FRAME FORCE MANAGEMENT

DISTRIBUTING FRAMES

SUPPLEMENTAL INFORMATION—CENTRAL OFFICES

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1. GENERAL

1.01 This section describes the Frame Force Management Plan, which is a guide to obtain maximum benefit from the performance of frameworkers. This plan may be used in either a centralized frame environment or a local wire center. It provides techniques for the manager to use in estimating the work load (demand and programmable work) and matching the available frame force to the expected work. The plan also provides information for the manager to analyze and evaluate the results of these techniques. In essence, the plan aids supervision in ensuring that:

- Work is available to ensure adequate load exists for the available hours
- Adequate force is available to complete necessary work
- Work is assigned in a correct sequence to minimize impact on other forces

- Completed work is evaluated to ensure its efficiency and quality

- Work and force are scheduled to meet due date commitment

Note: The records, reports and status information for this plan may be administered in the local distributing frame environment, a Frame Control Center (FCC) or a Frame Work Station (FWS) in a Switching Control Center (SCC).

1.02 This section is being reissued to cover significant changes which have occurred in the operational requirements and in the forms. Information is also included on the Computer System for Main Frame Operations (COSMOS). Because this reissue is a general revision, no revision arrows have been used.

1.03 The title for each figure includes a number(s) in parentheses which identifies the paragraph(s) in which the figure is referenced.

1.04 Recommendations for changes, additions, or deletions to this section should be forwarded on Form E-3973 as specified in Section 000-010-015.

1.05 This plan is applicable to ***all frame operations.*** The degree of application will depend on the potential improvement at the particular frame. For example, on small frames, only the pricing and tracking of work completed may be used to identify productive performance and to develop forecasting history. This can identify increments of time which may be available on a regular basis for other programmable work assignments.

1.06 Procedures for applying the full plan will vary depending on the order volume, the numbers of tours, etc. For example, if insufficient daily load is available at forecasting time, historical data may be used. The basic objective of the plan is to ensure that a full tour of work is assigned to each frameworker and that work is completed on schedule. Proper application will also ensure that quality and performance standards are met.

1.07 This plan provides frame managers with procedures to develop forecasts or estimates of future work volumes. With this knowledge, the manager should be able to accomplish the following:

(1) Meet subscriber demands

(2) Program company-generated work

(3) Ensure that all employees are productively assigned

(4) Develop additional historical forecasting information to aid in estimating an accurate expected work load.

1.08 The procedures outlined in this section address frame management determination of the following:

(1) Demand load hours

(2) Programmable load hours

(3) Proper force sizing for the load hours

(4) Frame force hours available for all work

(5) Obstructions to smooth work order flow (roadblocks).

(6) Productivity and work efficiency.

1.09 Throughout this section, when a form is shown as optional and another form listed, either that form or the other form must be maintained. If a form is shown as optional and no other form is listed, the purpose of the form can be fulfilled by use of a local form or combined on another source document.

1.10 The following sections provide additional information on frame administration procedures:

- Frame Controlled Maintenance Plan (FCMP)— Section 201-200-013

- Frameworker Performance Plan (FPP)—Section 201-200-014

- Network Maintenance Management Plan (NMMP)—Administrative and Technical Operational Review—Section 201-200-015

- NMMP—Section 780-125-500

- NMMP—Work Quality Inspection and Evaluation Program—Section 780-125-502

- NMMP—Cost Control and Measurement—Section 780-125-504

- Dedicated Inside Plant (DIP) Administration—Section 190-520-007.

A. Definitions

1.11 To avoid possible misunderstanding, the following definitions are provided.

Distributing Frame: MDF, IDF, LDF, TDF, No. Group, Translator, Block Relay, No. Network (ANI) and any other frame performing functions related to work covered by this plan.

Demand Work: Nondeferrable work requests (oral and/or written) which are received and must be included in the current work load to meet completion requests. Examples are:

- RSB speaker work
- Zero due date service orders
- Verifications
- Special Service Orders
- Line Equipment Transfers
- Cable Transfers
- Line and Station Transfers.

Forecasting: Identification of required demand work hours from work orders on hand and/or a history of demand work.

Frame Control Center: An administrative center that performs pricing, packaging, force loading, tracking, and force administration (all or part) for centralized frame operations.

Frame Work Station: A work station that is responsible for the functions of an FCC except it is on a smaller scale. It is located in an SCC and personnel would report to the SCC Manager.

Late Orders: Orders received too late to be loaded in the next scheduled tour prior to due date. Late orders were previously identified as "after fives".

Loading: The assignment of work to craft forces.

Nonorder Work: Frame work, other than cross connections, which supports productive efforts or provides aid to other work groups. Examples are RSB work, verifications, meetings, etc.

Order Work: Frame work (cross connection activity) which can be priced, loaded, and tracked for efficiency. This work may be demand or programmable depending on the time of receipt relative to the due date.

Percent Efficiency: The ratio comparison between the expected work time and the actual work time.

Pricing: Determining the amount of time required to complete work.

Programmable Work: Programmable work requests (written and/or oral) includes the same work requests that are included in demand work. The exception is that the programmable work requests are received before the due date in time to schedule their completion. Examples of programmable work are:

- Service Orders
- Trunk Orders
- Special Service Orders
- Verifications
- Cable Transfers
- Routine maintenance
- Line Equipment Transfers
- Service Observing.

Supervisor: First level management.

Trick: Specific job assignment duties on a specific shift listed on a Central Office Work Assignment List.

Zero Due Date Work: Work request received during a shift that requires immediate action and is due prior to the end of that shift.

B. Production Improvement

1.12 Controlling the flow of work through the frame operation will result in better frame production. Further production improvement will result when interruptions of the programmed work are eliminated.

1.13 Equally important to work flow is the proper sizing of the frame force to match the work

load. The procedures in this section are designed to assist management in identifying the impact of the work flow efficiencies and force sizing controls at the local frame level.

1.14 Production improvements provided by the implementation of this plan should come from the following items:

(1) A ***time study*** that is a measurement of the time required (in minutes) for the various work operations at a particular location.

(2) ***Forecasting*** as a means of calculating (or estimating) the work load in advance.

(3) ***Loading*** as a means of efficiently matching the frame force to the work.

(4) ***Identification and control of interruptions*** to programmed work flow.

(5) ***Tracking*** to evaluate completion, productivity and the quality of the loaded work.

(6) ***Analysis*** to determine the impact of individual performances, discrepancies, and roadblocks.

(7) ***Implementing programs to correct roadblocks*** which are under the direct control of local management.

(8) ***Developing a history of the impact and cost of roadblocks which are not under the direct control of the local manager.*** This historical data will provide documentation to obtain either support from other groups or the assistance of upper management required to achieve improvements.

C. Job Assignments

1.15 Individual productivity increases when each person knows:

- Exactly what is to be done
- The manner in which it is to be performed
- The expected time for its completion.

1.16 The supervisor should outline the responsibilities of each work assignment. The work responsibilities must be detailed so as to leave no area of doubt. These responsibilities should encompass all the required work operations on the frame, and ***include housekeeping, safety, and records work.*** The assignment of these job responsibilities should be commensurate with experience levels in the work force. The frame supervisor, for training purposes, should assign all types of work to ***all*** frameworkers on a programmed basis to develop a fully trained work force.

1.17 The Work Assignment List (Form E-5848) is used to describe job responsibilities associated with a particular ***trick or work assignment.*** For example, an individual is assigned to the vertical side of the main frame. That person's primary responsibility might be terminating jumpers for preliminary frame work (orders worked in advance of the due date). Secondary responsibilities might be to work with the tester when needed to assist on trunk orders, or to do routine work assignments (ie, keeping cable head coiled up, filling cable head supply bins, etc) in order to assure full productivity for the duration of the shift. Another example would be the loading of an individual for a full day of new connects, disconnects, or a combination of both.

1.18 The Work Schedule (Form E-6837) is a form that allows the supervisor to notify all personnel of their work assignments for a particular period of time. Work schedules form a basis for maintaining a force level that will ensure load coverage. Refer to Section 190-130-140 for a complete description and examples of Form E-6837.

1.19 A sufficient period of time must be allowed for an individual worker to develop fully in a particular assignment. Supervisors must find the most suitable arrangement for each of their subordinates' training needs. Form E-5491, Training Record, or an equivalent form should be maintained for each individual for this purpose. Refer to Fig. 1 for an example of how the form is maintained.

1.20 The supervisor must be aware of absences which result in an unassigned work load. Temporary adjustments in work load assignments must be made when absences are not replaced.

1.21 During peak loads, the supervisor must ensure that the frame forces are on work assignments and not in meetings or other miscellaneous activities. Overlapping trick assignments will eliminate delays

to the other interfacing work forces that require frame assistance.

D. Work Scheduling

1.22 A steady pace of frame activity must be maintained. Part of the frame force should be assigned to programmable work when the demand load decreases. Overtime or the use of temporary or borrowed craft is recommended when the demand load is high.

1.23 Ensure that frame work is scheduled according to priority. During very heavy load periods, certain work operations (such as programmable work) may be temporarily deferred in order to fill more pressing commitments. ***Work for which other forces are waiting should be completed first.***

E. Percent Efficiency

1.24 The measurement format which is identified as percent efficiency on Form E-6622 is designed for the use of the local supervisor in identifying the productive performance of the frame against a fixed standard for that frame. Percent efficiency is the comparison of the amount of expected time to complete work against the actual time reported to complete that work. Refer to paragraph 2.32 for additional information on Form E-6622.

1.25 Percent efficiency is intended to measure frame productive work effort versus the impact of load shifts, discrepancies, force efficiencies, order complexity, etc. ***It cannot be used for comparative measurements between frames due to the individual nature of the base data.***

F. Forecasting

1.26 A forecast of the next day work load is important for effective force management. A successful forecast identifies the required demand work hours from work on hand and historical data.

> ***Note:*** Forecasting for the next day is the general rule. There may be exceptions to this rule (ie, very large wire centers or centers with more than one tour where forecasting may be established by individual tours).

1.27 Prior to the start of the forecast period, the work forecast is developed from work orders on hand and historical data. This action requires a history of demand work.

1.28 Programmable work is work that is received with a sufficient interval to permit flexibility in scheduling and loading. A history of this type work is not generally required for the next day's load forecasting; however, a history may be required for long term work scheduling and tour development.

1.29 The need for forecasting accuracy and loading detail will vary according to the size of the frame and the activities involved. A major factor will be the degree to which the forecast can be used to reschedule forces or precisely use the hours that the forecast has indicated to be available. In some small frames (one or two craft persons), the forecast load may be based completely on historical data. After programmable work is loaded to fill out a tour, the load is broken to adjust for demand work as it develops.

G. Roadblocks

1.30 There are basically two types of roadblocks. One type is directly under the control of local management. After it is identified, it can be corrected by the supervisor and/or the manager. Examples of this type roadblock are as follows:

- Poor housekeeping
- Excessive time for work breaks
- Excessive time for lunch breaks
- Inadequate tools and/or material
- Insufficient or inadequate training
- Quantity of work performed
- Quality of work
- Waiting time
- Inadequate work load
- Hard to find equipment locations.

> ***Note:*** Management specified times for breaks (such as meetings, coffee breaks, or lunch periods) are ***not*** defined as roadblocks.

1.31 The other type of roadblocks are not under the direct control of the local manager. Examples of these roadblocks are as follows:

- Discrepancies (Assignment errors, late cancellations, or service order changes)
- Late orders
- Short interval work requests
- Procedures of other work forces which impact negatively on frame operations (eg, inefficient circuit testing sequences)
- Wire center complexity.

1.32 Roadblocks should not be included in local work time studies. They must be identified, priced, and reported separately so that management will be aware of their total impact on the operation.

H. Discrepancies

1.33 Service order record errors are costly and can be reduced by scheduling routine work assignments to purify assignment records. Time spent by the frameworker and supervisor on a regular program of frame verifications (main frame, loop assignment and network administration record comparison, ie, COSMOS VER routines) will pay dividends for the forces involved in service order work. ***Crash programs should be avoided.*** A continual approach is encouraged through the use of scheduled routines and follow-up quality inspections. Use of the Daily Central Office Frame Activity Log (Form E-6622) provides a routine means to monitor discrepancy trends.

