

**SWITCHING SYSTEMS MANAGEMENT**  
**NO. 3 ELECTRONIC SWITCHING SYSTEM**  
**ADMINISTRATION RESPONSIBILITIES**

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| EQUIPMENT UTILIZATION . . . . .   | 4    | 1. GENERAL  |      |
| OFFICE STATUS EVALUATION . . . . .  | 5    | 1.01 This section describes the administrative responsibilities of the district network manager-administration, network manager-administration, and network supervisor (both the service supervisor and the assignment supervisor) with regard to the No. 3 Electronic Switching System (ESS). If it is possible to set an interval in which each responsibility is to be executed the interval is mentioned (daily, weekly, annually). This section supplements Dial Facilities Management Practices (DFMP), Division A, Sections 2 and 3. |      |
| SERVICE PROBLEM ANALYSIS AND CORRECTIVE ACTION . . . . .                                | 6    | 1.02 When this section is reissued, this paragraph will contain the reason for reissue.   |      |
| TRANSITION MANAGEMENT . . . . .   | 8    | 1.03 Two different network supervisor positions are outlined in this section. One position represents service responsibilities and the other represents assignment responsibilities. It is recommended that one network supervisor have both areas of responsibility but some organizations may assign each responsibility to a different network supervisor. The supervisory titles mentioned herein may vary from company to company.   |      |
| LINE AND TRUNK ASSIGNMENT . . . . .   | 8    | 1.04 Any reference to Bell System product names (such as PATROL) may be substituted by outside vendor names, if applicable. All recommendations should apply with minimum modification when using other vendor products.  |      |
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**NOTICE**

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## SECTION 11b

### 2. THE NO. 3 ESS AS A CDO

**2.01** The No. 3 ESS, used as a community dial office (CDO), provides to the network administrator more extensive control and more measurements than any previous CDO. The network administrator plays an important role in assuring good service in the office.

**2.02** The No. 3 ESS uses its "intelligent" capabilities to provide mechanized recordkeeping and convenient, comprehensive data to aid the administrative task. Being a stored program controlled system, the No. 3 ESS also adds the aspect of software effects on service. This section mentions different responsibilities related to software.

**2.03** The No. 3 ESS is a common controlled system. Service depends on the adequate provisioning of many separate components. This section mentions different responsibilities related to the provisioning of these components.

**2.04** The No. 3 ESS allows remote monitoring and control facilities. The maintenance force has access to the ESS through a teletypewriter located in a switching control center. The network administrator has access to the ESS through a teletypewriter located in the Network Administration office. The Network Administration teletypewriter is an indispensable tool in the execution of the network administrator's duties.

**2.05** The No. 3 ESS provides facilities for ensuring the CDO customer with good service *when properly administered*. This section outlines responsibilities which must be met for proper administration.

### 3. RESPONSIBILITIES

**3.01** Network Administration responsibilities fall into the following seven major categories:

- Data administration
- Equipment utilization
- Office status evaluation
- Service problem analysis and corrective action
- Transition management

- Line and trunk assignment

- Personnel administration.

**3.02** Each area of responsibility listed in 3.01 is expanded into specific job requirements and discussed in 3.03 through 3.91. Summaries of these responsibilities are given in tables A through G.

### DATA ADMINISTRATION

**3.03 *District:*** The district network manager-administration is responsible for collecting and validating data on load and service results and for providing data in response to special study requests.

**Note:** Other districts may be given control of certain traffic measurement schedules or areas of schedules to assign as they wish. For example, if there is a trunk administration group separate from Network Administration, they may assign the entire C schedule. In the event of an autoconnect Network Administration teletypewriter arrangement, C-schedule measurements must be collected on the H schedule. Under the autoconnect arrangement, Network Administration must see that C-schedule measurements are made available to the responsible parties.

#### A. Traffic Measurement Assignments

##### Network Manager-Administration

**3.04 *Handles requests for data.*** When data studies are requested by groups outside of Network Administration, the network manager determines the feasibility of the request and determines which measurements must be assigned.

##### Network Supervisor-Service

**3.05 *Assigns measurements for trunk, service circuit, and multiline hunt groups as they are placed into service.*** In the No. 3 ESS, assignment of trunk, service circuit, and multiline hunt groups includes measurement assignments. The network administrator must see that measurement schedule assignments are included when these groups are assigned.

