whether updates, program changes or other potentially service-affecting work may be done using critical indicators, and reschedules SCC and field maintenance work accordingly.

(4) Answers for the impact of off-hours office control activities on all components of the Network Service Performance Measurement Plan.

(5) Supervises the processing of telephone inquiries or trouble referrals received by the SCC during off-hours shifts. Establishes detailed procedures for handling such requests and referrals.

(6) Coordinates the loading of off-hours office control personnel with fill-in analysis or translations work with the dispatch supervisor.

B. Oversees Off-Hours Field Maintenance Activity (45%)

(1) Supervises on-site corrective and preventive maintenance, as well as rearrangements and changes of switching, trunking, power and miscellaneous equipment that dispatch schedules in controlled SPCSs during off-hours shifts.

(2) Coordinates the scheduling of off-hours field maintenance with the dispatch supervisor.

(3) Coordinates the restoral of out-of-service equipment to minimize the potential of a major service-affecting outage. Ensures that field craft properly document all corrective maintenance work. Answers for service-affecting conditions caused by field craft activity.

(4) Provides technical consistency to field craft related to a wide variety of equipment troubles.

(5) Analyzes completed trouble tickets and performs regular inspections to monitor and control the quality of off-hour corrective and preventive maintenance activity.

(6) Directs off-hour response to emergency situations. Calls out additional craftspeople for trouble clearing when necessary.

(7) Oversees the on-site PM work assigned by dispatch to ensure its timely and productive completion.

(8) Inspects completed PM work order for completeness and accuracy and approves these.

(9) Supervises the on-site rearrangement and change activity, ensuring the completion of all orders and updates in a timely and productive manner.

(10) Supervises the cross-connnection work on distributing frames, including service orders, cable transfers, line equipment transfers and other general work requests that is scheduled during off-hours shifts.

C. Develops Subordinates (20%)

(1) Prepares job assignments for craftspeople who perform the off-hour office control and field maintenance functions.

(2) Reviews subordinates' work log daily to monitor the productivity and effectiveness of their efforts.

(3) Performs regular reviews of the performance of each subordinate. Prepares work evaluations and reviews these with each subordinate. Offers praise or constructive criticism regarding performance to provide incentive for improvement. Recommends subordinates for promotion when warranted.

(4) Identifies the need for and provides on-the-job training of subordinates on specific areas of remote trouble verification, emergency action for recovering SPCS, SCCS utilization, equipment operation, trouble localization and repair techniques, and preventive maintenance and change work procedures.

(5) Identifies the need for formal craft or clerical training and coordinates its scheduling through the dispatch supervisor.

(6) Monitors the absence and safety records of each subordinate.

D. Other Responsibilities (15%)

(1) Monitors housekeeping conditions and security provisions in the office control work area as well as in each office where off-hour craftspeople are working.

(2) Represents the SCC manager when requested.

(3) Provides the SCC manager current information on the status of serious problems affecting controlled or monitored SPCSs, off-hour field maintenance activity, and off-hour personnel requirements.

(4) Maintains relations with the labor organizations that represent subordinates, and resolves grievances originated by them.

SCOPE AND NATURE OF SUPERVISION

A. Supervision Received

(1) Reports to the SCC manager, along with five or eight other SCC and field supervisors.

(2) Operates independently on most day to day matters to meet objectives.

(3) Immediate supervisor is generally available for consultation, although guidance is normally sought only in unusual situations. Supervisor generally makes biweekly review of work progress.

(4) Uses detailed departmental and AT&T operating procedures as a guide in making most decisions. Follows local guidelines for the control of personnel in matters such as overtime, job assignments, and labor relations.

(5) General supervisory reviews of current projects, future plans, and personnel requirements are held.

B. Direction of Others

(1) Subordinate organization consists of five to eight craftspeople located at the SCC and in controlled central offices, who work the evening, night and weekend shifts.

(2) Provides subordinates feedback on work performance on a weekly basis through the use of work evaluations.

(3) Directly responsible for training and development of subordinates.

CENTRAL OFFICE INSTALLATION AND GROWTH SUPERVISOR

If installation activity is at a low level, responsibilities for this job may be combined with those responsibilities of a field supervisor.

JOB SUMMARY

Supervises a variable force of from two to ten craftspeople, responsible for all work associated with testing and preparing new SPCSs prior to cutover, major additions to in-service SPCSs, major equipment rearrangements and assisting WECo with the implementation of design changes to in-service offices. The varying work force is necessary to handle new SPCS activity. During the early installation stages, the field supervisor and one or two craft oversee equipment erection, establish documentation and provide a WECo installation interface. As installation progresses more craft are added to perform acceptance tests and connect lines and trunks in preparation for the cutover.

A. Directs TELCO Central Office Installation (65%)

(1) Assures that WECo installation activity is consistant with Company standards with respect to safety, housekeeping and security.

(2) Assures the equipment, material and tools being installed and provided is consistent with the engineering job orders.

(3) Supervises and schedules TELCO acceptance on new equipment to assure proper WECo installation.

(4) Provides personnel to assist WECo during design modifications. Includes removal of equipment from service, validating the changes, testing and restoral of equipment to service.

(5) Develops schedules and supervises craft during major rearrangement jobs such as the replacement of a cross connection frame. This is frequently a multi-shift operation and must be coordinated with other departments and work forces.

(6) Provides SCC manager and dispatch supervisor with an accurage forecast of personnel needs.

(7) Installs lines and trunks for the cutover. This includes cross connections, tests, records and placing in service. Establishes cutover procedures for connecting offices to follow on the night of cutover.

(8) Assures that all line translations and routing/charging translations are corrected at cutover to provide proper telephone service to the affected customers.

B. Develops Subordinates (20%)

(1) Prepares job assignments for craftspeople involved in the central office installation function.

(2) Reviews subordinates' work log on a daily basis to monitor the productivity and effectiveness of their efforts.

(3) Performs regular reviews of the performances of each subordinate. Prepares work evaluations and reviews them with each subordinate. Offers praise or constructive criticism regarding performance to provide incentive for improvement. Recommends subordinates for promotion when warranted.

(4) Identifies the need for and provides on-the-job training of subordinates on specific areas of system service protection, WECo methods of operation, growth, recent change insertion, system operation, etc.

(5) Identifies the need for formal craft or clerical training and coordinates its scheduling through the dispatch supervisor.

(6) Monitors the absence and safety records of each subordinate.

C. Other Responsibilities (15%)

(1) Monitors housekeeping conditions in central office installation work areas.

(2) Represents the SCC manager when requested.

(3) Provides the SCC manager current information on the status of central office installation and acceptance testing activity and central office installation personnel requirements.

(4) Maintains relations with the labor organizations that represent subordinates and resolves grievances orginated by them.

SCOPE AND NATURE OF SUPERVISION

A. Supervision Received

(1) Reports to the SCC manager along with five to eight other SCC and field supervisors.

(2) Uses detailed departmental and AT&T operating procedures as a guide in making most decisions. Follows local guidelines for the control of personnel in matters such as overtime, job assignments, and labor relations.

(3) Immediate supervisor is generally available for consultation, although guidance is normally sought only in unusual situations. Supervisor generally makes biweekly reviews of work progress.

(4) Operates independently on most day to day matters to meet objectives.

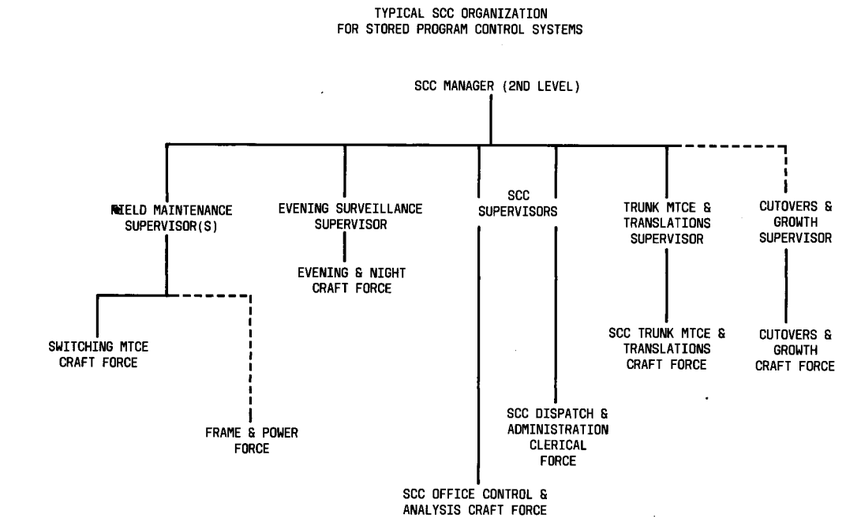
(5) General supervisory reviews of current projects, future plans, and personnel requirements are held.

B. Direction of Others

(1) Subordinate organization consists of two to ten craftspeople working different shifts in several central offices. Varying work force is inherent in cutover operations; a small craft force during early installation which builds to a large force at cutover.

(2) Provides subordinates feedback on work performance weekly through the use of work evaluations.

(3) Directly responsible for on-the-job training and development of subordinates.



NOTE: THIS REPRESENTS A SUGGESTED ORIGANIZATION AND SPECIFIC JOB FUNCTIONS MAY BE ASSIGNED TO DIFFERENT INDIVIDUALS OR WORK GROUPS.

Fig. 3.1—Typical Stored Program Control Organization

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT OFFICE CONTROL

WORK ITEMS
GENERAL
1. At the start (end) of the shift, review the current status of critical indicators, the alarm monitor, the equipment out-of-service log, and any unusual conditions with the office controller on the previous (next) shift, if shifts overlap. If shifts do not overlap, the office controller should leave a note for the next office controller, indicating any unusual conditions.
2. Review PM01 at beginning of day shift and compare the counts of the following measured components and performance indicators to their daily objectives:
coin control failures
hardware lost calls
hardware lost billing
interrupts
supervisory failures and FCGs
restore verify failures.
For components and indicators that exceed daily objectives, note cause of trouble if it has not already been detected. If trouble condition has not been detected, then check alarm summary from previous day. If trouble condition is not apparent, for supervisory failures, FCGs, or restore verify failures, inform supervisor. Supervisor should decide if an analyzer should perform batch network analysis. If trouble condition is not apparent for other components and indicators, filter and browse appropriate TTY messages, and/or refer to an analyzer. During current day pay close attention to alarms and TTY messages associated with components and indicators that did not meet objectives in the previous day.
3. Review control record, note areas that exceed cumulative objectives, and discuss with supervisor.

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Fig. 3.2—Work Assignment List (E-5848) (Office Control) (Sheet 1 of 4)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT OFFICE CONTROL

WORK ITEMS
4. Note major field force activity that affects critical indicators or alarms.
5. Respond in real time to SPCS and SCCS alarms. Retire alarms individually and take appropriate service protection and/or verification action.
6. Inform supervisor immediately if an office requires emergency action procedures. The supervisor should dedicate the office controller or an analyzer to take the appropriate emergency action recovery steps.
7. Monitor overall status of offices on CIPs throughout the shift.
8. Inform dispatch of the need for same-day on-site work as early as possible so that dispatch can reassign or relocate field craft appropriately.
9. Review hourly printouts for possible trouble conditions. These should include unalarmed and alarmed conditions.
10. Browse offices, selectively, for unusual audits or other unalarmed messages indicating possible trouble conditions. This should be done using hourly printouts or as time permits.
11. Protect service and initiate trouble tickets for trouble conditions that can be directly verified, or those trouble conditions that are suspected. Gather the necessary supporting information for trouble conditions that require further analysis or repair action. Record all equipment trouble tickets on an appropriate equipment outage log. Ensure that the seriousness of the trouble is made known.
12. Refer tickets requiring trouble isolation work to analysis. These tickets include equipment outages, excessive audit and interrupt messages, etc. Refer tickets requiring field work to dispatch, and refer trunk-related troubles reported by SCCS real-time network analyses to the trunk maintenance group. Ensure that the seriousness of the trouble is made known, particularly when service cannot be protected. During off hours, it might be necessary for the

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Fig. 3.2—Work Assignment List (E-5848) (Office Control) (Sheet 2 of 4)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT OFFICE CONTROL

WORK ITEMS
office controller to take diagnostic action if time permits. However, the diagnostic effort should not preclude real-time surveillance.
13. Assist or direct field forces on short requests when necessary.
14. Verify the accuracy of the equipment outage log using critical indicators and SPCS output messages every two hours.
15. Update office status board with any unusual conditions.
16. Inform supervisor of severe service or potentially severe service-affecting interrupts or audits.
17. Review trouble tickets returned from analysis or field forces. For those tickets not handled by analysis, check the status of the trouble and verify that the proper repair action was taken. If the ticket is returned with no trouble found and the trouble still exists, refer to analysis. For all trouble tickets returned, check for proper entries, close entries on ticket and on equipment outage log, and refer completed tickets to supervisor.
18. Ensure that the office control position is attended at all times. Available personnel should cover during breaks and lunch, and assist office controller during peak work periods.
19. Initiate local backup plan when the SCCS computer fails and recover the system when an analyzer is not available.
20. Adjust SCCS network real-time analysis parameters (thresholds, time increments, and list sizes) under direction of supervisor.
21. Enter RC commands to transfer alarms for off-hour alarming.
ADDITIONAL OFF-HOURS DUTIES
22. Answer and take appropriate action in response to incoming calls to the SCC.
23. Initiate trouble tickets on trouble referrals.
24. Update daily time report for field craft working after hours as they report in. Record the time

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Fig. 3.2—Work Assignment List (E-5848) (Office Control) (Sheet 3 of 4)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT OFFICE CONTROL

WORK ITEMS
that offices become attended or unattended.
25. Follow established notification procedures for reporting SPCS and electromechanical alarms in monitored offices in other organizations.
26. Notify duty supervisor if off-hours work load becomes excessive.
27. Obtain a hard copy of SPCS plant measurement report (PM01) and update control record nightly.
28. Request and diagnose the TOS lists in all offices just prior to the start of the day shift. Refer information to trunk maintenance group.
29. Obtain a hard copy of call traces in all offices just prior to midnight. File sheets in call trace book kept by dispatch.
30. Notify the duty supervisor if a call-out or a dispatch is required.
OTHER DUTIES
31. Prepare report of deductible interrupts.
32. Provide equipment outage and plant measurement (PMØ2) results to supervisor for the preparation of the service results indices.
33. Complete other scheduled or assigned work.

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Fig. 3.2—Work Assignment List (E-5848) (Office Control) (Sheet 4 of 4)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT ANALYSIS

WORK ITEMS
GENERAL
1. Perform technical analyses required for trouble tickets received from office control or dispatch. These tickets include equipment outages, excessive audit and interrupt messages, centrex troubles, etc. The tickets should be worked on according to established priorities. For tickets of the same priority, discuss with supervisor to determine proper order.
2. Refer trouble tickets requiring on-site assistance or repairs to dispatch. Assist or direct field activity as required.
3. Inform supervisor of major equipment outages of excessive length, and for escalation of troubles to serving TAC or PECC.
4. Inform dispatch of the need for same-day on-site work as early as possible so that dispatch can reassign or relocate field craft appropriately.
5. Schedule batch crosspoint and multiple occurrence analysis according to needs indicated on control record results. Adjust threshold levels under the direction of your supervisor. Delete information from files as appropriate.
6. Analyze batch crosspoint and multiple occurrence analysis results. Take required service protection action, initiate trouble tickets, record ticket details on the controller's equipment outage log, and refer to dispatch for assignment of repairs.
7. Review returned trouble tickets that were originated or handled by an analyzer. Review the status of the trouble and verify that the proper repair action was taken. If the ticket is returned with no trouble found, and the trouble still exists, take further analysis action. Route returned trouble tickets to office control for logging and filing.
8. Provide technical assistance to other TELCO departments as required. This includes AMA complaints, traffic trouble tickets, etc.

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Fig. 3.3—Work Assignment List (E-5848) (Analysis) (Sheet 1 of 2)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT ANALYSIS

WORK ITEMS
9. Consult with translations person on translation problems and notify translations person of any associated repair work.
10. Perform emergency action procedures as assigned.
11. Assist in writing operational trouble reports as assigned.
12. Complete other scheduled or assigned work.
SCCS EQUIPMENT ADMINISTRATION & MAINTENANCE
13. Update SCCS office data (program maps, generic issue, etc) and SCC data (devise allocation, alarm routing, etc) as required.
14. Administer SCCS files and directories (user files, system patterns, directories, logging files, etc).
15. Audit and backup SCCS file system and logging files (incremental and epic dumps, file system integrity checks, etc).
16. Initiate SCCS and facility recovery procedures when failures occur.
17. Audit and backup data facilities when required.
18. Complete installation preparation and post-installation acceptance testing of SCCS software and hardware units.
19. Control system access (assign user identifications and passwords, provide remote user access, etc).
20. Monitor system real-time capacity and implement overload procedures.
21. Initiate SCCS operational trouble reports when required.

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Fig. 3.3—Work Assignment List (E-5848) (Analysis) (Sheet 2 of 2)

FORM E-5848
(9-79)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT TRUNK MAINTENANCE

WORK ITEMS
TRUNK OUTAGE CONTROL
1. Process TOS (GOS) lists following established procedures, initiating tickets and recording outage on trunk outage logs as required.
2. Update trunk outage logs with any change in trunk maintenance status.
3. Verify that all trunk trouble tickets are completed properly, close entries on outage logs, and return completed tickets to supervisor.
4. Route outage logs to dispatch for calculation of trunk service results indices.
TRUNK INEFFECTIVE ATTEMPT (TN08) ANALYSIS
5. Respond promptly to SCCS trunk ineffective attempt (TN08) real-time analysis reports by following established testing sequence. Remove failing trunks from service, issue tickets, and record outages on trunk outage log as required. Refer noncontrolled trunk troubles to controlled offices.
6. Process SCCS trunk ineffective attempt (TN08) batch analysis results by following established testing sequence. Initiate trouble tickets, record outages on trunk outage log, and refer troubles as required.
7. Adjust SCCS trunk ineffective attempt analyses parameters (thresholds, time increments, and list sizes) under direction of supervisor.
TROUBLE REFERRALS AND REPORTS
8. Verify referred trunk troubles, initiate tickets, and record outages on outage log as required.
9. Process transmission and test call failure reported by CAROT according to established procedures.

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Fig. 3.4—Work Assignment List (E-5848) (Trunk Maintenance) (Sheet 1 of 3)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT TRUNK MAINTENANCE

WORK ITEMS
10. Analyze trunk trouble indications from other external sources such as NSC or TSPS (NOTIS) printouts.
TRUNK TROUBLE SECTIONALIZATION AND TESTING ASSISTANCE
11. Sectionalize trunk troubles to their failure point. Refer ESS equipment troubles to dispatch for loading to field forces, coordinate the change of bad cable pairs on controlled facilities, and refer other facility troubles to appropriate work forces.
12. Follow-up on troubles that you have referred, providing technical assistance or escalating referrals to your supervisor when appropriate.
13. Provide testing assistance for outside callers. If tests cannot be performed, refer callers to circuit maintenance force.
TRUNK ORDER COORDINATION
14. Log all trunk orders and related translation change notices and initiate an appropriate progress sheet.
15. Coordinate and process all orders to completion, updating the log and progress sheets with current status. On controlled trunk orders call intermediate and end offices involved. Distribute copies of the order as appropriate. Submit work requests to dispatch for required translations and field maintenance work.
16. Maintain a list of trunks that are maintenance busy because of order work for use in processing TOS lists.

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Fig. 3.4—Work Assignment List (E-5848) (Trunk Maintenance) (Sheet 2 of 3)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT TRUNK MAINTENANCE

WORK ITEMS
17. Coordinate test and turn-up of trunks, update trunk layout cards, trunk group records, and office records after the completion of trunk orders, circuit orders, and translation change notices.
18. Notify the CAROT center when controlled trunks are first placed in service.
19. In response to outside callers, provide testing or order related status information. Log requests for turn down in conjunction with circuit order work.
20. Notify supervisor of potential due date jeopardies or roadblocks.
21. Compute work unit credit and give to supervisor.
22. Complete other scheduled or assigned work.

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Fig. 3.4—Work Assignment List (E-5848) (Trunk Maintenance) (Sheet 3 of 3)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT TRANSLATIONS

WORK ITEMS
1. Construct and enter translations for all orders assigned by dispatch.
2. Generate work request forms for card writing associated with translation work if a scheduled update will not meet the due date.
3. Process Broadcast Warnings.
4. Update office status board with any significant activity.
5. Monitor RC activity to plan updates. Initiate work requests for updates and refer to dispatch.
6. Perform other scheduled or assigned work.

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Fig. 3.5—Work Assignment List (E-5848) (Translations)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT DISPATCH AND ADMINISTRATION

WORK ITEMS
INCOMING CALLS
1. Answer and process telephone inputs following established procedures.
2. Record requests or trouble referrals on Telephone Input Log, initiate trouble tickets as required, establish estimated work time and priority from pricing charts, and refer to appropriate SCC force or file for loading.
3. Update Telephone Input Log with status of trouble tickets as required. Close entries when trouble tickets have been completed and returned.
DOCUMENT INPUTS
4. Process document inputs (translation changes, device observing list changes, etc) for CO work following established procedures.
5. Initiate and attach appropriate face sheet or work request, establish estimated work time, due dates, and priorities from pricing charts, and forward to appropriate SCC force or file for loading.
ADMINISTRATION OF PENDING WORK
6. File and inventory pending work according to established procedures.
FORCE LOADING
7. Assemble work assignments for force loaded craft, record on CO Work Logs, and distribute according to established procedures.
8. Consult dispatch foreman when craft location changes are required.

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Fig. 3.6—Work Assignment List (E-5848) (Dispatch and Administration) (Sheet 1 of 3)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT DISPATCH AND ADMINISTRATION

WORK ITEMS
9. Record work progress on Work Logs kept at the SCC when field forces report in.
10. Close trouble tickets, work requests, and work file face sheet when work has been completed and file or return to originator as required.
11. Compile Force Performance Results.
TIME REPORT PROCESSING
12. Summarize completed CO Work Logs and compile maintenance hour and overtime summaries as required.
13. Report work time to accounting bureaus following local procedures.
PREVENTIVE MAINTENANCE ADMINISTRATION
14. Prepare and update master Schedules (Form E-5451 or Form 5845), Test and Inspection Summaries (E-5451 or E-5454), and Test and Inspection Work Order and Record (E-5452) forms for new offices, reissued ETLs, or revised work times.
15. Prepare Test and Inspection Worklists (E-6835) at least one month in advance to allow early assignment if CO work force is available.
16. Mail E-5452s for filing in each office. Replace when necessary.
17. Update E-5453s and schedules from Test and Inspection Worklists weekly.
REPORTS
18. Provide manager with proper maintenance hour summaries for completion of Monthly SCC Forecast.

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Fig. 3.6—Work Assignment List (E-5848) (Dispatch and Administration) (Sheet 2 of 3)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT DISPATCH AND ADMINISTRATION

WORK ITEMS
19. Complete Monthly SCC Report.
20. Compile necessary information for trunk and network service measurements and complete required reports.
21. Compile monthly and quarterly work unit information and complete required reports.
OTHER DUTIES
22. Maintain inventory of spare parts at the SCC.
23. Order material, replacement parts, apparatus, supplies and stationery as required.
24. File technical documents at SCC and at field locations.
25. Complete other assigned or scheduled work.

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Fig. 3.6—Work Assignment List (E-5848) (Dispatch and Administration) (Sheet 3 of 3)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT FIELD MAINTENANCE

WORK ITEMS
GENERAL
1. Perform all on-site maintenance (equipment troubleshooting and repair, trunk sectionalization, centrex and line maintenance, daily routines, preventive maintenance, and rearrangement and changes) assigned through dispatch at the SCC following established procedures.
2. Provide short duration assistance on main frame (frame shoes, shorts, etc) when frame is unattended.
3. Record all work performed on your CO Work Log. Report work progress to dispatch (or office control after hours) every two hours, whenever changing locations, and at the end of your shift.
4. Return completed Work Logs, trouble tickets, PM work orders, trunk orders, etc, to center at the end of your shift.
5. Assist SCC office controllers in localizing troubles by testing lines on request.
OTHER DUTIES
6. Replace blown fuses and notify office control.
7. Report interrupts or alarms caused by your activities to office control.
8. Report any condition that seems to have been overlooked or unassigned to your supervisor or dispatch.
9. Request replacement of spare equipment as this is used.
10. Process mail per local instructions.
11. Keep all areas clean and clear of safety hazards. Store test equipment when not in use.
12. Inform supervisor or dispatch of sickness or expected absence as soon as possible.

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Fig. 3.7—Work Assignment List (E-5848) (Field Maintenance) (Sheet 1 of 2)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT FIELD MAINTENANCE

WORK ITEMS
13. Ensure that building is secure at all times.

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Fig. 3.7—Work Assignment List (E-5848) (Field Maintenance) (Sheet 2 of 2)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

CENTRAL OFFICE
TRICK OR JOB ASSIGNMENT INSTALLATION

WORK ITEMS
GENERAL
1. Perform all central office installation work (monitoring Western activity, entering growth recent charge translations, filing new SPCS documentation, verifying program and parameter changes, etc), change notices, and other equipment modifications assigned by your supervisor. Follow established procedures and approved methods of operation to ensure that all operations adequately protect service.
2. Provide short duration assistance for SCC when offices are unattended.
3. Record all work performed including account codes and estimate numbers on your CO Work Log. Report work progress to dispatch (or office control after hours) every 2 hours, whenever changing locations and at the end of your shift.
4. Return completed Work Logs, completed orders, etc, to your supervisor at the end of your shift.
OTHER DUTIES
5. Replace blown fuses and notify office control.
6. Report interrupts or alarms caused by your activities immediately to office control. Record and report installation-caused troubles (including interrupts or phases) to office control. Mail record of installation-caused troubles to your supervisor weekly.
7. Report any condition that seems to have been overloaded or unassigned to your supervisor or dispatch.
8. Keep all areas clean and clear of safety hazards. Store test equipment when not in use.
9. Inform supervisor of sickness or expected absence as soon as possible.

