SWITCHING SYSTEMS MANAGEMENT
NO. 1 ELECTRONIC SWITCHING SYSTEM
SERVICE RESULTS
NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

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1. GENERAL

1.01 This Plan addresses switching performance measurements for No. 1 Electronic Switching Systems. It is limited to those offices which perform an end office function (including end offices which are used partially as tandem switchers).

1.02 The measured components and performance indicators included in this Plan are those for which network maintenance, administrative, and engineering forces are primarily responsible. These components and indicators are sufficiently sensitive to reflect changes in switching performance quality caused by maintenance, administrative, and provisioning conditions.

1.03 Generally, the switching performance of a particular office is related to how well the network maintenance, network administration, and network design/engineering team is managed and how effectively they work together. One would expect that periodic short term situations may occur due to conditions beyond the control of the team (eg, extreme weather conditions, other acts of nature, severe equipment or facility failures external to the particular switching machine) that would adversely affect service. The continuing performance levels are the responsibility of the team.

1.04 The weighting of the components and categories is necessarily judgmental. The following considerations were applied:

(a) Impact of failure on customer

(b) Relative magnitude of investment in the portion of switching machine being measured

(c) Relative magnitude of effort to maintain and administer

(d) Impact on revenue.

1.05 Since the level of performance of the control group is the result of equipment maintenance, equipment administration, and provisioning, the results under the Plan are to a great extent a consequence of the management effort. The degree of cooperation, joint effort, and acceptance of joint responsibility will be evident in the result obtained.

2. OUTLINE

2.01 This Plan is structured to measure overall end office switching performance as it affects the customer. Therefore, the most pertinent available aspects have been included as measured components. The components are then combined into four categories. The four categories combine to form the switching index.

2.02 The four categories are:

(a) Machine Access

(b) Machine Switching

(c) Billing

(d) Customer Reports.

The components of (a), (b), and (c) are technical measurements designed to measure different aspects of service within the broad category. Category (d) is an external view of service by the customer.

2.03 In addition to the measured components upon which the index is based, the Plan also calls for recording certain measurement items entitled performance indicators. These performance indicators are included for one or more of the following four reasons:

(a) Indicators that assist in analyzing the cause of poor service as shown by a measured component

(b) Indicators that measure aspects of service failure beyond the scope of the measured components

(c) Indicators which are not universally available in all entities or in all data gathering systems, but which may in the future with increasing availability become measured components

(d) Indicators which identify potential service failure.

2.04 The Plan includes two types of results reports: a detailed results report for use as the control group report and a results summary for upper levels of management. It is not the intent of this Plan to designate at which level of management the detailed results report should stop. One would expect that severity of service problems and styles of management would decide. The detailed report is designed for single office (control group) reporting and should be limited to that use. The management summary is to be used to consolidate two or more single entity reports to any management level desired and for any time period of one to twelve months.

2.05 The summary report employs a results banding technique in which performance levels are grouped into four bands for each component of the Plan and for the overall index.

	MEANING
Band A — 98.0-100	Excellent (or superexcellent) performance attainable only by very good work under very favorable conditions. For certain components this may be at or close to uneconomical operating levels.
Band B — 96.0-97.9	Fully satisfactory and economical performance range.
Band C — 90.0-95.9	Fair to mediocre performance.
Band D — Less than 90.0	Ranging from weak to definitely unsatisfactory performance.

The form also provides for the entry of trend data for Band D in terms of actual results for a single office, or the number and percent of total offices within the echelon which have experienced Band D performance within each component and/or the overall index.

2.06 The 2-page summary report also provides upper management with two additional summaries:

(a) The number of control groups which are beyond the threshold level in each performance indicator.

(b) A listing of offices experiencing Band D performance during the period covered by the report. A specific entry is required for each Band D office for each monthly report period. That entry will show the name of the office, the number of times in the previous twelve monthly report periods that this office has experienced Band D performance, and the index level of each Band D component for the report period.

3. LIMITATIONS

3.01 The Plan is fundamental in nature and is intended to provide a general measurement of improving or deteriorating service. It is not intended to be and should not be regarded as a personnel evaluation plan or a panacea for improving performance in switching environments. Proper application of this Plan will assist management in identifying engineering, administration, and maintenance problems. Correction of these problems can only be accomplished through intelligent management action.

3.02 Although some machine switching and billing functions are included in the component descriptions, there is no intent to provide complete descriptions of No. 1 ESS operation. Full description is included in (a) the Bell System Practices, Section 966-100-100, No. 1 ESS General Descriptive Information, (b) the Traffic Facilities Practices, Division D, and (c) No. 1 ESS Program Descriptions.

3.03 This Plan calls for use of measured components and performance indicators. These items have been selected to serve several purposes. Some will be useful to local managers in predicting and/or in analyzing potential and actual areas of service difficulty. Some are indicative of conditions which may be related to service-affecting problems other than in the measured office. Still others will reflect problems affecting revenue. Some of these indicators have direct impact upon the quality of customer service; others are indirectly related. All of the numerous indicators necessary to provide complete and detailed analysis of switching performance quality have not been included. Those selected are considered among the most important. They were carefully selected as those which require constant monitoring and management attention.

3.04 There are many other indicators useful to managers in the detection of adverse service conditions or trends. They should be used in addition to those contained in the Plan, in the continuing identification and analysis of potential and actual trouble spots within the office.

3.05 Other indicators which are less representative of direct service effects, yet are related to the troubles, problems, or conditions affecting service, are available and must be used. These other indicators may sometimes prove to be more important than the indicators of this Plan. If these supplemental indicators are neglected, managers may be unaware of impending service deterioration until results worsen. The proper approach is to be sensitive to these other indicators.

3.06 The following is a list of items not directly measured by the Plan. These items are certainly indicative of the service provided by the control group and require constant attention. The list is not all inclusive.

(a) E to E visitation rate

(b) Line scan count

(c) Audit failures

(d) Certain network failures

(e) Major alarms

(f) Incoming reorders

(g) AIOD performance

(h) Cleanliness of the office

(i) Preventive maintenance backlog

(j) Line insulation test failures

(k) Percent of engineered capacity

(l) Data validation

(m) Class of service balance

(n) Individual component busy hour performance

(o) Proper use of administrative, maintenance, and provisioning methods and procedures.