**B. Scheduling****Network Manager-Administration**

**3.06 *Monitors all data collection to ensure that data are collected according to schedule.*** The network manager determines the hours during which data are to be collected. When requests are made for special studies, the network manager determines when the study can be performed and the changes (if any) that must be made in the normal collection schedule.

**Network Supervisor-Service**

**3.07 *Maintains traffic schedule block.*** The network supervisor makes all scheduling assignments to the traffic schedule block. The traffic schedule block is the area of memory which sets the collection and print hours of all measurement schedules. The network supervisor must see that the traffic schedule block is checked periodically to ensure its accuracy.

**3.08 *Generates special data printouts.*** It may become necessary to generate an unscheduled printout of a particular schedule either for use in a special study or to monitor traffic conditions in a nonbusy hour. The printout can be generated either by a special teletypewriter request or by changing the traffic schedule block.

**C. Data Processing****Network Supervisor-Service**

**3.09 *Transmits busy hour H-schedule to PATROL and analyzes exception report.*** In order to maintain valid data on the Program for Administrative Traffic Reports On Line (PATROL), it is necessary to analyze the returned exception report and remove from cumulative totals any data judged by the network supervisor to be out of range (daily).

**3.10** Transmitting H-schedule data to PATROL is a function which could be assigned to a clerk.

**D. Data Validation****Network Manager-Administration**

**3.11 *Establishes criteria for valid data.*** The network manager establishes the standards to be used to judge whether or not data are valid.

**Network Supervisor-Service**

**3.12 *Matches data against criteria.*** The network supervisor compares data collected against criteria set by the network manager and discards data judged to be invalid (daily).

**E. PATROL Administration****Network Manager-Administration**

**3.13 *Sets limits for flagged data.*** Flagging is the feature of PATROL which enables the holding time of each component to be set between an upper and a lower limit. If the actual holding time for any component exceeds either limit, it is listed on the exception report. The network manager should review holding times with the network supervisor to determine if any limits should be readjusted (monthly).

**Network Supervisor-Service**

**3.14 *Establishes office description file (ODF).*** Since the ODF should not be changed during a busy season once it has been established (except to change mainstation counts when necessary), careful selection must be made of measurements placed on PATROL. The network design engineer is a user of PATROL data and should be consulted before the ODF is established (before recycling PATROL files and for new offices).

**3.15 *Maintains accurate mainstation counts.*** Since data on PATROL are divided by the quantity of mainstations of different types which are in service during the period of collection, it is important that mainstation counts on PATROL be accurate. The network supervisor updates mainstation counts on PATROL whenever the quantity of mainstations of a particular type changes by an amount which would affect the accuracy of PATROL data.

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**3.16 *Maintains accurate circuits-in-service counts.*** The network supervisor changes the number of circuits on PATROL records whenever the number of service circuits or trunks measured on PATROL varies.

**3.17 *Maintains PATROL newsletters and lessons.*** The network supervisor should be on the mailing list for PATROL newsletters. The network supervisor should request a printout of the PATROL lessons index and review it to verify whether or not the file of lessons is up to date (monthly).

### F. System Initialization

#### Network Manager-Administration

**3.18 *Establishes procedures to reestablish measurements in the event of an emergency action.*** An emergency action of level 5 or above will clear the working copy of the traffic schedule block stored in main store memory. The working copy will be regenerated from one of two copies on the magnetic tape cartridge: one copy automatically updated every 24 hours from the main store memory copy and one copy updated at the discretion of the telephone company. The network manager must establish procedures to determine the effect of an emergency action on the traffic schedule block and to make any necessary changes.

#### Network Supervisor-Service

**3.19 *Monitors Network Administration teletypewriter for indication of initialization activity and follows procedures to reestablish measurements in the event of an emergency action.*** An emergency action counter indicating an emergency action should be brought to the attention of the network supervisor immediately. If the counter indicates an emergency action which may affect traffic measurements, the network supervisor should follow procedures to reestablish measurements.

### G. Documentation

**3.20** Information on measurements can be found in DFMP Division H, Section 11h, Network Administration and Maintenance Measurements. Information on scheduling, data validation, and

PATROL can be found in DFMP Division H, Section 11i, Data Management.

### EQUIPMENT UTILIZATION

**3.21 *District:*** The district network manager-administration is responsible for optimum loading and for the proper utilization of installed equipment. The network manager sets results objectives and issues notices of equipment shortages to network design.

#### A. Loading Plans

##### Network Manager-Administration

**3.22 *Reviews and approves loading plans.*** The network supervisor-service submits loading plans to the network manager for approval (annually).