I. COSMOS Environment

1.34 In a COSMOS environment, the following activities must be conducted to ensure data base accuracy.

- Prompt and accurate frame service order completion notifications
- Utilization of the order status procedures for notifying the Loop Assignment Center (LAC) and other control centers of discrepancies and/or pending order status encountered that contradict the COSMOS frame work order or prevent frame order completion
- Processing of the VER (verification of the data base) as outlined in the COSMOS Operational Review (Section 190-520-005) as a regularly scheduled intergroup routine.

Note: The COSMOS VER routine is fully explained in the COSMOS Data Base Managers Manual 6P030, Section 7.

Refer to Part 3 of this section for additional COSMOS information.

2. PLAN IMPLEMENTATION

A. Expected Work Time for Frame Tasks

2.01 An average time expectancy for frame cross-connection tasks is provided by Table A. These are typical time intervals for one worker to complete all cross-connection work operations on a Plain Old Telephone Service (POTS) circuit on an average Bell System frame (all cross-connect, testing, and records work are included in this table).

2.02 The average service order consists of two basic work operations: (1) the jumper on the main distributing frame (MDF), and (2) the cross-connections for the telephone number, billing, and line equipment. Modular and COSMIC types of cross-connects and their expected times are listed under EQUIPMENT. Table A is in two parts, (1) MDF times and (2) Equipment times. The MDF time for a conventional frame can be plotted on the graph in terms of the number of verticals. The cross-connections for telephone, line equipment, and billing are consolidated as equipment times for all types of frames.

Note: The ANI Strap for SXS offices must be added to the SXS Intermediate Distributing Frame [IDF] time.

2.03 The solid lines on Table A represent times for orders that are 100 percent in and verified and also times for orders that are removed. The dotted line on MDF times is titled MDF-IN (ADVANCED ONLY). This time represents the preliminary work on an order that has not been terminated or connected on the horizontal main distributing frame (HMDF). (A change order is a typical example.) In forecasting estimated time for the preliminary wiring, use MDF IN (ADVANCED ONLY) of Table A; however, deduct the time taken from the total 100% IN & VERIFIED time and the remaining time is the estimated time for completing the order. The MDF-IN (ADVANCED ONLY) time is an option to

be used at the discretion of local supervision. If it is not used, the full MDF-IN estimated time should be allocated to the advance wired order at the time of completion.

2.04 The EQUIPMENT portion of Table A represents all the required cross-connections under one time. Cases may arise where local management will elect to assign mass cross-connect efforts to a given piece of equipment. A seasonal situation such as a college opening or closing might be a typical case. Local management should assign the appropriate percentage of the time factor in Table A or develop a local time to the unique cross-connects in an equipment group. In the case of No. 5 crossbar, an example might be 4.8 minutes for each Number Group and 2 minutes for each Translator, the sum of which should equal the total of 6.8 minutes as shown in Table A equipment times.

2.05 It must be understood that the work times in Table A represent Bell System averages. It is not likely that the work time will represent the actual time required on a particular frame. As a result, equally good productivity on two different frames will not necessarily result in the same percent efficiency because expected times vary between frames. The Table A times, however, do provide a ***constant*** figure from which percent efficiency can be tracked. ***The Bell System standard Table A times*** can be used initially in order to get Frame Force Management (FFM) implemented quickly. Local time studies should be made later to develop expected work times which more closely reflect the physical layout of the local offices.

B. Local Time Study

2.06 The function of the local time study is to develop incremental work times for work operations involved in distributing frame activity. These operations can be part of order work or nonorder work. Examples of order work are MDF X-CONN (IN), NG & TRANSL (IN), completion entries for service reporting and filing the completed order, or discrepancy handling. Examples of nonorder work are results tabulation (when assigned as a bulk work assignment), preparation of work hours summary, Repair Service Bureau (RSB) requests, trouble locating and correcting, and records verification.

> ***Note:*** Use of Table A for POTS cross-connection activity does not eliminate the need for the identification and pricing of all other recurring work activities (nonorder work, trunk and special cross-connections, discrepancies, etc).

2.07 The accuracy of the work times will be affected by many variables as in the case of MDF cross-connections. Even on COSMIC frames the length of cross-connections can cause a variation in work time. It is important that management be aware that these factors can alter percent efficiency as a production measurement. Percent efficiency may vary radically on a day-to-day basis, but accumulated daily results should provide statistically valid analysis data.

2.08 A method which can be used to develop local time factors for pricing work operation and for loading and/or forecasting work should include the following steps:

(1) Identify all recurring work operations. A list of ***all*** work operations which recur on a daily, weekly, and monthly basis will be prepared. The list can include both order work (MDF IN, MDF OUT, etc) and nonorder work (RSB assistance, record or equipment verification, spare pair tests, records, housekeeping, etc).

(2) Establish an incremental time for each work operation. This can be done by timing a limited number of work operations. Ten work operations are considered to be the minimum in large frame operations (four or more frame attendants). In small frames this number can be reduced or estimated for an initial work table.

(3) For work operations which may not lend themselves to timing (eg, nonorder work such as: RSB requests, results preparation, record verifications, etc), management should use judgment and establish a value. The RSB work time may be established by clock or peg counts, or by establishing FCC control of loop dispatch with monitoring capability. RSB assistance can be broken into categories similar to those on the Speaker Log (Form E-6625). Forecasting requires the development of a time base related to work requests. Figure 2 is an example of a form that may be used to develop any recurring nonorder activity price. In order to clarify the forecasted nonorder pricing, the total nonorder time for each day should be entered with the number of times a specific request is made. At

the end of each week, these are totaled and averaged. A copy of this form is attached to this practice for use locally.

(4) To develop the average time for each work request, one or two weeks' work should be logged and analyzed by work request, identifying the number of minutes for each work request. Using the incremental times developed, an average time for each type of work request can be developed for use in forecasting. These times can also be used for loading when work orders are not available at the force management location. Periodic checks should be made to ensure estimates are valid.

C. Local Time Study Format

2.09 A suggested format for documentation of the time study is shown in Fig. 3 and 4. These forms are duplicated at the end of this section so they can be removed and reproduced locally. The calculations will result in an average time for ***in, out, change, special service,*** and ***miscellaneous*** type service orders as well as time required for ***cable cuts, cable transfers,*** etc. These average times will be used to price and load the work.

2.10 The Time Study form (Fig. 3) can be used as a work sheet in documenting the time study activity. A separate form can be used for each category of activity (such as inward, outward, changes, special services, cable transfers, traffic transfers, etc). These activities are entered in the ACTIVITY blank on the top right of the Time Study form. Entries are made as indicated in Fig. 3.

D. Time Study Summary

2.11 The Time Study Summary form (Fig. 4) is used to summarize the data from the Time Study form (Fig. 3) in order to obtain objectives for the office. Fig. 3 entries for Inward Equipment were forwarded into the Fig. 4 example. All forms used in the study should be retained for future reference and analysis purposes. General explanations of entries that are made into the Time Study Summary are also indicated in Fig. 4.

E. Pricing Chart

2.12 An optional pricing chart may be set up for each office by the use of column D in the Time Study Summary (Fig. 4). The average minutes per item are entered with the proper number of activity lines. An example would be to take 3.0 minutes from MDF INWARD in Fig. 4. MDF INWARD on the sample pricing chart would consist of 3.0 minutes for one line, 6.0 minutes for two lines, 9.0 minutes for three lines, etc. A sample pricing chart is shown in Fig. 5. There is a blank pricing chart on the last page of this section that can be reproduced if it is desired to use pricing charts locally.

2.13 Pricing may also be accomplished with a pricing list of the individual increment prices multiplied by the forecast work operations rather than the pricing chart. Refer to paragraph 2.08(3) for the use of a forecast pricing list for this purpose.

F. Pricing of Work Load

Order Work

2.14 The pricing of frame work proceeds through two stages:

(1) ***Demand work*** —Demand order work is that work which must be completed in the forecasted period. Refer to paragraph 1.10 for the definition and examples of demand work.

(2) ***Programmable Work*** (includes company-initiated orders)—Programmable work is scheduled in the forecasted period to balance the work load. Refer to paragraph 1.10 for the definition and examples of programmable work.

2.15 The pricing separation of ***demand order*** work from ***programmable order work*** allows for an orderly control of work scheduling and forecasting due to the inherent due date differences in each type of work activity. The demand order load is normally made up of very short due dates with considerable fluctuation in volume. The bulk of the programmable order load contains mostly company-initiated work with a longer due date interval. This fundamental difference in work due date provides a basis for procedures which will help match force to load.

Nonorder Work

2.16 Just as it is necessary to study order work time requirements, it is equally important to determine time requirements for activities other than running jumpers that are necessary for an effi-

cient frame operation. Once the supervisor quantifies this nonorder requirement, a relationship objective of nonorder work to order work should be set.

G. Controlling the Work Load

General

2.17 Local frame management has little control over the demand load and must schedule appropriate hours to accommodate this load. However, if many orders reach the frame too late for pricing and loading either prior to the beginning of the shift or the same day they are due (zero-day), the incidents should be documented (using Form E-6622 or an equivalent form). Necessary action should be taken to eliminate the cause or minimize the impact of these incidents. Assistance of higher management should be sought if the problem cannot be solved locally.

2.18 Company-initiated orders (cable transfers, line equipment transfers, trunk orders, records verifications, etc) should go through a prescheduling phase prior to due date setting. It is the responsibility of the frame supervisor to make sure that the proper inputs of force availability information are transmitted through the lines of organization so that due dates reflect what can be reasonably accomplished by the frame force. As an example, the frame operation must be represented on the Cable Transfer Committee to provide input and exercise some control over the due date commitments on company-initiated work. Refer to Section 620-050-020 for more information.

Order Bin Arrangement

2.19 To assist in the ease of order handling and pricing, Fig. 6 depicts a suggested bin arrangement. The bin arrangement should facilitate an easy location of due dates, go aheads, and work associated with discrepancies. The bin is labeled across the top by the basic service order types. The Programmable File is designed for other work orders. For the service order bins, the letters down the side of the bin are for the days of the week. Orders are filed according to the day of the week that they become due. The Today File is for orders awaiting a call for completion. The Completed File is to be used for finished service order work. The labeling down the side of these bins is by thousands digit of telephone number.

2.20 Incoming work orders should be time and date stamped, reviewed for completeness and legibility, and sorted by a frame start date. Zero due date orders and orders received late should be logged on the Daily Central Office Frame Activity Log (Form E-6622) when received work is closed out.

H. Forecasting

Daily Forecast—Form E-6619

2.21 A daily work load forecast is one of the ***major keys*** to effective force management. This document serves these major functions:

(1) Quantification of tomorrow's ***demand order*** hours. This may include both work on hand and a forecast of work not on hand that was predicted from historical data.

(2) Quantification of ***demand nonorder hours*** necessary to the frame operation. Nonorder demand hours are usually identified from historical data.

(3) Identification of frame force ***hours available.***

(4) Quantification of ***programmable work load*** available.

2.22 The daily forecast of hours needed will be made by the supervisor using Form E-6619. This forecast shall be prepared prior to the start of the designated work day of the frame force. The forecast shall contain all work planned for the 24-hour period established as the work day (such as 4 p.m. to 4 p.m.—8 a.m. to 8 a.m.). Where multiple work tours are required, supplemental forecasts may be prepared for each tour. Forecasting will permit supervision to make adjustments in the daily force needed to match the load prior to or at the start of the work day. See Fig. 7 for an illustration of Form E-6619.

2.23 In control centers that combine multiple frames or wire center operations, it may be easier to track the daily forecasted items for each wire center on Form E-6619. In single frame operations, Form E-6619-1 (Fig. 8) may be used in lieu of Form E-6619. Form E-6619-1 consists of the same items as Form E-6619 except it can be used to track items for one month. Refer to Fig. 8 for an example.

2.24 Local management must determine when the bulk of the load for the next day has arrived

at the pricing and loading position. At this time the due date orders are priced. There are two ways to price a work order: (1) The two basic work operations times (MDF and Equipment) can be added together and one figure used for each line of activity on the order, or (2) each of the two work operations can be computed separately. The following example is illustrated in Fig. 5 (both sheets) and Fig. 9. Figure 9 also contains the general details for each of the entries on Form E-6619.