3.07 Although the administrative data requirements of this Plan are restricted to busy hour periods, it is strongly recommended that network administrative personnel exercise judgment in obtaining and analyzing other hours and, where warranted, total day periods. Since many measured components and performance indicators relate average monthly performance for the total office or specific equipment items, continued analysis of equipment subgroups to identify trouble hotspots is recommended.

3.08 This Plan will be modified as more precise measurements of switching performance become available and improved data gathering techniques become standard.

4. OBJECTIVE

4.01 This Plan is designed to provide a measurement of the quality of customer service provided by a No. 1 ESS control group. It is also designed to reflect the quality of the administrative, maintenance, and design/provisioning efforts which relate to the measured service quality.

4.02 In each of the four major categories—Machine Access, Machine Switching, Billing, and Customer Reports—both measured components and performance indicators have been included. The measurements provide sufficiently sensitive reflections of the quality of service to the using customer. Performance indicators are designed to assist administrative, maintenance, and engineering personnel charged with the responsibility for that service quality in predicting and/or in analyzing areas of service concern related to switching machine performance, and when required, in developing joint programs for corrective action.

4.03 Generally, the performance of a No. 1 ESS control group is related to the quality of the administrative, maintenance, and engineering efforts brought jointly to bear on that control group. This Plan is designed to measure the service quality resulting from those efforts and to indicate the necessity of joint involvement by personnel charged with the different primary functional responsibilities.

5. INTERPRETATION AND USE OF RESULTS

5.01 The objective of the measured components of the Plan is to represent actual failures or delays of the machine to properly complete a call or to provide accurate billing information. The performance indicators represent conditions which may seriously impact upon the machine's ability to perform its switching and billing functions satisfactorily.

5.02 The measured components and performance indicators in this Plan are of several different types. Some measurements are obtained from machine counts of failures caused by equipment malfunction. This type of measurement represents a lost call and usually is followed by an attempt by the customer to reinitiate. Since regeneration also affects load-sensitive functions of the switching machine, the items of this type are critically indexed. Another type of measurement addresses blockage and delay experienced on equipment items which are engineered on a probability basis. With this type, it is expected and economic that a certain level of machine counts will be observed. The index levels and observation periods are designed to reflect this expected level of event occurrences. The customer trouble report category reflects central office customer line, equipment, and facility conditions that caused the customer to report a service failure.

5.03 Switching performance, as measured by this Plan, is strongly dependent on the control of equipment failure rates, the availability of equipment for service, the administration of the available equipment, and the quality of work. There are few inherent reasons why the performance of an individual office, especially over long periods, should be appreciably different from the average performance of large groups of offices.

5.04 Index levels obtained through the use of this Plan are not comparable to index levels in other types of switching machines under other measurement plans. The index tables used in this Plan are based on a scientific sample of No. 1 ESS offices throughout the System. Therefore, the index level obtained for a given No. 1 ESS office can only be compared to other No. 1 ESS offices.

5.05 Performance indicator threshold levels have been established at a point considered to be generally valid on a broad basis throughout the System. There may be instances where this level is inappropriate for a particular control group. In those instances, more stringent thresholds may be established for local management purposes. However, for System reporting of results, the threshold levels contained in the Plan should be used.

5.06 Management should pay particular attention to the trend of office results in the various components and performance indicators of the Plan. Improvement in the performance of any one item should be directly related to the corrective action taken. This point is significant not only in evaluating the performance of an office but also in evaluating a particular course of action as being worth the required effort and cost in view of the results improvement. Worsening results indicate the need

for a stepped-up pace or different tack in pursuing corrective action.

5.07 Objectives should be established in such a manner that they are meaningful to and attainable by the managers involved in accomplishing the goals. For this reason, managers responsible for the maintenance, administration, and provisioning should be involved in the setting of objectives. An understanding of the interrelationship of the various functions is essential to attain overall satisfactory service levels. The Plan is designed to foster this understanding.

5.08 While it may be argued that responsibility for the measured components of this Plan should be assigned to functional groups or individuals who can exclusively control their performance, examination of the causes of any component failure reveals that such sterile isolation is impossible. It is the intent of this Plan that the interdependency of service on functional group contribution be recognized. In other words, the network maintenance, network administration, and network design/provisioning functional groups are equally responsible and should be held equally accountable for analysis and for concerted corrective action.

5.09 The use of this measurement Plan is not an adequate substitute for intelligent management. Continuous diagnostic analysis must be employed to assure problem correction prior to service deterioration.

6. GENERAL INSTRUCTIONS

6.01 The service month to be used for this Plan will be from the 23rd of the month preceding the report month through the 22nd of the report month (eg, February report month begins January 23 and ends February 22).

6.02 Most of the data required for this Plan are obtained from administrative and maintenance registers or data systems. ***Actual peg counts or mechanized data printouts shall be used. Expanded figures calculated from sample peg count data are not permitted.*** The expected error in using an expanded sample is more than is considered allowable for this Plan.

6.03 Various administrative and maintenance printouts provide the data necessary in computing results for this Plan. Table A contains a list of the measured components and performance indicators along with the source printout for each. Downstream or remote data reporting and summarizing aids are encouraged.

6.04 Performance for those components and indicators which measure trouble conditions and customer reaction will be measured 24 hours a day for every day of the year. For those components and indicators which are design related and load sensitive, individually determined busy hour data will be reported in accordance with the material included in Part 7, Description of Components.

6.05 Procedures for determining and changing busy hour periods shall be in accord with instructions in the Traffic Service Observing Practices, Division F, Sections 2B and 2C. The determination of busy hour periods shall be the responsibility of the network administration group.

6.06 Certain maintenance interrupts are deductible under specific situations. All interrupts caused by functions specified and quantified in the equipment test list (ETL) per the Bell System Practices, Section 231-001-013, can be deducted. The register for the interrupt to be affected shall be read immediately prior to and after the ETL work to determine the number of interrupts caused by the ETL. Interrupts not associated with the ETL are not deductible. For example, if the central control emergency action test is being conducted and a call store interrupt occurs, that call store interrupt is not deductible.

6.07 Certain equipment frame additions cause interrupts which are deductible. The register readings just prior to and just after such activity must be made to determine the interrupt count. Interrupts not associated with the growth addition are not deductible.