**3.23 *Reviews actual loading to ensure adherence to plan.*** The network manager should review assignment records, assignment lists, and orders worked to ensure adherence to the loading plan (monthly).

##### Network Supervisor-Service

**3.24 *Advises network supervisor- assignment on implementation of loading plan.*** The network supervisor-service must review the loading plan with the network supervisor-assignment upon approval of the plan by the network manager.

##### Network Supervisor-Assignment

**3.25 *Implements loading plan.*** The network supervisor-assignment instructs the assignment clerical force to make assignments following implementation of the loading plan and monitors assignments to ensure that the loading plan is followed.

#### B. Busy Hour and Busy Season Determination

##### Network Manager-Administration

**3.26 *Reviews busy hour study.*** The network supervisor-service submits the busy hour study to the network manager. The network manager should check the study for reasonableness and ensure that component busy hours and factors have been determined. The network manager also

determines the hours that should be maintained on PATROL (semiannually).

**Network Supervisor-Service**

**3.27 Performs busy hour study.** The network supervisor is responsible for making a study to determine the office busy hour based on network CCS load, the busy hour based on the number of calls processed, the busy hour based on dial tone speed, and the busy hour based on incoming matching loss. The results of the study are submitted to the network manager for review (semiannually).

**3.28 Determines component busy hours and factors.** Each component in the office (service circuits, central processor, etc.) may have a busy hour different from that of the office busy hour. If the busy hour is different and cannot be easily studied, a factor relating the load during the component busy hour to the load during the office busy hour should be developed (annually).

**3.29 Confirms busy season.** The network supervisor studies monthly data on PATROL to determine if the three busiest months listed are the same as those in the historical busy season of the office. If they are not the same, the network supervisor determines if the historical busy season of the office should be changed (annually).

**C. Service Circuit Administration**

**Network Manager**

**3.30 Reviews service circuit specifications in network design orders.** All network design orders written for both new offices and additions should be reviewed to determine if holding times and call rates agree with actual data and to determine whether or not service circuits are adequately provided.

**3.31 Establishes parameters for service circuits.** The network manager specifies load levels which could cause service problems in specific service circuit groups and instructs the network supervisor-service to monitor service circuit groups for potentially hazardous loads (annually).

**Network Supervisor-Service**

**3.32 Compares actual load data with parameters set by network manager.**

The network administrator should not only compare present load data with service parameters, but should also compare trends to service parameters and analyze the trends for potential service problems (weekly).

**3.33 Balances customer digit receiver (CDR) groups between dial pulse and TOUCH-TONE®.**

The network supervisor computes the proper size for each CDR group using actual load data and TOUCH-TONE forecasts and issues orders to have groups reconfigured if necessary (semiannually).

**3.34 Administers tone and announcement circuits.**

The network supervisor checks tones and announcements to ensure that calls are given proper routing to tones and announcements. The network supervisor also determines if all necessary announcements are available in the office and ensures that announcements which are not in use are not retained (semiannually). If the emergency overload announcement arrangement is available, the network supervisor ensures that procedures can be followed to record announcements in the event of an emergency.

**D. Documentation**

**3.35** Information on busy hour and busy season determination can be found in DFMPs Division H, Section 11i, Data Management, Division H, Section 1c(2), Busy Hour Determination, and Division H, Section 1c(4), Busy Season Determination.

**OFFICE STATUS EVALUATION**

**3.36 District:** The district network manager-administration and network design are jointly responsible for establishing machine capacities, notifying other districts of changes in capacity, and ensuring that adequate equipment is scheduled to maintain service criteria.

**A. Capacity Setting**

**Network Manager-Administration**

**3.37 Reviews capacity studies.** The network manager is responsible for reviewing capacity

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studies prepared by the network supervisor and determining whether or not valid limiting factors are used (annually).

### Network Supervisor-Service

**3.38 Sets office capacity.** The network supervisor determines the mainstation capacity of each component of the office, whether the component limits all classes of service or only specific classes, and the capacity for the entire office.

### B. Load-Service Relations

#### Network Manager-Administration

**3.39 Reviews load-service relations.** The network manager reviews load-service relations prepared by the network supervisor-service. If any changes in capacity result from the new load-service relations, the network manager negotiates the change with the network manager-design (annually).

### Network Supervisor-Service

**3.40 Develops load-service relations.** The network supervisor develops load-service relations such as dial tone speed versus calls-per-hour for CDRs and incoming matching loss versus load.