Example: An office has two kinds of switching machines, No. 5 crossbar (5XB) and Step-by-Step (SXS). The MDF is 200 verticals long, meaning it will take about 6.0 minutes to place and connect a jumper and 3.2 minutes to remove one. Tomorrow's load consists of the following service orders:

(a) 10 number changes (5 SXS, 5 XB)

(b) 10 class-of-service changes (5 SXS, 5 XB)

(c) 40 inwards (20 SXS, 20 XB)

(d) 40 disconnects (20 SXS, 20 XB)

(e) 51 pair to be back-tapped (MDF-IN).

The number changes require only equipment work but class-of-service changes require total in and total out at both the equipment and MDF. Therefore, on the E-6619 (Fig. 9), 5 items for class-of-service changes are recorded for MDF on SXS and No. 5XB. There are 10 items (5 for the class-of-service plus 5 for the number change) for the two offices. The equipment portion of Table A shows 7.2 minutes in, 3.6 minutes out for SXS and 6.8 minutes in, 3.4 minutes out for No. 5XB. This load is computed in the following steps.

(1) Having determined the number of items of line activity in the work load, the supervisor now has the choice of pricing the total order or pricing by work operation. For this example, the work will be priced by work operation.

(2) To do this, Form E-6619 is divided into three parts; (1) Nonorder Hours, (2) Order Hours, and (3) Force and Load computations. The Order Hours Section is arranged for pricing by demand work and programmable work.

In the example in Fig. 9, the demand work is entered under the appropriate office. Columns B to E and F to I are titled as follows: 5XB (MDF and EQ.), and SXS (MDF and EQ.). The loading position enters the number of demand items for the line activity on the appropriate line and column such as: 20 inward 5XB items are entered on line 21, columns B and D (Fig. 9). The scheduled items (51 pair) for MDF-IN are entered under Programmable Order Hours.

(3) Once all the items have been entered, the loading position refers to the pricing charts which were prepared locally [see example—Fig. 5 (Sheets 1 and 2)] and enters the total time for the specific work operations (demand and programmable orders) in columns C, E, G, I, and K. The loading position may use a local pricing table against the tallied work.

(4) In the example of Form E-6619 (Fig. 9), enter the following on line 35: Total the demand minutes (line 34: column C + column E + column G + column I + column K) and divide by 60 to get total demand hours. Enter this result also on line 13.

(5) Repeat step (4) for lines 49 and 50 to determine programmable order hours. Enter the line 50 result on line 19.

(6) On line 14, enter the estimated demand work on hand. This is derived from historical data. (Form E-6622 may be used for this purpose.)

(7) On line 15, enter the sum total of lines 1 through 12. In the example of Fig. 9, the total was computed to be 14 hours.

(8) Add lines 13, 14, and 15 together and enter the results on line 16.

(9) Enter the total scheduled hours (which consists of force available multiplied by eight hours) on line 17.

(10) Line 16 is subtracted from line 17 to give the hours available for programmable work. Enter this result on line 19.

(11) Subtract line 19 from line 18 and enter on line 20. This result should be related to line 19 to determine if sufficient hours exist to complete programmable work or if programmable work should be deferred. If enough work cannot be deferred, additional frameworkers or overtime will be required.

I. Loading of Work Assignments

Loading Sheet—Form E-6620

2.25 The Loading Sheet, Form E-6620 (Fig. 10), is used to make initial work assignments in order to properly load each available person. This form is an optional log and may be used by offices as a tracking sheet. It can be used for individual or group loading. Items may be bulk or detail loaded. The form should also be used to record the same information for borrowed employees.

Load and Work Time Record—Form E-6843

2.26 The Load and Work Time Record or equivalent local form, Form E-6843 (Fig. 11), is used for individual loading. The sorting of orders into work packages of In, Out, and Changes will assist in the loading procedure. Details on form entries are located in Section 190-130-150. Refer to Section 660-100-013 for central office maintenance codes.

2.27 It is recommended that orders be loaded in bulk rather than writing down each order number. If the detail recording of each order number in the individual load is required, additional lines are provided on the back of the form. On a local basis, Form E-6620 may be used for recording the details instead of the back of Form E-6843.

2.28 The loading position enters the work items in the order that the frameworker must start them. When loading service order work, it may be issued by total service order or divided into two groups, MDF and Equipment Frames. If the latter technique is used, list each group of orders on a separate line with the proper designation for the MDF or Equipment Frames. Estimated work time is obtained from the Pricing Chart (Fig. 5).

2.29 The work documents, such as service orders, line cuts, and transfers, which are attached to the Load and Work Time Record (Form E-6843 or equivalent) are delivered to the frame employee at the beginning of the shift.

Work Assignment List—Form E-5848

2.30 Overhead time (OHT) work (Trick Duties) designated on Form E-5848, Work Assignment List, is for that particular trick assignment. Figure 12 illustrates a typical frame work assignment. Form E-5848, which is a required form, has the work listed that is performed by the assigned frameperson throughout the shift. When the Work Assignment List is reviewed by supervision, the supervisor must sign and enter the date to indicate review. The form is generally used to describe work of a routine nature such as turning on soldering irons, housekeeping, etc, as well as working the assigned load.

J. Recording Work Completed

Load and Work Time Record—Form E-6843

2.31 Each frameworker receives the employee's portion of the Load and Work Time Record, E-6843, daily. The frameworker lists the shift activities chronologically, identifies the type of work, and enters the amount of time spent on each activity. Refer to Fig. 11 for an example.

Daily Central Office Frame Activity Log—Form E-6622

2.32 All productive work completed each day must be logged on Form E-6622. This form is also used as a Go Ahead log. The data on this form may be used to develop the Daily Actual Percent Efficiency, Percent of Discrepancies, Percent Received Late, and Percent Zero Due Day. These entries are not required on a daily basis but must be summarized once a month as a minimum. This form may also be used as jumper activity log in smaller offices. Small frames may use Form E-6622 as a detail work log for all activity and maintain cumulative data. Any pertinent remarks to any activity may be entered on the back of the form in the REMARKS spaces. Refer to Fig. 13 and 14 for entries to be made.

2.33 Form E-6622 may also be used to provide a record for items included for credit on Form E-4420 of the Network Cost Results Plan, Part 422. This use would be a permissible alternative to the Line Activity Tally Sheet, Form E-4420-1. Entries must be specific to reconstruct the work operation.

> ***Note:*** The percent efficiency developed on this form should be used as a monitor for ***one*** particular frame or wire center. Trends over a period of time, ie, one month, will indicate changes in operation.

Other Work Log—Form E-6623

2.34 The Other Work Log, Form E-6623 (which is an optional log), is used to record all Trunk

Orders, Cut Sheets, Line Sheets, Transfer Sheets, etc. In larger offices it may be desirable to use more than one log and keep special service and trunk orders on separate logs. Small offices may maintain an order file of pending work. In both instances, completion information should be included on Form E-6622. See Fig. 15 for an example of Form E-6623.

Central Office Monthly Control Form Daily Log—Form E-6624

2.35 The Central Office Monthly Control Form Daily Log—Form E-6624 (Fig. 16) is a summary of the Daily Central Office Frame Activity Log (Form E-6622). This form is used to compile the monthly result figures. It is a mandatory log for frame locations with two or more full time frame attendants. It is an optional log for frames with less than two full time attendants. The information can be combined for small frames. Daily recordings are not required; however, a summary of recordings should be posted at the same interval established for the E-6622 calculation. The information to be computed on the base of the form (lines 32 to 37) are optional items that may be used regardless of the number of frame attendants.

Speaker Activity Log—Form E-6625

2.36 The Speaker Activity Log—Form E-6625 (Fig. 17) has been developed to record all speaker activity work items. It is an optional log which should be used under this plan. The CO Frame Activity Log (Form E-6622) may be used as a replacement. The removal of heat coils, the placement of shoes, and tone need not be recorded if the frameworker remains in attendance. However, if the frameworker resumes other duties, the required information should be logged either on Form E-6625 or Form E-6622.

Frame Control Record—Form E-5497

2.37 The Frame Control Record, Form E-5497 (Fig. 18) provides the frame supervisor with a stroke record of the trouble tickets and trends the type of problems that are causing five codes. The bottom three lines are used for objectives on a 10-day, 20-day and monthly basis. Objectives should be established by the first day of the report period for the indicated components. Refer to Section 201-200-013 for more information on the Frame Control Record.

K. Cost Accountability System

2.38 The Cost Accountability System (CAS) provides an optional Work Activity Report (WA33) for first level through fifth level managers. The report will furnish work activity detail for the work hours reported to central office rearrangements.

2.39 Monthly reports, published on the tenth work day, provide monthly and year-to-date information. Each central office rearrangement subaccount on the report may be subset at each individual Bell Operating Company option by the following detail:

- Testing Assistance
- POTS Service Order
- POTS Discrepancy
- Special Service Order
- Special Service Order Discrepancy
- Special Service Order Coordination
- Trunk Facility Order
- Transfers
- Dispatch and Administration
- Travel
- Study Codes
- Training
- Translation—Broadcast Warning
- Software—Service Orders
- Software—Other.

2.40 To obtain CAS reports, request a WA33 report from company Budget and Results group. The report will define the functional accounting codes of each major activity. The subcodes are associated with the accounts listed in Table B. The report also gives a summary report of the hours and dollars expended on each work activity. There is a sample report illus-

trated in Fig. 19. Additional information will be available in the Network Cost Results Plan in the fourth quarter of 1981.

3. COSMOS

A. General

3.01 COSMOS is a mechanized record and assignment system designed to maintain accurate records of MDF facilities and efficiently administer preferential assignment of exchange facilities. COSMOS maintains a record of all line equipment, exchange cable pairs, and telephone numbers served by the wire center.

3.02 COSMOS can be a very useful tool in administering frame work in a central office. It will allow increased productivity and give the frame supervisor much greater visibility of the projected work load. However, COSMOS will not automatically create order out of chaos. If the system is simply overlayed on the existing manual administration scheme, the results can be disappointing. On the other hand, if the frame administration desk is reorganized to integrate the system into the order flow, the results will be well worth the initial effort required.

3.03 The purpose of COSMOS is to assign the shortest possible MDF cross-connection (jumper) between central office (CO) line equipment and the cable pair serving the customer.

3.04 With DIP administration, COSMOS will aid in reusing as many left-in jumpers as possible. When a disconnect service order is processed, the possibility of reusing the existing jumper on a subsequent new connect service order is considered. Reuse of a short jumper eliminates superfluous work and reduces the possibility of wiring errors. Refer to Section 190-520-007 for more information on DIP administration.

3.05 To accomplish its goals, COSMOS considers load balance objectives and feature requirements along with the hardware constraints of the MDF, jumpers, bridge lifters, and tie pairs. Refer to Section 190-520-100 for a complete description and administration of the COSMOS systems.

B. Work All Orders Directly From the COSMOS Output

3.06 For a short period after cut-over, the COSMOS output for each order should be matched with the Network II (or MDF) copy of order. This period is used to correct areas where information is missing on the COSMOS order. If orders are missing from the COSMOS output, the cause should be investigated. If any telephone number intercept status is incorrect, consult with the Loop Assignment Center (LAC) supervisor. If orders are inaccurate, place them in jeopardy.

3.07 This process is vital to the COSMOS system integrity as well as for frame operations. Any order that the frame fails to receive through the computer or is received incorrectly represents an error in the data base. By demanding high accuracy on the orders received from COSMOS, the MDF helps maintain good records.

3.08 Once high accuracy has been obtained on the COSMOS frame output, all orders must be worked directly from the COSMOS frame output.

C. Use the Computer to Communicate

3.09 The frame work should be performed from the COSMOS output whether the order is a service order or work order. When a service order cannot be worked, the frame should establish a jeopardy report in COSMOS. Enough investigative information should be provided so that the LAC can take corrective action without calling the frame.

3.10 Facility changes made on a verbal request cannot be tolerated. If allowed, these changes will lead to data base degradation and inefficient work practices. The frame should receive an output document from COSMOS for every facility change.

D. Reorganize the Order Filing System at the Administration Desk

3.11 Because COSMOS will only print out orders due on the date requested, and because an inquiry can be made on any pending order in COSMOS by order number, it is not necessary to file orders by due date or by order number. However, it is necessary to be able to find orders that have been modified, cancelled, or changed.