6.08 The number of interrupts to be expected, which is the number deductible, is specified in the growth method of procedures or in the Bell System Practices 231 series. If the interrupt count is greater than expected from the Bell System Practices or growth method of procedure, work should be stopped immediately and steps taken to eliminate the trouble condition prior to proceeding. These excess interrupts are not to be deducted.

6.09 Each interrupt, including those deducted, can potentially affect service. This fact

should be appreciated whenever any growth work or interrupt ETL work is being planned. ***It is expected that the responsible supervisor will require justification for all interrupts that are proposed for deduction. This justification will be documented on Form E-6429 (Fig. 3),*** submitted with Form E-6421A (Fig. 1), and signed by the Central Office Supervisor, Network Administrator (Dial), and Western Electric Company Supervisor where appropriate. In addition, all work which generates interrupts will be scheduled out of the traffic busy period, preferably the least busy time of day.

6.10 Rules for the inclusion (or exclusion) of administrative data, for the treatment of holiday data, and for the documentation of out-of-order conditions are as stated in the Traffic Service Observing Practices, Division F, Sections 2B and 2C. Generally stated, these rules provide for the ***inclusion of all valid data for five business days each week during the report period regardless of the local conditions*** (eg, storms, civil disturbances, impaired switching facilities, installation, or rearrangement activity). ***The only periods that may be excluded are those during which data are proven to be unavailable or inaccurate. Written documentation of these conditions,*** jointly signed by administration and maintenance personnel, ***is a requirement of this Plan.***

6.11 The measured components and performance indicators for which data are obtained from administrative registers require a minimum of 15 days' valid busy hour data for each report month.

6.12 The following rules will apply when data are lost from maintenance registers which measure components or indicators 24 hours per day.

(a) If a failure count or base data count is lost for a certain time period (eg, hardware lost calls did not score for two days of the report period), the base data or failure count used to calculate that component or indicator must also be excluded for the same time period.

(b) If the time period of lost data for a component or indicator exceeds eight calendar days during the report period, the component or indicator will be considered NA as outlined below.

6.13 If due to malfunction or error, results data for a measured component or a performance indicator are not available for the report period, NA shall be entered in the performance column of Form E-6421A. NA is considered Band D or soft spot performance and will be reported as such on the control group report and Form E-6421B (Fig. 2).

6.14 The notations NE (not equipped) or NP (not provided) shall be entered in the (1) performance and (2) soft spot or band column of Form E-6421A if the component is not applicable to the measured control group due to design limitations or generic program. NE or NP is ***not*** considered Band D or soft spot performance.

6.15 It should be noted that overflow counters in offices with CTX-6 and earlier generic programs are limited in capacity to 2047 registrations before recycling to zero. Overflow counters in offices with CTX-7 and later generic programs will recycle every 15 minutes making the count for an hour the sum of the four 15-minute periods. This fact should be taken into consideration when analyzing and evaluating overflow data.

6.16 Forms to be used for the compilation of register reading data and for the computation of applicable percentages and component indices shall be developed and prepared locally except as prescribed in the detailed instructions, or as provided in Part 12 of this Plan.

6.17 Because of the importance of both measured components and performance indicators to the evaluation of the service rendered by the measured office, the District Manager must assume responsibility for the validity and integrity of the data reported.

6.18 All forms, both standard and locally developed, used in the preparation of results data reported on Forms E-6421A and E-6421B shall be retained for at least one year. A record of all printouts should be retained for the most recent completed results report month. The maintenance PM02 printout should be retained for one year. It is recommended that a retention system similar to that described in the Bell System Practices, Section 231-001-010, No. 1 Electronic Switching Systems Controlled Maintenance Plan, be used. All forms, records, trouble tickets, and administrative data sheets should be filed in the appropriate month's folder and retained until the results report for the same month of the following year replaces them.

6.19 Each control group will prepare one report (Form E-6421A) monthly from the first full report month after cutover and thereafter.

6.20 Each Area and Company will prepare a monthly, quarterly, and annual summary report, Form E-6421B.

6.21 One copy of Area and Company summary reports, Form E-6421B, shall be forwarded to the following address to arrive no later than the last day of the month following the report month (eg, the 4th quarter, annual, and December reports are due January 31).

Results Compilation
American Telephone and Telegraph Company
295 N. Maple Ave.
Room 1202M3
Basking Ridge, New Jersey 07920

6.22 Procedures for the summarization and forwarding of intracompany reports shall be locally prescribed.

6.23 Ordering information for Forms E-6421A, E-6421B, and E-6429 is as follows:

Forms must be ordered on a regular requisition from your local Western Electric Service Center. Forms should be ordered individually (on an ***each*** basis) in quantities that are multiples of the standard package as shown below.

ORDER WORDING	STANDARD PACKAGING
(Qty) E-6421A	25/Pad; 2 Pad/Pk.
(Qty) E-6421B	25/Pad; 2 Pad/Pk.
(Qty) E-6429	25/Pad; 2 Pad/Pk.

7. DESCRIPTION OF COMPONENTS

7.01 This part of the Plan describes the performance indicators and measured components to be reported on Form E-6421A. Included are brief descriptions of the components, the sources of the data to be gathered, the computation methods to be employed in preparing data for reporting at the control group level, and the applicable time periods for which data are to be gathered and summarized. Sections will also include references to report forms and to detailed reference material which may serve to further describe data sources.

PEFORMANCE INDICATORS

A. Machine Access

Customer Digit Receiver Overflow

7.02 This indicator is a count of the number of dial tone speed busy hours in which the customer digit receiver groups overflowed to queue 5 percent or greater. The basis for the threshold is drawn from the provisioning standard. It follows that if the CDR groups are overflowing above the threshold level, dial tone delays could be experienced. These delays will not necessarily be of a duration over 3 seconds.

7.03 The cause of the overflow is an inadequacy of available CDR capacity, due to underprovisioning, excessive outage, or an overload condition.

7.04 Data required for this indicator will be recorded for each average business day during the time consistent busy hour as determined for the dial tone speed busy hour measured component.

7.05 Each average business day, obtain CDR group peg counts for DP and TOUCH-TONE® groups and CDR common group overflows. Add the peg counts and subtract the overflows to derive adjusted CDR peg count. Calculate a percent overflow (CDR common group overflows ÷ adjusted CDR peg count × 100).