### C. Capacity Management

#### Network Manager-Administration

**3.41 Negotiates growth jobs with plant extension.** When the need becomes apparent for additional equipment in an office in order to maintain service or to meet demand, the network manager informs the district network manager who will make written notification to plant extension. The network manager will negotiate a schedule with plant extension.

### Network Supervisor-Service

**3.42 Determines equipment shortages.** The network supervisor takes actual load data and forecasted mainstation growth for each office and determines if any components will exceed capacity. The network supervisor notifies the network manager of any equipment shortages (at least annually).

**3.43 Determines effect of commercial forecast on office capacity.** The network supervisor reviews each new commercial forecast when issued and determines if changes listed in mainstation growth in any particular class would exceed office capacity (whenever new commercial forecast is issued).

**3.44 Studies the effect of area transfers on capacity.** Upon the transfer of a large number of mainstations to the ESS office, the network supervisor studies load data and service indicators of the office. If any condition adverse to service is found, it is reported to the network manager.

**3.45 Issues notice of potential service circuit shortages.** The network supervisor reviews monthly data and notifies the network manager of any potential shortages based on data trends (monthly).

### D. Documentation

**3.46** Information on capacity determination can be found in DFMP Division H, Section 11f, Machine Capacity Management.

## SERVICE PROBLEM ANALYSIS AND CORRECTIVE ACTION

**3.47 District:** The district network manager-administration is responsible for identifying and resolving all problems affecting service and for coordinating all actions necessary to protect service during abnormal traffic conditions.

### A. Service Indicators

#### Network Manager-Administration

**3.48 Develops service parameters for use in a "quick look" for service problems.** The network manager develops parameters for components which would indicate service problems. These parameters are used by the network supervisor-service.

### Network Supervisor-Service

**3.49 Examines Q-schedules for indications of service problems.** The network supervisor reviews collected Q schedules for percent

dial tone delay and percent MF receiver attachment delay (daily).

**3.50 *Reviews data for service problems.***

The network supervisor reviews load service data for indications of service problems, using the parameters established by the network manager (daily).

**B. Traffic Controls**

**Network Manager-Administration**

**3.51 *Ensures that traffic controls can be properly implemented.***

The network manager must know the local operating company's policy on activating dynamic service protection and emergency manual line service and must ensure that these controls can be activated at the proper time. The network manager must also ensure that the parameters for traffic controls are as recommended. These parameters include the percentage of essential lines.

**Network Supervisor-Service**

**3.52 *Administers traffic controls.***

The network supervisor is responsible for initiating specific traffic controls when conditions set by the local operating company are met.

**C. Abnormal Load Conditions**

**Network Manager-Administration**

**3.53 *Coordinates service protection during abnormal conditions.***

The network manager is responsible for coordinating activities related to service protection during abnormal conditions such as work stoppages and disasters.

**Network Supervisor-Service**

**3.54 *Monitors traffic data during abnormal conditions.***

The network supervisor monitors load and service data during abnormal conditions to ensure the effective administration of service protection activities.

**D. System Initializations**

**Network Manager-Administration**

**3.55 *Reports all emergency actions.***

The network manager reports to the district network manager all emergency actions which occur. There should be an intergroup committee which reviews system initializations and the network manager should be a member of this committee.

**Network Supervisor-Service**

**3.56 *Reports emergency actions to network manager.***

The network supervisor reports the occurrence of emergency action, its level, its effects, and the corrective action taken to the network manager.

**E. Equipment Shortages**

**Network Manager-Administration**

**3.57 *Develops relief plan.***

If an office reaches its capacity before the next planned engineering job, the network manager develops a plan to relieve the office of mainstation load by advancing installation jobs or by other means.

**Network Supervisor-Service**

**3.58 *Coordinates relief plan involving common equipment.***

The network supervisor-service coordinates any relief plan arrangements involving service circuits or other common equipment.

**Network Supervisor-Assignment**

**3.59 *Coordinates relief plan involving line equipment.***

The network supervisor-assignment coordinates any relief plan arrangements involving line transfers, a class-of-service freeze, or other line assignment procedures.

**F. Documentation**

**3.60 *Information on service indicators can be***

found in DFMP Division H, Section 11L, Service Results; abnormal load conditions in Division H, Section 11n, Abnormal Traffic.

**TRANSITION MANAGEMENT**

**3.61 *District:*** The district network manager-administration is responsible for the protection of service during an office transition, for the efficient utilization of new equipment, and for ensuring the accuracy of line and service circuit translations.