3.12 The filing system for COSMOS orders can be divided into two sections: (1) pending orders, and (2) MDF-completed orders. In each section, the orders will be filed by exchange code and thousands group. Refer to Fig. 20 for a suggested layout of a

COSMOS filing system. Circuits without a telephone number are filed in the private line bin. The bins may be rearranged as required for local needs.

3.13 The service orders in the pending section are those which for one reason or another cannot be worked at present. These include orders that have had their due dates advanced, orders requiring installer go-ahead, etc. A separate bin in the pending file should be kept for orders in jeopardy. Order status should be reported in COSMOS when frame work is completed to the "go ahead" state.

3.14 When an order is MDF-complete, it is placed in the completed order section. If a modification, assignment change ticket, or cancellation is received on the order, it can be traced quickly.

3.15 Work orders (cable pair transfers, LETs reassociations, etc) should be filed in the pending section grouped by order number. There should be enough bins in the pending section so that each work order category can have a separate bin.

3.16 In the completed section, work orders should be filed by telephone exchange and thousands group along with service orders. In this way, recent activity on a customer's line can be traced if needed.

3.17 Orders in the completed section need only be retained for a few weeks. At the first of each month, a temporary separator can be placed on the top of the order pile in each bin. After two weeks, all orders below the separator should be removed and filed away.

E. MDF Administration

3.18 The responsibility of the frame with COSMOS is to promptly enter the status of all work orders into the system with an objective of less than two hours but no later than the same work tour when the physical activity occurs. This may be order completion, pending status, or jeopardy information. The frame also shares responsibility for data base validity, and is responsible for reporting any data base errors or discrepancy to the originator of the order, and performing periodic sample verifications of data base accuracy. The frame must also ensure that no facility work is done unless the appropriate changes have been entered into the data base.

3.19 In offices which utilize the reuse of left-in MDF jumper (Dedicated Inside Plant [DIP]) feature, the frame force is responsible for establishing the COSMOS parameter which specifies maximum MDF cross-connection length for DIP establishment. This parameter is specified by MDF frame zones or module in the case of ESS or COSMIC* main distributing frames and should be the length of the lineup or frame.

3.20 For COSMOS installations that are involved in an area/dial transfer, the central office supervisor, as a member of the transfer committee, participates in activities such as the establishment of parameters and schedules for the issuance of cutover bulletins. These are used in the generation of a variety of cross-connection lists (such as those required for office-to-office testing), and for miscellaneous lists (such as those for dead jumpers). Refer to Section 190-520-051 for more information on area/dial transfer.

F. Frame Work Management Module

3.21 The COSMOS Frame Work Management (FWM) Module supports Frame Force Management in a Frame Control Center (FCC), a Switching Control Center (SCC) or a traditional wire center location by mechanizing the clerical effort involved in sorting, pricing and packaging POTS frame work orders. The module automatically develops work packages, either by due date, order type, frame work location, frame work time, switching machine type (in multientity wire centers) or in any combination which meets local force and work assignment requirements. Bulk completion of frame orders by work package is permitted.

3.22 The COSMOS FWM features are as follows:

- Calculates work time for each service order
- Assembles service orders into priced packages
- Distributes frame work pertaining to the individual frame or work location
- Administers separate control of Assignment Change Tickets, Maintenance Change Tickets, Modification or Administration Order, and Special Design Service Order
- Identifies individual order status

*Trademark of Western Electric Company.

- Provides bulk order completion transaction
- Provides current order status information.

Note: Identification of PhoneCenter no-visit orders and Special Design Service orders does require LAC input for packaging.

3.23 The FWM module is tailored to each wire center by developing a Wire Center Work Package Table which identifies work locations, work order types, and all possible circuit configurations which can occur at that wire center. The table identifies the work times for each order classification at the work location(s) involved in wiring the work order. DIP orders are identified and can be assigned a work location, a work time, and packaged separately to meet local requirements.

3.24 Summary reports are provided to identify pending work, pending work times, work locations involved and order status (pending, completed, awaiting go ahead or assignment clash). Interfacing Control Centers (Installation, Repair, Loop Assignment, Network Administration, etc) may obtain status information and report summaries directly, which should reduce telephone contacts with the frame.

3.25 Each wire center application of the FWM requires an individual analysis prior to FWM deployment in that wire center. The analysis should identify the following information:

(1) ***Work package assembly strategy:*** The priority sequence of work orders by type and/or due date used to assign work in different tours

(2) ***"Go-ahead" identification:*** The type of order requiring tracking with Pending Reason Codes (PRCs)

(3) ***"Go-ahead" tracking:*** The method used to track "go-ahead" orders

(4) ***Order distribution:*** How orders are distributed to work locations.

3.26 Detailed information is available in the COSMOS PA-6P015 FWM Applications Manual. PA-6P012 contains the operating information without FWM.

4. FORMS AND RECORDS

4.01 All forms and records associated with this plan may be maintained in a centralized frame location or in a local wire center. The forms can be ordered through the local Western Electric (WE) Service Center. All forms should be ordered through local WE service areas.

4.02 The relationship of the forms that are used in this section is shown in Fig. 21. Table C gives the requirements of the forms in the FFMP (Section 201-200-010), the FCMP (Section 201-200-013), the FPP (Section 201-200-014) and the Frame NSPMP (Section 201-200-005). The requirements are related to the size of the force. Refer to Section 201-200-013 for retention of the forms.

FORM E-5491
(6-67)

TRAINING RECORD

NAME:

ITEM	SUBJECT	INITIAL INSTRUCTION		COMPETENCE CHECKED	
		DATE	BY	DATE	BY
1.	SXS Orders (Basic)				
	A. MDF				
	B. IDF				
	C. Testing with hand test set				
	D. Testing with 3C test cabinet				
	E. Disconnects				
	F. Strapping for ANI				
	G. Disconnect Procedure				
2.	SXS Orders (Advanced)				
	A. Level Hunt				
	B. Rotary Hunt				
	C. 2 pty 2MR				
	D. Message Registers				
	E. Bridge Lifters				
3.	SXS Trouble Shooting				
	A. 3C Test Cabinet				
	B. MDF				
	C. IDF				
	D. Intercept				
4.	X-BAR (Basic)				
	A. MDF				
	B. IDF				
	C. Number Group				
	D. Testing				
	E. Records				

Fig. 1—Training Record (1.19)

REFERENCE: 201-200-010
(REPRODUCE LOCALLY)

FORECASTED NONORDER PRICING

MONTH _____

DAY / DATE	MON	TUES	WED	THUR	FRI	SAT	TOTAL	AVG.
	TOTAL TIME IN MINUTES / TOTAL NUMBER OF REQUESTS = NON ORDER PRICING							
WORK TYPE								
DESK	480/*	480/*	480/*	480/*	480/*	480/*	2880/*	480/*
RSB & SPEAKER	240/30	260/28	235/30	245/33	240/30	260/33	1480/184	247/31
RECORD VERIFICATIONS	/	/	/	/	/	/	/	/
HOUSEKEEPING	/	/	/	/	/	/	/	/
MEETINGS	/	/	/	/	/	/	/	/
BREAKS	/	/	/	/	/	/	/	/
* DAILY ASSIGNED FUNCTIONS								
SPARE CHECKS	/	/	/	/	/	/	/	/
WIRE & SUPPLY CHECKS	/	/	/	/	/	/	/	/
OTHER								
_____	/	/	/	/	/	/	/	/
_____	/	/	/	/	/	/	/	/
_____	/	/	/	/	/	/	/	/
_____	/	/	/	/	/	/	/	/

Fig. 2—Forecasted Nonorder Pricing (2.08)

TIME STUDY (TO BE REPRODUCED LOCALLY)

NO. OF VERTICALS 200
OFFICE TYPE No. 5XB
OFFICE "A" AVE.

DATE Oct. 10, 1980 ACTIVITY IN
(IN, OUT, CHG-MDF, EQ, ETC)

A	B	C	D	E
NO. OF ORDERS	NUMBER OF LINES	TOTAL TIME (MINUTES)	ROAD BLOCKS	
			TIME LOST	REASON FOR ROAD BLOCK
12	12	68	3.9	Order Discrepancy included in total time and referred to local supervisor
(F) TOTALS 12	12	68.0	3.9	

Entries for the Time Study are as follows.

Column A: Enter number of orders being time studied.

Column B: Enter total number of lines from all orders.

Column C: Enter the total number of minutes to complete the order(s).

Column D: Enter minutes lost in roadblock. Although roadblocks are not included in local time studies, they should be priced in order that management may identify and quantify the causes.

Column E: Give reason for roadblock.

Line F: Total columns A, B, and C. Column D may or may not be totaled (depending on local use).

Line G: Compute local standard time. Carry this figure forward to column D of Time Study Summary.

Note: The sample information on this form has been forwarded into Fig. 4, Time Study Summary.

(G) LOCAL STANDARD TIME = COL. C TOTAL ÷ COL. B TOTAL = 5.67 = 5.7 min. per item

Fig. 3—Time Study (2.09, 2.10, 2.11)

TIME STUDY SUMMARY (TO BE REPRODUCED LOCALLY)

OFFICE "A" AVE. DATE May 29, 1980

A	B	C	D	E	F	G	H
LINE	TYPE OF ACTIVITY	NUMBER OF LINE ACTIVITIES	LOCAL FRAME TIME		PREVIOUS TIME STUDY	CHANGE	REMARKS
			PER ITEM	TOTAL			
1	INWARD MDF	12	5.7	68.0	6.2	+0.5	Order discrep referred to supervisor
	EQ.						
	TOTAL	12	5.7	68.0	6.2		
2	OUTWARD MDF	18	3.1	56.0	3.8		
	EQ.						
	TOTAL	18	3.1	56.0	3.8	+0.7	
3	CHANGES #						
	MDF						
4	SPECIAL SERVICE IN						
	OUT						
5	MISCELLANEOUS						
6	TRUNK ORDER IN						
	OUT						
7	CABLE TRANSFER IN						
	OUT						
8	TRAFFIC TRANSFERS						
9	LINE & STATION TRANS.						
10	DENIALS						
11	RESTORALS						
12	INTERCEPT OPR. TO MACHINE						
13							
14	TOTAL						

Entries for the Time Study Summary are as follows.

Column C: Enter column B (line F) from corresponding Time Study.

Column D: Enter line G from corresponding Time Study.

Column E: Enter column C (line F) from corresponding Time Study.

Column F: Enter the local standard time (line G) from the previous time study.

Column G: Enter the change that occurred between column F and column D (column F — column D).

Column H: Enter remarks to explain a significant change.

Note: A pricing chart (example in Fig. 5) can be developed from the Total Times (column E) versus the Number of Line Activities (column C).

Fig. 4—Time Study Summary (2.09, 2.11, 2.12)

Note: See Fig. 9 for encircled items transferred to an example E-6619.