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Fig. 3.8—Work Assignment List (E-5848) (Central Office Installation)

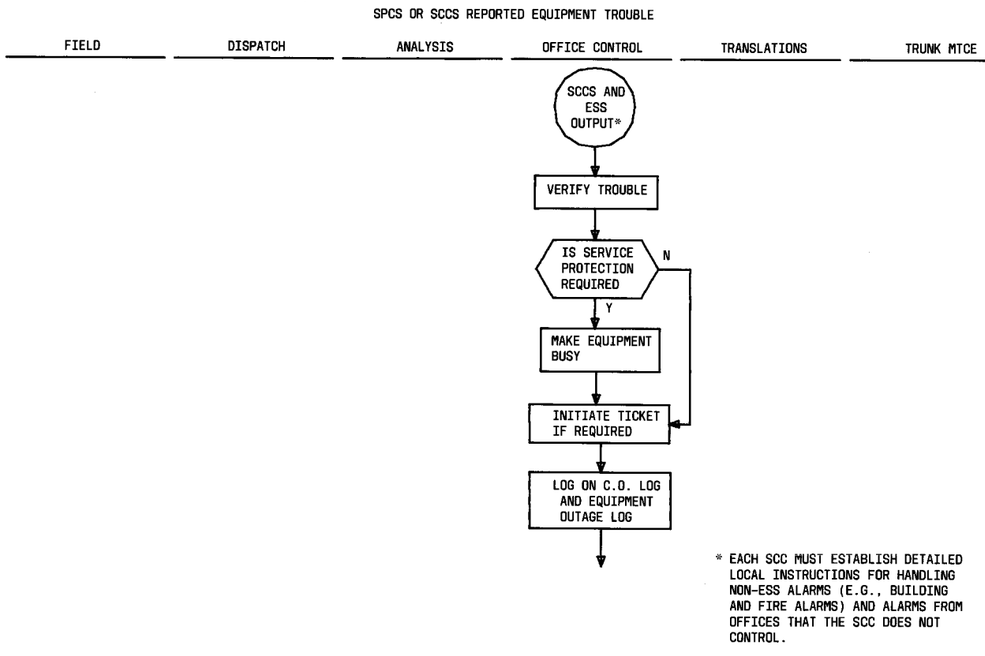


Fig. 3.9—SPCS Equipment Trouble (Sheet 1 of 2)

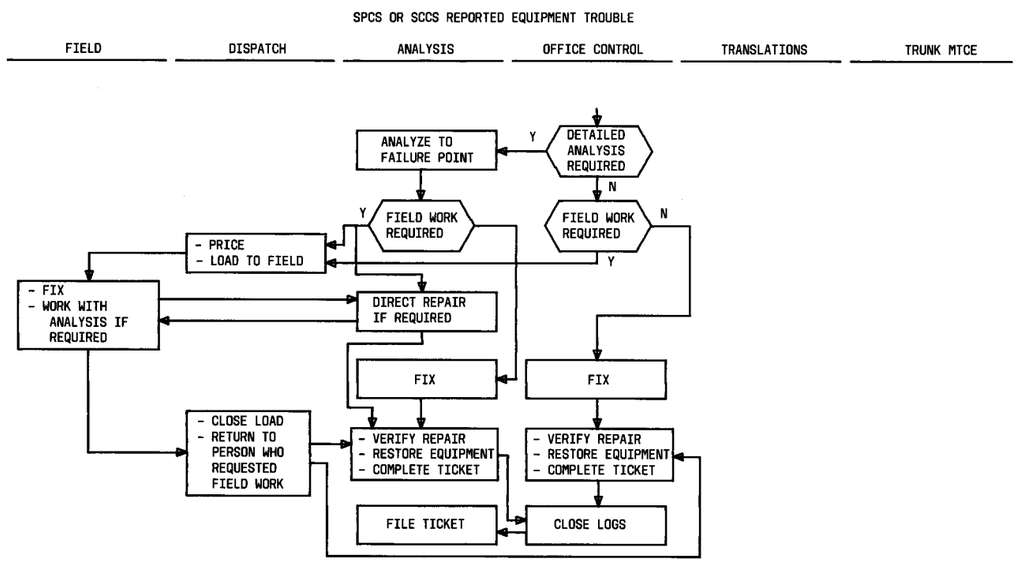


Fig. 3.9—SPCS Equipment Trouble (Sheet 2 of 2)

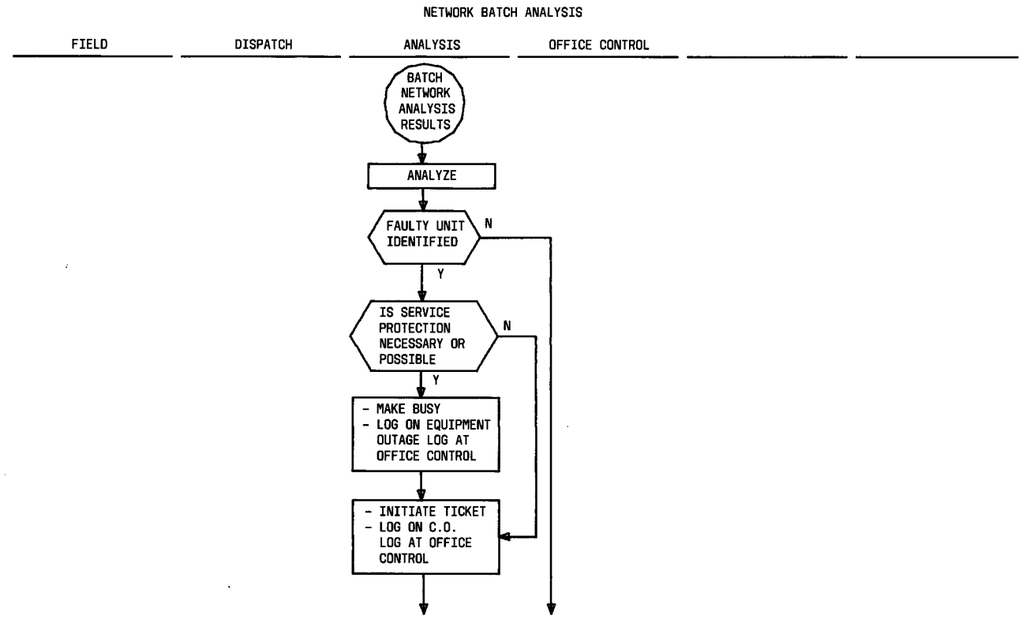


Fig. 3.10—Network Batch Analysis (Sheet 1 of 2)

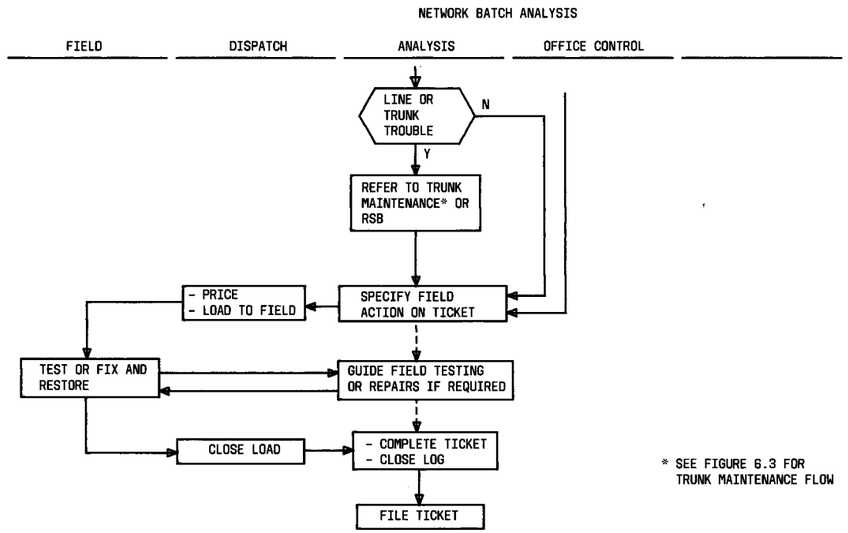


Fig. 3.10—Network Batch Analysis (Sheet 2 of 2)

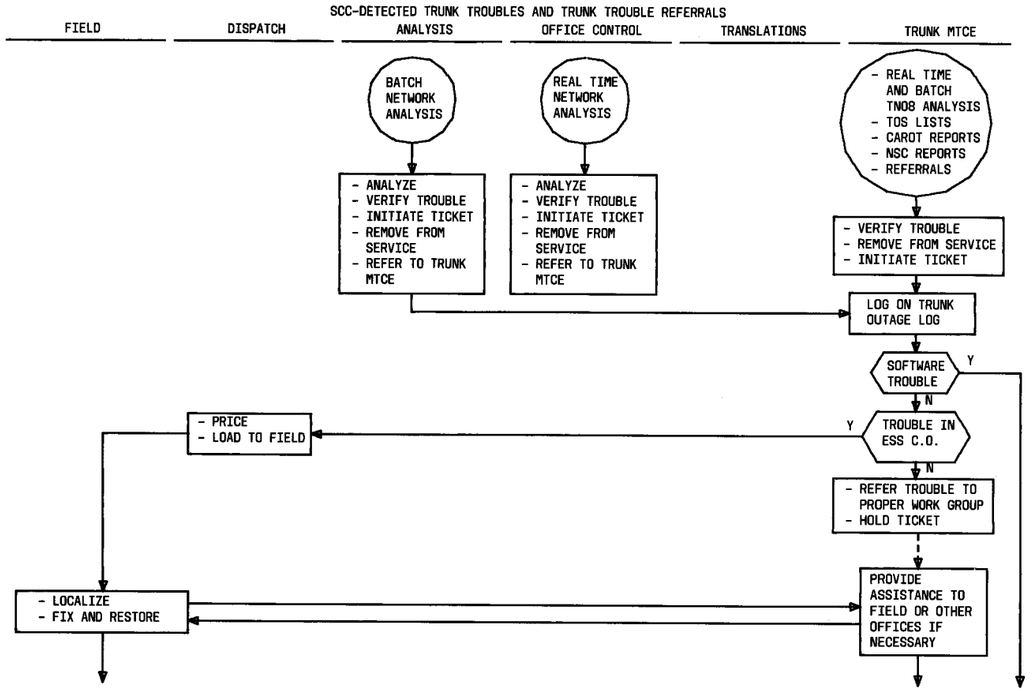


Fig. 3.11—SCC-Detected Trunk Troubles (Sheet 1 of 2)

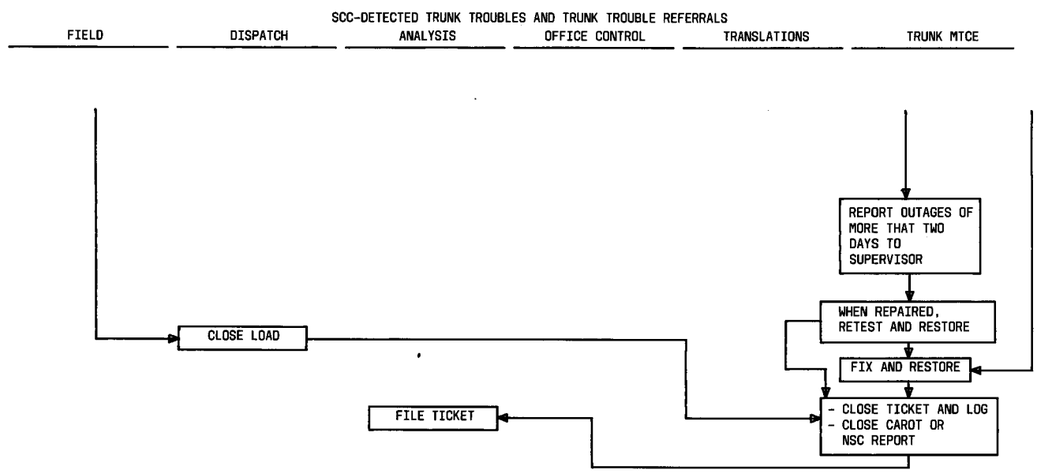


Fig. 3.11—SCC-Detected Trunk Troubles (Sheet 2 of 2)

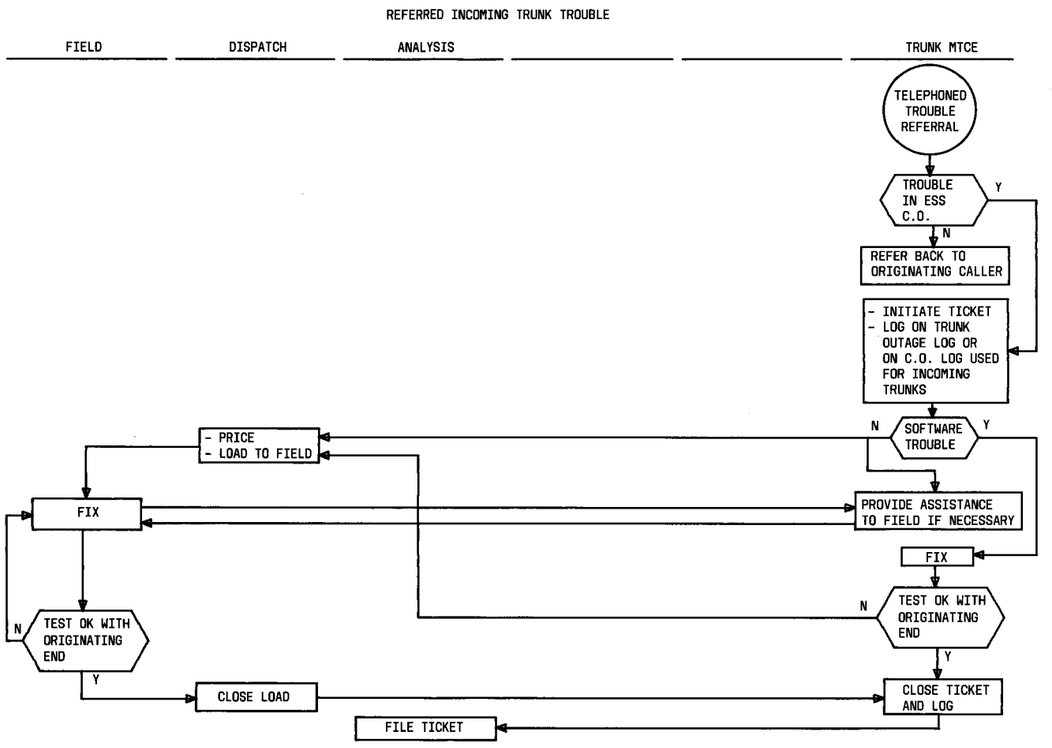


Fig. 3.12—Referred Incoming Trunk Troubles

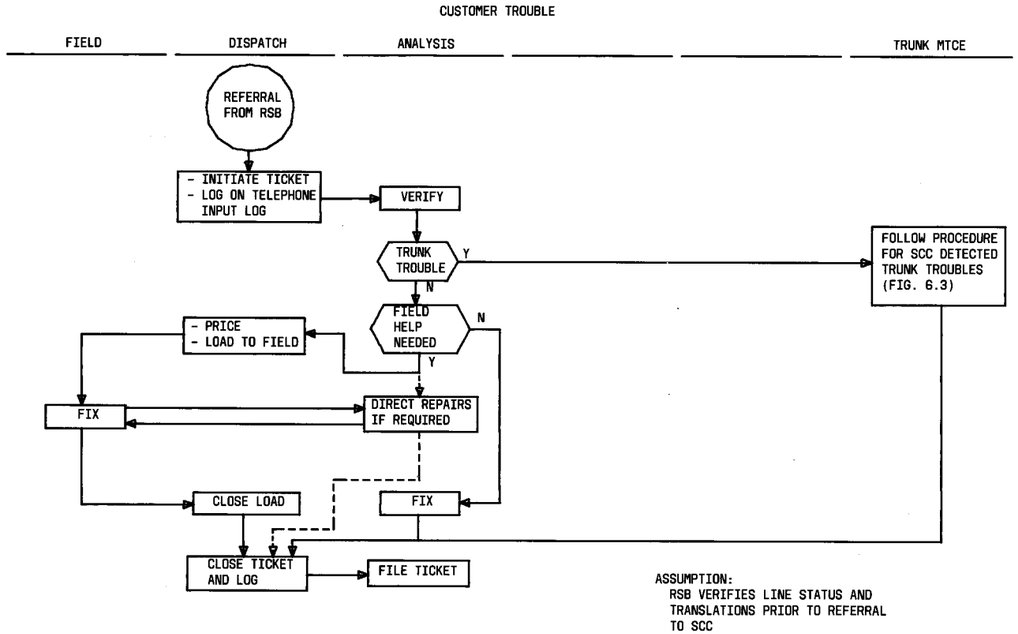


Fig. 3.13—Customer Trouble

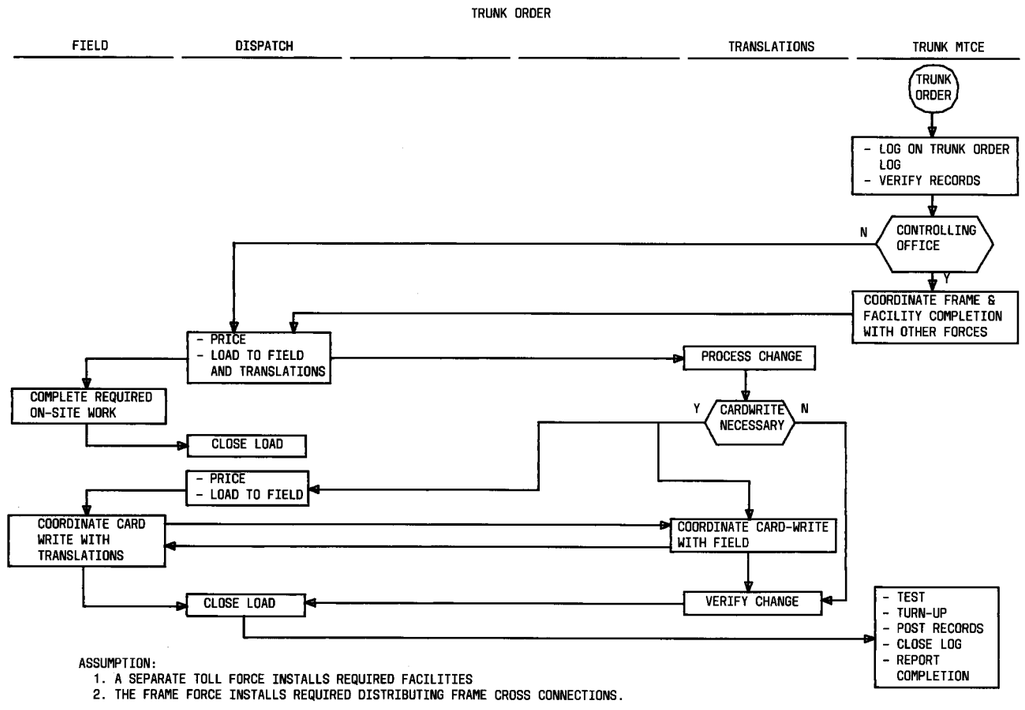


Fig. 3.14—Trunk Order

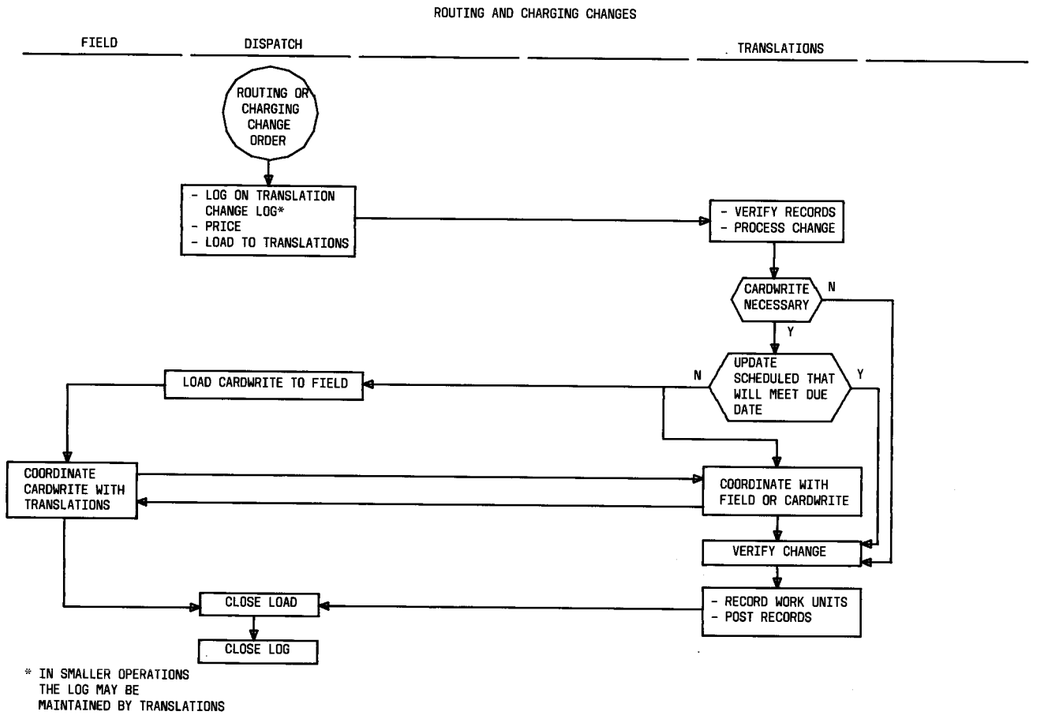


Fig. 3.15—Routing and Charging Changes

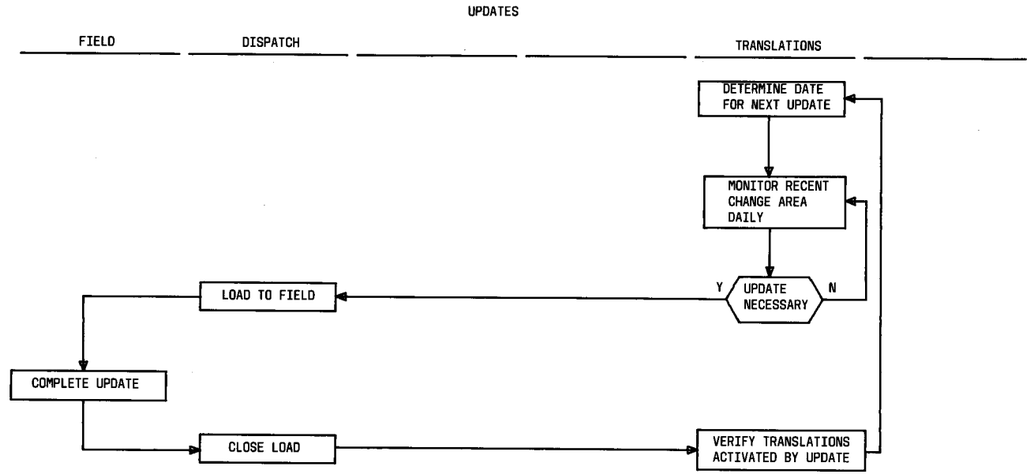


Fig. 3.16—Updates

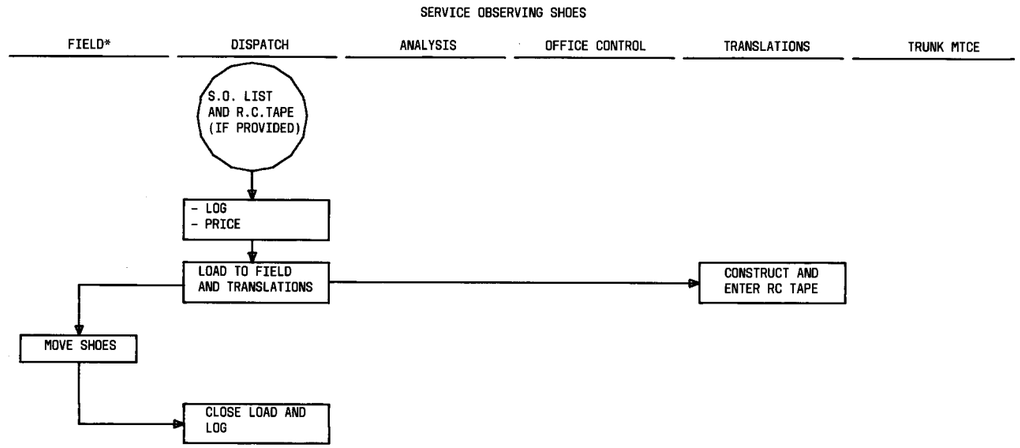


Fig. 3.17—Service Observing Shoes

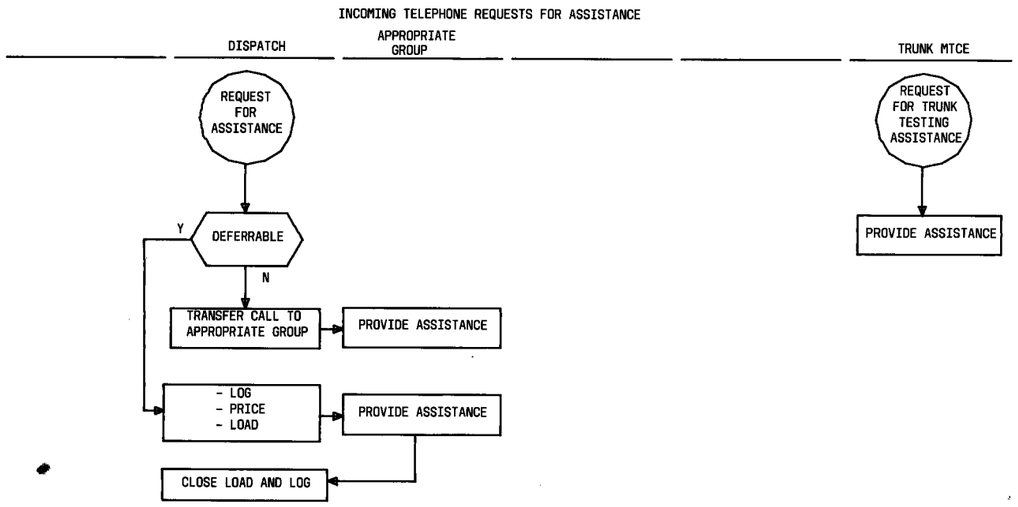
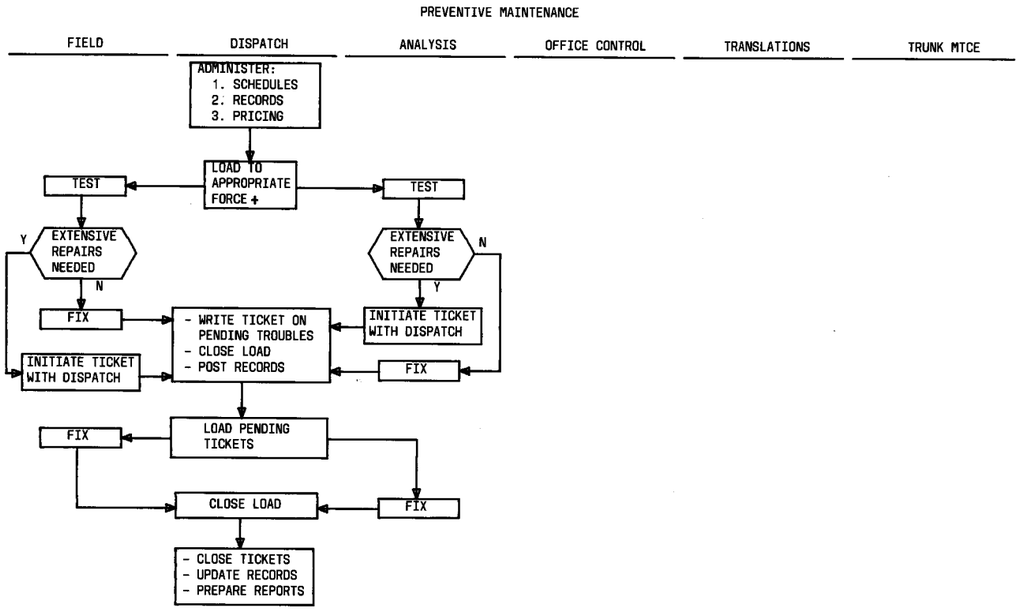


Fig. 3.18—Incoming Telephone Requests for Assistance



* TRUNK TESTING NOT PERFORMED BY CAROT
\+ SCC FORCES MAY PERFORM ROUTINES THAT INVOLVE ONLY TTY INPUT AND THOSE ASSOCIATED WITH SCCS EQUIPMENT.