**A. Method of Procedure (MOP)**

**Network Manager-Administration**

**3.62 *Approves the MOP.*** The network manager reviews the MOP, ensures that procedures are adequate for protection of service, and approves the MOP for Network Administration.

**Network Supervisor-Service**

**3.63 *Participates in the preparation of the MOP.*** The network supervisor is usually the Network Administration representative on the MOP committee. The network supervisor decides what equipment can be placed out of service and the transition procedure which is least likely to affect service.

**B. Service Monitoring**

**Network Supervisor—Service**

**3.64 *Monitors service during a transition.*** The network supervisor monitors data for service measurements during an office transition. If a degradation of service is anticipated, the network supervisor may alter plans outlined in the MOP as necessary.

**C. Documentation**

**3.65** Information on MOP can be found in DFMP Division H, Section 11o(4), Assignment Administration—Office Additions.

**LINE AND TRUNK ASSIGNMENT**

**3.66 *District:*** The district network manager-administration is responsible for the assignment of lines, directory numbers, trunks, and service circuits and for keeping records of assigned office equipment, directory numbers, and associated features.

**A. Office Transition**

**Network Manager-Administration**

**3.67 *Coordinates mainstation transfers.*** The network manager is a member of the cutover committee and establishes the number of mainstations which can be transferred and the time which will be required to perform necessary line translations.

**Network Supervisor-Assignment**

**3.68 *Provides line, trunk, and service circuit translations for office data assembler ODA.*** All office translations are required prior to new office factory testing. The network manager is responsible for providing all necessary line, trunk, and service circuit translations.

**3.69 *Oversees recordkeeping for area transfers.*** The network supervisor ensures that a record is made and maintained of old and new line equipment and directory numbers and that the record is maintained as mainstations are disconnected.

**B. Essential Service**

**Network Manager-Administration**

**3.70 *Coordinates essential assignments with the commercial department.*** The network manager receives a list of essential customers from the commercial department and returns a list of customers who are not on their list but who are receiving essential service. This is done in order to identify truly essential customers (annually).

**Network Supervisor-Assignment**

**3.71 *Reviews essential assignments.*** The network supervisor reviews line assignments to ensure that essential lines are properly identified and are assigned essential service (monthly).

**C. Special Assignments**

**Network Supervisor-Assignment**

**3.72 *Administers no-test locations.*** No-test locations are used to gain access to busy customer lines for testing purposes. No-test office

equipment (OE) assignments are made by the network supervisor. The network supervisor must ensure that directory numbers are not assigned to no-test locations.

**3.73 Administers TLTP test trunks.** Test trunks associated with the trunk and line test panel (TLTP) are assigned by the network supervisor. The network supervisor is responsible for ensuring that TLTP test trunk assignments are not changed.

**3.74 Administers service observing loops.** Loops for assignment are received from the service observing group and are assigned by the network supervisor according to procedures outlined in the Traffic Service Observing Practices.

**3.75 Reviews hunting arrangements.** The network supervisor ensures that proper hunting group assignments are made. In No. 3 ESS, all customers with more than 16 lines and any customer with ground start equipment **must** be assigned to multiline hunting if a hunting arrangement is desired. If a hunting group of 16 lines or less is expected to grow to more than 16 lines, it should be assigned multiline hunting.

**D. Recordkeeping**

**Network Manager-Administration**

**3.76 Manages the office record system.** All assignment records are available through the on-line office record system. The network manager is responsible for seeing that up-to-date records are generated and for providing reports to responsible parties upon request.

**Network Supervisor-Assignment**

**3.77 Maintains current office records.** The network supervisor generates page updates from the office record system on a regular basis in order to maintain current paper records.

**E. Trunk Administration**

**Network Manager-Administration**

**3.78 Monitors trunk service.** Trunking responsibilities may vary from company to company, but at the very minimum the network manager must be aware of trunk provisioning on

all final and tandem groups and must monitor service on the groups.

**Network Supervisor-Service**

**3.79 Monitors trunk provisioning.** The network supervisor must ensure that adequate trunks have been provided on all final and tandem groups to meet service objectives. The network supervisor must monitor the quantity of trunks and maintenance levels and must be aware of overdue trunks, trunk shortages, and trunk outage on these groups.

**F. Line Capacity**

**Network Manager-Administration**

**3.80 Reviews capacity statement for lines.** The network manager reviews the capacity statement submitted by the network supervisor-assignment and determines if figures used are accurate (annually).