PRICING CHART (TIME IN MINUTES)
(OPTIONAL)

TO BE REPRODUCED LOCALLY

OFFICE HOMETOWN

DATE Jan. 5, 1978

EQUIPMENT- 5XB

NUMBER OF VERTICALS- 200

NUMBER OF LINES TO BE WORKED ON		1	2	3	4	5	6	7	8	9	10	20	30	40	50	60	70	80	90
IN	MDF	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60	(120)	180	240	300	360	420	480	540
	EQ	6.8	13.6	20.4	27.2	34.0	40.8	47.6	54.4	61.2	68	(136)	204	272	340	408	476	544	612
	TOTAL	12.8	25.6	38.4	51.2	64.0	76.8	89.6	102.4	115.2	128	256	384	512	640	768	896	1024	1152
OUT	MDF	3.2	6.4	9.6	12.8	16.0	19.2	22.4	25.6	28.8	32	(64)	96	128	160	192	224	256	288
	EQ	3.4	6.8	10.2	13.6	17.0	20.4	23.8	27.2	30.6	34	(68)	102	136	170	204	238	272	306
	TOTAL	6.6	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66	132	198	264	330	396	462	528	594
CHANGE	MDF	9.2	18.4	27.6	36.8	(46.0)	55.2	64.4	73.6	82.8	92	184	276	368	460	552	644	736	828
	EQ	10.2	20.4	30.6	40.8	51.0	61.2	71.4	81.6	91.8	(102)	204	306	401	510	612	714	816	918
SPECIAL SERVICE IN	MDF																		
	EQ																		
	TOTAL																		
SPECIAL SERVICE OUT	MDF																		
	EQ																		
	TOTAL																		
MISCELLANEOUS																			
TRUNK ORDER	IN																		
	OUT																		
	TOTAL																		
CABLE TRANSFERS	IN	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60	120	180	240	300	360	420	480	540
	OUT	3.2	6.4	9.6	12.8	16.0	19.2	22.4	25.6	28.8	32	64	96	128	160	192	224	256	288
	TOTAL	9.2	18.4	27.6	36.8	46.0	55.2	64.4	73.6	82.8	92	184	276	368	460	552	644	736	828
TRAFFIC TRANSFER																			
LINE & STATION TFR.																			
DENIALS		2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20	40	60	80	100	120	140	160	180
RESTORALS		2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20	40	60	80	100	120	140	160	180
INTERCEPT OPR TO MACH.		1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10	20	30	40	50	60	70	80	90

Fig. 5—Pricing Chart Example (Sheet 1 of 2) (2.12, 2.24, 2.28)

PRICING CHART (TIME IN MINUTES)
(OPTIONAL)

TO BE REPRODUCED LOCALLY

OFFICE HOMETOWN

DATE Jan. 5, 1978

EQUIPMENT- SXS | NUMBER OF VERTICALS- 200

NUMBER OF LINES TO BE WORKED ON		1	2	3	4	5	6	7	8	9	10	20	30	40	50	60	70	80	90
IN	MDF	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60	(120)	180	240	300	360	420	480	540
	EQ	7.2	14.4	21.6	28.8	36.0	43.2	50.4	57.6	64.8	72	(144)	216	288	360	432	504	576	648
	TOTAL	13.2	26.4	39.6	52.8	66.0	79.2	92.4	105.6	118.8	132	264	396	528	660	792	924	1056	1188
OUT	MDF	3.2	6.4	9.6	12.8	16.0	19.2	22.4	25.6	28.8	32	(64)	96	128	160	192	224	256	288
	EQ	3.6	7.2	10.8	14.4	18.0	21.6	25.2	28.8	32.4	36	(72)	108	144	180	216	252	288	324
	TOTAL	6.8	13.6	20.4	27.2	34.0	40.8	47.6	54.4	61.2	68	136	204	272	340	408	476	544	612
CHANGE	MDF	9.2	18.4	27.6	36.8	(46.0)	55.2	64.4	73.6	82.8	92	184	276	368	460	552	644	736	828
	EQ	10.8	21.6	32.4	43.2	54.0	64.8	75.6	86.4	97.2	(108)	216	324	432	540	648	756	864	972
SPECIAL SERVICE IN	MDF																		
	EQ																		
	TOTAL																		
SPECIAL SERVICE OUT	MDF																		
	EQ																		
	TOTAL																		
MISCELLANEOUS																			
TRUNK ORDER	IN																		
	OUT																		
	TOTAL																		
CABLE TRANSFERS	IN	6.0	12.0	18.0	24.0	30.0	36.0	42.0	48.0	54.0	60	120	180	240	300	360	420	480	540
	OUT	3.2	6.4	9.6	12.8	16.0	19.2	22.4	25.6	28.8	32	64	96	128	160	192	224	256	288
	TOTAL	9.2	18.4	27.6	36.8	46.0	55.2	64.4	73.6	82.8	92	184	276	368	460	552	644	736	828
TRAFFIC TRANSFER																			
LINE & STATION TFR.																			
DENIALS		2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20	40	60	80	100	120	140	160	180
RESTORALS		2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20	40	60	80	100	120	140	160	180
INTERCEPT OPR TO MACH.		1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10	20	30	40	50	60	70	80	90

Note: See Fig. 9 for encircled items transferred to an example E-6619.

Fig. 5—Pricing Chart Example (Sheet 2 of 2) (2.12, 2.24, 2.28)

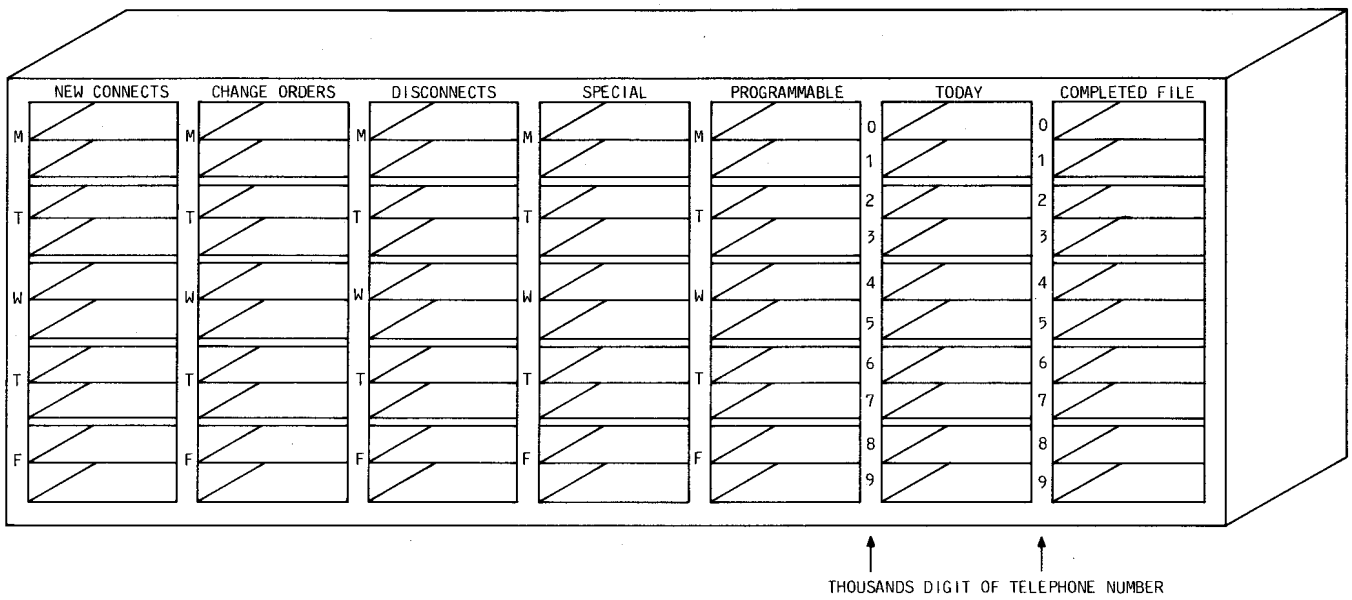

Fig. 6—Service Order Filling Bins for Large Operations (2.19)

Bell System

Daily Forecast

E-6619
(2-81)

Office				Date

Nonorder Hours			Force And Load Hours		
1.	Desk		13.	Demand Order Hours (L35)	
2.	Speaker		14.	Estimated Demand Order Hours Not In Hand	
3.	Record Verification				
4.	Housekeeping		15.	Nonorder Work (Total L1 Through L12)	
5.	Meetings				
6.	Breaks		16.	Total Demand Hours (Total L13 + L14 + L15)	
7.	RSB Calls				
8.	Spare Checks		17.	Total Scheduled Hours	
9.	Wire And Supply Checks		18.	Difference (L17 - L16)	
10.			19.	Programmable (L50)	
11.			20.	Surplus Programmable (L19-L18)	
12.					

Order Hours

Column A		B	C	D	E	F	G	H	I	J	K
Demand											
		Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes
21.	In & To										
22.	Out & From										
23.	Change										
24.	Special Service										
25.	Miscellaneous										
26.	Trunk Orders										
27.	Cable Transfers										
28.	Traffic Transfers										
29.	Line & Station Transfers										
30.	Denials										
31.	Restorals										
32.	Intercepts (Opr To Mach)										
33.											
34.	Total Minutes										
35.	Total Hours 34C Through K ÷ 60 = Demand Order Hours In Hand										
Programmable											
		Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes
36.	In & To										
37.	Out & From										
38.	Change										
39.	Special Service										
40.	Miscellaneous										
41.	Trunk Orders										
42.	Cable Transfers										
43.	Traffic Transfers										
44.	Line And Station Transfers										
45.	Denials										
46.	Restorals										
47.	Intercepts (Opr To Mach)										
48.											
49.	Total Minutes										
50.	Total Hours 49C Through K ÷ 60 = Programmable Order Hours										

Reference: BSP 201-200-010

FCC Item No. 85

Fig. 7—Daily Forecast—Form E-6619 (2.22)

Bell System

Daily Forecast

E-6619-1
(2-81)

District														Office												Month Of					
Nonorder Hours (L1 – L12)	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
1. Desk																															
2. Speaker																															
3. Record Verification																															
4. Housekeeping																															
5. Meeting																															
6. Breaks																															
7. RSB Calls																															
8. Spare Checks																															
9. Wire And Supply Checks																															
10.																															
11.																															
12.																															
13. Demand Order Hours (L35)																															
14. Est. Dmnd Order Work Not In Hand																															
15. Noorder Work (Total L1 Through L12)																															
16. Tot. Dmnd Hrs. (Tot. L13+L14+L15)																															
17. Total Scheduled Hours																															
18. Difference (L17-L16)																															
19. Programmable (L50)																															
20. Surplus Programmable (L19-L18)																															
Demand																															
21. In & To																															
22. Out & From																															
23. Change																															
24. Special Service																															
25. Miscellaneous																															
26. Trunk Orders																															
27. Cable Transfers																															
28. Traffic Transfers																															
29. Line & Station Transfers																															
30. Denials																															
31. Restorals																															
32. Intercepts (Opr To Mach)																															
33.																															
34 Total Minutes																															
35. Total Hours (L34 ÷ 60)																															
Programable																															
36. In & To																															
37. Out & From																															
38. Change																															
39. Special Service																															
40. Miscellaneous																															
41. Trunk Orders																															
42. Cable Transfers																															
43. Traffic Transfers																															
44. Line And Station Transfers																															
45. Denials																															
46. Restorals																															
47. Intercepts (Opr To Mach)																															
48.																															
49. Total Minutes																															
50. Total Hours (L49 ÷ 60)																															

Reference: BSP 201-200-010

FCC Item No. 85

Fig. 8—Form E-6619-1 (2.23)

Form E-6619 entries are made as follows (refer to paragraph 2.24 for example information).

Nonorder Hours—Lines 1 through 12 — The supervisor shall record on the appropriate line all time required for the necessary nonorder activity.

Note: Do not complete lines 13 through 20 until lines 21 through 50 are complete.

Columns B through K—The entry for the headings of these columns is dependent on the option that the supervisor may choose:

Option 1: If pricing by work order type, enter the total number items on lines 21 through 33 and 36 through 48 under column B. Disregard other columns. This option may be used on any frame and will enable the supervisor to price the total load.

Option 2: If pricing by type of work operation, write in the type of frame and/or type of equipment. See adjacent example.

Line 21-33—Enter priced demand work.

Line 34—Total demand work in columns C, E, G, I, and K.

Line 35—Add totals of line 34 (columns C through K) and divide by 60 to determine grand total of expected demand order hours.

Lines 36-48—Enter priced programmable order hours.

Line 49—Total programmable order hours in columns C, E, G, I, and K.

Line 50—Add totals of line 49 (columns C through K) and divide by 60 to determine grand total of expected programmable order hours.

Line 13—Enter total demand order hours from line 35.

Line 14—Enter estimate of demand work that is not on hand. This includes zero due date work and late orders. This estimate may be derived from Form E-6622 (Daily Central Office Frame Activity Log) and Form E-6624 (Central Office Monthly Control Form Daily Log).

Line 15—Total nonorder hours in lines 1 through 12 and enter result.

Line 16—Total lines 13, 14, and 15. Enter result.

Line 17—Multiply scheduled force by 8 hours and enter result.

Line 18—Subtract line 16 from line 17. Result indicates hours that are available for programmable work.

Line 19—Enter programmable order hours from line 50.

Line 20—Subtract line 18 from line 19. Result in example indicates insufficient programmable order hours available to complete programmable order work.

The result (L20) should be related to programmable work on hand (L50) to determine work that may be deferred. If deferrals are not possible, then additional frameworkers or overtime will be required.