Fig. 3.19—Preventive Maintenance

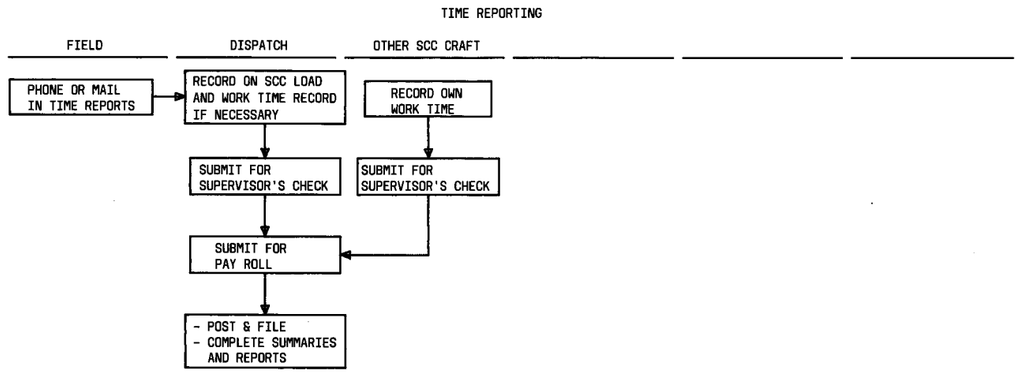


Fig. 3.20—Time Reporting

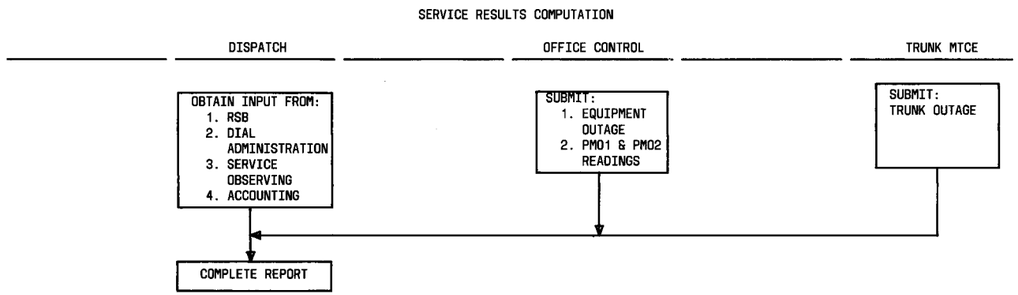


Fig. 3.21—Service Results Computation

PART 4

4. SPCS-SCC OPERATIONS SUPPORT SYSTEMS

A. General

4.01 This section describes the various support systems for the Switching Control Center (SCC) for stored program control systems (SPCS). These systems provide central monitoring and testing capabilities for the SCC.

B. Stored Program Control Systems

System Description—Switching Control Center System (SCCS)

4.02 Shortly after the widespread introduction of stored program control systems into the Bell System, it became apparent that some types of centralized maintenance operation could better utilize the manpower that maintained these systems. Because of the reliability of these systems, serious problems were encountered infrequently. Consequently, the maintenance force at the central office had little opportunity to achieve or maintain proficiency on such problems. In general, the stored program control machines are reliable enough to be left unattended on evenings and weekends, but the consequence of an outage is so great, that the systems were usually manned around the clock, even though there was little work to be done on the off-shifts.

4.03 The development of the hardware, software, and procedures required for a SCC for SPCS operation has resulted in two system offerings. The first is the No. 1 Switching Control Center System (No. 1 SCCS), formerly called the Basic Switching Control Center, which provides central office status information and controls, utilizing a wall-mounted Critical Indication Panel (CIP), and complete TTY capability at the central location.

The second offering, described herein, is the No. 2 Switching Control Center System (No. 2 SCCS). The objectives of the No. 2 SCCS are to increase the degree of centralization possible and to reduce the operating expenses of maintaining and administering the switching machines while improving customer service and providing more interesting and rewarding jobs for the craft forces. These objectives are accomplished by adding to the existing No. 1 SCCS hardware a minicomputer system to improve the interface between the central offices. The initial generic program for No. 2 SCCS serves No. 1 ESS only, but later software issues, hardware capabilities and features provide for other SPCS types.

4.04 In No. 2 SCCS, the work stations are equipped with voice communications facilities and CRTs. The CRT is connected directly to the computer, through which it has access to all raw and processed TTY output from any office served by the SCC. As in the No. 1 SCCS, SCC consoles (the functional equivalent of the various Maintenance Control Center [MCC] Control and Display Panels) are mobile, and can be connected to any served office of the appropriate type from any work station.

4.05 The trunk maintenance work stations have remote trunk measurement capability. The CRT is used for transmission measurements and operational tests, and the DC voltmeter central is used for DC measurements. Each No. 1 ESS office for which remote DC testing is desired must have the corresponding DC voltmeter remote unit and CTX-7. Through the use of the CRT, the force at the SCC can utilize No. 1 ESS CTX-6 features to diagnose trunks and the trunk out of service (TOS) list, make trunks idle, make trunks busy and make end-to-end transmission tests with Responder and Processor Controlled Trunk Interrogator equipment in the Remote Office Test Line (ROTL). Through the use of the CRT the SCC force can utilize No. 1 ESS CTX-7 features at the central office to apply milliwatt; provide balanced, open, and short terminations; and make incoming test level measurements without signaling on the trunks, using Responder and Processor Controlled Trunk Interrogator equipment in the ROTL. With CTX-7, Trunk and Line Test Panel (TLTP) calls will be transferred to the SCC, and talk and monitor connections can be made to the trunk under test. TLTP calls and talk monitor connections will be over the direct distance dialing (DDD) network.

4.06 The wall-mounted Critical Indication Panels (CIP) of the No. 1 SCCS are also used in the No. 2 SCCS. However, in the future, certain of the indicators on a No. 2 SCCS CIP will be controlled by the minicomputer software. Also, the minicomputer system will have access to an audible alarm circuit. This allows the minicomputer system to alert the SCC force to central office

troubles detected by the minicomputer. For further details, refer to Bell Systems Practices, Section 190-110-100.

C. Other Support Systems

CAROT

4.07 Centralized Automatic Reporting On Trunks (CAROT) is a processor controlled trunk testing system which can perform both operational and transmission tests on trunks between properly equipped offices which are remote from the central controller location. The latest generic of CAROT (CC2) will provide automatic test scheduling, demand testing from remote locations, and centralized, automatic 2-way transmission testing and end-to-end operational testing.

4.08 The capacity of the CC2 system is approximately 100,000 trunks and thus its installation is only feasible on large scale. It is recommended that the administration of the system be done by a dedicated CAROT group, independent of the SCC.

4.09 The major benefit to an office is greatly reduced trunk testing time. The CAROT system completes most of the transmission measurements, freeing maintenance personnel for correcting out-of-limits trunks or other central office functions. It ensures that all required measurements are completed each quarter.

4.10 A SCC should have a good manual trunk transmission program prior to going into a CAROT system. It is important that the trunk records be accurate and that the out-of-limits trunks be minimal. Failure to do this will result in confusion, delays, and extensive work to get the office functioning on CAROT.

4.11 The normal features of an operating system include:

(a) Routine transmission testing of trunks

(b) Automatic scheduling of routine transmission tests

(c) Automatic analysis of routine test results

(d) Automatic results dispersal upon request from remote TTYs

(e) Management summaries and TTMI reports

(f) Test frame tape preparation

(g) Demand testing activated from remote TTYs

(h) Ability to update the data base from direct peripheral input.

4.12 The functions and responsibilities of a CAROT Center include:

(a) Ability to provide the central office with a list of bad trunks by means of a dial-up arrangement

(b) Manage a CAROT maintenance force to repair and maintain all CAROT equipment

(c) Maintain a record of all CAROT equipment problems including status and disposition

(d) Analyze trunk troubles to help identify intermittent troubles and end office response

(e) Correct data-base problems

(f) Request each remote office to investigate trunk reported permanently busy

(g) Respond to requests for demand tests when requested by remote office

(h) Initiate a CAROT and remote office performance report on a monthly basis

(i) Conduct final transmission acceptance tests on circuit orders if requested.

4.13 The SCC has the responsibility to:

(a) Immediately identify and remove from service all trunks tested defective by the CAROT system. A remote CAROT test set may be used at the SCC to test H&D and Q2 trunks prior to dispatching. The no-trouble-founds should be analyzed.

(b) Enter all CAROT reported trunks removed from service on log of trunk outages (E-4255).

(c) Expedite repair and alignment of defective trunks.

(d) Inform the CAROT center of the disposition of all data base problems.

(e) Assist with the repair and maintenance on all related CAROT equipment, if required by CAROT forces.

(f) Investigate each permanent busy report on list of trunks not tested and inform CAROT center of possible data base errors.

(g) Analyze transmission results and develop plans to bring all trunks within required objectives.

(h) Report trunks that cannot be aligned to specifications to the appropriate force.

4.14 The reports generated by CAROT include:

(a) Q2 report—trunks exceeding loss or noise immediate action limits

(b) Q1 Report—trunks exceeding loss or noise maintenance limits

(c) Facilities Report—facilities on which Q1, Q2, Busy and High and Dry reports on trunk, tested in succession by facility, have exceeded specified thresholds

(d) Operational Report—trunks not tested and those incurring operational failures during transmission test attempts

(e) TTMI Report—information necessary to complete Form E6501 for TTMI index

(f) Management Summary—continuing totals of test results

(g) Daily Management Summary—daily results of each office analyzed on last run

(h) CAROT Operational Summary—summary of all CAROT equipment troubles encountered during routine testing.

4.15 Operational type failures are categorized as:

(a) Permanent busy (BUSY)

(b) High and Dry (H & D)

(c) Voice Announcement (VA)

(d) Audible Ring (AR)

(e) Reorder (RO)

(f) Delayed Reorder (DRO)

(g) Dial Tone (DT).

4.16 Results of synchronous, nonsynchronous and 103 type operational tests will be listed as:

(a) Successful Operation Test (P)

(b) Trip Fail (T)

(c) Pretrip Fail (R)

(d) Fail (F).

4.17 Management Summaries contain the following:

(a) Total transmission tests

(b) Trunks exceeding turn down limits (Q2)

(c) Trunks exceeding maintenance limits (Q1)

(d) Total operational tests

(e) Trunks failing operational test

(f) Trunks not tested due to H & D, BUSY, other reasons.

4.18 The CAROT center normally conducts routine testing during evening and night periods to allow maximum availability of trunks. The Q1 and Q2 reports should be generated early in the morning so that they may be transmitted to the SCC by 8:00 am. This enables the SCC to load these troubles on the day shift, and remove bad trunks from service prior to the busy hours.

4.19 The hours during the day should normally be spent in demand testing, report generation, and trunk update.

4.20 Another feature of the CAROT system is the ability to generate tapes for use with the Automatic Progression Trunk Test (APTT). It is expected that the end offices will continue to use the APTT on a regular basis while operating

in a CAROT environment. Some routines may be eliminated if the tests are performed by CAROT.

4.21 During the turn-up of an office on CAROT, it is expected that TTMI results will still be submitted on a manual basis by the SCC. They would receive test results from CAROT and use these to prepare the input documents to TTMI. The SCC would also be responsible for testing these trunks that CAROT missed. Provision is being made for the CAROT center to provide direct input into the mechanized TTMI program, freeing the SCC from this clerical effort. Trunks not tested by CAROT could be submitted manually by the SCC.

4.22 At the present time CAROT cannot test operator-type trunks. These would include those terminating in an ACD, AIS trunks, or others with special features. SCC personnel would be responsible for measuring these.

4.23 CAROT reports should give the SCC a better tool for analysis of the trunk maintenance effort. The daily management reports should help identify offices and trunk groups with uncleared troubles.

COMMS

4.24 COMMS is a support system for assisting in the administration of central office PM tasks. It is based on the AT&T Controlled Maintenance Plan and is useful in scheduling, monitoring, and controlling maintenance operations in central offices. Its primary objectives are to:

—Reduce the paperwork burden inherent in manual methods of administration

—Provide accurate information about scheduled work and timely feedback on results to facilitate better planning and control of office activities

—Maintain a data base to be used in analyzing test time requirements, productivity of tests and manpower utilization, and in conducting equipment performance studies.

4.25 COMMS is an automated system. Routine administrative chores are performed by COMMS software so that SCC personnel can be freed for more productive work. SCC personnel control the input to the computer and can administer it to meet their local organizational needs.

4.26 Specific features provided by COMMS include automated procedures for:

(a) Identifying Applicable ETL Routines—

COMMS matches an office equipment inventory to a file of ETL requirements stored in a computer. The result is a list of most ETL routines required for the office. COMMS uses routines to denote individual test or inspections set forth in the applicable ETL.

(b) Organizing the PM Workload—

COMMS organizes the required preventive maintenance tasks into manageable blocks of work, called work items. Each work item contains a set of routines that can be efficiently performed together and a number of equipment units to be tested.

(c) Scheduling the Preventive Maintenance Tasks—

COMMS generates a proposed schedule for the work items according to a work profile submitted by SCC supervisor. The work profile specifies how the work load is distributed, by month, across a 2-year schedule period.

(d) Generating Work Orders—

COMMS supplies work orders and a summary list of the scheduled work each month sent through U.S. Mail.

(e) Building a Preventive Maintenance History—

COMMS assembles history files from information on completed work orders transmitted by TTY. At some time in the future these files could provide the basis for adjusting time estimates used in scheduling and manpower forecasts, and provide data for analyzing the performance of the equipment and the routines. The frequency of some routines may be modified based on trouble-found results.

(f) Generating Management Reports—

Monthly, and on request, COMMS furnishes SCC supervisors with information about results, the status of uncompleted work, and the projected workload for the new month. These reports identify backlogged or missed work and alert supervision to unusual results that may require follow-up action. Other reports, with more detailed analyses, are also issued by COMMS, but on a longer interval or on an as requested basis.

(g) Updating and Modifying Preventive Maintenance Records—

COMMS greatly reduces the need to manually revise ETL schedules. COMMS ETL files are updated automatically when systemwide ETL changes are made. COMMS notifies the SCC of any pertinent changes and with the supervisor's concurrence, processes the ETL changes and supplies a revised schedule. Similarly, when equipment modifications are entered into the data files, COMMS automatically updates work records and provides new documents as appropriate. In addition, supervisory personnel can modify the planned work program to fit local needs using automated COMMS procedures to effect the changes.

PART 5

5. FORCE MANAGEMENT PROCEDURES

A. General

5.01 The force management procedures part of the network maintenance management section is designed to assist SCC managers in accomplishing the following objectives:

(a) Improve cost effectiveness and service in the performance of the network maintenance job

(b) Provide methods for effectively balancing force and load

(c) Provide an administrative guide with detailed procedures for the effective administration and control of central office maintenance forces.

5.02 The administrative procedures associated with centralized force management are described in this part. Responsibility for performing this function resides with the SCC Dispatch and Administration Supervisor as indicated in Part 3. General administrative procedures that apply to all central office forces are described in Part 6. These include procedures for preparing employee work assignment lists, work request forms which are used as a work order for general types of SPCS work, and the load and work time record which is a combined craft loading form and time record.

5.03 Appropriate controlled maintenance plans should be consulted for procedures associated with the administration and control of corrective and preventive maintenance work. Procedures here that involve this work often refer to these plans.

5.04 The procedures described here are intended to provide central office managers with a standard approach to force management and administration.

5.05 It is recognized that the more paper work involved with a plan the less chance there is that it will be adhered to in its entirety. Efforts have been made, therefore, to simplify procedures as much as posible. To effectively control the myriad tasks associated with central office maintenance, there is a requirement that those tasks be identified in a quantitative way in order that inventories of pending work can be matched with available force.

B. Overview of Basic Work Operations

5.06 This part introduces and defines the basic work operations and procedures that are associated with a centralized work administration and force management operation at a SCC. These include:

(a) Handling work inputs

(b) Pricing work

(c) Maintaining work files

(d) Loading SCC and field forces

(e) Measuring force performance

(f) Measuring SCC performance

(g) Preparing SCC time summaries

(h) Preparing SCC monthly performance report

(i) Maintaining SCC status boards.

Detailed procedures for these operations are provided in following paragraphs.

Handling Work Inputs

5.07 Prior to centralization, all telephone calls and miscellaneous work input was received directly at each central office. This procedure resulted in considerable paper work and administrative time at each location.

5.08 A major responsibility of a centralized force management function is the handling of most central office work whether this is received by telephone, from SCC work stations, or in the form of mailed documents. Work inputs normally received by telephone include customer trouble reports, other trouble referrals, and requests for information or assistance. Those normally received from SCC work stations include trouble tickets and work request forms (see Part 6). Document inputs usually include trunk orders, translation change

notices, service observing rearrangement orders, etc. Document inputs will also include work requests initiated by field maintenance supervisors.

5.09 Procedures for handling work inputs generally involve the initiation of trouble tickets on trouble referrals, initiating work requests for other types of work, initiating various log entries for tracking work progress, pricing work (establishing an estimated work time and priority), the referral or assignment (loading) of work items to SCC work stations or central office forces, or filing of work items for eventual loading to particular force groups. Handling work inputs also includes the close out or return of work items to their originators.

5.10 Finally, the administration of preventive maintenance work is also viewed as being part of handling work inputs. Procedures for centrally administering preventive maintenance work that are compatible with a centralized force management operation will be presented in more detail below. If the SCC has responsibility for main frame operations, the administration of frame work orders will also be part of handling work inputs. Part 7 of this plan, containing the Frame Force Management Plan, provides procedures for centrally administering and loading this work.

Forecasted Work Load Visibility

5.11 An important function of the SCC is to define future known work loads, in terms of hours, on a daily basis. This knowledge is necessary in order to effectively plan for proper load and force balance for the future. Final guidelines are not yet available in this area of administration. The present situation of development is stated in paragraph 5.43, which explains the monthly work request summary.

Pricing Work

5.12 To ensure maximum productivity and to meet required due dates, the centralized force management function must be able to estimate the required work time (price) for items that it loads and establish their priority. Initial work time estimates and priorities for jobs that will be regularly loaded and/or dispatched by the SCC must be established by the SCC and field supervisors. Once work times are established, regular adjustments should be made to them by the SCC based upon the results of time studies and historical data provided by on-going activity as recorded on the load and work time record (Form E-6843).

5.13 On some work items, such as trunk orders, the number of units per job will vary. The cost of the first unit will be higher than the remaining units due to paper processing, setup time, etc. In these cases, pricing will be more efficient if one price is established for the first unit and a second price for additional units.

5.14 Figures 5.1A and 5.1B are examples of pricing charts for No. 1 ESS corrective maintenance and rearrangements and change work. These are not intended to be all-inclusive or precise estimates of time for any particular operation but rather are examples which may be further expanded or tailored to a specific operation.

5.15 Work time requirements for preventive maintenance jobs (ETL routines) are established and adjusted as recommended in the CMP. Records for these routines contain cost figures for both test and repair time. It is essential that estimated work times be regularly reviewed and adjusted to more nearly reflect actual work times. When ETL work is loaded, it should be priced based upon the average of combined test and repair times for that particular job.

5.16 A work pricing chart, Form E-6833 (Fig. 5.1C), can be used to record pricing data for other work items. The priced unit column is provided to identify the appropriate unit of work for which the estimate is being made, eg, per trunk, per ticket, per jumper, etc. The time-per-unit column is for the estimated work time required for one unit of this type. The lead days column is provided for due-dated work and is used to establish the number of days before the desired completion date that an item should be started. The start-date calculation should include some allowance for unexpected delays.

Maintaining Work Files

5.17 Another important operation associated with a centralized force management function is the maintenance of work files. These files must organize work items that have been assigned to particular craftspeople or work items that are still pending. These files are used in the SCC as a structural means of assembling work items for daily loading to central office and, where possible,

SCC work forces. These files and procedures for administering them are described in paragraphs 5.30-5.31.

Loading

5.18 The major objective of centralized force management is the timely and complete daily loading of all central office forces, as well as SCC forces where possible. It is vital that the term "loading" is understood. A load is a distinctly defined series of work items or activities that will take a full work day to accomplish. A work load is issued to each individual daily for that day. Experience has demonstrated that the opportunity exists for planning or scheduling most field maintenance work, and a large portion of work done at the SCC at last one day in advance. This plan, therefore, provides procedures for doing just that. However, since experience has also shown that a number of demand jobs requiring action as soon as possible also arise, procedures are provided for loading this type of work as well. Where these procedures have been applied to properly match the workload to work force, considerable economies have resulted.

5.19 In general, an efficient loading operation cannot be attained unless the following conditions exist:

(a) All feasible work inputs are processed by the SCC.

(b) All feasible work items are priced to determine amounts of time and effort involved.

(c) Start dates are established on due-dated work, or portions of that work, to facilitate loading.

(d) All work is stored in the loading files described herein or in a similar type of filing system.

Measuring Force Performance

5.20 Another important function made possible by centralized force management is the measurement of force performance. This has proven to be an essential part of properly controlling the switching maintenance force and, therefore, of effective management of a maintenance operation. Previously, managers have, for the lack of other methods, relied on work unit per hour results, which are at best misleading and statistically inaccurate below the district level. Because this plan lays the groundwork for effective management of work, rather than work units, more direct means of measuring force performance are possible.

5.21 The method of measuring force performance here is a basic comparison of estimated (or expected) work times for assigned tasks with the time actually required for the force to complete them. The tool provided for making a comparison is the weekly force performance report, Form E-6832, shown in Figure 5.2.

5.22 While the use of the weekly force performance report requires considerable clerical effort, the report can contribute significantly to the overall force management program. It enables SCC managers to efficiently account for the quantity of work performed. By measuring the quantity or work completed, the report (1) provides an indicator of the effectiveness of force management procedures, (2) highlights performance bottlenecks, and (3) leads to more perceptive evaluation of SCC force management and to some extent individual craftspeople.

> ***Note:*** Estimated work times used for loading are based on averages. Actual completion times are expected to vary, depending on circumstances, PARTICULARLY ON CORRECTIVE MAINTENANCE TIMES. Reluctance to work beyond the estimated time allotment may be generated if averages are adhered to as the absolute. Although a trouble found rate to troubles loaded comparison is not yet developed, careful consideration is appropriate in this area.

Preparing SCC Time Summaries

5.23 By centralizing the force management responsibilities at the SCC, time report processing and the collection of data for forecasting purposes can also be centralized. The load and work time record, Form E-6843 (Fig. 5.3), provides the basic input information for these functions.

5.24 The recommended procedure is to use a table of 2-digit work codes provided on the back of the load and work time record. The field forces use these work codes for time reporting in addition to the conventional reporting codes such as 77R, 77M, etc. Write-in entries will be required for

estimates, hours charged to other areas, etc. The SCC will make the necessary translation from the 2-digit work codes to the proper reporting codes for accounting purposes.

5.25 From the load and work time record (described in Part 6), the SCC constructs a SCC Daily Time Summary (Fig. 5.4) and the SCC Monthly Time Summary (Figure 5.5). The daily time summary is used to accumulate and translate payroll and labor hour data. The monthly time summary is used to accumulate hours spent on various work codes. Generally, a separate form should be utilized for each SCC or central office work force.

Preparing SCC Monthly Performance Reports

5.26 SCC monthly performance tracking procedures are currently under development and will appear in subsequent issues of this practice.

Maintaining SCC Status Boards

5.27 The SCC manager and supervisors need up-to-date information regarding work load, office performance, and force disposition to assist them when they must establish or change short term priorities or make effective decisions regarding the disposition and utilization of the available work force to meet changing work loads. In a multiple office operation, the required data are normally located in files, ticket logs, document input logs, and office control records that are located at the SCC and/or work locations. This makes it difficult to obtain the timely, comprehensive picture necessary to effectively manage the job.

5.28 Therefore, an integral operation to the centralized force management function is the maintenance of SCC status boards by the SCC clerical force. The boards should be large enough to be easily seen throughout the work area of the SCC and of light color to provide good contrast and visibility. The boards should be made of a material that will retain magnetic letters or numerals and can be marked with erasable and semipermanent ink markers to facilitate daily posting.

5.29 Three status boards are recommended. They are:

(a) The Personnel Status Board: Used to display the assignment and location of personnel.

(b) The Office Status Board: Used to display the corrective work load and service performance for the offices controlled by the center.

(c) The Frame Status Board: Used to display the performance and work load for distributing frames controlled by the center.

Descriptions of these boards and procedures for updating them are provided in paragraphs 5.89 - 5.95.

C. Recommended Work File System

5.30 The basic work filing system is illustrated in Figure 5.6 and is described below.

5.31 Each SCC or central office work group that is being force managed should have the following files:

(a) ***"In Progress" File:*** This file should contain a copy of work loads (load and work time record and associated work orders or items) for craft currently assigned to the particular work force. Usually this file can consist of a folder or clip board for each craftsperson.

(b) ***"Pending Work" File:*** This is a file of all pending work (trouble tickets, work requests, and this month's T&I work list, Form E-6835) for the particular work force. Within the file, work should be ordered by priority: work due today first, that due tomorrow second, and that due this week third, and deferrable work last. With the possible exclusion of a very large work force, this file can usually take the form of a single binder or narrow divided folder.

(c) ***"Future Work" File:*** In addition to the file for each work force, a "Future Work" file can be established for work items that cannot be assigned to any SCC or central office work force until a specific date. These items should be held by the date on which they can be loaded. This file can usually take the form of a filing cabinet drawer. It should be searched daily for work items that become assignable. These items should be removed and placed in the appropriate pending work file.

D. Procedures for Handling Telephone Inputs

5.32 Incoming telephone calls fit into several general categories. Examples are:

(a) Trouble reports from the Repair Service Bureau (RSB)

(b) Trouble reports or requests for corrective action from other sources

(c) Status or verification requests

(d) Coordination requests

(e) Messages to be relayed.

These calls are generated from such sources as:

(a) Other SCCs and organizations

(b) Supervisors

(c) Staff and engineering

(d) Outside sources.

5.33 Some requests require immmediate action, others need action sometime today, while action on the balance can be deferred until tomorrow or later. The submission of written requests should be encouraged for work not immediately required.

5.34 A central office log, Form E-5457, or a SCC telephone log, Form E-6831, is a daily log used by the SCC to record details of telephone calls received and subsequent actions. (Either or both forms may be used.) A separate log should be maintained for each central office.

5.35 Details of all incoming calls are recorded on the selected log when received. Each item should be acted upon and closed out before the end of the day. Figure 5.7 shows typical entries of the central office log and Figure 5.8 shows typical entries on the telephone log. For trouble reports, the following actions should be taken:

(a) Record the details of the trouble on a trouble ticket.

(b) Record appropriate details on a central office log or telephone log.

(c) Determine the priority of action required and estimated work times from established pricing charts or other local guidelines. (A priority of action chart should be prepared for guidance in handling inputs.)

(d) Refer or load the work items according to their priority to the appropriate SCC or field maintenance force. Urgent work or that with a high priority will normally be dispatched by telephone while less urgent work can be filed for loading at a later date.

(e) Close out the report with the originator when the SCC or central office employee reports back that the item is complete.

(f) Close out the item on the central office log or telephone log after notifying the originator or after preparing a work document.

5.36 For other requests for short-term actions, local procedures should be established. These should specify required actions and their priority for most type of requests.

5.37 After-Hours: The designated SCC forces will receive after-hours telephone inputs. These calls will be from various sources and for various central offices. This force should follow the same procedures as above.

5.38 Figure 5.9 is a flow chart showing the SCC operation in handling telephone inputs.

E. Procedures for Handling Document Inputs

5.39 Document inputs are usually requests for change work or for work not requiring immediate action. A priority of action chart should be prepared for guidance in handling inputs. Some examples are:

(a) Trunk orders

(b) Cable or line transfers

(c) Network administration trouble reports or studies

(d) Verification requests

(e) Miscellaneous work from SCC Work Stations

(f) Other internally generated work.