**Network Supervisor-Assignment**

**3.81 Establishes mainstation capacity based on lines.** The network supervisor computes intercept requirements, administrative factors, and percentage of usable lines and develops the mainstation capacity based on lines (annually).

**3.82 Coordinates with plant assignment supervisor to maintain party line fill.** The network supervisor reviews assignment records and provides the plant assignment supervisor with a list of party lines with low fill (semiannually).

**3.83 Coordinates assignment activity with plant assignment supervisor.** The network supervisor discusses the adequacy of assignments, arrangements for delivery, and timely return of used assignments with the plant assignment supervisor on a continuing basis.

**G. Documentation**

**3.84** Information on assignments during an office transition can be found in DFMP Division H, Section 11o(4), Assignment Administration—Office Additions; recordkeeping in DFMP Division H, Section 11o(5), Assignment Administration—Office Record System; trunk administration in DFMP Division H, Section 11p, Trunk Administration;

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and line capacity determination in DFMP Division H, Section 11f, Machine Capacity Management.

### PERSONNEL ADMINISTRATION

**3.85 *District:*** The district network manager-administration is responsible for establishing job descriptions and responsibilities, evaluating job performance, and administering the pay treatment of employees under his or her supervision. The scheduling of training necessary for the administration of an ESS office and the responsibility for handling grievances and maintaining good relations with the union are also functions of the district level of network management.

#### A. Job Performance Evaluation

##### Network Manager-Administration

**3.86 *Evaluates job performance of network supervisors.*** Following local operating company practices, the network manager completes a written job evaluation of each network supervisor, including a job rating. Upon approval of the evaluation, the network manager contacts each network supervisor individually concerning their evaluation.

##### Network Supervisor-Service and Assignment

**3.87 *Evaluates job performance of all reporting personnel.*** Following local operating company practices, the network supervisors complete written job evaluations of all reporting personnel (line assignment clerks, data clerks, etc.) including a job rating. Upon approval of the evaluation, the network supervisors contact their personnel individually concerning their evaluations.

#### B. Training

##### Network Manager-Administration

**3.88 *Arranges necessary training for network supervisors.*** Due to the demands of administering an ESS office, it is critical that the network administrator have a good working knowledge of ESS. The network manager is responsible for evaluating the training needs of the network supervisor. Management training is available at both local operating company schools and at the Bell System Center for Technical Education at Lisle, Illinois. The network supervisor

with no previous training in ESS should take a method-of-operation course, an ESS network administration course, and a translations course (or the equivalents).

##### Network Supervisor-Service and Assignment

**3.89 *Arranges necessary training for reporting personnel.*** The assignment clerks should have local company training available to them. The network supervisor must ensure that the training adequately enables the clerical force to carry out their duties.

#### C. Grievances and Union Relations

##### Network Manager-Administration

**3.90 *Deals with grievances according to union contract and maintains good relations with union representatives.*** The network manager follows the union contract in the event of a grievance. The network manager should strive to maintain good relations with union representatives.

##### Network Supervisor-Service and Assignment

**3.91 *Deals with grievances according to union contract and maintains good relations with union representatives.*** If a grievance is filed, it would probably necessitate some action on the part of the network supervisor. The network supervisor should avoid any action which would unnecessarily create grounds for the grievance, but if a grievance should occur, the network supervisor should follow the procedures specified in the union contract for its resolution. The network supervisor should strive to maintain good relations with union representatives.

## 4. INTERGROUP RELATIONS

### NETWORK DESIGN ENGINEER

**4.01 *Network design order review.*** Whenever the network design engineer prepares a network design order for either a new ESS office or an addition to an existing office, the network manager and the network supervisor-service review the order in detail. They either concur with the equipment specifications or make recommendations for changes.

**4.02 Capacity meetings.** The network design engineer participates in the annual meeting in which Network Administration presents capacity computations. The network design engineer reviews the capacity computations for each office and either concurs or makes recommendations for changes.

**4.03 Equipment shortages.** When an equipment shortage which may impair service is identified, the network design engineer is notified. The network design engineer will decide whether a special network design order must be written or if the shortage will be alleviated on a next-job basis.

**NETWORK MAINTENANCE SUPERVISOR**

**4.04 Technical problems.** The Network Maintenance supervisor is consulted when the network administrator suspects a hardware or software problem. The maintenance supervisor will identify the problem and resolve it if possible. The maintenance supervisor may call upon the maintenance engineer and the network design engineer for assistance.