Bell System **Daily Forecast** E-6619 (2-81)

Office | Date

Nonorder Hours			Force And Load Hours		
1.	Desk	6	13.	Demand Order Hours (L35)	18.2
2.	Speaker	4	14.	Estimated Demand Order Hours Not In Hand	12.0
3.	Record Verification	.5			
4.	Housekeeping	1	15.	Nonorder Work (Total L1 Through L12)	14.0
5.	Meetings	2.5			
6.	Breaks		16.	Total Demand Hours (Total L13 + L14 + L15)	44.2
7.	RSB Calls				
8.	Spare Checks		17.	Total Scheduled Hours	48
9.	Wire And Supply Checks		18.	Difference (L17 - L16)	3.8
10.			19.	Programmable (L50)	5.1
11.					
12.			20.	Surplus Programmable (L19-L18)	1.3

Order Hours

Column A	B	C	D	E	F	G	H	I	J	K
Demand		5XB MDF		5XB EQ		3XS MDF		3XS EQ		
	Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes
21. In & To	20	120	20	136	20	120	20	144		
22. Out & From	20	64	20	68	20	64	20	72		
23. Change	5	46	10	102	5	46	10	108		
24. Special Service										
25. Miscellaneous										
26. Trunk Orders										
27. Cable Transfers										
28. Traffic Transfers										
29. Line & Station Transfers										
30. Denials										
31. Restorals										
32. Intercepts (Opr To Mach)										
33.										
34. Total Minutes	X	230	X	306	X	230	X	324	X	
35. Total Hours 34C Through K ÷ 60 = Demand Order Hours In Hand										18.2

Programmable	MDF-IN									
	Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes	Items	Minutes
36. In & To										
37. Out & From										
38. Change										
39. Special Service										
40. Miscellaneous										
41. Trunk Orders										
42. Cable Transfers	51	306								
43. Traffic Transfers										
44. Line And Station Transfers										
45. Denials										
46. Restorals										
47. Intercepts (Opr To Mach)										
48.										
49. Total Minutes	X	306	X		X		X		X	
50. Total Hours 49C Through K ÷ 60 = Programmable Order Hours										5.1

Reference: BSP 201-200-010 FCC Item No. 85

Fig. 9—Daily Forecast Example—Form E-6619 (2.24)

LOADING SHEET

E-6620

OFFICE DATE

A	B	C	D	E	F	
NAME	ASSIGNMENT	HOURS LOADED	EXPECTED ORDER TIME	ACTUAL ORDER TIME	NON-ORDER TIME	
					(M)	(R)

Column A: Name of worker and shift.

Column B: Loading assignment.

Column C: Hours initially loaded.

Column D: Time expected from Pricing Chart or local pricing table for amount of work completed by employee.

Column E: Order time charged.

Column F: Nonorder time charged. The (M) subcolumn indicates time charged for rearrangements and changes. The (R) subcolumn indicates charged time for items of a preventive maintenance nature and repair, eg, replacing jumpers.

Note: This form is optional. Example is applicable on a local basis.

Fig. 10—Loading Sheet—Form E-6620 (2.25)

FRONT →

SCC Load And Work Time Record

EMPLOYEE (A)			PR# (B)		TRICK (C)	DATE (D)	E-6843-A PG (E) OF		
SOC. SEC. OR ID # (F)			CLOCK HOURS WORKED A.M. (G) P.M.			SUPERVISOR (N)	APVL.		
REG. (I)	EXT. (O.T.) (J)	PRE. (K)	(L)	(L)	(L)	(L)	EXCEPTIONS CODE (N)	EXCEPTIONS HOURS (N)	
CODE (M)	HOURS (M)	GEO. CODE (M)	EST-KC-RO (M)	REMARKS (M)					LOADING RECORD

	WORK TYPE (O)	ITEM IDENT (P)	START TIME (Q)	END TIME (R)	WORK CODE (S)	DISP CODE (T)	OFFICE (U)	EST-KC-RO REMARKS (V)	ACT TIME (W)	EST TIME (X)
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										

Employee

Date

Disposition Code

F — Found

NTF — No Trouble Found

MB — Made Busy

REF — Referred

C — Complete

X —

Y — Spec Study

Z — Local Use

Work Code	Exch ESS	Exch SXS	#1 & #5 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 x fer	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

← BACK

Note: Refer to Section 190-130-150 for information on the Daily Load and Work Time Record, E-6843. Refer to Section 660-100-013 for Central Office Maintenance codes. Where code does not exist, each office has option for local code.

Fig. 11—Load and Work Time Record—Form E-6843 (2.26, 2.31)

FORM E-5848
(9-76)

WORK ASSIGNMENT LIST

TRICK OR JOB ASSIGNMENT 1-D

WORK DESCRIPTION	
0700-0730	Check tips and turn on soldering irons
0730-1100	Work assigned load
1100-1200	Lunch
1200-1300	Relieve dispatcher
1300-1600	Work denials and restorals and assist local and toll test boards (speaker) and any other duties assigned by supervisors

Printed in U.S.A.

APPROVED BY W. D. Foote
DATE 12/01/80

Fig. 12—Work Assignment List —Form E-5848 (2.30)

The following explanation is provided for the preparation of Form E-6622. Columns A to Q can be used in any type wire center. Columns R to DD cannot be used to tally work units with different types of main frames or different switching entities (eg, ESS, SXS). This is due to different field account codes.

Column A—TELEPHONE—Record the telephone number of each order. Record the billing number (pilot) of each complex order. Orders from Other Work Log (Form E-6623), service orders special service orders or any other orders that are bulk advanced should be bulk recorded on lines 30 through 31. This work may be recorded individually on lines 1 through 29 on a separate sheet if required by the office. Work from the Other Work Log (Form E-6623) which is dispatched during the work day should be recorded individually. The type of work and serial number are to be entered in this column (cable transfer 1234, LET#164, etc).

Column B—ORDER NUMBERS—Record in this column only service order numbers. Enter on line 32 the total number of service orders completed. This column is used to develop data for percent zero due date or late orders.

Column C—ITEMS or LINES—Record the number of items associated with each service order, trunk order, cable transfer, LET, cut sheet, etc. This column is used to develop data for percent of discrepancies.

Column D—Enter the total number of discrepancies (1, 2, 3, etc) for each order item recorded today.

Column E—Enter time in minutes for the discrepancies found for each order (eg 5′ 15″). This is determined by subtracting column K from column M for each item.

Column F—Check if zero due date order received after start of work day on due date.

Column G—This column consists of orders received too late to be loaded in next scheduled form prior to due date after the completion of productive tour that is due the next day, but before commercial office opens on the due date. Record the number of such orders received that were advanced or cut by the employees working the bulk work load individually in lines 1 through 29.

Columns H & I—Initials of employee who requested go ahead item to frame and time the item was called.

Columns J & K—These columns serve two purposes. (1) Record initials of the employee to whom a go ahead item was given. (2) Record the initials of the employee to whom a discrepancy was referred and the time of referral. (These will probably most often be referred to Assignment personnel.)

Columns L & M—These columns may be either (1) initials of employee completing order and time completed or (2) initials of employee calling a discrepancy resolution and time.

Note: Columns H through M are also used to determine frame cut times on go ahead type orders.

Columns N through Q—Enter in the appropriate column the number of items of line activity completed. These columns will be used to develop the actual percentage of efficiency.

Columns R through DD—Enter items per Network Cost Results Plan, Part 422, Form E-4420.

Columns EE to HH—Blank columns to record local requirements. (*Note:* Special Services work time varies. When work varies significantly in time value, it must be individually analyzed. Use blank columns and enter estimated time for the work activity, eg, special services or trunk work—work unit tallies cannot be maintained on this form.)

Line 30—Enter the number of completed Other Work Log (Form E-6623) items that were bulk loaded in column C ITEMS OR LINES. Also enter the appropriate number in columns *L* and *M*.

Line 31—Enter the number of completed bulk loaded service order items of the line activity in column C ITEMS OR LINES. Also enter the appropriate number of items in columns D, E, F, *G*, and N through HH.

Line 32—Total column C ITEMS OR LINES and columns D through G and N through HH.

Line 33—Block 1—Enter % Discrepancies hours for the day. This is computed by dividing the totals of column E, line 32 by Section E, line 35 results.

Line 33—Use the pricing chart or an equivalent method to price out items on line 32, columns N through HH.

Line 34, Section A—Enter percent discrepancies (multiply column D, line 32 by 100 and divide by column C, line 32 [total for Items or Lines]). This information provides supervision with roadblock data.

Line 34, Section B—Enter percent zero due (multiply column F, line 32 by 100 and divide by total column B, line 32 [Order Numbers]. The divisor may be the total of column C [Items or Lines] if required by local instructions). This information provides supervision with trend data for forecasting purposes.

Line 34, Section C—Enter percent late orders (multiply column G, line 32 by 100 and divide by total column B, line 32 [Order Numbers]. The divisor may be the total of column C [Items or Lines] if required by local instructions). This information provides supervision with trend data for forecasting purposes.

Line 35, Section D—Add columns 33R though 33HH and divide total by 60 for expected hours required each day. This will reflect all cross-connect activities and the total load hours required to perform the work as indicated by local frame pricing chart.

Note: Columns N through Q will provide same count as R through U. Therefore, columns N through Q are not counted.

Line 35, Section E—Total all productive hours, including those borrowed (if any). Source is Form E-6843, Load and Work Time Record. *Note:* The frame forces must maintain daily records reflecting productive and nonproductive work operations.

Line 35, Section F—Actual percent of efficiency. Multiply Section D hours by 100 and divide by Section E hours.

Bell System

Daily Central Office Frame Activity Log

E-6622 (2-81)

District | Office | Date

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG	HH
																		E-4420 Line Numbers																	
	Telephone Number	Order Numbers	Items Or Lines	No. Of Discp.	Discp Hours	Zero Due Date	Late Orders	Requested		Start		Complete		No. Of Jumpers				1	2	3	4	5	6	7	8	13	14	16	17	18						
														Main Frame		Other Frame		Main Station & PBX Trunks				Cable Transfer		Misc Items		LET		Incpt Opr To Mach	Denials & Restorals					
								By	Time	By	Time	By	Time	In	Out	In	Out	Inward		Outward		Plant	Other													
																		M	O	M	O	M	M	M	O	M	O		M	O					
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3																																			
4																																			
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23																																			
24																																			
25																																			
26																																			
27																																			
28																																			
29																																			
30	Other Work Log																																		
31	Bulk Orders Completed																																		
32	Totals																																		

33 % Discp Hours = Total Col E ÷ Section E = _____ Expected Time = Pricing Chart

34 Section A % Discp = 32D x 100 ÷ 32C Items Or Lines = _____ Section B % Zero Date = 32F x 100 ÷ 32B Order Nos. _____ Section C Late Orders = 32G x 100 ÷ 32B Order Numbers _____

35 Section D Total Load Hours = Total All Line 33R Thru HH ÷ 60 _____ Section E = Total Productive Order Hours _____ Section F % Efficiency = Section D x 100 ÷ Section E _____

Reference: BSP 201-200-010

FCC Item No. 85

Note:
The Totals Of Column F And Column G In Sections B And C On Line 34 May Be Divided By Total Of Items And Lines Or Total Orders (Depending On Local Requirements.)

Fig. 13—Daily Central Office Frame Activity Log—Form E-6622 (Front) (2.32)

1	
2	
3	
4	
5	
6	
7	
8	
9	
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11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
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32	
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35	
36	
37	
38	
39	
40	
41	

Fig. 14—Daily Central Office Frame Activity Log—Form E-6622 (Back) (2.32)

DATE

OFFICE

OTHER WORK LOG

FORM E-6623
(1-78)

SHEET OF SHEETS

	ORDER NO. OR CABLE TRANS. ETC SERIAL NO.	RELATED ORDER NO.	CONTROL OFFICE	DATE		DESCRIPTION OF WORK NO. OF ITEMS			PROGRESS NO. ITEMS TO BE COMPLETED								DATE COMPLETED		REMARKS
				REC'D	DUE	CONN.	DISC.	TRANS.	PRELIMINARY				TIME REQUIRED				PULL OUT				TIME REQUIRED				PREL	PULLOUT	
1																											
2																											
3																											
4																											
5																											
6																											
7																											
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29																											
30																											
31																											
32																											
33																											
34																											
35																											

The Other Work Log is generally used to record company initiated work. Careful attention to the due date must be maintained. All such work should be priced and fed into the daily work load as the demand order load and available force will permit.