5.40 Originators of requests should be required to submit written rather than telephone requests. This reduces the possibility of misinterpreting the request and enables the SCC to program the work request and provide adequate followup. Telephone requests should be accepted if a written request is impractical.

5.41 SCC work request, Form E-6838 (Fig. 5.10), is used for recording coordination information, estimated labor hours, work units generated, loading file, work status, completion information, and other details. Attach a form to each document input as it arrives in the SCC.

5.42 An appropriate work pricing chart should be used for estimating the required hours for common document items such as trunk orders and cable transfers and corrective maintenance work.

5.43 The SCC Monthly Work Request Summary, Form E-6834 (Fig. 5.11), is provided for recording details of input documents. This form is used to summarize all work request inputs for each central office in the area. The item identification and work request number columns are self-explanatory. For the date and hours column, enter the number of work hours in the left hand side of the column under the date they are to be done. In the right hand side of the column add the work hours for each date on a cumulative basis. Using this procedure, the total number of work hours to be performed on any future date can be determined at a glance. If work hours scheduled for any future date becomes too large, there should be sufficient time to reschedule it.

5.44 Some examples of document inputs are:

(a) Trunk orders

(b) Translation change notices

(c) Special service orders

(d) Cable transfers

(e) Line transfers

(f) Miscellaneous.

5.45 As soon as possible after receiving an input document, the SCC will follow the procedures below and in the flow chart provided in Figure 5.12.

(a) Stamp the date received on the document.

(b) Attach an SCC work request sheet.

Note: Many inputs will require loading more than once. For example, a trunk order adding interoffice trunks must be loaded for the wiring work and also for overall testing.

(c) Enter information for each separate loading step on the work request sheet. This includes the type of work, work code, number of priced units, description of work entries, and estimated work time.

(d) Refer the work to the appropriate SCC work force for coordinating with other force groups if necessary. (A chart should be prepared stating the kind of work requiring coordination and with whom.)

(e) Enter work unit details on the appropriate work unit summaries for all trunk orders.

(f) Enter the latest central office start date or scheduled date/time for each loading step on the form. The latest start date is determined by subtracting the total of the established lead days and estimated labor hours from the scheduled test date or due date. Place the start date on the work request form.

(g) Enter the work request on the monthly work request summary using a separate line for each work request.

(h) File the work request form as follows:

(1) If work on the item has no specified time, place the item directly into the appropriate pending work file.

(2) If the work cannot be assigned until a future date, place the item in the future work file according to the date on which the work can be loaded.

(i) If field work is required, mail the input document with a copy of the work request

sheet to the appropriate field location. (A chart should be prepared stating the kind of work requiring field activity.)

5.46 After loading, the SCC maintains the daily status of the percentage of completion and time spent for each loading step on the work request. This information will be supplied by the central office employees on the load and work time record.

5.47 After the work item is completed, post the completion date on the work request. Use the form to record as required:

(a) Date on which the completion notice was sent

(b) Date on which the work unit record was updated.

F. Procedures for Handling Work Inputs from SCC Work Stations

5.48 Work inputs from SCC work stations to the dispatcher for loading will generally be requests for corrective maintenance in individual SPCS offices (documented with a trouble ticket) or requests for testing assistance which might be delivered verbally.

5.49 The procedure for handling trouble tickets is as follows:

(a) Determine the priority and estimated work time from the appropriate pricing chart if not already priced.

(b) Assign the ticket to the appropriate work force as follows:

(1) If the ticket has a sufficiently high priority, it should be dispatched immediately to the central office. This can be accomplished by telephoning the central office force and reading the trouble ticket information to the field craft. The field maintenance craftsperson should record the trouble details on a memo ticket. The original ticket should be placed with the remainder of the craft load in the in progress file.

(2) If the trouble ticket has a lower priority, it can be filed in the appropriate pending work file. From there it can be dispatched later in the day by telephone as above or loaded for the next day.

Note: Procedures for loading work are discussed in more detail later in this section.

(c) When the work on the trouble has been completed and required completion details acquired from the field craft, the ticket should be returned to the originating SCC work station.

5.50 Requests for testing or other short term assistance should be passed along to the appropriate craftsperson commensurate with the priority of the work in which that craftsperson is engaged.

G. Procedures for Administering Preventive Maintenance Work

5.51 ETLs and schedules for ETL work should be maintained and administered by the SCC in accordance with the Controlled Maintenance Plan (CMP).

5.52 Revisions to ETL work orders, schedules, and estimated work times are done by the SCC. These changes are made from:

(a) Inventory changes caused by central office equipment additions or removals. These data are supplied to the SCC by the field supervisors.

(b) Trunk or facility type orders which add or delete circuits that are tested by ETL. These data are obtained from work requests (Form E-6838) for completed work.

(c) On-going data supplied by completed T&I work orders (Form E-5452, shown in Fig. 5.13).

5.53 Form E-6835, the monthly T&I work list (Fig. 5.14), is provided to show the status of T&I work orders as the month progresses and to facilitate the loading of this type of work. The form is prepared as follows.

(a) Prepare the form at least one month early to allow completion ahead of schedule if the force is available. This does not mean the force

is to be loaded for a month in advance; they are to be given their load one day at a time.

(b) Enter the job numbers for the month from the ETL work schedule.

(c) Using Form E-6835 as a guide, pull the master T&I work order forms and reproduce the required work copies.

(d) Enter the type of work code, class/frequency and any required priority on Form E-6835.

(e) If a coordinated work effort is needed, enter this information in the "Remarks" column.

(f) Enter the estimated work time (price) from past T&I summaries.

(g) Entries in the "Loaded Date/To" column will be made when the T&I order is loaded.

(h) Actual time is entered when the T&I work order has been completed.

5.54 Form E-6835 is placed in the Pending Work file and is used during the work loading procedure. The individual T&I work orders (E-5452) requiring central work should be mailed to and filed in the central office. Routines done at the SCC should be filed at the SCC.

5.55 It is helpful to show special requirements such as coordination requirements and test sets on the master T&I work list. Loading of T&I work orders is described in 5.70.

5.56 Those central offices that are served by Central Office Maintenance Management System-Preventive Maintenance (COMMS-PM), a mechanized preventive maintenance administration system, will be administered by the rules of that system and will not be required to maintain duplicate manual records. The use of the work file system for the monthly T&I work list, Form E-6835, remains the same.

5.57 It is recommended that T&I work orders be structured in increments of 8 hours or less to expedite loading and increase control.

5.58 When special T&I work orders are required, enter the information on the monthly T&I worklist (Form E-6835), and handle as described in the previous paragraphs.

H. Procedures For Handling Central Office Equipment (COE) Jobs

5.59 The SCC receives all COE schedules, cost estimates, and job specifications for WECo jobs in the area. The SCC is responsible for record updating and reporting requirements.

5.60 A COE schedule is kept in the SCC and copies of applicable pages are sent to the field supervisor involved. Cost estimates and job specifications are logged in the SCC and immediately forwarded to the involved field supervisor.

5.61 An abeyance file is maintained in the SCC to ensure that the following actions are taken:

(a) The field supervisor and/or the second-level manager will make a preliminary job analysis and central office labor hour estimate based on the COE schedule. This analysis and labor hour estimate should be used by the SCC to update the SCC forecast and then placed in the abeyance file.

(b) If temporary force additions are estimated to be required, contingency plans should be made.

(c) If permanent force additions are required, necessary requisitions should be prepared at the appropriate time.

(d) Any training requirements resulting from the COE job should be forecasted at this time.

5.62 The central office labor hour estimates for upcoming jobs should be reviewed each time an updated COE schedule or other pertinent engineering document is received.

5.63 After a WECo job start, the cutover supervisor or field supervisor must continually coordinate with the WECo job supervisor to determine exactly when and how much observation and testing will be required. The cutover supervisor or field supervisor will use Form E-6838, SCC work request, to inform the SCC as soon as the requirement is known. The SCC will treat the

WECo observation and testing activity as scheduled work for loading purposes.

5.64 As equipment is accepted from WECo, the field supervisor will inform the SCC of the required ETL and work unit updates. The SCC will update the ETL and work schedule and prepare the appropriate work unit forms. The SCC will forward the work unit forms per local instructions.

5.65 The SCC will forward inventories of assignable equipment to the plant assignment office (PAO) at the time that the equipment is accepted from WECo.

5.66 Major projects requiring a project team may be handled by using SCC procedures and coordinating related work with other SCCs to the extent that it is feasible.

I. Loading Procedures

General Procedures

5.67 The basic goal of centralized force management is to plan all or as much of the work as possible for both SCC and field maintenance craftspeople. The responsible SCC force will assemble in advance all work items that each craftsperson is expected to complete during the next full shift. Each item is listed on a load and work time record (see Part 6). A copy of the load and work time record and all supporting documents are sent to the field via company mail. Unless instructed otherwise, the craftspeople should address the work items in the order shown on their load and work time record, reporting work progress and work time at set intervals to the dispatcher. The SCC force will update the load and work time record at the SCC for time reporting purposes. While the SCC can change the work load if conditions dictate, the objective is to minimize interruptions.

5.68 Before tomorrow's load can be assigned, the SCC must know the status of today's loaded work. (Items not completed from today's load will normally be reloaded before new work items are assigned.) To accomplish this, the SCC must obtain a report of work that is incomplete. Ideally, this information should be gathered as late in the day as possible but soon enough to prepare tomorrow's work load.

5.69 From the SCC copy of the load and work time record, status is posted on the work requests. Work requests are handled as follows:

(a) Forms for completed items are closed out.

(b) Forms for multiple-loaded items having one or more loading steps remaining are placed in the pending work file for the next loading step.

(c) Forms for other uncompleted work items are held for reloading. However, any scheduled work that was not completed may require rescheduling with other SCCs or work forces before reloading is possible. Any uncompleted due-date work should be reviewed for possible escalation to the SCC manager.

5.70 The specific actions required to construct craft work loads are as follows:

(a) Enter heading information on a load and work time record for each employee scheduled to work tomorrow.

(b) For each trick having a demand estimate, enter TRIK in the "Type Work" column for line 1 and the total demand estimated hours in the "Hour Estimate" column (extreme right on form). This information is available on the SCC loading guide. Preparation of the loading guide is covered in Part 6.

Note: Steps (a) and (b) should be completed early in the day.

(c) At loading time for tomorrow's work, place the load and work time records prepared in steps (a) and (b) across the loading table desk.

(d) Match the current day's copies of load and work time records (with status as defined in 5.31) with tomorrow's copies. This allows reloading any uncompleted work items from today's load and work time records to those for tomorrow. Work requests and/or copies of the items that are to be reloaded should be removed from the in-progress work file and associated with the loading record of the trick to which they will be assigned.

(e) Pull tomorrow's work items from the pending work file. Using the loading guide, associate

each work item with the load and work time record of the preferred trick for the type work code. If sufficient time is not available on the preferred trick, use lower preference tricks. If lower preference tricks are not available from the loading guide, contact the supervisor for assistance.

(f) Use the current month's monthly test and inspection work list, Form E-6835, to determine which T&I work orders to load. In those cases when some of next month's T&I work orders can be done ahead of schedule, the T&I work orders with the longest interval should be selected for completion first. This permits the more critical short-interval T&I work orders to remain at their prescribed intervals.

(g) The SCC supervisor should review the work loads for reasonableness at this stage of the loading process and make any necessary adjustments.

(h) Enter the work items for tomorrow on each load and work time request in the following sequence:

(1) Trouble tickets with a priority 1

(2) Work requests due tomorrow

(3) T&I work due tomorrow

(4) Trouble tickets with priority 2

(5) Work requests due within a few days

(6) T&I work due this week

(7) Other trouble tickets

(8) Other work requests

(9) Other T&I work.

(i) As each item is entered, post the estimated time in the extreme right column on the load and work time record. Enter the loaded date and trick to whom assigned on work request forms. Place these in the in-progress file. Enter the loaded date of T&I work items on the SCC monthly T&I work list. Return the form to the in-progress file.

(j) Separate the load and work time record copies. Place the top copy in the in-progress file. Send the second copy to the field supervisor, and the card stock and the associated work items to the central office employee.

5.71 If the daily mail run or other forms of delivery from the SCC to a central office are not adequate, loading can be done by telephone. In this case blank load and work time records should be sent to the central office at the beginning of the month in order that the central office employees will have them available when the load is telephoned to the central office. Similarly, it may be desirable at some locations to have short-interval transfers mailed directly from the PAO to the central office, with a copy sent to the SCC for estimating and loading. Other items will be sent from the SCC to the central office consistent with mail time and work start time.

5.72 While the SCC should generally assign work according to established priorities, occasions may arise where variation may increase field craft efficiencies. For example, it may be more productive to assign a lower priority ETL at the same time as a higher priority ETL if they involve the same equipment, the same test gear, or possibly involve similar testing procedures. The same holds for equipment repairs and rearrangements and change work. By distributing T&I work orders to remote locations on a monthly basis, field forces who are dispatched on an urgent trouble condition at these locations can be loaded with additional work items for the remainder of the trick.

Procedures for Demand Work

5.73 While most central office and SCC work can be assigned using the above procedures, a number of demand jobs requiring immediate action will arise. These include customers out-of-service, major equipment outages, and certain nondeferrable requests for assistance. Because of the usual urgency required by demand work, the SCC dispatch force must deal with it as rapidly as possible. The following procedures should be followed.

(a) The most available craftsperson should be selected. This will usually be the person who is working on the lowest priority work in a given work force or the person with dedicated Trick time for demand work (see Part 6). It

will on occasion be necessary to move a craftsperson to an unattended office or work area.

(b) The selected craftperson should be contacted by telephone and given the details of the job to be done. The craftsperson should be told to contact the SCC when the job has been completed.

(c) Appropriate entries should be made on that person's load and work time record to identify the job, accounting code information, and estimated work time for the job. The work item and load and work time record should be returned to the in-progress file.

(d) When the craftsperson reports that the job is complete, entries on the load and work time record should be closed and the work item closed with or returned to its originator.

J. Force Performance Objectives

5.74 Each work force is capable of performing at a given percent efficiency. How well the jobs are priced and how efficiently each employee performs the work are the determining factors. Well thought-out, reasonable objectives should be established and agreed upon at least through the district level of management. (See note in paragraph 5.22.)

K. Preparation and Use of SCC Time Summaries

5.75 The SCC uses the following forms for processing time data:

(a) Load and work time record (described in Part 6)

(b) SCC daily time summary (Fig. 5.4)

(c) SCC monthly time summary (Fig. 5.5).

SCC Daily Time Summary

5.76 The SCC daily time summary is used to accumulate and translate payroll and labor hour data. The load and work time record is the source for completing the daily summary form. To ensure that there are no delays in completing the daily summary, certain data from completed load and work time records must reach the SCC as soon as possible. One means of minimizing delays is to telephone this information to the SCC, preferably to a recorder. When this method is used, relay the information from each load and work time record in the following sequence:

(a) Employee name

(b) Actual start time

(c) Actual end time

(d) Actual hours worked

(e) Acct. code, work code, and hours from the summary line; ie, Acct Code 77R, work code 11 (ESS trick assignment), 1/2 hr.

All completed load and work time records will be forwarded to the SCC for posting completion notices and other reports.

5.77 Where the information is not telephoned to the SCC, the SCC will transcribe the information directly from the load and work time record.

5.78 If not on a mechanized time reporting procedure, a manual count of hour accumulations, by report codes, should be kept.

Use of SCC Daily Time Summary (E-6839)

5.79 A separate SCC daily time summary is prepared for each central office work force or field supervisor's group. Each form should be preposted with the following entries.

(a) Work force

(b) Office (building or exchange)

(c) Names of employees (normally assigned to that work force)

(d) Most frequently used work codes, grouped under reporting codes applicable to that work force.

5.80 Other entries on the form are made from completed load and work time records or from recorded telephone calls as follows:

(a) Enter the actual shift start time, shift end time, and total hours worked by each employee in the work force.

(b) Post the hours (to the closest quarter hour unit) to each work code on the right side of the form.

(c) Label right hand columns for undistributed hours, time charged to estimates, etc, and make time entries as appropriate.

(d) Total each column and enter on the column totals line.

(e) Total work codes by reporting code.

Use of SCC Monthly Time Summary (E-6840)

5.81 If not on a mechanized time reporting procedure, a manual count of hour accumulations, by report codes and subwork codes, should be kept. A separate form should be utilized for each central office work force. The following items should be preentered on the form for each central office:

(a) Work force

(b) Office (building or exchange)

(c) The most frequently used reporting codes and subwork codes applicable to that work force.

5.82 Post the daily work code entries from the daily summary form. Post all other hours, such as undistributed time, C & X time, overtime, unpaid absence, and hours charged to reporting codes not covered by work codes. Each column must be subtotaled weekly and at the end of the month.

L. Preparation and Use of the Weekly Force Performance Report (E-6832)

5.83 Preparation of the Weekly Force Performance Report requires a clerical effort to accumulate estimated and actual work times for work items listed on load and work time records for measured craftspeople. Results of each work group are summarized weekly. Figure 5.2 is an example of a completed report. Initial entries required on the report include the identity of the force group, the dates for the period covered, and the identity of each employee to be measured in that force group. The information required for the completion of the report are the estimated work time and actual work time data from each craftspersons' load and work time record. Results for the previous day's records should be accumulated by the following steps:

(a) Total the estimated work time for all completed tasks. Normally completed tasks should include those marked with a C, NTF, F, or REF in the disposition code column corresponding to the task. If an item does not have an established estimated work time, the actual work time can be used as the estimated time to provide credit for a completed task.

(b) Next, the total estimated work time should be entered on the report in the column marked EST HOURS for estimated hours.

(c) Enter the total number of actual hours that the craftsperson has worked in the ACT HOURS column. Work times should be entered in quarter hour increments. Be sure to include overtime and call-out hours.

5.84 When a complete weeks' data has been accumulated, the ACT HOURS and EST HOURS columns for each craftsperson should be totaled and the percent efficiency is calculated by dividing the total number of EST HOURS by that of ACT HOURS and multiplying by 100. The percent efficiency for the total work force is entered in the ACTUAL space. The percent efficiency objective as established by the SCC manager is entered in the OBJECTIVE space on the form.

Interpretation and Use of Force Performance Results

5.85 To utilize the results of the force performance report effectively, SCC managers must work together with their supervisors to develop programs that will both correct cases of substandard performance and recognize superior performance. In developing such programs, managers and supervisors should keep in mind that this particular report measures only the quantity of work being completed, that quality must also be evaluated, that certain SCC

jobs may not be measured, and that today's results may not be at all indicative of obtainable performance levels. Also important is that good performance or, for that matter, poor performance does not mean that jobs are being assigned and completed in the right order.

5.86 In all cases, programs should be directed at improvement of performance over the long run. Such programs should have two primary objectives. First, they should seek to accurately identify and effectively deal with the real causes of performance problems, and secondly, they should serve to inform employees of management's interest and concern regarding their individual performance. Low performance can be a result of a variety of causes:

(a) Incorrect pricing chart

(b) Excessive personnel

(c) An inexperienced work force

(d) Inadequate supervision of work activity

(e) An inexperienced supervisor

(f) Personal problems.

5.87 A frank discussion of the circumstances between the SCC manager and the supervisor and, in turn, between the supervisor and employees involved to properly identify the cause of any problem is an important prerequisite to any remedial action. Of equal importance is that the review of performance results be made a part of established supervisory and craft evaluation programs. Along with providing a proper work environment, training, tools, and supervision, it is essential for SCC managers (and their representatives) to instill in every employee a recognition of the importance or their contribution in relationship to the overall goals of the SCC.

M. Preparation and Use of the SCC Monthly Performance Report

5.88 SCC monthly performance tracking procedures are currently under development and will appear in subsequent issues of this practice.

N. Updating SCC Status Boards

Personnel Status Board

5.89 The ***personnel status board*** is used to display the location of vehicles and the availability, location, and job assignments of personnel in the work forces controlled by the SCC. A format that can be used for this board is illustrated in Figure 5.15.

5.90 In Figure 5.15, space has been provided in the upper left-hand corner of the board for the name and telephone number of the duty supervisor. The remainder of the top horizontal line is used to display the work locations to which personnel may be assigned and the various categories of unavailable time to which they may be assigned; ie, scheduled off, school, vacation time, etc. The left-most column is used to display the names of personnel and the identity of vehicles. Magnetic letters, numerals, or markers are used to identify the trick to which individuals are assigned. By placing these markers at the appropriate intersection of horizontal and vertical lines, the work location and job assignment of each member of the force can be quickly determined.

Office Status Board

5.91 The ***office status board*** is used to display the outstanding corrective maintenance work load, central office service results plan components, and unusual conditions that reflect the demand maintenance work load for the offices served by the SCC. There are many ways to arrange a status board. Fig. 5.16 is one example of an office status board.

5.92 The ESS office status board (Fig. 5.16) is organized in a grid system in which horizontal lines are used to identify central offices, and vertical columns are used to identify the type of data being displayed. The data columns, shown in the illustration, are assigned and used as follows. The top grid in the left-hand column is used to identify the date on which the board was updated. The remainder of this column is used to identify the control groups maintained by the SCC. The next three columns are used to identify the directory number codes (NNX codes) served by each control group, the generic program issue used, and the parameter issue of the office. The next two columns are used to display the amount of outstanding

corrective maintenance work as represented by the number of service circuits and outgoing trunks made busy and the number of uncleared trouble or memo tickets on hand. The next 11 columns are provided for measured components of the No. 1 ESS Network Switching Performance Measurement Plan. The remaining area is used to display current events and abnormal conditions which affect work operations such as update schedules, critical equipment outage, and other unusual conditions.

5.93 Items should be posted on this board in a manner that clearly identifies those areas requiring special attention. For example, index components which are below objective level can be posted in red while satisfactory results could be posted in black.

Frame Status Board

5.94 The ***frame status board*** (Fig. 5.17) can be used to display performance and load information for locations using the frame administration plan. Space has been provided to show individual frame performance as indicated by the percentage of efficiency for the previous month, the previous week, and the current percentage of order discrepancy. Today's work load is indicated by columns that show the number of hours required for service order activity, the efficiency figure used to reach this estimate, the total number of available frame force hours, and the time available for loadable work (such as trunk order or cut sheet preparation) or usable for force loans to work locations. The remarks space is used to indicate special activities such as force loans or important events that effect the operation.

5.95 The management team should consider the need for additional status board information pertaining to items such as trunk order activity or toll operations in order that they can visualize the total work load picture affecting their operation.

CORRECTIVE MAINTENANCE ESTIMATED WORK TIME CHART

WORK ITEM	TYPE WORK CODE	EWT IN HOURS FOR SCC WORK	EWT IN HOURS FOR FIELD WORK	PRIORITY	USUAL WORK CODE	REMARKS
Common Equipment Troubles	CET				(77R)	
– SP, CC, PS, CS, CPD, SC, Bus, AMA, R&T		NA	1	1A		
– LSW, TSW, LJSW, TJSW, UTSD, JSD, SD, SSD						
– Duplex Outage		NA	1	1A		
– Simplex Outage		N A	1	1D		
– MCC, TTY, RA, A10D, ROTL		NA	1	2A		
– MCW			4			
– Service Circuits		NA	3/4	2C		
– Junctor Circuits		NA	1/2	2D		
– Power Major Alarm		NA	NA	1A		
Minor Alarm				1E		
Line Troubles						
– Customer Trouble Reports	CTR	NA	1/2	1C	(77R)	
– Coin Line Report	CTR	NA	1/2	1C	(77R)	
– Centrex Console Outage	CTXR	NA	3/4	1B	(77R or 58R)	
– Centrex Trouble	CTXR	NA	1†	1C	(77R or 58R)	†Excludes travel
– WATS Trouble	WATS	NA	1/2	1C	(77R or 603-04)	
Trunk and Facility Troubles						
– OGT Sectionalization	OGTT	1/2	–	2B	(603-04)	
– SS Sectionalization (Tie or FX Lines, CCSA, etc)	SST	1/2	–	1C	(603-04)	
– INC Trunk	INCT	1/4	–	2B	(77R)	
– Trunk Pack Replacement	*	–	NA	*	(77R)	*OGTT priority 2A or SST priority 1E or INC priority 2D
– Carrier Trouble	*	–	NA	*	(17R)	
– Repeater Trouble	*	–	NA	*	(17R)	
– Cable Trouble	*	–	NA	*	(17R)	
– Carrier Group Alarm	CGA	NA	NA	1E	(603-04)	
– TOS List Processing – per office	TOS	1/2	–	–	(603-04)	
– Trunk Pack Repair	TPR	1		3B	(77R)	
Network Troubles	NETT				(77R)	
– Analysis (per Ticket)		1-1/4	–	–		
– Trouble Localization		–	2-1/2	3A		
– Stage O Switch Replacement		–	3	3A		
– Other Switch Replacement		–	1-3/4	3A		
– Ferrod		–	2	3A		
– Remreed Grid		–	1/2	3A		
– Cutoff		–	2	3A		
AMA Tape Change	AMA	–	1/2	–	(77R)	
SCCS Maintenance	SCCS					
– Logging Tape Change		1/4	–	–		
– Incremental Backup		NA	–	–		
– Epic Backup		1/4	–	–		
– System Restoral		1-1/2	–	–		
– Generic Update Restoral		6	–	–		NA=Not Available

Fig. 5.1A—No. 1 ESS Corrective Maintenance Pricing List

REARRANGEMENTS AND CHANGES
ESTIMATED WORK TIME CHART

WORK ITEM	TYPE WORK CODE	ORDER COORD., TEST EWT (MIN.) FOR FIRST ITEM	ORDER COORD., TEST EWT (MIN.) EACH ADD. ITEM	ORDER COORD., TEST USUAL WORK CODE	TRANSLATIONS EWT (MIN.) FOR FIRST ITEM	TRANSLATIONS EWT (MIN.) EACH ADD. ITEM	TRANSLATIONS USUAL WORK CODE	FIELD WORK EWT (MIN.) FOR FIRST ITEM	FIELD WORK EWT (MIN.) EACH ADD. ITEM	FIELD WORK USUAL WORK CODE
PS-Updates	UPD									(77M)
– Per mod								20	20	
Broadcast Warnings	TWX									(77M)
– Per TWX		20	20	(77M)						
– Per Required Card Write								30	30	
Call Trace	TRAC			(77M)			(77M)			
– Add or Delete					15	15				
Trunk Orders	TO			(77M)						(77M)
– OGT – Connection		60	20		30	10		10	5	
– OGT – Disconnection		45	–		30	10		5	3	
– INC – Connection		20	10		20	10		10	5	
– INC – Disconnection		15	–		20	10		5	3	
– New Trunk Group		15	15		20	–		–	–	
– Code Point Change		15	15		25	–		–	–	
– OGT – TDF Rearrangement		30	30		30	30		10	5	
– INC – TDR Rearrangement		20	20		30	30		10	5	
Translation Change Notices	TCN						(77M)			
ESS 1109 – Centrex Group – Add or change 1XX code					30	30				
– Add or change common block class or supplementary info					30	30				
– Add or change Digit Interpretor Level					180	120				
ESS 1204 – Trunk Class Code					30	30				
ESS 1202 Incoming Office Code Selector					45	15				
ESS 1208 – Trunk Screening Group Record – Screening or LEN assignment					15	15				
ESS 1210 Simulated Facilities Group Record										
– Add or change					30	30				
– Subtranslator and pointer linking					60	60				
ESS 1300 A/B – Three-digit Translation					20	20				
ESS 1301 – Six-digit Translation					20	20				
ESS 1302 – Office Charge Record					20	20				
ESS 1303 Route Index Record					30	30				