**SERVICE ORDER SUPERVISOR**

**4.05 Assignment lists.** The network supervisor-assignment sends the service order supervisor

lists of line equipment numbers and directory numbers for assignment. The network supervisor and the service order supervisor must work together to ensure that assignments are made which support the load balance plan for each office. The network supervisor implements controls of assignment lists.

**4.06 Main frame management.** When it becomes necessary to work service orders for frame transfers in order to relieve blockages, the service order supervisor is consulted by the network supervisor-assignment. Together, they set schedules for completing all necessary service orders.

**5. TRAINING AND QUALIFICATIONS OF INDIVIDUALS ENTERING NETWORK ADMINISTRATION MANAGEMENT**

**5.01** Historically, Network Administration was simply a line and number assignment group. Managers and supervisors primarily had clerical backgrounds. However, with the advent of ESS, administrative requirements are greater than those associated with electromechanical systems. Service is sensitive to software arrangements. Also, the administrator has more control over the system. Today, a person in a Network Administration management position with responsibility for ESS offices needs a good working knowledge of ESS.

**TABLE A**  
**DATA ADMINISTRATION**

*District:* The district network manager is responsible for collecting and validating data on load and service results and for providing data in response to special study requests.

| RESPONSIBILITY                  | LEVEL OF MANAGEMENT RESPONSIBLE   |  |
|---------------------------------|---|--|
|                                 | NETWORK MANAGER – ADMINISTRATION  | NETWORK SUPERVISOR – SERVICE   |
| Traffic Measurement Assignments | Handles requests for data.  | Assigns measurements for trunk, service circuit, and multiline hunt groups as they come into service.  |
| Scheduling                      | Monitors all data collection to ensure that data are collected according to schedule.           | Maintains traffic schedule block.<br>Generates special data printouts.   |
| Data Processing                 |   | Transmits busy hour H Schedule to PATROL and analyzes exception report.  |
| Data Validation                 | Establishes criteria for valid data.  | Matches data against criteria.   |
| PATROL Administration           | Sets limits for flagged data.   | Establishes office description file.<br>Maintains accurate mainstation counts.<br>Maintains accurate circuits-in-service counts.<br>Maintains PATROL newsletters and lessons.            |
| System Initialization           | Establishes procedures to reestablish traffic measurements in the event of an emergency action. | Monitors Network Administration teletypewriter for indication of initialization activity and follows procedures to reestablish traffic measurements in the event of an emergency action. |

**TABLE B**  
**EQUIPMENT UTILIZATION**

*District:* The district network manager is responsible for optimum loading, balancing, and utilization of installed equipment. The network manager sets objectives for dial indexes, issues notice of equipment shortages to network design, and provides requirements for rearrangements to engineering.

| RESPONSIBILITY                                 | LEVEL OF MANAGEMENT RESPONSIBLE  |   |                                 |
|--|--|---|---------------------------------|
|  | NETWORK MANAGER – ADMINISTRATION   | NETWORK SUPERVISOR – SERVICE  | NETWORK SUPERVISOR – ASSIGNMENT |
| <b>Loading Plans</b>                           | Reviews and approves loading plans.<br><br>Reviews actual loading to ensure adherence to plan.                       | Advises network supervisor – assignment on implementation of loading plan.  | Implements loading plan.        |
| <b>Busy Hour and Busy Season Determination</b> | Reviews busy hour study.   | Performs busy hour study.<br><br>Determines component busy hours and factors.<br><br>Confirms busy season.  |                                 |
| <b>Service Circuit Administration</b>          | Reviews service circuit specifications in network design orders.<br><br>Establishes parameters for service circuits. | Compares actual load data with parameters set by network manager.<br><br>Balances customer digit receiver (CDR) groups between dial pulse, and TOUCH-TONE.<br><br>Administers tone and announcement circuits. |                                 |

**TABLE C**  
**OFFICE STATUS EVALUATION**

*District:* The district network manager and the district network manager-design are jointly responsible for establishing machine capacities and for ensuring that adequate equipment is scheduled to maintain service criteria.

| RESPONSIBILITY         | LEVEL OF MANAGEMENT RESPONSIBLE              |  |
|------------------------|--|--|
|                        | NETWORK MANAGER – ADMINISTRATION             | NETWORK SUPERVISOR – SERVICE   |
| Capacity Setting       | Reviews capacity studies.                    | Sets office capacity.  |
| Load-Service Relations | Reviews load-service relations.              | Develops load-service relations.   |
| Capacity Management    | Negotiates growth jobs with plant extension. | <p>Determines equipment shortages.</p> <p>Determines effect of commercial forecast on office capacity.</p> <p>Studies the effect of area transfers on capacity.</p> <p>Issues notice of potential service circuit shortages.</p> |