Lines 1 through 35

Column Order No. and Related Order No.—Enter service order, estimate, routine, trunk, and traffic order numbers.

Column Control Office—Enter control office as indicated by trunk order.

Column Date—Enter date received and date due.

Column Description of Work—Enter the number of line activity items in appropriate column.

Column Progress—(a) Enter in the PRELIMINARY and PULLOUT columns the number of items remaining to be completed. Additional columns are provided on the form which enables the supervisor to track the remaining items to be completed.

Column Progress—(b) Enter in the TIME REQUIRED columns the required time for Preliminary and Pullout. Use the pricing chart to determine these entries.

Column Date Completed—Enter the dates the preliminary and pullouts are completed.

Fig. 15—Other Work Log—Form E-6623 (2.34)

The following information is provided for use in the preparation of Form E-6624.

Columns A through F—Taken directly from Daily Central Office Frame Activity Log (Form E-6622, line 32).

Column G—Taken from Daily Central Office Frame Activity Log (Form E-6622), line 35, section D.

Column H—Taken from Daily Central Office Frame Activity Log (Form E-6622), line 35, section E.

Column I—Taken from Daily Forecast (Form E-6619), line 15, Nonorder Work.

Column J—Taken from Form E-6622, line 35, section F.

Column K—Divide column *I* by the sum of columns *I* and H, and multiply by 100.

Columns L & M—Spare columns for local use.

OPTIONAL INFORMATION

(32) *Monthly % Discrepancies Total Number*—Total C (Discrepancy Number) divided by Total B × 100.

(33) *Monthly % Discrepancy Total Hours*—Total D (Discrepancy Hours) divided by Column H × 100.

(34) *Monthly % Zero Due Date*—Total E divided by Total A × 100.

(35) *Monthly % Late Hours*—Total F divided by Total A × 100.

(36) *Monthly % Total Efficiency*—Total column G divided by column H.

(37) *Monthly % Non-Order*—Total column I divided by the sum of columns H and I multiplied by 100.

Bell System

Central Office Monthly Control Daily Log

E-6624 (1-78)

District _____ Office _____ Month _____

Day Of Month	A Line 32B Orders	B Line 32C Items Or Lines	C Line 32D DISCP No.	D Line 32E DISCP Hours	E Line 32F Zero Due Date	F Line 32G Late Orders	G Line 35D Load Hours	H Line 35E Productive Hours	I Nonorder Hours	J Line 35F % Efficiency	K % Nonorder	L	M
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													
Total													

(32) Monthly % Discrepancies = Total C (DISCP Number) ÷ Total B x 100

(33) % Total Discrepancies Hours = Total D (DISCP Hours) ÷ Col H

(34) % Zero Due Dates = Total E ÷ Total A X 100

(35) % Late Orders = Total F ÷ Total A X 100

(36) % Total Efficiency = Total Col G ÷ H

(37) % Non-Order = Col I ÷ (Col H + Col I) X 100

Reference: BSP 201-200-010

FCC Item No. 85

Fig. 16—Central Office Monthly Control Form Daily Log—Form E-6624 (2.35)

SPEAKER ACTIVITY LOG

E-6625
(1-78)

OFFICE

DATE

CABLE	PAIR	COILS		SHOES		TONE		SHT	GRD	TESTER		TIME OPEN	TIME CLOSED	REMARKS
		OUT	IN	UP	DWN	UP	DWN			POS.	INIT.			

Fig. 17—Speaker Activity Log—Form E-6625 (2.36)

Bell System

Frame Control Record

E-5497
(9-80)

Office | District | Month

Date	Daily Total Frame Codes	Sub SQ.	Cum.	Incpt. Errors	Trouble Report By Type Of Frame					Trouble Report Trend By Type														
										Cross Connection					Terminals			Incpt	Protection			Order Errors		
					MDF	IDF / LDF	NG / BR	TRN-SL / NN	TDF	Wrong	Cut	Broken	Loose	Disc.	Solder Cross	Wire Cross	Other		Coils Out	Coils Other	Carbons			
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y
10																								
20																								
30																								
31																								
Total																								
10 Days																								
20 Days																								
Total																								

Note: Number Of Daily Subsequent Reports From Treat Are Listed In Column C. Column D Is Cumulative Total Of Daily Total Frame Codes And Subsequent Reports. FCC Item No. 47

Fig. 18—Frame Control Record—Form E-5497 (2.37)

ICIS REPORT NUMBER: CASWA33

REPORT PERIOD: MONTH OF OCT.1980

REPORT NAME: WA33 - CAS REPORT OF ACTUALS
WORK ACTIVITY REPORT

PROCESS DATE/TIME: 11/17/80 1941

ENTITY: MGR SWTCH SVCS HBG D14732200

EXPEND TYPE GROUP / FUNCTION SUMMARY GROUP / ENVIRONMENT CODE	CODE	HOURS CURRENT MONTH AMOUNT	HOURS CURRENT MONTH % DIST.	HOURS YEAR TO DATE AMOUNT	HOURS YEAR TO DATE % DIST	% INC LAST YEAR	DOLLARS CURRENT MONTH AMOUNT	DOLLARS CURRENT MONTH % DIST	DOLLARS YEAR TO DATE AMOUNT	DOLLARS YEAR TO DATE % DIST
PROD LBR OCCUPATNL EMPLOYEE	812	5,200	100	43,791	100	23-	57,683	100	449.332	100
CO NTWRK INST & MT - NTWRK	43000			17	0	162			174	0
CONVENTN	0			17	0	162			174	0
OTH TOOL, WK EQUIP -SUP SVCS	52040			2	0				20	0
CONVENTN	0			2	0				20	0
CO EQUIP, CONST -NTWRK	60000	269	5	2,798	6	50-	3,003	5	29.334	7
CENT OFC ESTIMATE	S	269	5	1,786	4		3,003	5	18.838	4
CONVENTN	0			1,012	2	82-			10.496	2
CO EQUIP- REMOVAL- NTWRK	60020			5	0				57	0
CENT OFC ESTIMATE	S			2	0				21	0
CONVENTN	0			3	0				37	0
SUBSCRBER LN & OTH TEST -RES	7X000	14	0	52	0	*	158	0	551	0
CONVENTN	0	14	0	52	0	*	158	0	551	0
TESTING - PUB	7X010	2	0	2	0		17	0	25	0
CONVENTN	0	2	0	2	0		17	0	25	0
SXS CO, NTWK REAR -NTWRK	70030	1	0	2,268	5	68-	8	0	21.246	5
CONVENTN	0	1	0	2,268	5	68-	8	0	21.243	5
JOB TRAINING INITIAL	3			0	0				3	0
SXS TRUNK -CO REARN -NTWRK	70031	44	1	112	0		510	1	1.207	0
SERV ORD	L			5	0				46	0
TRUNK FAC ORDER	N	1	0	31	0		12	0	316	0
CENT OFC ESTIMATE	S	43	1	62	0		498	1	691	0
CONVENTN	0			15	0				153	0
SXS LINE -CO REARN -NTWRK	70032	852	16	4,607	11		8,700	15	44.697	10
SERV ORD	L	542	10	2,248	5		5,551	10	21.865	5
TRANSFERS	P	154	3	422	1		1,561	3	4.946	1
NON ORDER	T	156	3	508	1		1,588	3	4.868	1
CONVENTN	0			1,360	3				13.019	3
CRSBR-CO, NTWK REAR -NTWRK	70040	34	1	1,237	3	71-	384	1	11.771	3
SERV ORD	L	0	0	14	0		3	0	142	0
TRANSFERS	P			0	0				3	0
CENT OFC ESTIMATE	S	33	1	37	0		376	1	413	0
CONVENTN	0	0	0	1,186	3	72-	5	0	11.211	2
JOB TRAINING INITIAL	3			0	0				2	0
CRSBR NO5 TRUNK-CO REAR NTK	70045	40	1	145	0		449	1	1.537	0
SERV ORD	L	1	0	2	0		6	0	21	0
TRUNK FAC ORDER	N	25	0	96	0		282	0	1.013	0

Fig. 19—Cost Accountability System Report Example (2.40)

	PENDING ORDERS					COMPLETED ORDERS		
PRIVATE LINE FILE	NNX 271 0000-0999	NNX 779 0000-0999	NNX 461 0000-0999	ORDERS IN JEOPARDY	PRIVATE LINE FILE	NNX 271 0000-0999	NNX 779 0000-0999	NNX 461 0000-0999
	NNX 271 1000-1999	NNX 779 1000-1999		LINE EQUIPMENT TRANSFERS		NNX 271 1000-1999	NNX 779 1000-1999	NNX 461 1000-1999
		NNX 779 2000-2999		CABLE PAIR TRANSFERS				
		NNX 779 2001-2999						
				CABLE PAIR TRANSFERS				
	NNX 271 9000-9999	NNX 779 9000-9999	NNX 461 9000-9999			NNX 271 9000-9999	NNX 779 9000-9999	NNX 461 9000-9999
				CABLE PAIR TRANSFERS				

Fig. 20—Recommended COSMOS Order Bin Filing System (3.12)