7.06 At the end of the measurement period, total the number of days when the percent overflow (entries to queue) was 5 percent or greater. Enter the number of days in column C of Form E-6421A.

Blocked Dial Tone

7.07 Blocked dial tone delay peg count, measurement code 087, scores after a predetermined program sequence (5 seconds of delay) when a line fails to receive dial tone due to LLN, TLN, or junctor blockage. The count is increased by one (1) for every four seconds of additional time in the blocked dial tone queue. On the average, a blocked call will increment the counter seven times.

TABLE A

MEASURED COMPONENT OR PERFORMANCE INDICATOR	SOURCE PRINTOUT
Customer Digit Receiver Overflow	H Schedule
Blocked Dial Tone	D Schedule
Receiver Attachment Delay	H Schedule or TC 15
Hardware Lost Calls	PM01 or PM02
Incoming Matching Loss	H Schedule
Maintenance Interrupts	PM01 or PM02
Trunk-to-Trunk Path Memory Overflow	H Schedule
Hardware Lost Billing	PM01 or PM02
AMA Register Overflows	H Schedule
Dial Tone Speed	H Schedule or TC 15
Receiver Overflow	H Schedule
Line Restore Verify Failures	PM01
Transmitter Time-outs	TC 24A, PM01 or PM02
Office Overflow	H Schedule
False Cross and Ground and Supervisory Scan Failures	PM01
Receiver Time-outs	PM01 or PM02

Note: The daily PM01 and monthly PM02 printouts are available only with CTX-5 and later generic programs.

7.08 This indicator observed on a total day basis will indicate overloaded concentrators or ***hot spots*** which cannot be detected by the dial tone speed measured component.

7.09 Each average business day the total day percent blocked dial tone delay will be computed as follows:

(a) Divide the blocked dial tone delay peg count by 7 to obtain the number of calls blocked.

(b) Divide the computed number of calls blocked by the total day originating peg count.

(c) Multiply the result by 100.

7.10 Enter the number of days in which the blocked dial tone delay exceeded .04 percent in column C of Form E-6421A.

Receiver Attachment Delay Recorder

7.11 This performance indicator is available with the Centrex-7 generic program for dial pulse, revertive pulse, and multifrequency receivers. It can be used to identify potential receiver overloads. In addition, it can identify variations within the hour which can be masked in hourly CCS readings.

7.12 The measurement period should be selected by using the same guidelines recommended in the Traffic Service Observing Practices, Division F, Section 2B, for the dial tone speed busy hour selection. Each receiver type (MF, DP, RP) should be treated separately. Receiver delay should be recorded for the individual receiver type in the time consistent (receiver type) busy hour which provides the greatest amount of delay.

7.13 The monthly results are computed as follows:

(a) Each average business day, compute the percent delay for each receiver type busy

hour by dividing the delay peg count by test peg count and multiplying by 100.

(b) At the end of the report month, compute the month's average percent delay for each receiver type by adding the daily percents and dividing the total by the number of daily percents.

(c) Place the highest calculated percent in column C of Form E-6421A.

B. Machine Switching

Final Trunk Groups Over 3 Percent NC

7.14 This indicator is a composite of the percent of final trunk groups over 3 percent NC reported on the Monthly Trunk Service Report. This indicator will help identify contributions to office overflow.

7.15 Obtain from the group responsible for developing the Monthly Trunk Service Report the number of intertoll, toll access-operator, toll access-machine, toll completing, interlocal and auxiliary trunk groups over 3 percent NC. All efforts to obtain the current month's data should be employed. If current month's data are not obtainable, submit the most current available data.

7.16 Enter the total number of groups for the measurement period which had 3.1 percent or more NC in column C of Form E-6421A.

Trunk Outage

7.17 Trunk outage is defined as a trunk not available for customer or operator access. This outage is expressed as the average normal business day outage hours per trunk per month and includes those trunks for which the office is designated control or assigned office as covered in the Bell System Practices, Section 660-400-010, Trunk Service Results Plan.

7.18 Enter the trunk service index for the report month as reflected on Form E-3994, Trunk Service Results Summary, in column C of Form E-6421A.

Hardware Lost Calls

7.19 When a call is dropped or retried due to suspected trunk malfunction, the trunk is put on the trunk maintenance list and the hardware lost calls counter is incremented. Calls not completed or retried due to a time-out, a preemption, and certain trunk guard test failures will increment the hardware lost call counter if the trunk involved fails the subsequent diagnosis. LLR and PX network failures will also increment the counter.

7.20 This count is available with CTX-5 and later generic programs from the PM01 and PM02 printouts on the maintenance teletype.

7.21 The monthly results are computed as follows:

(a) Enter the total month's hardware lost calls in column A of Form E-6421A.

(b) Enter the total month's originating plus incoming calls, in terms of 10,000, in column B.

(c) Divide column A by column B and enter the result in column C.

7.22 If the office is not equipped with a CTX-5 or later generic program, enter NP in columns C and E.

Overflow—Percent RO/NC

7.23 This indicator is the percentage of service observed calls which routed to RO/NC. Procedures for gathering and developing the percentage figure are in the Traffic Service Observing Practices, Division B, Section 1C.

7.24 The monthly results are computed as follows:

(a) Enter the total number of service-observed overflows charged to the control group during the continuous 3-month period ending coincident with the end of the report period in column A of Form E-6421A.

(b) Enter the total number of local dial line service observations made on the control group during the continuous 3-month period ending coincident with the end of the report period in column B.

(c) Divide column A by column B and enter the result in column C, expressed as a percent ($A/B \times 100 = C$).

Load Balance

7.25 The loading of customer lines into a No. 1 ESS control group can have a distinct impact upon the quality of service rendered. The total traffic load carried by the load unit (concentrators) and the balanced application of that load bear upon the quality of dial tone speed, originating, and incoming service provided. The Load Balance Index Plan will be the measurement provided to indicate trends, identify superior performances, and point up opportunities for improvement in load balance administration of dial central office line equipment. Division A of the Dial Facilities Management Practices contains information regarding load balance indexing, and Division H outlines load balance procedures.