Fig. 5.1B—No. 1 ESS Rearrangements and Changes Pricing List (Sheet 1 of 2)

REARRANGEMENTS AND CHANGES
ESTIMATED WORK TIME CHART

WORK ITEM	TYPE WORK CODE	ORDER COORD., TEST EWT (MIN.) FOR FIRST ITEM	ORDER COORD., TEST EWT (MIN.) EACH ADD. ITEM	ORDER COORD., TEST USUAL WORK CODE	TRANSLATIONS EWT (MIN.) FOR FIRST ITEM	TRANSLATIONS EWT (MIN.) EACH ADD. ITEM	TRANSLATIONS USUAL WORK CODE	FIELD WORK EWT (MIN.) FOR FIRST ITEM	FIELD WORK EWT (MIN.) EACH ADD. ITEM	FIELD WORK USUAL WORK CODE
ESS 1304 Rate and Route Chart										
— Column Change					60	60				
— New chart, one column					150	150				
— Add column					30	30				
ESS 1305 — Rate and Route Pattern					30	30				
ESS 1306 — Line Class Code					45	45				
ESS 1307 — IDDD Route Index										
— Each IDDD Route					45	45				
— Subtranslator and Linking					60	60				
ESS 1308 — FRS Index										
— Add or change					30	30				
— Subtranslator and Linking					60	60				
ESS 1309 — FRS 3-Digit Translation — Add or change					30	15				
— Subtranslator and Linking					60	60				
ESS 1310 — Route Description Number					NA	NA				
Translation Change Notices (Cont.)	TCN						(77M)			
ESS 1400 — Traffic Register Assignment										
— List number					15	15				
ESS 1404 Plant Measurement Trunk Group Assignment										
— 500 Item PM01					2400	2400				
ESS 1500A — Head Table Capacity Record					30	30				
ESS 1500D — Office Code Record					30	30				
ESS 1501 — Office Code — New Office Code					480					
ESS 1502 A/B — Abbreviated Class Code Record										
— Change					60	30				
— New supplementary table					60	60				
ESS 1503 A/B/C — Supplementary Abbreviated Class Code Record — Centrex					60	30				
ESS 1505 — Automatic Trunks Testing Table					60	15				
ESS 1506 — Miscellaneous Assignment Information Record					NA	NA				

Fig. 5.1B—No. 1 ESS Rearrangements and Changes Pricing List (Sheet 2 of 2)

E-6833
(9/76)

SCC WORK PRICING CHART

OFFICE/WORK FORCE: CARLTON

EFFECTIVE DATE: SEPT. '76

	TYPE OF ACTIVITY FRAME	PRICED UNIT	TIME/ UNIT	LEAD DAYS
1	TRUNK, ADD, WITHOUT E6 1 WAY OUT	TRUNK	3/4	5
2	TRUNK, ADD, WITH E6 1 WAY OUT	TRUNK	1	5
3	TRUNK, ADD, WITHOUT E6 2 WAY	TRUNK	3/4	5
4	TRUNK, ADD, WITH E6 2 WAY	TRUNK	1	5
5	TRUNK, ADD 1 WAY IN	TRUNK	3/4	5
6				
7				
8				
9				
10				
11				
12	TRUNK, REMOVE 1 WAY OUT	TRUNK	1/4	
13	TRUNK, REMOVE 1 WAY IN & 2 WAY		1/4	SCHED
14	TRANSFERS, SUB CABLE, ADVANCE	ITEM	4 MIN.	2
15	TRANSFERS, SUB CABLE, CUTTING	ITEM	5 MIN.	SCHED
16	TRANSFERS, TRK CABLE, ADVANCE	TRUNK	1/2	5
17	TRANSFERS, TRK CABLE, CUTTING	TRUNK	1/4	SCHED
18				
19				
20				
21				
22				
23				
24				
25				

	TYPE ACTIVITY EQUIPMENT	PRICED UNIT	TIME/ UNIT	LEAD DAYS
26	TRUNK, ADD, WITHOUT E6 1 WAY OUT	TRUNK	3/4	5
27	TRUNK, ADD, WITH E6 1 WAY OUT	TRUNK	1	5
28	TRUNK, ADD, WITHOUT E6 2 WAY	TRUNK	1	5
29	TRUNK, ADD, WITH E6 2 WAY	TRUNK	1 1/4	5
30	TRUNK, ADD 1 WAY IN	TRUNK	1	5
31	TRUNK, PRETEST 1 WAY OUT	TRUNK	1/2	WEQ
32	2 WAY	TRUNK	3/4	WEQ
33	1 WAY IN	TRUNK	1/2	WEQ
34	TRANSMISSION TESTING 1 WAY OUT	TRUNK	1/4	SCHED
35	2 WAY	TRUNK	1/2	SCHED
36	1 WAY IN	TRUNK	1/4	SCHED
37	TRUNK, REMOVE 1 WAY OUT	TRUNK	1/2	
38	TRUNK, REMOVE 1 WAY IN & 2 WAY	TRUNK	1/2	SCHED
39				
40				
41				
42	TRANSFERS, TRUNK CABLE, CONTROL & TEST	TRUNK	1/2	SCHED
43				
44				
45				
46				
47				
48				
49				
50				

Fig. 5.1C—SCC Work Pricing Chart (E-6833) For Trunk Order Work

SCC WEEKLY FORCE PERFORMANCE REPORT

E-6832(9/76)

FORCE ALPHA
FROM 10/4/76 TO 10/10/76

DATE	EMPLOYEE / HOURS WORKED	MERRILL EST. HOURS	MERRILL ACT. HOURS	LYNCH EST. HOURS	LYNCH ACT. HOURS	FENNER EST. HOURS	FENNER ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT HOURS	EST. HOURS	ACT. HOURS
10/4	MONDAY	5½	8	7½	8	7½	8										
10/5	TUESDAY	5½	8	7½	7	7½	8										
10/6	WEDNESDAY	5½	8	7½	7½	6	8										
10/7	THURSDAY	5½	8	7½	7¾	7½	8										
10/8	FRIDAY	5½	7½	7½	8	7½	8										
10/9	SATURDAY																
10/10	SUNDAY																
	TOTAL	27½	39½	37½	38¼	36	40										
% EFFICIENCY = (EST HRS ÷ ACT HRS) × 100		70%		98%		90%											

TOTAL FORCE

ACTUAL	OBJECTIVE
84%	93%

FORCE _____
FROM _____ TO _____

DATE	EMPLOYEE / HOURS WORKED	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS
	MONDAY																
	TUESDAY																
	WEDNESDAY																
	THURSDAY																
	FRIDAY																
	SATURDAY																
	SUNDAY																
	TOTAL																
% EFFICIENCY = (EST HRS ÷ ACT HRS) × 100																	

TOTAL FORCE

ACTUAL	OBJECTIVE

Fig. 5.2—SCC Weekly Force Performance Report (E-6832)

LOAD AND WORK TIME RECORD

OFFICE CARLTON ESS EMPL J. JONES TRICK D3 DATE 10-1-76

SHIFT: START ____ END ____ HRS. WORKED ____ APPROVAL ____

FRONT →

	TYPE WORK	ITEM IDENT.	START TIME	END TIME	TIME	WORK CODE	DISP. CODE	OFFICE	EST., R.O., REMARKS	EST. TIME
1	TRIK									
2	TDEQ	W1-533	1100			17		ENGR	CALL BERRY AT 345-4444	
3	TRTN	77				43				
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
25										
26										
27										
28										
29										
30										
31										
32										

E-68+3 (9-76)

WORK CODE	EXCH ESS	EXCH SXS	=1 & =S X BAR	TRUNK TEST	EXCH CKT EQ	TOLL CKT EQ			
TRICK ASSGT	11	21	31	41	51	61	71	81	91
CORR MTC	12	22	32	42	52	62	72	82	92
PREV MTC	13	23	33	43	53	63	73	83	93
SO USSO–FRAME	14	24	34	44	54	64	74	84	94
SO USSO–EQUIP	15	25	35	45	55	65	75	85	95
TRK FAC ORDER-FRAME	16	26	36	46	56	66	76	86	96
TRK FAC ORDER-EQUIP.	17	27	37	47	57	67	77	87	97
FAC XFER	18	28	38	48	58	68	78	88	98
TRAVEL	19	29	39	49	59	69	79	89	99
	10	20	30	40	50	60	70	80	90

DISPOSITION CODE

CORR MTC
F – FOUND
NTF – NO TBL FOUND
MB – MADE BUSY
REF – REFERRED
X –
Y – SPEC STUDY
Z – LOCAL USE

← BACK

Fig. 5.3—SCC Load and Work Time Record (E-6843)

SCC DAILY TIME SUMMARY

E-6839(9/76)

WORK FORCE ALPHA

OFFICE CARLTON

DATE 10-6-76

REF	NAME OF EMPLOYEE	HOURS: GO CODE	START TIME	END TIME	HOURS WORKED	CITY ALLW	SUPR MONY	REMARKS	77R WORK-CODE 71 13	77M WORK-CODE 14 16	603-04 WORK-CODE	17R WORK-CODE 61	17M WORK-CODE 66	77R WORK-CODE 9049970	WORK-CODE
1	BRIGHT, B.T.		0800	1700	8				1/2	6 1			1/2		
2	HUGHES,		0730	1630	8				7 1/4			3/4			
3	MASSEY, E.T.		1600	2400	8				6 3/4	1 1/4					
4	MORRIS, W.H.		0800	1700	8			SCHOOL						8	
5	SCHUSTER, P.L.		0800	1730	8 1/2				3 1/2	5					
6															
7															
8															
9															
10															
11															
12															
								COLUMN TOTALS	18	12 1/4		3/4	1/2	8	

REF	NAME OF EMPLOYEE	HOURS: GO CODE	START TIME	END TIME	HOURS WORKED	CITY ALLW	SUPR MONY	REMARKS	WORK-CODE	WORK-CODE	WORK-CODE	WORK-CODE	WORK-CODE	WORK-CODE	WORK-CODE
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
								COLUMN TOTALS							

Fig. 5.4—SCC Daily Time Summary (E-6839)

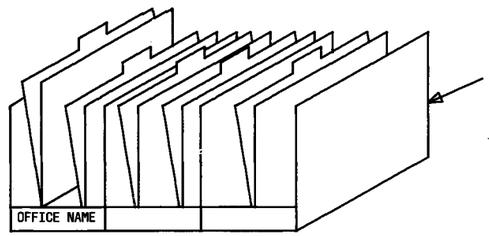
E-6840
(9/76)

SCC MONTHLY TIME SUMMARY

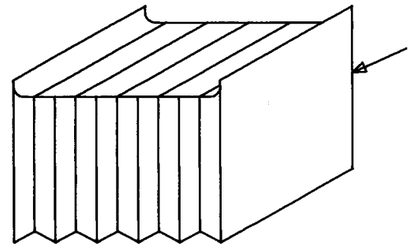
WORK FORCE AND OFFICE CARLTON PERIOD OCT. '76 PAGE 1 OF 1

DATE	REPORT CODE				REPORT CODE				REPORT CODE				REPORT CODE				REPORT CODE			
	77R				77M				603-04				17R				17M			
	WORK CODES				WORK CODES				WORK CODES				WORK CODES				WORK CODES			
	11	12	13		14	16							61				66			
1	17		6		13	2½							1				1			
2																				
3																				
4	16		2	8	10	2½							1				1			
5	14		3½	8	13	1							1							
6	18			8	12¼	1							¾				½			
7	15½		2½	8	11	2¼							¾				½			
CUM	80½		14	32	59¼	9¼							4½				3			
8																				
9																				
10																				
11																				
12																				
13																				
14																				
CUM																				
15																				
16																				
17																				
18																				
19																				
20																				
21																				
CUM																				
22																				
23																				
24																				
25																				
26																				
27																				
28																				
CUM																				
29																				
CUM																				
29																				
30																				
31																				
MONTHLY TOTAL																				

Fig. 5.5—SCC Monthly Time Summary (E-6840)



"IN PROGRESS" FILE



"PENDING WORK" FILE

"FUTURE WORK" FILE

Fig. 5.6—Work File System

FORM 5457
(9-72)

CENTRAL OFFICE LOG

OFFICE CARLTON

PERIOD OCT. '76

DATE	TICKET NO.	TIME RCVD.	FROM OR REPORT CLASS	TELEPHONE NO.	NATURE OF REPORT OR ACTIVITY	C.O. CODE	DISP. TO	TIME CLOSED OUT CLOSED OUT TO	EQPT. GROUP
10/16	47	1110	A		NOISE ON CALLS TO 279 Nos.	C	JC	1340 RSB/RC	NTF
10/18	1	0805	A	278-7720	NDT	C	JL	1010 RSB/TA	MDF
10/18	2	1345	A	279-5786	NOT HTG. TO 278-8111	C	AT	1615 DN	MEM
10/20	3	1525	A	278-6524	NDT	C	AT	1650 RSB/RC	LLN
10/21	4	1024	A	887-3764	CAN'T TRANSFER	M	AF	1305 RSB/TA	NTF
10/22	5	0940	A	986-5251	SPEED CALL	B	RL	1035	REF
10/22	6	0955	A	887-6600	CONSOLE LIGHT OUT	M	BG	1335 RSB/TR	CTX
10/23	7	1445	A	887-8483	ACCESS CODE 301 TBL	M	AF	1620 RSB/LL	NTF

Fig. 5.7—Central Office Log (E-5457)

E-6831
(9/76)

SCC TELEPHONE LOG

WORK FORCE/OFFICE CARLTON ESS

TICKET NUM.	REPT. CLASS	TEL. NUM., TRUNK OR ITEM REPORTED	LINE OR TRUNK EQUIPMENT	ASSOC. EQ/ CA & PR.	RECEIVED FROM	BY	TIME	DISPATCH TO/ WHERE	DISP. TIME	CLRD. TIME	CLRD. DATE	TO
1	J	222-3105	6-147		DSA ANAL.	JBB	0839	MW	0839	0910	10/6	DR
DETAILS: No ring					CALL BACK NUM/LOC.			ACTION: Replaced cut jumper VIDF 6-137				
2	A	2-9566	41-104		LTD 19	WA	0900	LL	0903	0920	10/6	LTD REC
DETAILS: Dials 344-2106 1 ring-busy, then nothing holding dead					CALL BACK NUM/LOC.			ACTION: 394 #162A Rel. Adj.				
3	A	2-3408	16-116	80-438 E6 3032	LTD BP	MA	0955	MW	0957	1020	10/6	LTD REC
DETAILS: NDT					CALL BACK NUM/LOC.			ACTION: Open ring wire at MDF; wire pulled out of conn.				
4	J	369-34			ATCo 74	CB	1430	MW	1435	1445	10/6	74
DETAILS: Reversal— released and holding					CALL BACK NUM/LOC.			ACTION				
5	A	278-5786			DSA ANAL.	JBB	1507	TR	1510	1540	10/6	DR
DETAILS: Call not hunting					CALL BACK NUM/LOC.			ACTION: Hunting feature not provided				
DETAILS					CALL BACK NUM/LOC.			ACTION				
DETAILS					CALL BACK NUM/LOC.			ACTION				

DATE 10-6-76

PAGE 1 OF 1

Fig. 5.8—SCC Telephone Log (E-6831)

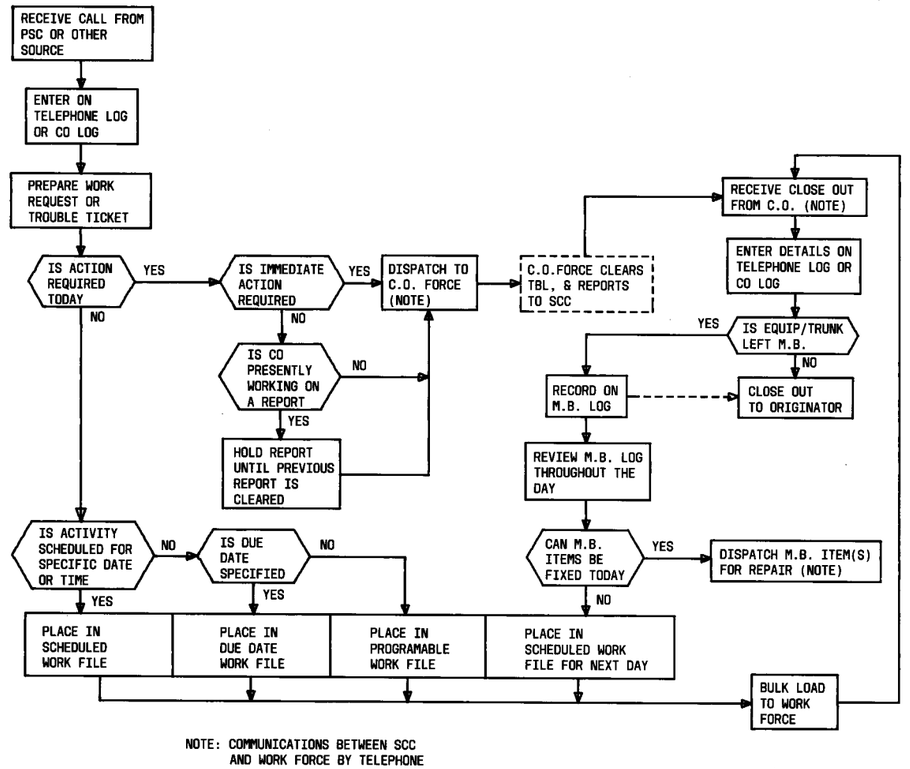


Fig. 5.9—Telephone Input Flow Chart

E-6838(9/76)

SCC WORK REQUEST

Work Force ALPHA Requested By RSB Date 10-6-76

Shift Preference (if any) D3 Estimated Hours 1½, 2, 1½

Earliest Start Date 11-4

Latest Start Date 11-15

Due Date 1120

Est./Ord. No. 09-158 Area No. _____ Acct. Code _____

Description: Add two 2-way trunks to 4A1

Work Item	Estimated Work Time	Latest Start	Completion Required
TOFR	1½	10-17	10-22
TOEQ	2	10-17	10-22
TOEQ	1½	11-15	11-20

DATE	ITEM	EMPLOYEE	HOURS CHARGED	COMPLETION DATE
11-4	TOFR	R.J.	¾	10-6
11-4	TOEQ	P.R.	2¼	10-6
11-4	TOEQ	H.J.	2½	11-1

Return To: ☐ Originator ☑ File

Fig. 5.10—SCC Work Request (E-6838)

E-6834
(9/76)

MONTH OCT. '76 OFFICE CARLTON

SCC MONTHLY WORK REQUEST SUMMARY

SHEET 1 OF 1

ITEM ID.	WORK REQ NO.	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31	
		HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM
T.O.# 75	4	12	12																																																											
SO	6	1	13																																																											
PWR	11	4	17																																																										
T.O.# 82	13			3	3																																																								

Fig. 5.11—SCC Monthly Work Request Summary (E-6834)

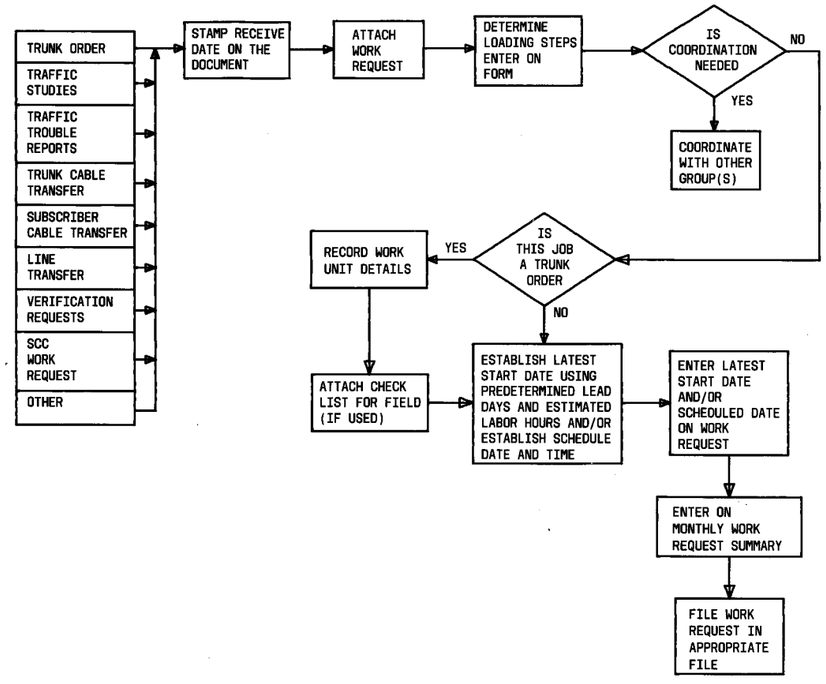


Fig. 5.12—Document Input Flow Chart

TEST AND INSPECTION WORK ORDER AND RECORD E-5452 (6-68)

OFFICE CARLTON ASSIGNMENT OR JOB NO. 388

ASSIGNMENT DATA				
B.S.P. NO. TEST LETTER OR PAR.	IM-1A001			
EQUIPMENT	CENTRAL CONTROLS			
WORK DESCRIPTION	Standby CC DGN and EA Tests			
FROM EQPT. UNIT	TO EQPT. UNIT	TOTAL UNITS	SHIFT CL	SHIFT FR
CC 0	CC 1	2	MW	W
ASSIGNED TO	TO BE STARTED	TO BE COMPLETED		
MT	10-24-76			

PROGRESS REPORT							
DATE	FROM EQPT. UNIT		TO EQPT. UNIT		TIME SPENT (MINUTES) TEST	TIME SPENT (MINUTES) REPAIR	BY
10-24	CC0	T	CC1		30		MT
10-31	CC0	T	CC1		30		JB
11-7	CC0	+	CC1		30	30	GZ
11-14	CC0	9	CC1		30		DF

WORK RECORD

EQPT. UNIT		TROUBLE APPEARANCE	ACTION TAKEN	REPAIR TIME	BY
CC	1	FAILED DGN	REPLACED A45 CP at LOC 02-12	30	GZ

TOTAL TROUBLE APPEARANCES ____________

NO. SHEETS____ SHEET NO.____

Fig. 5.13—T & I Work Order and Record (E-5452)

E-6835
(9/76)

SCC MONTHLY T&I WORK LIST

WORK FORCE CARLTON MONTH & YEAR OCT. 1976

Page 1 of 1

JOB NO.	TYPE WORK CODE	CLASS FREQ.	PRIOR	LOADED DATE/TO	EST TIME	ACTUAL TIME	COMPLETED DATE/BY	REMARKS
3	ERTN	MW3	2	10-6 CD	1½	1	10-6 CD	
4	↓	MW24	4		12			
9		MW6	3		4			
15		MW6	3		6			
16		MW12	3		10			
17	↓	MW12	3		10		10-6 CD	
32	TRTN	MW3	2	10-12 DB	3		10-12 DB	
33	↓	MW3	2	10-12 DB	1			
34		MW3	2		4			
51	↓	MW3	2		8		10-12 DB	
70	PRTN	MWW	1	10-8 DB	¼ WEEK (1 HR.)	¼ - ½	10-8 DB	
71	↓	MW1	1	10-8 DB	½	¾		
72		MW3	2	10-8 DB	2	2		
73		MW3	2		1			
74		MW12	2		6			
75	↓	MW12	3		5			
95	CRTN	MW12	3		2			
96	↓	MW12	3		2			
110	TRTN	MW12	3		4			REQUIRES COORD.
111	↓	MW12	3		4			REQUIRES COORD.
112	↓	MW12	3		3		10-9 DB	REQUIRES COORD.
137	FRTN	MW12	3		8		10-9 CD	
138	↓	MW3	21	10-8 WM	2½	3		
				TOTAL PER PERIOD	100½			

Fig. 5.14—SCC Monthly T & I Work List (E-6835)

DUTY SUPV — J. HARDNOSE TEL. NO. — 555-1216	SCC	TUX. 0	WOOD. 0	WOOD. 1	TYLER 0	LOG. 0				OFF	SCHOOL	V T	NOT AV
B. GOODGUY											X		
H. SMITH	D-1												
E. ALTHUMB	C-1												
R. SOMEBODY		D-1											
P. JONES				E-2									
K. THOMAS	C-2												
H. KLAXON													
R. LANG													
TRUCK 1	X												
TRUCK 2		X											
SEDAN 1													X

Fig. 5.15—SCC Personnel Status Board

DATE CONTROL GROUP	D N CODES	GENERIC PROGRAM	PAR ISS	TØS		TICKETS		LAST MONTH INDEX	D T S	REC OVFL	RVFY	TRAN TIME OUT	OFF OVFL	FCG & SUPV	REC TIME OUT	EQPT IREG	AMA NON-SLVG	CODE 5		REMARKS
				SVC	TRK	T	M		–	–	–	IA	CKT REL A	CKT REL B	SW FAIL	BILL. SVC	SVC CKT OUT.	OFFICE	FRAME	
TUX. O	882 885 343	CX6 7.2	9					96.7	98.00	95.50	98.50	97.00	96.50	98.50	95.50	97.50	—	97.50	89.00	
WOOD. O	961 964 393 496	5X6 7.5	25					96.8	99.00	94.50	98.00	97.50	96.00	99.00	95.00	98.00	—	97.00	90.00	

Fig. 5.16—SCC Office Status Board

LOCATION	EFFICIENCY PERFORMANCE			TODAY'S LOAD				CODE 5s	REMARKS
	LAST MONTH	LAST WEEK	PERCENT DISCREPANCY	LOADING EFFICIENCY RATE	SERVICE ORDER HOURS	TOTAL AVAILABLE HOURS	LOADABLE HOURS		
BELL	52%	55%	21%	64%	47	64	9	6	B. SMITH LOANED TO NORTH
MAIN	54%	62%	18%	66%	22	24	2	3	
NORTH	55%	49%	24%	64%	38	32	0	3	50 LINE PBX CUT 5^{30}P 7-1-77

Fig. 5.17—SCC Frame Status Board

PART 6

6. GENERAL ADMINISTRATIVE PROCEDURES

A. General

6.01 This section describes several general administrative procedures that may be used by both SCC and field forces. These functions are:

(a) Preparation of trick assignments

(b) Preparation of SCC work request

(c) Use of the SCC load and work time record

(d) Administration of corrective maintenance.

B. Preparation of Trick Assignments

6.02 This part provides first-level supervisors with techniques to organize the jobs of craft employees in a force group to obtain maximum productivity. Figure 6.1 illustrates the procedures described in this section.

6.03 Terminology used in this part is defined as follows:

(a) ***Trick:*** Identifies shift hours and an area of responsibility for assignment to a craft employee; eg, "Trick DI" would identify the 0700-1600 employee assigned specific maintenance tasks.

(b) ***Trick Assignment Hours:*** An estimate of the time required for daily repetitive tasks for a specific trick.

(c) ***Corrective Maintenance Hours:*** An estimate of the time required for corrective maintenance (trouble tickets) for a specific trick.

(d) ***Service Order Hours:*** An estimate of the time required for service order work for a specific trick.

(e) ***Total Demand Estimate:*** The total of trick assignment hours, corrective maintenance hours, and service order hours for a specific trick. The difference between the basic shift hours and the total demand estimate is the time available for loading other work to that trick.