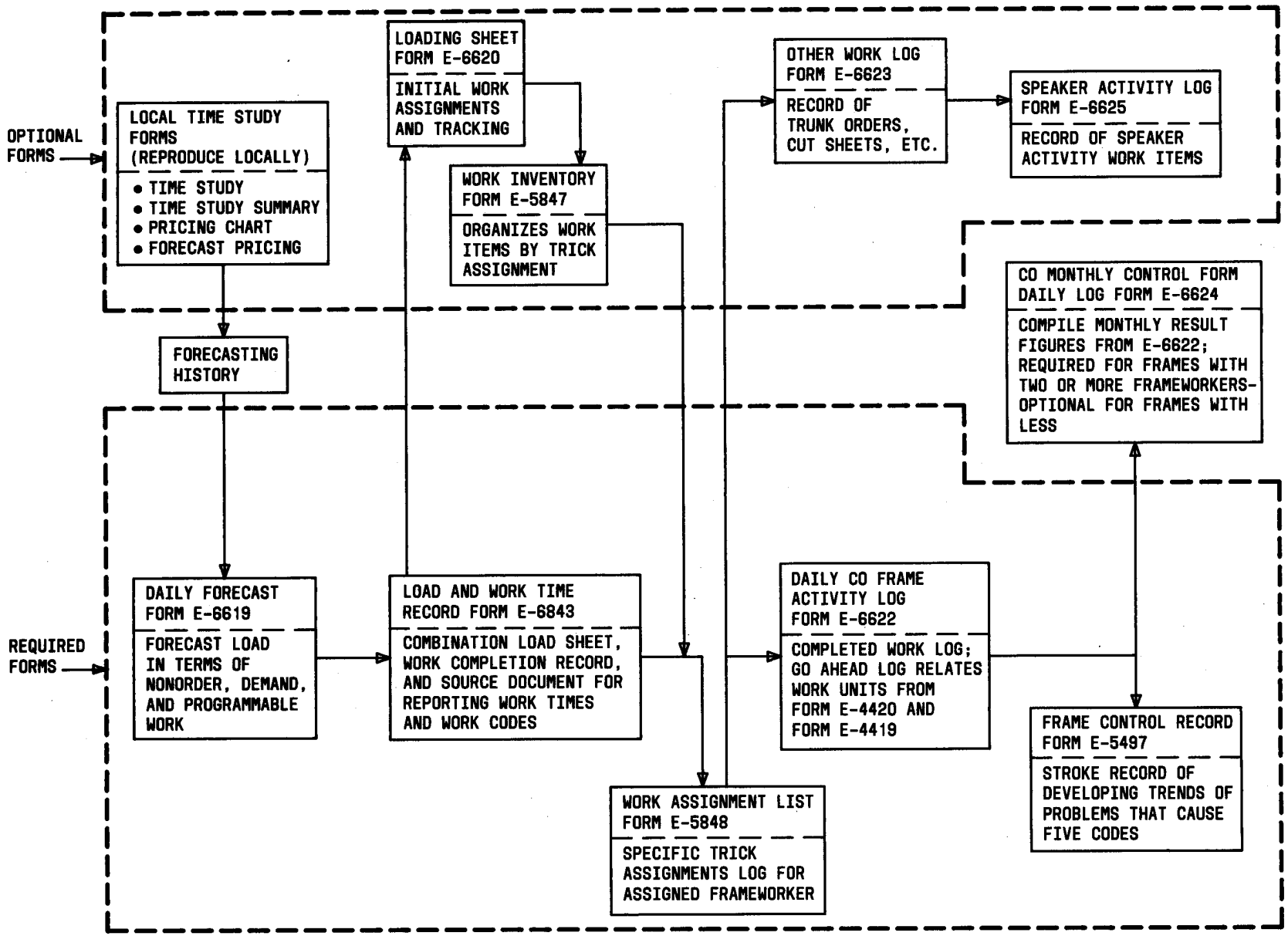
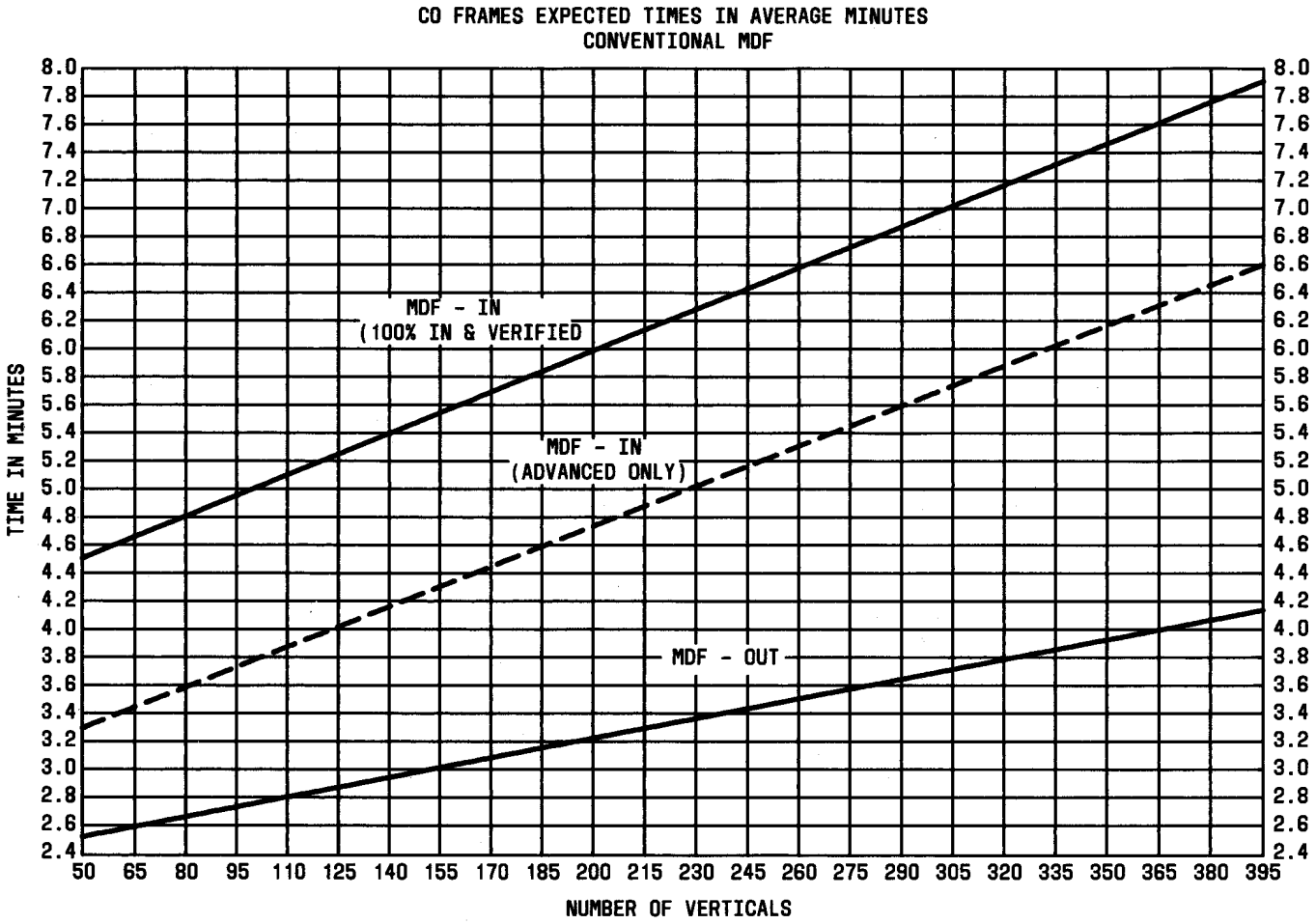


Fig. 21—FFM Form Relationships (4.02)

TABLE A

Average Time Expectancy for All Frame Cross-Connection Tasks



EQUIPMENT

TYPE OF CROSS-CONNECT	IN	OUT
Modular ESS MDF and COSMIC	3.2	2.0
MDF-IN (ADVANCED ONLY) Terminated and Tested	2.0	
TDF & Auxiliary Frames	4.0	2.8
ANI Strap	2.0	1.0
No. 5 X-Bar	6.8	3.4
No. 1 X-Bar Block Relay Frame, Line Distributing Frame	7.4	3.7
No. 1 X-Bar AMA	8.4	4.2
Panel (IDF) Intermediate Distributing Frame	7.2	3.6
Step By Step (IDF) Intermediate Distributing Frame	7.2	3.6
Denials From Repair Center		2.0
Restorals From Repair Center	2.0	
College: Rate Treatment	2.6	2.6
College: Coil Removal and Replacement	.8	.8
Intercept: Operator To Machine		1.0

TABLE B

CODE RELATIONSHIP – ACCOUNTS AND WORK ACTIVITY REPORT

		ACCOUNTS			
				CO "M"	
CODE	DESCRIPTION	TRUNK TEST (ACCT. 60304)	CO "R"	PLANT	ENGINEERING
A	Corrective	X	X		X
B	Preventive	X	X		X
C					X
D	Preservice Testing	X			X
E	Testing Assistance			X	
F	POTS Service Order			X	
G	POTS Discrepancy			X	
H	Special Service Order			X	
J	Disposition and Administration		X	X	
K					X
L	Special Service Discrepancy			X	
M					X
N	Trunk Facility Order			X	
P	Transfers			X	
Q					X
R					X
S	Records Verification		X	X	
T	Trick		X	X	
U	Translation – BDCST Warning			X	
V	Software – Service Order			X	
W	Software – Other			X	
X					X
Y	Travel	X	X	X	
Z	Study Code	X	X	X	
03	Training – Formal	X	X	X	

TABLE C

FORM REQUIREMENTS

PLAN	FORM	FORM NAME	FORCE SIZE		
			0 - 1	2 - 3	4+
Frame Force Management (201-200-010)	E-5497	Frame Control Record	CC	X	X
	E-5848	Work Assignment List	X	X	X
	E-6619	Daily Forecast	N	O	X
	E-6619-1	Daily Forecast	N	O	O
	E-6620	Loading Sheet	N	N	O*
	E-6843	Load and Work Time Record	X	X	X
	E-6622	Frame Activity Log	X	X	X
	E-6623	Other Work Log	O	O	O
	E-6624	Control Form Daily Log	O	X	X
	E-6625	Speaker Activity Log	O†	O†	O†
	Reproduce Locally	Time Study	O	O	O
	Reproduce Locally	Time Study Summary	O	O	O
	Reproduce Locally	Pricing Chart	O	O	O
	Reproduce Locally	Forecasted Nonorder Pricing	O	O	O
Controlled Maintenance Plan (201-200-013)	E-5450	Equipment Test List	N	X	X
	E-5451	Preventive Maintenance Schedule	X‡	X	X
	E-5452	T & I Work Order	X‡	X	X
	E-5453	T & I Summary (Sheet)	X‡	X	X
	E-5454	T & I Summary (Card)	O	O	O
	E-5455	T & I Multiple Assignments	O	O	O
	E-5457	Central Office Log	X	X	X
	E-6954	Work Evaluation Sheet	X	X	X
	E-10260	Trouble Ticket	O	X	X
Frameworker Performance Plan (201-200-014)	E-6955-A	Performance-Productivity	X	X	X
	E-6955-B	Performance-Quality	X	X	X
Frame Performance Measurement Plan (201-200-005)	E-10341	Frame Unit Report	X	X	X
	E-10342	Performance Summary	X	X	X

LEGEND:

N: Not Required
X: Required
CC: Maintained in Control Center
O: Optional and recommended
*: A Form E-6620 or a Form E-6843 should be maintained
†: Form E-6622 is used if E-6625 is not used
‡: Can be combined and maintained with CO Plan

Note: Some forms shown as optional may have a similar form used for central office technicians which may include frame attendants.

REFERENCE: 201-200-010
(REPRODUCE LOCALLY)

FORECASTED NONORDER PRICING

MONTH _____

DAY DATE	MON _____	TUES _____	WED _____	THUR _____	FRI _____	SAT _____	TOTAL _____	AVG. _____
	TOTAL TIME IN MINUTES / TOTAL NUMBER OF REQUESTS = NON ORDER PRICING							
WORK TYPE								
DESK	/	/	/	/	/	/	/	/
RSB & SPEAKER	/	/	/	/	/	/	/	/
RECORD VERIFICATIONS	/	/	/	/	/	/	/	/
HOUSEKEEPING	/	/	/	/	/	/	/	/
MEETINGS	/	/	/	/	/	/	/	/
BREAKS	/	/	/	/	/	/	/	/
* DAILY ASSIGNED FUNCTIONS								
SPARE CHECKS	/	/	/	/	/	/	/	/
WIRE & SUPPLY CHECKS	/	/	/	/	/	/	/	/
OTHER								
_____	/	/	/	/	/	/	/	/
_____	/	/	/	/	/	/	/	/
_____	/	/	/	/	/	/	/	/
_____	/	/	/	/	/	/	/	/

TIME STUDY (TO BE REPRODUCED LOCALLY)

NO. OF VERTICALS _____

OFFICE TYPE _____

OFFICE _____

DATE _____ ACTIVITY _____
(IN, OUT, CHG-MDF, EQ, ETC)

A	B	C	D	E
NO. OF ORDERS	NUMBER OF LINES	TOTAL TIME (MINUTES)	ROAD BLOCKS	
			TIME LOST	REASON FOR ROAD BLOCK
(F) TOTALS				

(G) LOCAL STANDARD TIME = COL. C TOTAL ÷ COL. B TOTAL = [ ]

TIME STUDY SUMMARY (TO BE REPRODUCED LOCALLY)

OFFICE_____ DATE_____

A	B	C	D	E	F	G	H
LINE	TYPE OF ACTIVITY	NUMBER OF LINE ACTIVITIES	LOCAL FRAME TIME		PREVIOUS TIME STUDY	CHANGE	REMARKS
			PER ITEM	TOTAL			
1	INWARD MDF / EQ. / TOTAL						
2	OUTWARD MDF / EQ. / TOTAL						
3	CHANGES # / MDF						
4	SPECIAL SERVICE IN / OUT						
5	MISCELLANEOUS						
6	TRUNK ORDER IN / OUT						
7	CABLE TRANSFER IN / OUT						
8	TRAFFIC TRANSFERS						
9	LINE & STATION TRANS.						
10	DENIALS						
11	RESTORALS						
12	INTERCEPT OPR. TO MACHINE						
13							
14	TOTAL						

PRICING CHART (TIME IN MINUTES)
(OPTIONAL)

TO BE
REPRODUCED LOCALLY

OFFICE _____ DATE _____

EQUIPMENT-		NUMBER OF VERTICALS-																	
NUMBER OF LINES TO BE WORKED ON		1	2	3	4	5	6	7	8	9	10	20	30	40	50	60	70	80	90
IN	MDF																		
	EQ																		
	TOTAL																		
OUT	MDF																		
	EQ																		
	TOTAL																		
CHANGE	MDF																		
	EQ																		
SPECIAL SERVICE IN	MDF																		
	EQ																		
	TOTAL																		
SPECIAL SERVICE OUT	MDF																		
	EQ																		
	TOTAL																		
MISCELLANEOUS																			
TRUNK ORDER	IN																		
	OUT																		
	TOTAL																		
CABLE TRANSFERS	IN																		
	OUT																		
	TOTAL																		
TRAFFIC TRANSFER																			
LINE & STATION TFR.																			
DENIALS																			
RESTORALS																			
INTERCEPT OPR TO MACH.																			