7.26 Enter the monthly load balance index as reflected on Form E-6402, Load Balance Index (LBI) (traffic unit report) in column C of Form E-6421A. Control groups which are below 30 percent of engineered load capacity will not have an LBI. In these cases enter NE as described in 6.14.

Incoming Matching Loss (IML)

7.27 This indicator is a count of failures to match a talking path between the incoming trunk and the called line, or on a last trial failure to find a path between the trunk and a service circuit or the called line and a ringing circuit.

7.28 The procedures for determining the IML busy hour to be measured are as currently instructed in the Traffic Service Observing Practices, Division F, Section 2C.

7.29 The monthly results are computed as follows or taken directly from Form E-6183, Traffic Service Observing Practices, Division F, Section 2C:

(a) Each average business day, compute the percent IML for the IML busy hour by dividing the IML peg count by incoming minus tandem peg count and multiplying by 100.

(b) At the end of the report month, compute the month's ***average percent*** IML by adding the daily percents and dividing the total by the number of daily percents.

(c) Enter the month's average failures, base, and ***average percent*** in the appropriate columns of Form E-6421A.

Maintenance Interrupts

7.30 This indicator is a count of the number of times the base level program is interrupted for purposes of fault recognition. This indicator is considered to be a measure of the general health of the processor's ability to interact between hardware and software call processing and maintenance functions. Interrupts are usually accompanied by a printout on the maintenance TTY which aids in trouble identification. In addition, the hourly printout received from the same source provides the total number of interrupts.

7.31 The hourly totals of maintenance interrupts must be recorded and summed to obtain daily totals with CTX-4 or earlier generic programs. With CTX-5 and later, the 24-hour total is available on the PM01 printout or on a monthly basis from the PM02 printout.

7.32 The monthly results are computed as follows:

(a) Enter the total month's interrupts minus any allowable deductions as specified in Part 6, in column A of Form E-6421A.

(b) Enter the total month's originating plus incoming call count, in terms of 10,000, in column B.

(c) Divide column A by column B and enter the result in column C.

Emergency Actions

7.33 This indicator is the number of times the emergency action (EA) program is called in to restore the system to stability. A detailed explanation of emergency action (EA) is contained in the Bell System Practices, Section 231-113-301.

7.34 Emergency actions are logged on the ESS Control Record, E-5320. (See the Bell System Practices, Section 231-001-010.) They are classified as UPD, AUTO, or MAN. For this Plan, all planned EAs (action required by office growth jobs and generic retrofits or updates limited to those specified in an MOP document) will be classified as UPD.

7.35 Enter the total number of EAs planned on the appropriate line in column C of Form E-6421A. All other EAs, whether induced manually or by the processor, are considered to be unplanned. Enter this figure in column C on the appropriate line of Form E-6421A.

Equipment Outage

7.36 This indicator is a count of outage hours during the normal business day (NBD) or abbreviated business day (ABD) of items of equipment considered part of the central processor and the peripheral system communities as defined in the Bell System Practices, Section 231-120-302. Removal of equipment from service during busy periods will probably affect service and office reliability margins. Central processor equipment items are CC, SP, PSs, and both CC and SP CSs. Peripheral system items are CPDs, scanners, network and signal distributor controllers, PUBs, AMAs, AIOD units, and centrex data links.

7.37 Methods and details for recording and administering equipment outages are described in the Bell System Practices, Section 201-114-001. In CTX-5 and later generic programs these counts are totaled monthly on the PM02 printout. These totals are for a 24-hour day and should not be used.

7.38 The monthly results are computed as follows:

(a) Enter the total month's measured equipment NBD outage hours in column A of Form E-6421A.

(b) Enter the total count of each equipment item listed in 7.36 in column B.

(c) Divide column A by column B and enter the outage hours per equipment component in column C.

Trunk-to-Trunk Path Memory Overflow

7.39 This indicator is the percent of overflow on the trunk-to-trunk path memory registers. It should be used to measure the office capability to switch trunk-to-trunk traffic. When a register is not available, the system queues and the call cannot be completed until a register is available.

7.40 Since these overflows occur most frequently during the incoming call or tandem call busy hours, the data necessary for calculating this indicator should be recorded for these two busy hours.

7.41 The monthly results are computed as follows:

(a) Each average business day, compute the percent trunk-to-trunk path memory (TTM) overflow for the incoming call and tandem call busy hours by dividing the TTM overflow by TTM peg count and multiplying by 100.

(b) At the end of the report month, separately compute the month's ***average percent*** TTM overflow for each busy hour by adding the daily percents and dividing the total by the number of daily percents.

(c) Enter the month's average failures, base, and ***average percent*** for the hour with the highest percent overflow in the appropriate columns of Form E-6421A.

C. Billing

Hardware Lost Billing

7.42 This indicator is a count of calls not billed because both AMA recorders are out of service. These failures are considered to be a major service interruption.

7.43 This count is available with CTX-5 and later generics on the PM01 and PM02 printouts.

7.44 Enter the total number of calls not billed in column C of Form E-6421A.

AMA Register Overflows

7.45 This indicator measures the percent overflow on the AMA registers during the time consistent busy hour as determined by the AMA register busy hour CCS readings on an average business day. This indicator can aid in assessing the adequacy of customer billing capacity and is an indicator of potential or actual lost revenues since detail billed calls affected by AMA register overflows are routed to reorder.

7.46 Busy hour data must be collected daily using office count 147, AMA register detail bill

peg count; office count 196, AMA register measured rate peg count; office count 195, AMA register detail bill overflow count; office count 199, AMA register measured rate overflow count. These counts are only available with CTX-6 and later generics.

7.47 The monthly results are computed as follows:

(a) Each average business day, compute the percent overflow for each type of AMA register during the AMA register busy hour by dividing the AMA register overflow by AMA register peg count and multiplying by 100.

(b) At the end of the report month, separately compute the month's ***average percent*** AMA register overflow by adding the daily percents and dividing the total by the number of daily percents.

(c) Enter the month's average failures, base, and ***average percent*** for the group having the highest percent overflow in the appropriate columns of Form E-6421A.

Coin Control Failures

7.48 This indicator is a count of the number of times the stuck coin circuit was seized due to no coin return, no coin collect, or no coin present.