(f) ***Work Assignment Preference:*** A table showing preferences for various types of work.

(g) ***Type Work:*** An alpha coding of specific work operations. The glossary contains a list of suggested types of work codes.

Work Assignment List

6.04 Specific job functions and responsibilities for each functional craft job in the SCC organization must be listed. This list may further delineate distinctions between work that the SCC will normally load and that which the craft should complete on their own trick assignments. Form E-5848 may be used for this purpose. This form is prepared by each supervisor for his subordinates and distributed as follows:

- SCC—one copy
- Supervisor's file—one copy
- Posted in central office--one copy.

Examples of work assignment lists for a No. 1 ESS office are in Part 3.

6.05 The following method is used by the field supervisor in preparing the work assignment list, Form E-5848, for each trick in the work force.

(a) List all daily repetitive tasks to be performed in the central office. Examples are:

(1) Respond to central office alarms

(2) Answer telephone

(3) Scan alarm remoting terminals

(4) Operate power plants.

(b) Estimate the minimum time required for each of the listed tasks.

(c) List the daily items, from (a) above, on work assignment lists, Form E-5848, in a

manner which minimizes the number of tricks assigned these tasks. Demand work must be concentrated in as few trick assignments as possible to avoid interruptions to those doing work such as trunk orders and preventive maintenance. The supervisor must carefully select demand work items for the most productive trick assignments. Related tasks should be assigned on the same Form E-5848.

(d) Total the minimum times required for each trick assignment's daily tasks for each day of the week.

(e) Designate each completed Form E-5848 with a trick assignment code: eg, D1 (day shift, job number 1), E2 (evening shift, job number 2), F1 (frame job number 1), etc.

(f) Enter on each Form E-5848 the designation of the work force, the shift hours, and the meal hours.

SCC Loading Guide

6.06 The SCC loading guide is prepared by each supervisor whose craft employees will be subject to these force management procedures. The information on the form prescribes the trick (shift and person) that will be loaded any given work item by the SCC. These forms are necessary only where the supervisor wishes to restrict the types of work assigned to different trick assignments. Form E-6836 may be used for the loading guide. The form is distributed as follows:

- SCC—one copy
- SCC manager—one copy
- Supervisor's file—one copy.

Figure 6.2 is an example of a completed Form E-6836 for an ESS office.

6.07 The form is prepared as follows:

(a) Post the estimates of trick assignment hours for each trick, determined in 6.05(d), in the lower portion of Form E-6836.

(b) In the type work column, list the type of work codes for corrective maintenance work in the central office.

(c) For each type of work code, determine the preferred trick(s) for assignment of the work operation. Enter the trick designation in the work assignment preference column(s). In most cases, it is best to assign corrective maintenance work to tricks with daily repetitive tasks rather than to tricks assigned longer duration jobs such as trunk orders or preventive maintenance. This method of assignment concentrates the short-duration work which can be interrupted to the least number of tricks.

(d) Estimate the average time required by each trick for corrective maintenance work for each day of the week. Post these estimates in the lower portion of the form.

(e) In the type work column, list the type of work codes for work in the central office.

(f) In the trick preference columns, enter the trick designations preferred.

(g) Estimate the corrective maintenance time required in each trick for each day of the week. Post these estimates in the lower portion of the form.

(h) Total the trick assignment hours and corrective maintenance hours for each trick and day of the week in the total demand estimate columns of the form.

> ***Note:*** All estimates should be reviewed to ensure that they are reasonable and that they are based on low daily averages.

(i) List the remaining type of work codes applicable to the work force in the type work column and enter the trick designations preferred for these work items.

6.08 It is usually not necessary to enter more than two or three trick codes under trick preference for one type of work code. As far as possible, limit items such as made busy equipment and trunks, and routines which can be interrupted to those tricks having trick assignments and demand duties. This will concentrate long duration work items into tricks that will not be interrupted. The SCC will enter the applicable work codes on the SCC loading guide so they can be entered on the central office work logs as work is loaded.

SCC Work Schedule

6.09 The supervisor will prepare a work schedule and send a copy to the SCC before it is posted in the central office. Figure 6.3 is an illustration of a completed SCC work schedule, Form E-6837.

6.10 Under the column labeled "Reg. Shift", insert the trick designation; ie, D1, D3, E1, etc.

6.11 Tricks having a demand hours estimate must be covered each day in scheduling. If an employee with a demand trick assignment has a scheduled day off, the uncovered demand trick hours must be assigned to another employee.

Note: All schedule changes must be coordinated with the SCC to ensure accurate loading of work items and payroll reporting.

6.12 When unexpected absences of craft employees occur, reassignment or work loads may be necessary. Any preloaded demand or scheduled work assignments will be reassigned to other employees by the SCC supervisor and the field supervisor. Other work items must also be reviewed for possible reloading.

Reviewing Trick Assignments

6.13 The SCC will load the central office work force with demand hours and specific work items in strict accordance with the work schedule and the loading guide. If the loading guide does not allow all work items to be loaded by the required dates, or if other questions in loading arise, the SCC administrative unit will contact the field supervisor to resolve the problem.

6.14 The efficiency of the central office work force depends on how well this procedure is followed. Concentrating the maximum number of people, ***consistent with demand work requirements,*** on items such as trunk order and preventive maintenance is a major key to this efficiency. Another key is the review of the load and the completed work on the central office work logs daily to see how well the loading process is working. Tricks should be restructured whenever it appears that the demand work estimate can be reduced to allow more time for loaded time. Changes in the work assignment list and the loading guide improve efficiency considerably.

6.15 Periodic meetings must be held by the SCC manager with the field supervisors and the SCC supervisor(s) to review completed trick assignments for possible job structure improvements.

C. Preparation of SCC Work Request

6.16 The SCC work request, Form E-6838 (Fig. 6.4), is used by the field and SCC supervisors as a written request for work to be loaded by the SCC. Typical requests are:

(a) Pressure cleaning of dirt in the central office

(b) Equipment installation job observations and equipment acceptance testing.

6.17 From the SCC work request, the SCC will prepare the appropriate document for loading the work.

6.18 When preparing the work request, it is essential to estimate labor hours as accurately as possible and to state a reasonable loading priority. The assignment of work should be to a trick preference rather than to an individual.

D. Use of SCC Load and Work Time Record

General

6.19 The load and work time record is a combination load sheet, work completion report, and source document for reporting time and work codes for all central office work forces. Form E-6843 is a load and work time record form that can be used for this as follows:

(a) The SCC preloads (lists) the work for each craft employee on a load and work time record.

(b) Each craft employee receives a load and work time record daily. The craft employee chronologically lists the shift activities, identifies the type of work, and enters the amount of time spent on each activity.

(c) The SCC prepares payroll reports and time summaries from the load and work time

record returned by the craft employees at the end of each shift.

Description of the Load and Work Time Record

6.20 Figure 6.5 is an example of a preloaded SCC load and work time record, front and back. The description of the form is as follows:

(a) ***Office:*** Office designation or supervisor's name.

(b) ***Empl:*** Employee's name.

(c) ***Trick:*** Trick assignment designation.

(d) ***Date:*** Date on which the central office employee performs the work.

(e) ***Shift Start:*** The actual time the central office employee started the shift.

(f) ***End:*** The actual time the central office employee ended the shift.

Note: All time entries are made according to the 24-hour clock.

(g) ***Hrs. Worked:*** Total hours worked on the shift.

(h) ***Approval:*** Initiated by the field supervisor after review.

(i) ***Type Work:*** An alpha coding of assignments to work operations. The glossary section of this plan contains a list of suggested types of work codes.

(j) ***Item Ident:*** An alpha/numeric identification of the work performed. The item identification is used to distinguish work assignments or operations; eg, trunk order number, T&I work order number, etc. It is also used by the central office employee to refer back to a specific line number for preloaded work or when an interrupted work item is started again.

(k) ***Start Time:*** Used by the SCC to specify when a scheduled or coordinated work assignment must begin. Used by the central office employee to indicate the actual time that an assignment or work operation began.

(l) ***End Time:*** The actual time the central office employee stopped or completed the assignment or work operation. The end time is always the start time for the next work item.

(m) ***Time:*** The elapsed time between the start and end time.

(n) ***Work Code:*** A designation of work activity used for accounting and forecasting purposes. Work codes are listed on the matrix on the back of the load and work time record. The central office employee uses these in place of the conventional 77R, 77M, etc, account codes. When the matrix codes do not apply, the conventional accounting code may be entered in this column if it is known.

(o) ***Disp. Code:*** The status of the work operation performed by the central office employee. For corrective maintenance, the codes are:

(1) ***F:*** Found trouble

(2) ***NTF:*** No trouble found

(3) ***MB:*** Equipment or trunk left busy

(4) ***T:*** Call traced

(5) ***Ref:*** Referred to other groups

(6) ***X, Y, or Z:*** Special studies.

For preventive maintenance, orders (trunk or transfer, etc), and other activity the codes are:

(7) ***C:*** When the item is completed

(8) ***XX%:*** The central office employee's estimate of the percentage of the work completed on a work item at the end of the shift.

(p) ***Est., RO, Remarks:*** Used to record identification numbers for estimates and routine orders associated with a work item. This column is also used for clarifying remarks that will assist in identifying coding a work assignment. Examples are:

(1) Working With EI: Enter the estimate number

(2) Tagging Cables: Enter the RO or EST number

(3) When in Doubt About a Work Code: Enter a brief description of the work

(4) For Unusual Situations: Enter a brief description of the situation including any problems encountered.

(q) The undesignated line on the front side at the bottom of the load and work time record is used by the central office employee to summarize the total time spent for each of the work codes used during the shift. For example, the left side of each box is used for entering the work code, 32: ; the right side is used for entering the total hours spent during the shift on this work code, 32:2-1/2 .

This summary line is used by the SCC for the preparation of payroll and time summary reports.

6.21 When preloading the load and work time record, the SCC enters the necessary information for dispatching work items to the central office employees. Figure 6.5 illustrates an example of this information. The SCC will list the work assignments in the following order:

(a) ***TRIK:*** Work designated on Form E-5848, work assignment list, for that particular trick assignment. The work listed on Form E-5848 is performed by the assigned central office employee throughout the shift.

(b) ***Scheduled Assignments:*** Work that must be started by the central office employee at the time specified in the start time column.

(c) ***Other Work:*** Work items entered in the order that the central office employee must start them.

Note: The scheduled work is listed ahead of other nontrick work to highlight all scheduled assignments.

6.22 The SCC will attach work documents such as trunk orders, T&I work orders, etc, to the hard copy of the load and work time record. The hard copy and the attached documents are delivered to the central office employee at the beginning of the shift.

Craft Employee Use of Preloaded Load and Work Time Record

6.23 Figure 6.6 illustrates a partially completed load and work time record used by a central office employee during the shift. Explanation of the entries made by the central office employee as the shift progresses are as follows:

(a) Shift start time (24-hour clock [top of form]).

(b) The central office employee's first work operation is entered on the first blank line after the preloaded work items (line 4).

(c) Line referrals are used in the "Item Ident" column where appropriate for each work operation rather than reentering type work and item identification each time.

(d) Nonscheduled work is interrupted to complete scheduled work (lines 7 and 8).

(e) Meal shows no elapsed time when the time used is not part of the work shift (line 9).

(f) Each end time is the start time for the next line.

(g) Disposition codes are entered for appropriate items (lines 4, 10, 11, 13).

(h) Remarks are entered to clarify specific tasks (lines 4, 5, 6, 12, 14).

6.24 Figure 6.7 illustrates the additional entries made on the load and work time record by the central office employee at the end of the shift. These are:

(a) Actual shift end time (top of form)

(b) Actual hours worked during the shift (top of form)

(c) Summation of work codes used and time total for each work code on the summary line (bottom line of form).

Field Supervisor Review of Completed Load and Work Time Record

6.25 At the end of the shift, if the supervisor is accessible the craft employee submits the

completed load and work time record, work documents completed, and closed-out trouble tickets to his supervisor. The supervisor will review the completed form to verify that:

(a) The actual shift start and end times are entered.

(b) The hours worked are entered.

(c) The start and end time for each work item is entered and that the ***time is reasonable for the specific activity.***

(d) The entries are chronological.

(e) There is no grouping of time for work items other than service order activity or trick work reported to X1 work code.

(f) All X2 work code entries have ticket numbers entered in the item identification column.

(g) All trouble ticket entries have a disposition code and that other work activities, except trick items, have a disposition code on the entry for each specific activity.

(h) Work codes are accurate.

After reveiw, the field supervisor initials the approval space at the top of the load and work time record and forwards the completed form, trouble tickets, and T&I work orders to the SCC according to local instructions. Other documents will be filed in the central office according to local instructions.

E. Central Office Corrective Maintenance Administrative Procedures

6.26 Corrective action inputs may be received by the central office work force from four sources:

(a) Internal indicators (alarms, test frames, etc)

(b) Verbal communication from the SCC

(c) Load and work time records from the SCC

(d) After-hours trouble calls.

These inputs are all acted upon by the central office work force. The methods of operation vary slightly for each action input.

Internal Indicators

6.27 Internal indicators are audible or visual indications of a trouble condition in the central office. Some of the common indicators are:

(a) Maintenance teletypewriter

(b) Audible alarms

(c) Visual alarms.

6.28 One or more employees may have trick assignments that include responding to internal indicators, preparing trouble tickets as required by the controlled maintenance plan (CMP), and taking corrective action. If the trouble cannot be corrected within a reasonable time, a make busy operation may be made.

6.29 The central office employee must call the SCC to advise if the equipment and/or trunk has been made busy. All necessary details should be passed to the SCC. If equipment or trunks were left made busy, a decision will be made by the SCC whether the central office employee will repair the equipment and/or trunk immediately or later as follows:

(a) ***Immediately:*** If the SCC determines that an equipment or trunk out-of-service condition to be imminently detrimental to good service, it will direct the central office employee to effect immediate repairs.

(b) ***Later:*** The SCC will direct the central office employee to another assignment and will place the information on the appropriate outage logs. The central office employee will be directed to place the ticket in the central office make busy file. Repair of these made busy items will be assigned as follows:

(1) By work assignment lists

(2) By telephone from the SCC later that day

(3) By load and work time record as a scheduled assignment for the next work day.

6.30 All tickets that have been received for corrective action should be filled out completely. The central office employee must record each activity associated with a trouble ticket on the load and work time record.

6.31 At the end of the shift the field supervisor will:

(a) Review all trouble tickets for completeness, accuracy and legibility, as well as for consistency of report to actual trouble found.

(b) Verify the load and work time record against the trouble tickets for accuracy in reporting type of work, ticket number, time, work code, and disposition.

(c) Forward the tickets to the SCC.

Telephone Inputs to the Central Office

6.32 During the hours that the SCC is in operation, most telephone calls to the central office will be from the SCC. These calls will be directed to predetermined central office employees who will perform the necessary work operations. Most of the calls to the central office will be for immediate corrective action. They are handled as follows:

(a) From the SCC loading guide, the SCC selects the proper central office employee for the assignment. The central office employee is given the following information:

(1) The trouble report

(2) The assigned trouble ticket number

(3) The trouble ticket class

(4) All other required details.

(b) Then the central office employee:

(1) Fills out a trouble ticket

(2) Performs the necessary corrective action

(3) Reports status to the SCC, including equipment and/or trunk make busy information

(4) Closes out or files the trouble ticket as directed by the SCC

(5) Records the activity on the load and work time record.

Load and Work Time Record

6.33 Corrective work assigned on the load and work time record normally will be on previously made busy equipment and/or trunks as a result of pattern analysis. The following action will be taken:

(a) The central office employee will perform any corrective work indicated on the load and work time record per the attached trouble ticket or from the ticket in the central office make busy file (indicated as TMBT or TMBE on the load and work time record).

(b) When the corrective work is completed, the central office employee will complete the trouble ticket, record the necessary details on the load and work time record, and report completions to the SCC by telephone.

After-Hours Trouble Reports

6.34 Certain central office employees in specific predesignated central offices will receive telephone inputs after hours when the SCC is not active. These reports may be handled at the location or relayed to other central offices. These responsibilities are preassigned as a part of the central office employee's normal after-hours duties and include the following:

(a) Receive incoming calls.

(b) Record all details on an after-hours SCC telephone log.

Note: The telephone number of the location originating the call will be entered on the telephone log for future reference.

(c) Call the involved office for action (if it is not on-site), using established telephone numbers for these calls.

(d) Relay all details of the report or request to the central office employee in attendance at the called central office, including the telephone number of the originator.

(e) The central office employee in the involved office will:

(1) Prepare a trouble ticket

(2) Perform the corrective work and restore the equipment and/or trunk to service

(3) Report action taken to the originator.

6.35 The field supervisor must arrange to notify the SCC of all after-hours activity, including any make busy equipment or trunk information at the beginning of the next working day.

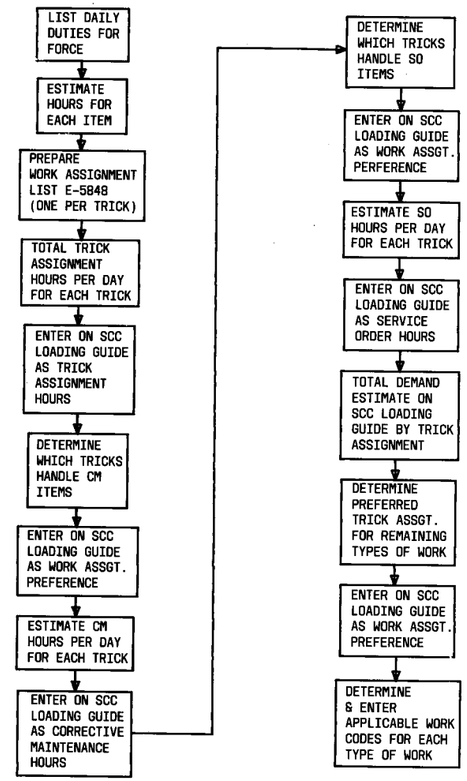


Fig. 6.1—Trick Assignment Procedure

E-6836
(9/76)

SCC LOADING GUIDE

OFFICE CARLTON ESS

DATE PREPARED 7-1-75

TYPE WORK	WORK ASSIGNMENT PREFERENCE — TRICK PREFERENCE 1	2	3	4	WORK OR DISTRIBUTION CODE(S)		
TA	D1	D2	E1				
TJ	D1	D2	E1				
TMBE	D2	D1	E1		12		
TMBT	D2	D3	E1		42		
TB	D1	D2	E1				
ERTN	E1	D3	D2		13		
FRTN	F1				13		
PRTN	E1	D2			13		
TRTN	E1	D3			43		
TOE 9	D3	E1			17	47	57
TRFC	D1	E1			11		
ENGR	D1	E1			11		

DEMAND WORK ESTIMATE

TRICK	TOTAL DEMAND EST. S	M	T	W	T	F	S	TRICK ASSIG. HRS. S	M	T	W	T	F	S	CORR. MTC. HRS S	M	T	W	T	F	S	SERVICE ORDER HRS. S	M	T	W	T	F	S
D1		6	6	6	6	6	4		5	5	5	5	5	2		1	1	1	1	1	2								
D2		4	4	4	4	4			2	2	2	2	2			2	2	2	2	2									
E1		3½	3½	3½	3½	3½			2	2	2	2	2			1½	1½	1½	1½	1½									
F1		½	½	½	½	½			½	½	½	½	½																

Fig. 6.2—SCC Loading Guide (E-6836)

E-6837
(9/76)

PERIOD AUG. 29 - OCT. 4, 1976 POSTED TIME 2 PM DATE 8-18-76

SCC WORK SCHEDULE

(SUNDAY TO SATURDAY WORKWEEK)

LOCATION CARLTON
FORCE CENTRAL OFFICE

	NAME	Date / Reg Shift	29 Sun.	30 Mon.	31 Tue.	1 Wed.	2 Thu.	3 Fri.	4 Sat.	Date / Reg Shift	5 Sun.	6 Mon.	7 Tue.	8 Wed.	9 Thu.	10 Fri.	11 Sat.	Date / Reg Shift	12 Sun.	13 Mon.	14 Tue.	15 Wed.	16 Thu.	17 Fri.	18 Sat.	Date / Reg Shift	19 Sun.	20 Mon.	21 Tue.	22 Wed.	23 Thu.	24 Fri.	25 Sat.	Date / Reg Shift	26 Sun.	27 Mon.	28 Tue.	29 Wed.	30 Thu.	1 Fri.	2 Sat.	Date / Reg Shift	3 Sun.	4 Mon.	
1	MASSON, E.T.	D1	O	—	—	—	—	—	O	D1	O	APX	—	—	—	—	O	D4	O	—	—	—	—	O	D4	O	—	—	—	—	—	O	D4	O	Y	V	V	V	V	O	D4	O	—	1
2	TAYLOR, G.L.	D3	O	—	—	—	—	—	O	D3	O	APX	—	—	—	—	O	D1	O	—	—	—	—	O	D1	O	—	—	—	—	—	O	D1	O	—	—	—	—	—	O	D1	O	—	2
3	BELL, M.A.	D2	O	O	—	—	—	—	O	D2	O	APX	—	—	—	—	O	D2	O	—	—	—	—	O	D2	O	—	—	—	—	—	O	D2	O	—	—	—	—	—	O	D2	O	—	3
4	WILLIAMS, S.M.	D4	O	V	V	V	V	V	O	D4	O	(D1)	—	—	—	—	O	D3	O	—	—	—	—	O	D3	O	—	—	—	—	—	O	D3	O	—	—	—	—	—	O	D3	O	—	4
5	HUGHES, H.	D5	O	—	—	—	—	—	O	D5	O	APX	—	—	—	—	O	D5	O	—	—	—	—	O	D5	O	—	—	—	—	—	O	D5	O	—	—	—	—	—	O	D5	O	—	5
6	SCHUSTER, P.L.	E2	O	—	—	—	—	—	O	E2	O	APX	—	—	—	—	O	E2	O	—	—	—	—	O	E2	O	—	—	—	—	—	O	E2	O	—	—	—	—	—	O	E2	O	—	6
7	MORRIS, W.H.	E1	O	—	—	—	—	—	O	E1	O	APX	—	—	—	—	O	E1	O	—	—	—	—	O	E1	O	—	—	—	—	—	O	E1	O	—	—	—	—	—	O	E1	O	—	7
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D = DAY SHIFT
E = EVENING SHIFT
N = NIGHT SHIFT
O = NO WORK SCHEDULED
X = CHANGED ENTRY

(oval) = PREMIUM PAYMENT
—— = WORK SCHEDULED 8 HRS

NOTES:

Fig. 6.3—SCC Work Schedule (E-6837)

E-6838(9/76)

SCC WORK REQUEST

Work Force ALPHA Requested By RSB Date 10-6-76

Shift Preference (if any) D3 Estimated Hours 1½, 2, 1½

Earliest Start Date 11-4

Latest Start Date 11-15

Due Date 11-20

Est./Ord. No. 09-158 Area No. _____ Acct. Code _____

Description: Add two 2-way trunks to 4A1

Work Item	Estimated Work Time	Latest Start	Completion Required
TOFR	1½	10-17	10-22
TOEQ	2	10-17	10-22
TOEQ	1½	11-15	11-20

DATE	ITEM	EMPLOYEE	HOURS CHARGED	COMPLETION DATE
11-4	TOFR	R. J.	¾	10-6
11-4	TOEQ	P. R.	2¼	10-6
11-4	TOEQ	H. J.	2½	11-4

Return To: ☐ Originator ☑ File

Fig. 6.4—SCC Work Request (E-6838)

FRONT →

LOAD AND WORK TIME RECORD

OFFICE CARLTON ESS EMPL J. JONES TRICK DJ DATE 10-1-76

SHIFT: START ____ END ____ HRS. WORKED ____ APPROVAL ____

	TYPE WORK	ITEM IDENT.	START TIME	END TIME	TIME	WORK CODE	DISP. CODE	OFFICE	EST., R.O., REMARKS	EST. TIME
1	TRK									
2	TDEQ	LI-533	1100			17		EMERSON	CALL BERTSW AT 345-9999	
3	TRTN	77				43				
4										
5										
6										
7										
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E-6843 (9-76)

WORK CODE	EXCH ESS	EXCH SXS	=1 & =S X BAR	TRUNK TEST	EXCH CKT EQ	TOLL CKT EQ			
TRICK ASSGT	11	21	31	41	51	61	71	81	91
CORR MTC	12	22	32	42	52	62	72	82	92
PREV MTC	13	23	33	43	53	63	73	83	93
SO USSO–FRAME	14	24	34	44	54	64	74	84	94
SO USSO–EQUIP	15	25	35	45	55	65	75	85	95
TRK FAC ORDER-FRAME	16	26	36	46	56	66	76	86	96
TRK FAC ORDER-EQUIP.	17	27	37	47	57	67	77	87	97
FAC XFER	18	28	38	48	58	68	78	88	98
TRAVEL	19	29	39	49	59	69	79	89	99
	10	20	30	40	50	60	70	80	90

DISPOSITION CODE

CORR MTC
- F – FOUND
- NTF – NO TBL FOUND
- MB – MADE BUSY
- REF – REFERRED
- X –
- Y – SPEC STUDY
- Z – LOCAL USE

← BACK

Fig. 6.5—SCC Load and Work Time Record (E-6843)

E-6843
(9-76)

LOAD AND WORK TIME RECORD

OFFICE CARLTON ESS EMPL J. JONES TRICK D3 DATE 10-1-76

SHIFT: START 0800 END _____ HRS. WORKED _____ APPROVAL _____

	TYPE WORK	ITEM IDENT.	START TIME	END TIME	TIME	WORK CODE	DISP. CODE	OFFICE	EST., R.O., REMARKS	EST. TIME
1	TRK									
2	TOEQ	LI-533	1100			17		ENGLSON	CALL PENSON AT 346-9999	
3	TRTN	77				43				
4		1	0800	0815	1/4		C			
5		1	0815	0900	3/4	11			RECORDS	
6		1	0900	0915	1/4	41				
7		3	0915	1100	1 3/4	43				
8		2	1100	1200	1	17				
9	MEAL		1200	1300						
10		2	1300	1400	1	17	C			
11		3	1400	1615	2 1/4	43	C			
12		1	1615	1630	1/4	41				
13	TA	7	1630	1645	1/4	12	F			
14		1	1645	1700	1/4	41				
15										
16										
17										
18										
19										
20										
	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮	⋮

Entries by SCC

Entries by CO Employee

Loaded by SCC

Daily Activities Recorded by CO Employee

Fig. 6.6—SCC Load and Work Time Record (E-6843) (During Shift)

E-6843
(9-76)

LOAD AND WORK TIME RECORD

OFFICE CARLTON ESS EMPL J. JONES TRICK D3 DATE 10-1-76
SHIFT: START 0800 END 1700 HRS. WORKED 8 APPROVAL

Entries by CO Employee

	TYPE WORK	ITEM IDENT.	START TIME	END TIME	TIME	WORK CODE	DISP. CODE	OFFICE	EST., R.O., REMARKS	EST. TIME
1	TRK									
2	TOEQ	LI-533	1100			17		EMERSON	CALL BERTON AT 345-9999	
3	TRN	77				43				
4		1	0800	0815	1/4	5R	C			
5		1	0815	0900	3/4	11			RECORDS	
6		1	0900	0915	1/4	41				
7		3	0915	1100	1 3/4	43				
8		2	1100	1200	1	17				
9	Meal		1200	1300						
10		2	1300	1400	1	17	C			
11		3	1400	1615	2 1/4	43	C			
12		1	1615	1630	1/4	41				
13	TA	7	1630	1645	1/4	12	F			
14		1	1645	1700	1/4	41				
15										
16										
17										
18										
19										
20										
	5R :1/4		11:3/4		41:3/4	43:4	17:2	12:1/4	:	:

EMPLOYEE ACTIVITY TO BE SUMMARIZED

Fig. 6.7—SCC Load and Work Time Record (E-6843) (End of Shift)

7. FRAME FORCE ADMINISTRATION

A. General

7.01 The procedures in this section are intended to supplement those specified in the frame force management plan (FFMP) available as BSP Section 201-200-010 dated September 1976. The procedures for identifying the offered load, developing expected times for all frame tasks, and assigning the force to match the offered load are fully developed in the FFMP. Emphasis in this section will be in the area of melding this work as part of the total load controlled through the switching control center.