TABLE D

SERVICE PROBLEM ANALYSIS AND CORRECTIVE ACTION

*District:* The district network manager is responsible for identifying and resolving all problems affecting service and for coordinating all actions necessary to protect service during abnormal traffic conditions.

| RESPONSIBILITY           | LEVEL OF MANAGEMENT RESPONSIBLE   |   |   |
|--------------------------|---|---|---|
|                          | NETWORK MANAGER – ADMINISTRATION  | NETWORK SUPERVISOR – SERVICE  | NETWORK SUPERVISOR – ASSIGNMENT                   |
| Service Indicators       | Develops service parameters for use in a “quick-look” for service problems. | Examines Q schedule for indications of service problems. Reviews data for service problems. |   |
| Traffic Controls         | Ensures that traffic controls can be properly implemented.                  | Administers traffic controls.   |   |
| Abnormal Load Conditions | Coordinates service protection during abnormal conditions.                  | Monitors traffic data during abnormal conditions.   |   |
| System Initialization    | Reports all emergency actions.  | Reports emergency actions to network manager.   |   |
| Equipment Shortages      | Develops relief plan.   | Coordinates relief plan involving common equipment.   | Coordinates relief plan involving line equipment. |

TABLE E

TRANSITION MANAGEMENT

*District:* The district network manager is responsible for the protection of service during an office transition, for the efficient utilization of new equipment, and for ensuring the accuracy of parameters and line and service circuit translations.

| RESPONSIBILITY            | LEVEL OF MANAGEMENT RESPONSIBLE  |   |
|---------------------------|----------------------------------|---|
|                           | NETWORK MANAGER – ADMINISTRATION | NETWORK SUPERVISOR – SERVICE                |
| Method of Procedure (MOP) | Approves the MOP.                | Participates in the preparation of the MOP. |
| Service Monitoring        |                                  | Monitors service during a transition.       |

TABLE F

## LINE AND TRUNK ASSIGNMENT

*District:* The district network manager is responsible for the assignment of lines and directory numbers and for keeping records of assigned line equipment, directory numbers, and associated features.

| RESPONSIBILITY       | LEVEL OF MANAGEMENT RESPONSIBLE                                   |  |
|----------------------|---|--|
|                      | NETWORK MANAGER – ADMINISTRATION                                  | NETWORK SUPERVISOR – ASSIGNMENT  |
| Office Transition    | Coordinates mainstation transfers.                                | Provides line, trunk and service circuit translations for ODA.<br><br>Oversees recordkeeping for area transfers  |
| Essential Service    | Coordinates essential assignments with the commercial department. | Reviews essential assignments.   |
| Special Assignments  |   | Administers no-test locations.<br>Administers TLTP test trunks.<br>Administers service observing loops.<br>Reviews hunting arrangements.   |
| Recordkeeping        | Manages office record system.                                     | Maintains current office records.  |
| Trunk Administration | Monitors trunk service.   | Monitors trunk provisioning.   |
| Line Capacity        | Reviews capacity statement for lines.                             | Establishes mainstation capacity based on lines.<br><br>Coordinates with plant assignment supervisor to maintain party line fill.<br><br>Coordinates assignment activity with plant assignment supervisor. |

TABLE G

PERSONNEL ADMINISTRATION

*District:* The district network manager is responsible for establishing job descriptions and responsibilities, evaluating job performance, and administering pay treatment of employees under his or her supervision. The scheduling of training necessary for the administration of an ESS office and the responsibility for handling grievances and maintaining good relations with the union are also functions of the district level of network management.

| RESPONSIBILITY                 | LEVEL OF MANAGEMENT RESPONSIBLE  |  |
|--------------------------------|--|--|
|                                | NETWORK MANAGER – ADMINISTRATION   | NETWORK SUPERVISOR – SERVICE AND ASSIGNMENT  |
| Job Performance Evaluation     | Evaluates job performance of network supervisors.  | Evaluates job performance of all reporting personnel.  |
| Training                       | Arranges necessary training for network supervisors.   | Arranges necessary training for reporting personnel.   |
| Grievances and Union Relations | Deals with grievances according to union contract and maintains good relations with union representatives. | Deals with grievances according to union contract and maintains good relations with union representatives. |