7.49 The coin control seizures and failures count is available with CTX-5 and later generic programs on the PM01 (daily) and PM02 (monthly) maintenance printouts.

7.50 The monthly results are computed as follows:

(a) Enter the total month's coin control failures in column A of Form E-6421A.

(b) Enter the total month's coin control seizures in terms of 10,000 in column B.

(c) Divide column A by column B and enter the result in column C.

D. Customer Reports

Customer Trouble Reports, Code 7

7.51 This indicator is a measure of customer reports that by definition cannot be identified as to cause. Pattern analysis often, however, does lead to identification of conditions which require corrective action on the part of the network switching group.

7.52 The monthly results are computed as follows:

(a) Enter the total month's code 7 customer reports for the control group in column A of Form E-6421A.

(b) Enter the total count of working main stations plus equivalent main stations as of the first day of the report month, in terms of 100, in column B. Average main stations must be used if a change of more than 500 main stations occurs during the report month.

(c) Divide column A by column B and enter the result in column C.

MEASURED COMPONENTS

A. Machine Access

Dial Tone Speed

7.53 The dial tone speed result is a measurement of the machine's capability to provide dial tone within three seconds during the busy hour. It is used as the primary measurement component evaluating the capability of providing originating customer service. The No. 1 ESS dial tone speed tests are generated over existing idle customer lines. The originations and encountered delays score registers by class of service (DP or TT). The number of dial tone speed tests and corresponding delays by class of service as specified in translations are printed on the quarter hour schedule and the hourly schedule. There would normally be 225 test calls each quarter hour and 900 for the total hour. However, due to certain overloads and phase actions which defer dial tone speed tests, this figure can vary.

7.54 The procedures for determining the busy hour to be measured and for gathering and summarizing the data are as currently instructed in the Traffic Service Observing Practices, Division F, Section 2B. Enter the month's total adjusted index points earned (item 27), from Form E-4372 in column H of Form E-6421A.

Receiver Overflow

7.55 This component is the percent of incoming calls which overflowed the incoming receiver groups and offered the call to queue. This includes MF, DP, and RP receivers. It is a measure of the ability of incoming trunks to seize an incoming receiver. The data for this component will be obtained during the originating plus incoming busy hour.

7.56 Since By-Link register groups only have a usage (CCS) measurement at the present time, they will not be included in the receiver overflow component.

7.57 The monthly results are computed as follows:

(a) Enter the total month's MF, DP, and RP receiver overflows for the originating plus incoming busy hour in column F of Form E-6421A.

(b) Enter the total month's MF, DP, and RP receiver peg count for the originating plus incoming busy hour in column G.

(c) Divide column F by column G and enter the result, expressed as a percent, in column H (F/G $\times$ 100 = H).

Line Restore Verify Failures

7.58 A restore verify test is performed on each line at call completion to ensure that the line ferrod has been reconnected to the subscriber loop. Failure to restore this supervision may prohibit the line from originating calls. This type of failure is not detectable through the dial tone speed measurement. It should be noted that restore verify is canceled by certain traffic overloads.

7.59 Since a line restore verify failure may represent a customer out of service, it is most important that these failures be investigated and corrected. The usual causes of line restore verify failures are service order assignment errors, line ferrod switch contact failures, and certain types of PBX equipment malfunctions.

7.60 The monthly results are computed as follows:

(a) Enter the total month's restore verify failures in column F of Form E-6421A.

(b) Enter the total month's originating plus incoming calls, in terms of 10,000, in column G.

(c) Divide column F by column G and enter the result in column H.

B. Machine Switching

Transmitter Time-outs

7.61 A transmitter time-out is a condition which occurs when a pulse transmitting circuit fails for any reason to complete its function and consequently abandons the call.

7.62 Data for this component are summarized two ways depending on the generic program installed. If an office has a CTX-4 or earlier generic program, transmitter peg count, overflow, and time-outs are obtained from the TC24A printout. CTX-5 and later generic programs provide a total monthly count of time-outs and outgoing calls on the PM02 printout.

7.63 The monthly results for CTX-4 and earlier generic programs are computed as follows:

(a) Sum the transmitter time-outs combining all type groups. Enter in column F of Form E-6421A.

(b) Sum the transmitter peg counts combining all type groups.

(c) Sum the transmitter overflow counts combining all type groups.

(d) Subtract the total overflow count from the total peg count. Enter this figure, in terms of 10,000, in column G.

(e) Divide column F by column G and enter the result in column H (F/G = H).

7.64 The monthly results for CTX-5 and later generic programs are computed as follows:

(a) Enter the total month's transmitter time-outs in column F of Form E-6421A.

(b) Enter the total month's outgoing calls peg count, in terms of 10,000, in column G.

(c) Divide column F by column G and enter the result in column H (F/G = H).

Office Overflow

7.65 This component is a count of calls routed to regular and common overflow tone trunks. It will also include calls routed to route indexes 0180 through 0184 where provided. Any overflows on these route indexes must be subtracted from the regular or common overflow tone trunk peg count before computing the office overflow component. This measurement plan assumes the regular overflow tone trunks ***do not*** overflow to the common overflow tone trunks. If the regular overflow tone trunks overflow to the common overflow tone trunks, duplicate scorings will occur.

7.66 This measurement should be recorded for the average business day during the highest time consistent busy hour based on originating plus incoming peg count.

> ***Note:*** If the control group is equipped with CCSA trunk groups or equivalent (ie, trunk group size is dictated by customer purchase of trunks), or choke network (mass calling restriction) trunk groups, the overflows on these trunk groups should be deducted from the total office overflow scorings and total originating peg count before computing the office overflow component.

7.67 The monthly result for offices with CTX-5 and earlier generic programs are computed as follows:

(a) Enter the total month's busy hour regular plus common overflow peg counts in column F of Form E-6421A.

(b) Enter the total month's busy hour originating plus incoming peg count in column G.

(c) Divide column F by column G and enter the result, expressed as a percent, in column H (F/G × 100 = H).

7.68 The monthly result for offices with CTX-6 and later generic programs are computed as follows:

(a) Enter the total month's busy hour peg counts for regular plus common overflow tone trunks and peg count for RI 0180 (NCA) and/or RI 0181 and 0182 (emergency announcements 1 and 2) minus any overflows on these route indexes in column F of Form E-6421A.