B. Procedures for Managing Frame Operations

7.02 Frame work consists of demand work (customer initiated orders) and programmable work (company initiated orders). Both types of work may be routed to the switching control center where they are loaded to the frame forces based on the procedures outlined in the FFMP. In most cases, however, because of time constraints, service orders will be routed directly to the appropriate frame location. If this is being done, a designated person will call the switching control center, prior to the next working day, with the information on the number of orders received with a due date for the next day. Using this information and adjusting the forecast to allow for zero due date and late received orders, the daily frame forecast (Form E-6619) will be prepared by the switching control center. To this forecast will be added other scheduled (trunk orders, cable transfers, etc) and programmed work to the extent that the available force permits.

7.03 The switching control center supervisor is in a position to evaluate the offered loads at each of the frames and adjust the force to meet the overall frame load for a particular day.

7.04 The frame control center (FCC) functions referred to in paragraph 4 of the FFMP may be performed as part of the switching control center functions where one has been established. A supervisor at the SCC will assume responsibility of this function and the clerical support may be dedicated to all frame activities handled through the switching control center. If all clerical functions for a particular office are being handled by one clerk, that person assumes the responsibilities outlined in the FFMP.

7.05 In metropolitan areas a multientity frame operation may warrant the establishment of a district FCC which operates in connection with the switching control center to coordinate all frame activity.

C. Frame Force Management Plan

7.06 A copy of the FFMP should be filed in this section for reference to frame procedures as detailed in the plan.

PART 8

8. EVALUATION

A. Individual Performance

Management

8.01 The establishment of a SCC involves the creation of new work functions and the modification of some traditional central office assignments. The effective evaluation of the management personnel working as part of the SCC is important to the operation of the SCC and to the individual involved.

8.02 Using the job descriptions presented in Part 3 as a basis, individual objectives can be established between the manager and each subordinate. It is important that the objectives be realistic ones, and that they concern items over which the individual has substantial control. The centralization and overlap of some responsibilities inherent in a SCC can introduce new problems in defining specific accountability. This fact, coupled with the greater interaction of forces, requires both the district and SCC managers to make closer observations of their organization. The centralization of reports and status board information at the SCC provides excellent performance indicators to the SCC manager. More feedback is generated internally in the SCC operation which can serve as an important source of information. The SCC manager should use these tools to closely observe the organization to determine each first-level supervisor's individual contribution to both good and bad results.

SCC Manager

8.03 The SCC manager should be evaluated in two major areas. These are the ability to achieve specific objectives on the traditional measurements like indexes and productivity, and the ability to implement and direct a successful SCC. Because the SCC manager retains control of the activity concerning a group of offices (preventive and corrective maintenance, frames, SCC administration), it is not difficult to assign responsibility to this individual for the performance of a group of central offices. In multientity buildings, the frame activity is sometimes controlled by a separate manager; therefore, responsibility for results in this area may not be included.

8.04 The SCC manager should establish objectives with the district manager on the implementation and improvement of the SCC. These can include such items as due dates for the establishment of craft teams, installation of operational support systems, or the consolidation of certain first level entities under one supervisor. The district manager should stay posted on the SCC and central office operations by monitoring certain key performance indicators. The investigation of variances from the objectives for these indicators can serve as one input to periodic appraisal sessions with the SCC manager.

8.05 A list of suggested evaluation items for the manager can include:

(a) Network Switching Performance Measurement Plan (NSPMP) for the combined central offices

(b) Trunk Service Results Plan (TSRP) for the combined central offices

(c) Trunk Transmission Maintenance Index (TTMI) for the combined offices

(d) Customer Trouble Report Rate as measured on the area E2700 (code 5, 7, 8, total)

(e) Productivity goals measured by estimated productive hours versus actual productive hours

(f) First Level Development—evaluated by reviewing the documented objectives and appraisals the manager establishes with each subordinate

(g) SCC Development—track whether new procedures and hardware are implemented as scheduled

(h) Overtime—evaluate results in hours/employee/week and also in the effectiveness of the transfer of forces between central offices

(i) Preventive maintenance backlog measured by estimated routine hours not completed.

First-Level Supervisors

8.06 The evaulation of first level supervisors by the SCC manager requires greater analysis of results and performance on the manager's part to accurately determine their effectiveness than is normally performed in the non-SCC environment. The team concept must be sold to each supervisor, while at the same time allowing each individual adequate decision-making authority to be able to appraise their performance. Because many of the traditional measurements such as office indexes are affected by more than one supervisor, it is necessary to establish some common objectives with all first-level supervisors. The field supervisors should feel responsible for the office indexes but cannot be held solely accountable for the results.

8.07 The key to effective evaluation of first-level managers begins with a measurement system to appraise the quality and quantity of work for nonmanagement individuals. This can be used as building blocks to establish group performance standards for each first-level supervisor. Meaningful objectives can then be established to improve the performance of a supervisor's work group or that of a specific individual with respect to norms determined for the manager's area. Performance standards for central office craftspeople are being developed, but it will be some time before they are documented. Any criteria that has been developed in local operating areas can be used in the interim to provide a better means of evaluating how well the first-level supervisor is managing the work force.

8.08 One recommended method of documenting the objective setting session between the SCC manager and the first-level supervisors is provided in Fig. 8.1 and 8.2. These are examples of the responsibilities and functions on which the SCC and field supervisors could be appraised. Additional items may be added to reflect local conditions, and similar work sheets should be prepared for all other supervisors working as part of the SCC. The purpose of the work sheet is to determine the functions that the supervisor performs and to define the measurement on which job performance will be evaluated. Each function should represent an output oriented work effort over which the supervisor has substantial control. The power to act defines the freedom to control that output that the supervisor is given. Direct control or autonomy is desirable and jobs should be designed with that concept in mind whenever possible. The manager and supervisor should agree on the power to act for each function and, where shared responsibility exists, both subordinates must agree on their dual role. It is important that all appraisal activity be well documented by the manager. This includes both the objectives for each subordinate and the performance results obtained. When this is done, the year end appraisal becomes much easier to prepare.

8.09 To help the manager perform the evaluation function, a suggested list of key indicators is provided. Whenever one of these indicators falls below objective levels, the manager should investigate the possible reasons to determine where the problem exists. The results of these investigations, coupled with daily observations and the improved feedback mechanism of the SCC, should provide the manager with specific data on which to help formulate appraisals of the first level supervisors.

8.10 A list of key performance indicators follows with possible reasons why results may not be at objective levels.

(a) Index Results—This may include variations from expected results in any components of the major service indicators of central office performance.

(1) Analysis of SCCS output at SCC is not effective because of poor trouble found rate, slow clearance of persistent troubles, etc.

(2) Central office forces are not taking proper response to SCCS reports and/or office alarms.

(3) Effective long term analysis of trouble trends and external reports (EBAC, NOTIS, etc) is not being done and few troubles are being found from this analysis.

(4) Training of craft forces on trouble clearance needs improvement.

(5) Preventive maintenance is not being completed properly.

(b) Missed Due Dates—This area can include requirements for submission of reports, budgets and indexes; completion of trunk and

special service orders; clearance of troubles referred into the SCC.

(1) Phone call procedures are not correct at the SCC as observed from logs, monitoring of calls, complaints from callers.

(2) Loading of work from SCC is causing problems in missed appointments, not enough lead time to central office, poor communication with central office.

(3) Reports are not prepared on time due to errors at the SCC or with lack of data required from field or external forces.

(4) Coordinated functions of the SCC are not effective in ensuring proper order flow, scheduling and correction of document errors.

(c) Productivity Results—Measured by ratio of estimated hours to actual hours worked and in specific frame efficiency figures under the Frame Control Plan.

(1) Pricing procedures at SCC are not effective because of improper use by clerks or because required adjustments have not been made.

(2) Loads given to craftspeople are frequently being broken because of poor supervision by the first-level field supervisor or inadequate feedback to the SCC to modify the loads.

(3) Craft work habits and training need improvements as seen in work evaluations prepared by the first-level supervisors.

(4) Ineffective use of the transfer of craft forces is being made by the SCC supervisor.

(5) A high percentage of service order errors is contributing to poor frame efficiency.

(6) The trick hours required for one office may be too high when compared to other offices of similar size.

(d) Feedback—Verbal and written information should flow into the SCC manager from the first-level supervisors and from coordinates in other departments. It is recommended that the manager hold a weekly meeting with the first-level supervisors to discuss common goals and problems. In addition, informal feedback is received from clerks and craftspeople observed at work.

(1) Communication between field and SCC supervisors is not effective and results in poor scheduling and loading of work.

(2) Communication between field craftspeople and those in the SCC is poor and contributes to ineffective trouble clearance and duplication of analysis effort.

(3) Outside groups can indicate problems with trouble clearance, message handling, due dates of orders, etc.

Craft and Clerical

8.11 Nonmanagement evaluations are important to determine the effectiveness of the personnel staffing the SCC and working in the central office. As was mentioned previously, work on developing individual standards has begun. Where possible, the management by objective philosophy used to evaluate management personnel should be carried down to the craft and clerical forces. Each supervisor should determine the long range goals of each employee and use this information to help plan the job assignments for the individual. Personnel and group objectives should be set with the supervisor and each employee should be evaluated with those objectives in mind. Wherever possible, while being consistent with the needs of the business, employees should be given the opportunity to progress as far as their ability and desire warrant.

8.12 The closer interaction among work groups brought on by the SCC organization requires all supervisors to be sensitive to the efforts toward cooperation that each employee is making. This is particularly important for those individuals working in the SCC and processing work items for the on-site forces. The SCC operation provides each supervisor with the opportunity to feedback information to coordinates about the interaction of craftspeople and clerks. The supervisors should plan craft rotation together in conjunction with the manager. As an example, this would give the opportunity for a member of the PM team to work in the SCC at a period convenient to both supervisors.

8.13 The following measurement items are provided as suggestions to help first level supervisors appraise the individuals in their work force.

Evaluation Item	Measurement Criteria
(a) Absence and safety	(1) Personal absence record.
	(2) Personal safety record.
	(3) Are safety glasses worn when required?
(b) Personal development	(1) Establish individual goals on a job skill and track with evaluations.
	(2) Does employee work well independently?
	(3) Does employee meet productivity standards as measured by expected work items/day, etc?
(c) Load and work time record	(1) Is record complete and accurate as measured by inspections?
	(2) Establish objectives on "% loaded items completed" and track.

B. Overall SCC Performance

8.14 The establishment of a SCC makes it necessary for the SCC manager and higher level management to have some criteria for evaluating the effectiveness of the organization. Many of the traditional central office review guidelines no longer apply in the manner which they were intended. The manager must determine the overall effectiveness of the organization including central office performance, SCC performance, cost effectiveness, and the effect on people. At a future date, detailed review procedures will be a part of the Network Maintenance Management Plan.

8.15 There are some basic areas of concern that the SCC manager should periodically review to help determine the effectiveness of the SCC. Records on the pre-SCC performance of the central offices should be maintained and used for comparison purposes. Answers to the following questions will provide a broad indication of the SCC operating efficiencies.

(a) What are force levels before and after SCC implementation?

(b) What are force level forecasts for the next year?

(c) What percentage of corrective maintenance is being preassigned from the SCC? (This assumes the use of operational support systems.)

(d) Have trick hours changed since start of SCC?

(e) Are preventive maintenance routines current?

(f) Have office index results improved or remained at high levels?

(g) Has frame productivity improved?

(h) Are field supervisors doing a better job of training and development?

(i) Is the SCC effectively coordinating the interaction of other work groups?

(j) Are operations support systems being used effectively?

(k) Do unsolved labor problems exist?

(l) Is SCC related training adequate?

(m) Is the clerical force performing effectively?

(n) Is the physical environment of the SCC adequate?

(o) Are SCC communications functioning adequately?

(p) Have overtime hours decreased?

SCC SUPERVISOR

RESPONSIBILITY	FUNCTION	MEASUREMENT	SOURCE	POWER TO ACT
I. Responsible for SCC administration	I. Supervises loading of programmable work	% missed due dates	SCC logs	a. Direct over SCC b. Coordinates with field supervisors
	II. Supervises issuance of reports	a. % missed due dates	Tally from outside groups	Direct
	III. Monitors work load to minimize backlog	hours of backlog/ office	SCC work files	Direct
	IV. Supervises telephone answering	wait for answer time	a. Sample by SCC manager b. Complaints from other work groups	Direct
II. Coordinates CO interface	I. Direct force adjustment	"R" & "M" wu/hr for manager's area	E5300	Coordinates with field supervisors with escalation power to Management
III. Responsible for supervision and development of craft and clerical forces at SCC	I. Controls absence and safety	a. % absence b. number of safety meetings	Standard records	Direct
	II. Conducts training	Number of work evaluations	Standard records	Direct
IV. Directs corrective maintenance	I. Supervises surveillance functions at SCC		NSPMP	Shared with field supervisor
	II. Supervises use of CAROT data	% out of limits	TTMI	Shared with T & C supervisor

Fig. 8.1—SCC Supervisor's Responsibilities and Functions

FIELD SUPERVISOR

RESPONSIBILITY	FUNCTION	MEASUREMENT	SOURCE	POWER TO ACT
I. Direct corrective maintenance activity at CO	I. Supervises troubles clearance	a. Equip outage component of index	NSPMP	Direct
		b. Code 5 equipment	NSPMP	Direct
	II. Supervises PM routines less than 30 days	Number routines backlogged	COMMS	Direct
II. Directs frame activity	I. Supervises frame work	a. Code 5 frame b. Frame efficiency	a. NSPMP component b. Frame control plan	Direct
III. Responsible for supervision and development of CO craft force	I. Controls absence	% absence	Standard records	Direct
	II. Controls safety	Number safety meetings	Documented records	Direct
	III. Conducts training	Number work evaluations	Documented records	Direct
IV. Directs security procedures at CO	I. Ensure building is secure	Number of discrepancies	Review by manager and or staff	Direct
V. Directs craft forces	I. Supervises craft forces	% broken load	SCC stroke record from CO work log	Direct over craft coordinates with SCC supervisor

Fig. 8.2—Field Supervisor's Reponsibilities and Functions

PART 9

9. FORECASTING

A. General

9.01 This section defines the forecasting process and the procedure to be followed in preparing a "bottom-up" view of maintenance hours required for both short (monthly) and long range (annual) projections.

B. Definition and Purpose of Forecasting

9.02 Force forecasting is defined as the process of determining future force needs based on as many predictable factors as possible, some of which are based on historical data, while others are made on assumptions. Experience and judgement will dictate what additional factors will influence future requirements.

9.03 The purpose of forecasting is to determine in advance the requirement for maintenance hours necessary to do the total job, then to match available resources to those requirements. The forecast is the basis for determining the number of maintenance personnel needed to meet those requirements. If required hours exceed available personnel, early identification can be made as to which aspect of the maintenance job may have to be deferred.

9.04 Predicting future requirements in terms of hours can also identify surplus force, particularly as modernization and improved productivity reduce required maintenance hours. Since the alternatives to reducing the force are limited, it is in the manager's best interest to have advance knowledge so he may pursue those alternatives available to him.

C. Establishing Objectives

9.05 The objective of all network maintenance managers, regardless of level, is to maintain the designed switching capacity of the equipment at the lowest possible cost. The plant cost results plan provides a measurement of cost intended for large scale operations (district and above) and equates cost into work units per hour. ***The cost objective for the first- and second-level managers however, is in terms of how many hours are necessary, as a minimum, to meet maintenance and growth requirements.***

D. Collection of Data

9.06 The following forms are provided for the accumulation of actual time charges:

- E-6843, SCC Load and Work Time Record, described in paragraph 6.20
- E-6839, SCC Daily Time Summary, described in paragraph 5.79
- E-6840, SCC Monthly Time Summary, described in paragraph 5.81
- E-6841, SCC Monthly Forecast, described in paragraph 9.08
- E-6842, SCC Annual Forecast, described in paragraph 9.10.

9.07 Fig. 9.1 is a flow chart illustrating the procedures for handling actual time summaries and preparing forecasts.

E. SCC Monthly Forecast

9.08 The SCC Monthly Forecast, Form E-6841 (Fig. 9.2), is an ***optional*** form that is intended to provide a short range view of maintenance hour requirements for a work force. Each supervisor having productive employees reporting to him would prepare this form in those areas applicable to his operation, ie, SCC, field, or frame. The summary of these forecasts can be used by the SCC manager to provide a close-up view of his force situation and provide additional insight into force requirements in the month ahead.

9.09 Some factors to consider in forecasting force requirements are:

(a) Historical trends for corrective and preventive maintenance

(b) Large change jobs

(c) Large growth jobs

(d) Seasonal adjustments.

9.10 The form can be used to forecast weekly hours which can then be compiled for the monthly forecast. Experience gained in making these forecasts and comparing them to the actuals will be beneficial in providing more realistic forecast data on the annual forecast form (E-6842, Fig. 9.3). The sources of estimates and actuals are similar to those for the annual forecasts as illustrated in Fig. 9.4 and 9.5.

F. SCC Annual Forecast

9.11 The SCC Annual Forecast, Form E-6842 (Fig. 9.3), is to be completed annually for each second-level or SCC manager's group. In addition, it is recommended that each work force in a district be combined into a composite summary for the district. Fig. 9.4 shows the source for each time. The steps for preparation of the forecast are as follows:

(a) ***Corrective, Change, C&X***

(1) Lines 1, 2 and 3—Enter estimates of trick assignment and corrective maintenance hours based on the loading guide which ***must be current.***

(2) Lines 4 and 5—The forecast of hours for SO and USSO frame and equipment work is based on trends for the same month in previous years adjusted by any factors that might affect the trend. The factors to be considered are: (1) current frame efficiency rates, (2) planned area transfers, (3) planned centrex activity, (4) information supplied by network administration or other groups.

The forecast should be compared with the installation force management (IFM) forecast which reflects the commercial forecast of main station growth. Any marked differences between these two forecasts should be analyzed and adjusted as necessary.

(3) Lines 6 and 7—Consult with the network facility and engineering groups to determine the expected amount and scheduling of trunk and facility order activity in relation to the current year. Enter estimates based upon the same month's load for the current year, adjusted by the expected differences.

(4) Line 8—Consult with the outside plant engineers and construction to determine the amount and scheduling of cable activity which will reduce central office work. Enter these estimates by month.

Note: Hours for any large scale frame effort not usually performed, such as area transfers, will require individual forecasting and are added to the hours forecasted in steps (2) through (4).

(5) Line 9—Enter the estimated travel hours based on the current year.

(6) Line 10—Enter the estimated other productive hours (hours usually expended for other forces). Some of these items are: (1) reading and recording cable air volume usage, (2) subscriber line testing, (3) verification for other departments. This estimate can be based on the current year's trend.

(7) Line 11—This line is provided for local use to identify a separate ***other productive hour code*** if the hours are significant enough to justify separate forecasting.

(8) Line 12—Total lines 1 through 11.

(9) Line 13—Enter the estimated C&X hours. The field supervisor or SCC manager must provide these hour estimates as defined in part 5 of this document. The initial establishment of hour requirements and time periods is an estimate. Precise predictions cannot be made until WECo forces begin the job. At that time, it is essential that scheduling and coordination meetings be held to assure that adequate hours are available when needed and are reflected in an updated forecast.

(10) Line 14—Total of lines 12 and 13.

(b) ***Force***

(1) Line 15—Enter the basic number of employees in the work force.

(2) Line 16—Enter the number of regular hours per employee in the month. (The number of working days in the month, including holidays, times 8.)

(3) Line 17—Multiply line 15 by line 16 and enter the result on this line.

(c) ***Non-Productive***

(1) Line 18—Enter the estimated vacation and holiday time as a percent of line 17. For an initial annual forecast, the following should be considered: (1) total vacation hours for the existing force, (2) past vacation schedules for historic trend, (3) number of people that can be scheduled at any one time consistent with the demands of the service. Later, when vacation schedules have been completed, forecasted vacation hours become a stable figure.

(2) Line 19—Enter the estimated paid absence as a percent of line 17 based on the current year.

(3) Line 20—Enter estimated other undistributed time as a percent of line 17 based on the current year.

(4) Line 21—Enter estimated unpaid absence as a percent of line 17 based on the current year.

(5) Line 22—Enter the total of lines 18 through 21.

(6) Line 23—This line is provided for local use if it is necessary to forecast a particular undistributed code individually.

(7) Line 24—Enter the result after dividing the product of lines 22 and 17 by 100. Add line 23 if it is used.

(d) ***Training Profile***

(1) Line 25—Enter the result of subtracting line 24 from line 17.

(2) Line 26—Enter the result of subtracting line 14 from line 25. This estimate of available programmable hours is used to schedule training to best fit the available force and the forecasted load.

(3) Line 27—Enter the forecasted off-the-job training hours and locally administered, standard, self-paced, on-the-job training hours from the training forecast. Other on-the-job training hours are considered to be productive hours.

(e) ***Preventive***

(1) Line 28—Enter the difference between line 26 and line 27. This is the estimate of hours available for preventive work. This figure is used to help schedule preventive maintenance to best fit the available work force and the forecasted work load.

(2) Line 29—Enter all test and inspection hours except trunk testing hours as forecasted from the ETL schedules. These hours must allow for: (1) obtaining and reviewing BSPs, (2) obtaining and setting up test equipment, (3) performing the test, (4) average repair time, (5) recording test results, (6) returning BSPs, test sets, etc, to storage areas.

(3) Line 30—Enter all test and inspection hours for overall trunk testing as forecasted from the T&I work schedules. The following tests must be included: (1) supervision, (2) noise, (3) transmission level. These hours must include time for the setup of automatic test frames as well as for items listed for line 29.

(4) Line 31—This line is provided for separate forecasting of a specific type of preventive maintenance, if required.

(5) Line 32—Enter the total of lines 29 through 31.

(f) ***Balance***

(1) Line 33—Enter the total of lines 14, 24, 27 and 32.

(2) Line 34—Enter the difference between lines 17 and 33. If line 17 is larger, circle the entry as an indication of excess work force available for loan. If line 33 is larger, it may be necessary to borrow hours from another force group, or expend overtime.

(3) Line 35—Enter the estimated demand overtime hours required for call-outs.

(4) Lines 36 through 40—These blank lines are provided for any additional information required.

Note: Form E-6842 should be checked for balance after entry of estimates. The total of lines 17 and 34 should equal line 33. (Line 34 is negative if the entry is circled.)

G. Forecast Adjustments and Revisions

9.12 Before final approval of the annual forecast is obtained, current objectives may require adjustment. After final approval of the SCC forecast, adjustments to individual force group forecasts may be necessary. Among the procedures for achieving a balance between available and required hours are:

(a) Shifting of central office employees between work forces

(b) Loading or borrowing of central office employees outside the SCC.

9.13 If the above methods have not corrected a shortage of hours available, the SCC manager and first level supervisors must work together to adjust the hours required. This may be accomplished by adjusting or rescheduling hours among periods, (1) rescheduling special projects, or (2) re-examination of forecasted hours to determine if any can be eliminated and objectives can still be met.

9.14 Comparison of estimates to actuals and analysis of deferred preventive maintenance hours may indicate a need to revise the forecast. Significant changes in anticipated work load, such as special projects or revision of work scheduled by other groups, may also necessitate revision of the forecast. Annual forecasts should be reviewed monthly for possible revision requirements.