(b) Enter the total month's busy hour originating plus incoming peg count in column G.

(c) Divide column F by column G and enter the result, expressed as a percent, in column H (F/G × 100 = H).

7.69 Compute the monthly results for offices with CTX-7 and later generic programs using RI 0183 (NCA on tandem calls) and/or RI 0184 (ROA on tandem calls) as follows:

(a) Enter the total month's busy hour peg count for regular plus common overflow tone trunks and peg counts for RI 0180, 0181, 0182, RI 0183 and/or RI 0184 minus any overflows on these route indexes in column F of Form E-6421A.

(b) Enter the total month's busy hour originating plus incoming peg count in column G.

(c) Divide column F by column G and enter the result, expressed as a percent, in column H (F/G × 100 = H).

False Cross and Ground and Supervisory Scan Failures

7.70 These failures indicate the encountering of faulty paths within the networks. The presence of faulty paths has a direct bearing on the efficient use of system real time and network capacity. The effect of having unusable paths is detrimental to both the processor capacity and the network capacity. In addition, path setup failures in certain stages of some calls will cause the customer's call to fail, resulting in reorder tone, return to dial tone, or call failure with no tone. Prompt correction of failure conditions is recommended.

7.71 As each failure occurs, a printout is produced on the maintenance TTY identifying the entire path that failed. An hourly printout is available from the same source which lists the quantity of failures by each type. The hourly totals must be recorded and summarized to arrive at the total daily failures. In CTX-5 and later generic programs, the PM01 printout will furnish daily totals.

7.72 The monthly results are computed as follows:

(a) Enter the total month's FCG and supervisory scan failures in column F of Form E-6421A.

(b) Enter the total month's originating plus incoming call count, in terms of 10,000, in column G.

(c) Divide column F by column G and enter the result in column H.

Receiver Time-outs

7.73 A receiver time-out occurs whenever a pulse receiving circuit cannot complete its function. Network blockage and partial dials are excluded. This failure can be caused by the receiving office, the sending office, or the interconnecting facility.

7.74 A monthly total of time-outs is available with CTX-5 and later generic programs on the PM02 printout.

7.75 The monthly results are computed as follows:

(a) Enter the total month's receiver time-outs in column F of Form E-6421A.

(b) Enter the total month's incoming calls peg count, in terms of 10,000, in column G.

(c) Divide column F by column G and enter the result in column H (F/G = H).

Equipment Irregularities

7.76 Equipment irregularities are included in this Plan because they encompass lost call conditions not reflected elsewhere in the Plan. The four categories of observed equipment failures which result in an ineffective customer attempts, but do not result in the return of a register recorded failure peg count, are included in this component. They are no ring, wrong number—equipment, misdirected, and other. Detailed descriptions of the observing procedures related to equipment irregularities are included in the Traffic Service Observing Practices, Division B, Section 1C.

7.77 The monthly results are computed as follows:

(a) In column F of Form E-6421A, enter the total number of local dial line service observed equipment irregularities charged to the control group during the continuous 3-month period ending coincident with the end of the report period.

(b) In column G, enter the total number of local dial line service observations made on the control group during the continuous 3-month period ending coincident with the end of the report period.

(c) Divide column F by column G and enter the percentage in column H (F/G $\times$ 100 = H).

C. Billing

Nonsalvageable Entries

7.78 These are the total number of AMA entries which cannot be billed and which result in lost messages due to faulty tape data. This number should not include partially mutilated entries which are salvaged or entries lost because of actions of the comptroller's operations during tape processing.

7.79 This is a measurement of the switching machine's ability to properly record and transfer call completion data to comptrollers' operations via magnetic tape. This is only one of many steps related to preparing a customer's bill. This Plan does not attempt to measure overall billing accuracy.

7.80 The total nonsalvageable entries and total AMA entries are supplied by comptrollers' operations after tape processing.

7.81 The monthly results are computed as follows:

(a) Enter the total month's nonsalvageable entries in column F of Form E-6421A.

(b) Enter the total month's AMA entries, in terms of 10,000, in column G.

(c) Divide column F by column G and enter the result in column H (F/G = H).

D. Customer Reports

Customer Trouble Reports, Codes 5 and 8 Equipment

7.82 This component includes those customer trouble reports which result in disposition codes 5 and 8, excluding distributing frame troubles. Section 660-100-013 defines disposition codes 5 and 8.

7.83 Obtain from the Plant Service Center the total customer trouble reports codes 5 and 8 equipment. Since the Plant Service Center does not differentiate the code 5 troubles as to equipment or frame, it will be necessary to determine this from the No. 1 ESS trouble tickets.

7.84 The monthly results are computed as follows:

(a) Enter the total month's equipment codes 5 and 8 in column F of Form E-6421A.

(b) Enter the total working main stations plus equivalent main stations as of the first day of the report month, in terms of 100, in column G. Average main stations must be used if a change of more than 500 main stations occurs during the report month.

(c) Divide column F by column G and enter the result in column H (F/G = H).

Customer Trouble Reports, Code 5 Frame

7.85 This component includes only those customer reported troubles which are subsequently found and cleared on a distributing frame as outlined in the Bell System Practices, Section 660-100-013.

7.86 The monthly results are computed as follows:

(a) Enter the total month's code 5 frame customer trouble reports in column F of Form E-6421A.

(b) Enter the total count of working main stations plus equivalent main stations, as of the first day of the report month, in terms of 100, in column G. Average main stations must be used if a change of more than 500 main stations occurs during the report month.

(c) Divide column F by column G and enter the result in column H (F/G = H).

8. PREPARATION OF FORM E-6421A

8.01 This Plan includes results data prepared by both administrative and maintenance personnel. Therefore, it is recommended that (a) Form E-6421A be prepared jointly and (b) all developed input data be retained in one location as described in Part 6. Organizational structures or geographic locations may dictate alternative methods of report preparation. If so, Form E-6421A should be used to transmit the maintenance and/or administrative data to a locally arranged report preparation point.

8.02 All decimal figures recorded in the performance columns of Form E-6421A shall be rounded to two places after the decimal point.

8.03 The following subparagraphs define the column headings for the performance indicators section of Form E-6421A. (See Attachment 1.)