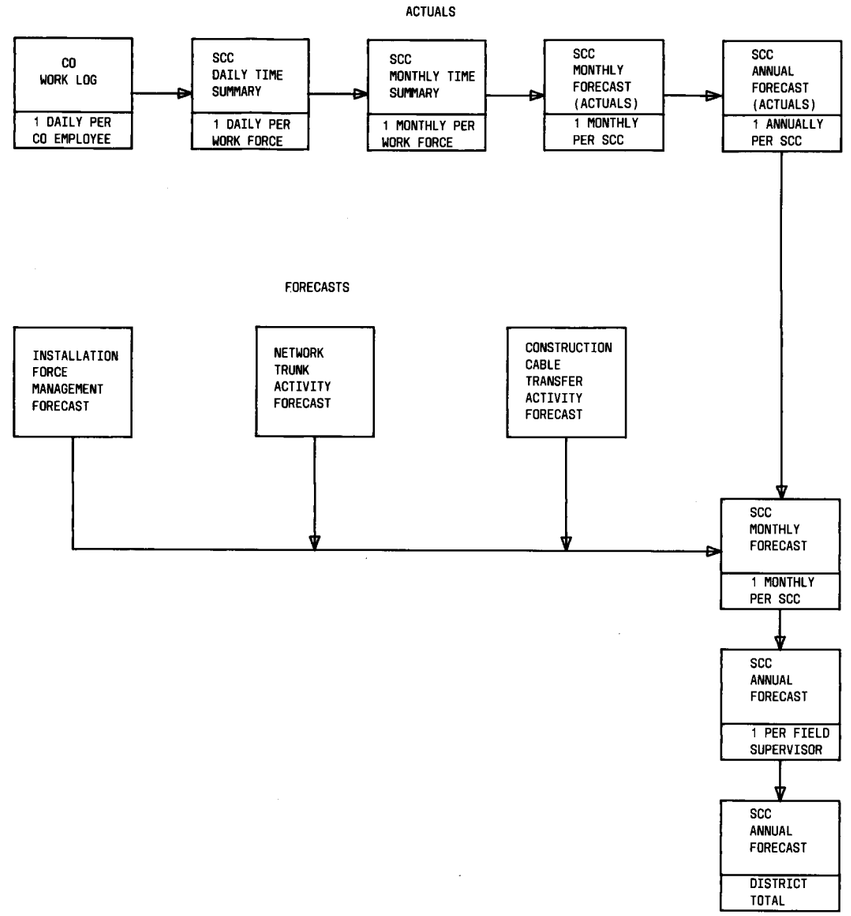

Fig. 9.1—Flowchart—Actual Time Summaries and Preparing Forecasts

SCC MONTHLY FORECAST E-6841 (9/76)

WORK FORCE _____ MONTH_____

		ITEMS	FORECAST PERIODS 1-7 EST	1-7 ACT	8-14 EST	8-14 ACT	15-21 EST	15-21 ACT	22- EST	22- ACT	TOTAL FORECAST THIS MONTH	ACTUAL HOURS THIS MONTH
SCC	1	R — CORRECTIVE										
	2	R — PREVENTIVE										
	3	R — OTHER										
	4	603-04 — TRUNK TESTING										
	5	77M — TRANSLATIONS										
	6											
	7											
FIELD	8	R — CORRECTIVE										
	9	R — PREVENTIVE										
	10	R — OTHER (TRICK)										
	11	603-04 — TRUNK TESTING										
	12	M — CHANGES										
	13											
	14											
	15	C & X										
	16											
	17											
FRAME	18	M — CHANGES										
	19	R — UPKEEP										
	20											
	21											
	22	TOTAL HOURS REQUIRED										
	23											
FORCE	24	NO. OF PROD. EMPLOYEES										
	25	BASIC HOURS/EMPLOYEE (8 X NO. OF WORK DAYS										
	26	TOTAL BASIC HOURS (LINE 24 X LINE 25)										
	27	EXPECTED VACATION & HOLIDAY HOURS										
	28	EXPECTED TRAINING HOURS										
	29	EXPECTED SICKNESS OR DISABILITY HOURS										
	30	TOTAL NON-PRODUCTIVE HOURS										
	31	AVAILABLE PRODUCTIVE HOURS (LINE 26 MINUS LINE 30)										
BALANCE	32											
	33	HOURS BORROW OR LOAN CIRCLE LOAN										
	34	DEFERRED PREV. HOURS										
	35	OVERTIME HOURS										
	36											
	37											

Fig. 9.2—SCC Monthly Forecast (E-6841)

SCC ANNUAL FORECAST

E-6842
(9/76)

WORK FORCE _____ YEAR _____

		ITEM	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT
CORRECTIVE, CHANGE, C & X	1	TRICK ASSIGNMENT HOURS																										
	2	CORRECTIVE HOURS — TRUNK TESTING																										
	3	CORRECTIVE HOURS — OTHER																										
	4	SO & USSO FRAME HOURS																										
	5	SO & USSO EQUIP HOURS																										
	6	TRUNK/FACILITY ORDERS — FRAME HOURS																										
	7	TRUNK/FACILITY ORDERS — EQUIP HOURS																										
	8	FACILITY TRANSFER HOURS																										
	9	TRAVEL HOURS																										
	10	OTHER PRODUCTIVE HOURS																										
	11																											
	12	TOTAL CORRECTIVE AND CHANGE HOURS																										
	13	C & X HOURS																										
	14	TOTAL CORRECTIVE, CHANGE AND C & X HOURS																										
FORCE	15	NUMBER OF PRODUCTIVE HOURLY EMPLOYEES																										
	16	BASIC HOURS PER EMPLOYEE																										
	17	TOTAL BASIC HOURS FOR FORCE																										

FRONT

E-6842
(9/76)

WORK FORCE _____ YEAR _____

		ITEM	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT
NON-PRODUCTIVE	18	VACATION & HOLIDAY — % OR HOURS																										
	19	PAID ABSENCE — % OR HOURS																										
	20	OTHER UNDISTRIBUTED — % OR HOURS																										
	21	UNPAID ABSENCE — % OR HOURS																										
	22	TOTAL NON-PRODUCTIVE %																										
	23																											
NON-PRODUCTIVE	24	TOTAL NON-PRODUCTIVE HOURS																										
	25	AVAILABLE PRODUCTIVE HOURS																										
	26	AVAILABLE PROGRAMMABLE HOURS																										
	27	TRAINING HOURS																										
PREVENTIVE	28	AVAILABLE PREVENTIVE HOURS																										
	29	PREVENTIVE HOURS — EQUIPMENT																										
	30	PREVENTIVE HOURS — TRUNK TESTING																										
	31																											
	32	TOTAL PREVENTIVE HOURS																										
BALANCE	33	TOTAL HOURS REQUIRED																										
	34	HOURS BORROW OR LOAN CIRCLE LOAN																										
	35	OVERTIME HOURS																										
	36																											
	37																											
	38																											
	39																											
	40																											

BACK

Fig. 9.3—SCC Annual Forecast (E-6842)

SOURCE OF ACTUAL HOURS

		ITEM	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT
CORRECTIVE, CHANGE, C & X	1	TRICK ASSIGNMENT HOURS	*	Total of X1 Work Codes								
	2	CORRECTIVE HOURS — TRUNK TESTING	*	42 Work Code								
	3	CORRECTIVE HOURS — OTHER	*	Total of X2 Work Codes Less Work Code 42								
	4	SO & USSO FRAME HOURS	*	Total of X4 Work Codes								
	5	SO & USSO EQUIP. HOURS	*	Total of X5 Work Codes								
	6	TRUNK/FACILITY ORDERS — FRAME HOURS	*	Total of X6 Work Codes								
	7	TRUNK/FACILITY ORDERS — EQUIP. HOURS	*	Total of X7 Work Codes								
	8	FACILITY TRANSFER HOURS	*	Total of X8 Work Codes								
	9	TRAVEL HOURS	*	Total of X9 Work Codes								
	10	OTHER PRODUCTIVE HOURS	*	Total of 5R, 19X, etc.								
	11		____	Local Use								
	12	TOTAL CORRECTIVE AND CHANGE HOURS	____	Total of Lines 1 through 11								
	13	C & X HOURS	*	Total of C & X Codes								
	14	TOTAL CORRECTIVE CHANGE AND C & X HOURS	____	Total of Lines 12 and 13								
FORCE	15	NUMBER OF PRODUCTIVE HOURLY EMPLOYEES	Basic Number of Employees in Work Force									
	16	BASIC HOURS PER EMPLOYEE	Number of Regular Hours/Employee in Period									
	17	TOTAL BASIC HOURS FOR FORCE	Line 15 Multiplied by Line 16									
NON-PRODUCTIVE	18	VACATION & HOLIDAY — % OR HOURS	*	Total UTV & UTS Hours								
	19	PAID ABSENCE — % OR HOURS	*	Total UTI & UTT Hours								
	20	OTHER UNDISTRIBUTED — % OR HOURS	*	Total UTC & UTO Hours								
	21	UNPAID ABSENCE — % OR HOURS	*	Total Unpaid Absence Hours								
	22	TOTAL NON-PRODUCTIVE %	____	Not Used For Actuals								
	23		____	Local Use								
	24	TOTAL NON-PRODUCTIVE HOURS	Total of Lines 18 through 21									
	25	AVAILABLE PRODUCTIVE HOURS	Line 17 Minus Line 24									
	26	AVAILABLE PROGRAMMABLE HOURS	Not Used For Actuals									
	27	TRAINING HOURS	*	Total of Standard Training Course Hours								
PREVENTIVE	28	AVAILABLE PREVENTIVE HOURS	Not Used For Actuals									
	29	PREVENTIVE HOURS — EQUIPMENT	*	Total of X3 Work Codes Less Work Code 43								
	30	PREVENTIVE HOURS — TRUNK TESTING	*	Work Code 43								
	31		____	Local Use								
	32	TOTAL PREVENTIVE HOURS —	Total of Lines 29 through 31									
BALANCE	33	TOTAL HOURS REQUIRED	Total of Lines 14, 24, 27 and 32									
	34	HOURS BORROW OR LOAN CIRCLE LOAN	Borrowed or Loaned From/To Other Force Groups									
	35	OVERTIME HOURS	*	Total Extra Hours Worked								
	36											
	37		Local Use	Balance Check: Total Lines 17, 34 and 35 Equals Line 33. (Line 34 is Negative if Circled.) *Form E-6843								
	38											
	39											
	40											

Fig. 9.4—Source of Actual Hours

SOURCE OF FORECAST HOURS

		ITEM	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT
CORRECTIVE, CHANGE, C & X	1	TRICK ASSIGNMENT HOURS	Requirements Based on Current Loading Guide									
	2	CORRECTIVE HOURS — TRUNK TESTING										
	3	CORRECTIVE HOURS — OTHER										
	4	SO & USSO FRAME HOURS	Previous Years Trends and IFM Forecast									
	5	SO & USSO EQUIP HOURS										
	6	TRUNK/FACILITY ORDERS — FRAME HOURS	Previous Years Trends and Trunk/Facility Forecast									
	7	TRUNK/FACILITY ORDERS — EQUIP. HOURS										
	8	FACILITY TRANSFER HOURS	Based on Construction Forecast									
	9	TRAVEL HOURS	Based on Previous Year									
	10	OTHER PRODUCTIVE HOURS	Trend From Previous Year									
	11		Local Use									
	12	TOTAL CORRECTIVE AND CHANGE HOURS	Total of Lines 1 through 11									
	13	C & X HOURS	Based on COE Schedule of WE Jobs									
	14	TOTAL CORRECTIVE, CHANGE, AND C & X HOURS	Total of Lines 12 and 13									
FORCE	15	NUMBER OF PRODUCTIVE HOURLY EMPLOYEES	Basic Number of Employees in Work Force									
	16	BASIC HOURS PER EMPLOYEE	Number of Hours (Regular) Per Employee in Period									
	17	TOTAL BASIC HOURS FOR FORCE	Line 15 Multiplied by Line 16									
NON-PRODUCTIVE	18	VACATION & HOLIDAY — % OR HOURS	Based On Previous Year									
	19	PAID ABSENCE — % OR HOURS										
	20	OTHER UNDISTRIBUTED — % OR HOURS										
	21	UNPAID ABSENCE — % OR HOURS										
	22	TOTAL NON-PRODUCTIVE %	Total of Lines 18 through 21									
	23		Local Use									
	24	TOTAL NON-PRODUCTIVE HOURS	Line 17 Multiplied by Line 22 and Divided by 100									
	25	AVAILABLE PRODUCTIVE HOURS	Line 17 Minus Line 24									
	26	AVAILABLE PROGRAMMABLE HOURS	Line 25 Minus Line 14									
	27	TRAINING HOURS	Training Forecast									
PREVENTIVE	28	AVAILABLE PREVENTIVE HOURS	Line 26 Minus Line 27									
	29	PREVENTIVE HOURS — EQUIPMENT	Scheduled PM Hours									
	30	PREVENTIVE HOURS — TRUNK TESTING										
	31		Local Use									
	32	TOTAL PREVENTIVE HOURS	Total of Lines 29 through 31									
BALANCE	33	TOTAL HOURS REQUIRED	Total of Lines 14, 24, 27 and 32									
	34	HOURS BORROW OR LOAN CIRCLE LOAN	Difference Between Lines 17 and 33, Less Line 35									
	35	OVERTIME HOURS	Demand Overtime Estimate (Callouts)									
	36		Local Use	Balance Check: Total of Lines 17 and 34 Equals Line 33. (Line 34 is Negative if Circled.)								
	37											
	38											
	39											
	40											

Fig. 9.5—Source of Forecast Hours

GLOSSARY

A. Standard Abbreviations

The following list contains standard abbreviations and their definitions as used throughout this section.

ABBREVIATION	DEFINITION
AMA	Automatic message accounting
BSP	Bell System Practice
CAROT	Centralized Automatic Reporting On Trunks: Processor-controlled trunk testing system
CID	Critical indicator display that can be used with TASC
CM	Corrective maintenance
CMP	Controlled Maintenance Plan
CO	Central office
COMMS-PM	Central Office Maintenance Management System—Preventive Maintenance: A mechanized administration of preventive maintenance routines
CRT	Cathode ray rube
EADAS	Engineering Administration Data Acquisition System: A computerized system for mechanization of traffic and plant registers
EBAC	Equipment billing accuracy control
ESS	Electronic Switching System
ETL	Equipment test list
FX	Foreign exchange
Loading	The assignment of work to craft forces
LTD	Local test desk
MB	Make-busy or made-busy
MCTRAP	Mechanized customer trouble report analysis plan
MDF	Main distributing frame
MR	Mandatory review
MW	Mandatory work
NSC	Network service center (DDD service bureau)

PSC	Plant service center
PM	Preventive maintenance
PMI	Plant management instructions
Pricing	The estimating of craft hours on work items
ROTL	Remote office test line (CAROT)
RSB	Repair service bureau
SCCS	Switching Control Center System (Stored program control systems)
SCC	Switching control center
SPCS	Stored program control system
SSO	Special service order
SSC	Special service center
Supervisor	Used to denote first-level management person
STTP	Supplemental trunk test panel
TMDF	Trunk main distributing frame
Team	A craft force performing functionalized duties at one or more central office locations
TLTP	Trunk-line test panel
Trunk	A circuit between two central office entities
TO	Trunk order
TTMI	Trunk transmission maintenance index
WECo	Western Electric Company

B. Work Codes and Disposition Codes

The following list contains suggested work codes for use on central office work logs and other SCC forms.

WORK CODE	DEFINITION
CRTN	Carrier routine
ENGR	Engineering department request
ERTN	Equipment routine
FRTN	Frame routine

LXFR	Line equipment transfer
MEAL	Lunch or dinner break
MEET	Safety or other meeting
PRTN	Power routine
SOEQ	Service order—equipment work
SOFR	Service order—frame work
SXFR	Subscriber cable transfer
TA	Ticket from plant service center, subscriber, or testboard
TB	Ticket from network administration (TUR, etc)
TC	Ticket from sender or register indication
TD	Ticket from alarm indication
TE	Ticket initiated in central office from trouble analysis, trouble indicator, trouble ticketer, or maintenance teletypewriter
TJ	Ticket on trouble referred from another central office or other source
TCFL	T-carrier fault locating
TMBE	Ticket on made-busy equipment
TMBT	Ticket on made-busy trunk
TOEQ	Trunk/facility order—equipment work
TOFR	Trunk/facility order—frame work
TRFC	Dial administration (traffic) request
TRIK	Specific job assignment duties on a specific shift listed on work assignment list in central office and other maintenance work not associated with a trouble ticket or test and inspection work order
TRNG	Plant school, or standard self-paced on-the-job training
TRTN	Trunk routine
TRVL	Travel time
TXFR	Trunk cable transfer
WECo	C&X time on central office engineering jobs

Note: Other codes may be developed as deemed necessary.

The following disposition codes are to be used by central office employees in reporting corrective maintenance activity on the load and work time record.

DISPOSITION CODE	DEFINITION
F	Found trouble
NTF	No trouble found
MB	Equipment or trunk made-busy
T	Call traced
REF	Referred to other groups

C. Definition of Terms

Listed below are some of the terms used in this section and their definitions.

Corrective maintenance — Central office work on trouble tickets: eg, customer reports, made-busy equipment, traces, work done from indicators in the central office such as alarms or trouble recorded analysis.

Demand work — Total of trick work, corrective maintenance, and service order work.

Due date work — Central office work items which must be completed before a certain date; eg, trunk orders.

Latest start date — The latest date that due-date work can be started and ensure meeting the due date. Computed using due date, estimated hours of work, and preestablished lead days.

Lead days — The number of work days used in establishing the latest start date to allow for demand peaks without missing due dates.

Preventive maintenance — Central office work on test and inspection work orders.

Programmable work — Central office work which must be performed but not on or by a specific date.

SCC work request — Form used primarily by the field supervisor to input a work request into the SCC; eg, pressure cleaning, EI testing.

Scheduled work — Central office work items to be started at a specific date and time: eg, trunk cuts and test and inspection work orders which have been coordinated with another office.

Trick — Specific job assignment duties on a specific shift listed on work assignment list in central office and other maintenance work not associated with a trouble ticket or test and inspection work order.

D. Miscellaneous Documentation

The following documentation contains additional information on the subjects and systems mentioned in this section.

(a) ***Stored Program Control Systems:***

SECTION	TITLE
GL 76-XX-XXX	Communications,
	Training
	Job Administration (First Level)
	Craft
	Clerical
(1) No. 2 Switching Control Center System	
190-110-100 (201-400-100)	Overall Description
190-110-110 (201-400-110)	Common Application—Descriptive
190-110-313	Common Application—System Recovery Procedures
190-110-314	Common Application—Trouble Shooting Procedures
190-110-810	Common Application—Repair and Replacement Procedures
190-110-310 (201-400-310)	Common Application—Operation and Reconfiguration Procedures
190-110-311 (201-400-311)	Common Application—Growth and Recent Change Procedures
190-110-312 (201-400-312)	Common Application—Check Procedures
190-113-110 (201-403-110)	No. 1 ESS Application—Description
190-113-311 (201-403-311)	No. 1 ESS Application—Emergency Action Procedures
190-113-313 (201-403-313)	No. 1 ESS Application—Sectionalization of Trunk Troubles
190-113-310 (201-403-310)	No. 1 ESS Application—Operating and Test Procedures
190-113-312 (201-403-312)	No. 1 ESS Application—Analyzation of Network Failures
(b) ***CAROT:***	
GL 75-06-001, 190-102-100	CAROT 2 Description,
010-410-300 through 010-410-315	Central Operation,
660-401-011	Transmission Tests,
660-402-300	Transmission Maintenance,
660-450-300 and 660-450-301	Trunk Order Tests,

SECTION	TITLE
(c) *COMMS:*	
GL 74-12-147	Planning Letter,
190-305-101 and 190-305-102	Description,
190-305-301 through 190-305-307	Operations,

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SCC TELEPHONE LOG

WORK FORCE/OFFICE ____________________

TICKET NUM.	REPT. CLASS	TEL. NUM., TRUNK OR ITEM REPORTED	LINE OR TRUNK EQUIPMENT	ASSOC. EQ/ CA & PR.	RECEIVED FROM	BY	TIME	DISPATCH TO/ WHERE	DISP. TIME	CLRD. TIME	CLRD. DATE	TO
DETAILS					CALL BACK NUM/LOC.			ACTION				
DETAILS					CALL BACK NUM/LOC.			ACTION				
DETAILS					CALL BACK NUM/LOC.			ACTION				
DETAILS					CALL BACK NUM/LOC.			ACTION				
DETAILS					CALL BACK NUM/LOC.			ACTION				
DETAILS					CALL BACK NUM/LOC.			ACTION				
DETAILS					CALL BACK NUM/LOC.			ACTION				

DATE ____________________

PAGE ______ OF ______

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SCC WEEKLY FORCE PERFORMANCE REPORT

FORCE _____
FROM _____ TO _____

	EMPLOYEE																	
DATE	HOURS WORKED	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT HOURS	EST. HOURS	ACT. HOURS
	MONDAY																
	TUESDAY																
	WEDNESDAY																
	THURSDAY																
	FRIDAY																
	SATURDAY																
	SUNDAY																
	TOTAL																
% EFFICIENCY = (EST HRS ÷ ACT HRS) × 100																	

TOTAL FORCE

ACTUAL	OBJECTIVE

FORCE _____
FROM _____ TO _____

	EMPLOYEE	MERRILL		LYNCH		FENNER											
DATE	HOURS WORKED	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS	EST. HOURS	ACT. HOURS
	MONDAY																
	TUESDAY																
	WEDNESDAY																
	THURSDAY																
	FRIDAY																
	SATURDAY																
	SUNDAY																
	TOTAL																
% EFFICIENCY = (EST HRS ÷ ACT HRS) × 100																	

TOTAL FORCE

ACTUAL	OBJECTIVE

E-6833
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SCC WORK PRICING CHART

OFFICE/WORK FORCE: _____ EFFECTIVE DATE: _____

	TYPE OF ACTIVITY	FRAME	PRICED UNIT	TIME/ UNIT	LEAD DAYS		TYPE ACTIVITY	EQUIPMENT	PRICED UNIT	TIME/ UNIT	LEAD DAYS
1						26					
2						27					
3						28					
4						29					
5						30					
6						31					
7						32					
8						33					
9						34					
10						35					
11						36					
12						37					
13						38					
14						39					
15						40					
16						41					
17						42					
18						43					
19						44					
20						45					
21						46					
22						47					
23						48					
24						49					
25						50					

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(9/76)

MONTH_____ OFFICE_____

SCC MONTHLY WORK REQUEST SUMMARY

SHEET_____ OF_____

ITEM ID.	WORK REQ NO.	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		23		24		25		26		27		28		29		30		31	
		HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM	HRS	CUM

E-6835
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SCC MONTHLY T&I WORK LIST

WORK FORCE ____________________ MONTH & YEAR ______________________

Page_____ of______

JOB NO.	TYPE WORK CODE	CLASS FREQ.	PRIOR	LOADED DATE/TO	EST TIME	ACTUAL TIME	COMPLETED DATE/BY	REMARKS
			TOTAL PER PERIOD					

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SCC LOADING GUIDE

OFFICE _____ DATE PREPARED _____

TYPE WORK	WORK ASSIGNMENT PREFERENCE — TRICK PREFERENCE																WORK OR DISTRIBUTION CODE(S)
	1	2	3	4													

DEMAND WORK ESTIMATE

TRICK	TOTAL DEMAND EST.							TRICK ASSIG. HRS.							CORR. MTC. HRS							SERVICE ORDER HRS.						
	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S

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(9/76)

PERIOD_____ POSTED TIME / DATE

SCC WORK SCHEDULE

(SUNDAY TO SATURDAY WORKWEEK)

LOCATION_____
FORCE

	NAME	Date / Reg Shift	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Date / Reg Shift	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Date / Reg Shift	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Date / Reg Shift	Sun.	Mon.	Tue.	Wed.	Thu.	Fri.	Sat.	Date / Reg Shift	Sun.	Mon.	
1																																					1
2																																					2
3																																					3
4																																					4
5																																					5
6																																					6
7																																					7
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19																																					19
20																																					20
21																																					21
22																																					22
23																																					23
24																																					24

D = DAY SHIFT
E = EVENING SHIFT
N = NIGHT SHIFT
O = NO WORK SCHEDULED
X = CHANGED ENTRY

⬭ = PREMIUM PAYMENT

—— = WORK SCHEDULED 8 HRS

NOTES:

E-6838(9/76)

SCC WORK REQUEST

Work Force_____ Requested By_____ Date_____

Shift Preference (if any)_____ Estimated Hours_____

Earliest Start Date_____

Latest Start Date_____

Due Date_____

Est./Ord. No._____ Area No._____ Acct. Code_____

Description:

Work Item	Estimated Work Time	Latest Start	Completion Required

DATE	ITEM	EMPLOYEE	HOURS CHARGED	COMPLETION DATE

Return To: ☐ Originator ☐ File

SCC DAILY TIME SUMMARY

E-6839(9/76)

WORK FORCE_____ OFFICE_____ DATE_____

REF	NAME OF EMPLOYEE	HOURS						REMARKS	WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE				
		GO CODE	START TIME	END TIME	HOURS WORKED	CITY ALLW	SUPR MONY																							
1																														
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
								COLUMN TOTALS																						

REF	NAME OF EMPLOYEE	HOURS						REMARKS	WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE			WORK-CODE				
		GO CODE	START TIME	END TIME	HOURS WORKED	CITY ALLW	SUPR MONY																							
1																														
2																														
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														
								COLUMN TOTALS																						

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SCC MONTHLY TIME SUMMARY

WORK FORCE AND OFFICE _____ PERIOD _____ PAGE ____ OF _____

DATE	REPORT CODE				REPORT CODE				REPORT CODE				REPORT CODE				REPORT CODE			
	WORK CODES				WORK CODES				WORK CODES				WORK CODES				WORK CODES			
1																				
2																				
3																				
4																				
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CUM																				
29																				
CUM																				
29																				
30																				
31																				
MONTHLY TOTAL																				

SCC MONTHLY FORECAST

E-6841 (9/76)

WORK FORCE _____ MONTH_____

		ITEMS	FORECAST PERIODS								TOTAL FORECAST THIS MONTH	ACTUAL HOURS THIS MONTH
			1-7		8-14		15-21		22-			
			EST	ACT	EST	ACT	EST	ACT	EST	ACT		
SCC	1	R — CORRECTIVE										
	2	R — PREVENTIVE										
	3	R — OTHER										
	4	603-04 — TRUNK TESTING										
	5	77M — TRANSLATIONS										
	6											
	7											
FIELD	8	R — CORRECTIVE										
	9	R — PREVENTIVE										
	10	R — OTHER (TRICK)										
	11	603-04 — TRUNK TESTING										
	12	M — CHANGES										
	13											
	14											
	15	C & X										
	16											
	17											
FRAME	18	M — CHANGES										
	19	R — UPKEEP										
	20											
	21											
	22	TOTAL HOURS REQUIRED										
	23											
FORCE	24	NO. OF PROD. EMPLOYEES										
	25	BASIC HOURS/EMPLOYEE (8 X NO. OF WORK DAYS										
	26	TOTAL BASIC HOURS (LINE 24 X LINE 25)										
	27	EXPECTED VACATION & HOLIDAY HOURS										
	28	EXPECTED TRAINING HOURS										
	29	EXPECTED SICKNESS OR DISABILITY HOURS										
	30	TOTAL NON-PRODUCTIVE HOURS										
	31	AVAILABLE PRODUCTIVE HOURS (LINE 26 MINUS LINE 30)										
BALANCE	32											
	33	HOURS BORROW OR LOAN CIRCLE LOAN										
	34	DEFERRED PREV. HOURS										
	35	OVERTIME HOURS										
	36											
	37											

SCC ANNUAL FORECAST

E-6842
(9/76)

WORK FORCE _____ YEAR _____

		ITEM	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT
CORRECTIVE, CHANGE, C & X	1	TRICK ASSIGN-MENT HOURS																										
	2	CORRECTIVE HOURS — TRUNK TESTING																										
	3	CORRECTIVE HOURS — OTHER																										
	4	SO & USSO FRAME HOURS																										
	5	SO & USSO EQUIP HOURS																										
	6	TRUNK/FACILITY ORDERS — FRAME HOURS																										
	7	TRUNK/FACILITY ORDERS — EQUIP HOURS																										
	8	FACILITY TRANSFER HOURS																										
	9	TRAVEL HOURS																										
	10	OTHER PRODUC-TIVE HOURS																										
	11																											
	12	TOTAL COR-RECTIVE AND CHANGE HOURS																										
	13	C & X HOURS																										
	14	TOTAL COR-RECTIVE, CHANGE AND C & X HOURS																										
FORCE	15	NUMBER OF PRODUCTIVE HOURLY EMPLOYEES																										
	16	BASIC HOURS PER EMPLOYEE																										
	17	TOTAL BASIC HOURS FOR FORCE																										

FRONT

WORK FORCE _____ YEAR _____ E-6842 (9/76)

		ITEM	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT	EST	ACT
NON-PRODUCTIVE	18	VACATION & HOLIDAY — % OR HOURS																										
	19	PAID ABSENCE — % OR HOURS																										
	20	OTHER UN-DISTRIBUTED — % OR HOURS																										
	21	UNPAID ABSENCE — % OR HOURS																										
	22	TOTAL NON-PRODUCTIVE %																										
	23																											
NON-PRODUCTIVE	24	TOTAL NON-PRODUCTIVE HOURS																										
	25	AVAILABLE PRODUCTIVE HOURS																										
	26	AVAILABLE PRO-GRAMMABLE HOURS																										
	27	TRAINING HOURS																										
PREVENTIVE	28	AVAILABLE PRE-VENTIVE HOURS																										
	29	PREVENTIVE HOURS — EQUIP-MENT																										
	30	PREVENTIVE HOURS — TRUNK TESTING																										
	31																											
	32	TOTAL PRE-VENTIVE HOURS																										
BALANCE	33	TOTAL HOURS REQUIRED																										
	34	HOURS BORROW OR LOAN CIRCLE LOAN																										
	35	OVERTIME HOURS																										
	36																											
	37																											
	38																											
	39																											
	40																											

BACK

LOAD AND WORK TIME RECORD

OFFICE _____ EMPL _____ TRICK _____ DATE _____

SHIFT: START _____ END _____ HRS. WORKED _____ APPROVAL _____

	TYPE WORK	ITEM IDENT.	START TIME	END TIME	TIME	WORK CODE	DISP. CODE	OFFICE	EST., R.O., REMARKS	EST. TIME
1										
2										
3										
4										
5										
6										
7										
8										
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20										
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E-6843
(9-76)