(a) ***Column A—Failures:*** Entries in this column will include register scorings or averages of the number of times an event or failure occurred within the defined time frame during the report period, the number of reports, and the amount of outage experienced during the period.

(b) ***Column B—Base Data:*** Entries in this column are individually prescribed in the instructions in Part 7 of this Plan. Certain entries will be in terms of 10,000 or 100. This is computed by dividing the appropriate total count by the term (10,000 or 100) prescribed.

(c) ***Column C—Performance:*** Entries in this column will be the ratios or percentages developed as prescribed in Part 7 of this Plan. NA, NE, or NP will be entered when applicable according to the instructions in Part 6 of this Plan.

(d) ***Column D—Threshold Level:*** Entries in this column will be obtained from the threshold level table included in Part 10.

(e) ***Column E—Soft Spot:*** A check mark (✓) will be entered in this column when the indicator performance is worse than the threshold level, or the data are NA for the report period. NE will be entered when the office is not equipped, NP when the indicator was not provided.

8.04 The following subparagraphs define the column headings for the measured components section of Form E-6421A.

(a) ***Column F—Failures:*** Entries in this column will include register scorings of the number of times an event or failure occurred within the defined time frame during the report period, the number of observed failures, and the number of reports.

(b) ***Column G—Base Data:*** Entries in this column will include the data which are used as the divisor to determine performance ratios or percentages. Certain entries will be in terms of 10,000 or 100. This is computed by dividing the appropriate total count by the term (10,000 or 100) prescribed.

(c) ***Column H—Performance:*** Entries in this column will be the ratios or percentages developed by dividing data entries in column F by base data entries in column G. NA, NE, or NP will be entered when applicable according to the instructions in Part 6 of this Plan.

(d) ***Column J—Component Index:*** Entries in this column will be obtained from the appropriate index table for the measured item in Part 10.

(e) ***Column K—Index Points:*** Entries in this column will be obtained from the appropriate index table in Part 10.

(f) ***Column L—Band:*** Entries in this column will be appropriate Band (A, B, C, or D) for each component index.

Band A—98.0 - 100

Band B—96.0 - 97.9

Band C—90.0 - 95.9

Band D—Less than 90.0 or NA

8.05 All lines on Form E-6421A are defined in the description of components section or are self-explanatory except the following:

(a) ***Line 19:*** Enter the total number of performance indicators applicable to the measured control group (including NAs) in column C. Enter the total number of soft spots ($\checkmark$) in column E.

(b) ***Line 31 - Total Points:*** Enter the total points in column K.

(c) ***Line 32 - Maximum Available Points:*** Enter the total maximum points of all components for which results are measured. Exclude NE, NP, and NA components.

(d) ***Line 33 - Total Index:*** Divide line 31 by line 32 and enter the result expressed as a percent (L31/L32 $\times$ 100 = L33).

NO. 1 ESS
NETWORK SWITCHING PERFORMANCE
MEASUREMENT PLAN

E-6421A

PERFORMANCE INDICATORS

	Indicator	A Failures	B Base Item	B Base Data	C Performance	D Threshold	E Soft Spot	
	Machine Access							
1	C D R % Ovfl				2	1	√	1
2	Blocked Dial Tone				5	8	-	2
3	RADR				NE	.20	NE	3
	Machine Switching							
4	Final Gp > 3% NC				0	0	-	4
5	Trunk Outage				98.7	95.00	-	5
6	Hardware Lost Calls	11007	O + I PC/10K	877	12.55	22.00	-	6
7	% RO/NC	3	# of S O	904	.33	.80	-	7
8	Load Balance				97.3	94.00	-	8
9	Inc. Match Loss	871	Inc – Tdm BH PC	465218	.19	1.80	-	9
10	Maint Interrupts	63	O + I PC/10K	877	.07	.40	-	10
11	E.A. Planned				3			11
12	E.A. Unplanned				0	0	-	12
13	Equipment Outage	78	Total Equipment	432	.18	.60	-	13
14	Trk to Trk Mem Ovfl	3	T-T Mem BH PC	68133	.00	.01	-	14
	Billing							
15	Hardware Lost Billing				0	0	-	15
16	AMA Register Ovfl	2	AMA Reg BH PC	84518	.00	.01	-	16
17	Coin Control Failures	-	Coin Cont Seizures	-	NA	10.00	√	17
	Customer Reports							
18	Code 7	153	/100 MS	227.6	.67	2.40	-	18
19				Total No. of Indicators	17	Total No. Soft Spot (√)	2	19

MEASURED COMPONENTS

	Component	Max. Points	F Failures	G Base Item	G Base Data	H Performance	J Component Index	K Index Points	L Band	
	Machine Access									
20	Dial Tone Speed	15				34.24	98.00	14.70	A	20
21	Receiver Overflow	5	15543	Rec PC O+I BH	591016	2.63	95.50	4.77	C	21
22	Restore Verify Failures	5	258	O+I PC/10K	877	.29	98.50	4.92	A	22
	Machine Switching									
23	Trans Time-Outs	10	440	Trans or OG PC	175.2	2.51	97.00	9.70	B	23
24	Office Overflow	15	11459	O + I BH PC	1041313	1.10	96.50	14.47	B	24
25	FCG & Supv Failures	10	1140	O + I PC/10K	877	1.30	98.50	9.85	A	25
26	Receiver Time-Outs	10	4120	Inc P C /10K	352	11.70	95.50	9.55	C	26
27	Equipment Irregs	5	2	# of S O	904	.22	97.50	4.87	B	27
	Billing									
28	Non-Salvageable Entries	10	-	AMA Ent /10K	-	NP	-	-	NP	28
	Customer Reports									
29	Code 5 & 8 Equipment	10	35	/100 MS	227.6	.15	97.50	9.75	B	29
30	Code 5 Frame	5	67	/100 MS	227.6	.29	89.00	4.45	D	30
	REMARKS						31 Total Points	87.03		31
							32 Max. Available Points	90.00		32
							33 Index	96.70	B	33

	M		N		P		R		
34	Prepared by	R.E. Peat	Generic Prog.	SP-CTX5-6.2	District	Southwest	Company	Some Co	34
35	Checked by	J.B. Good	Control Grp.	CGO	Division	Northern	Period	October 1975	35
36			Office	North	Area	East			36

Attachment 1

9. PREPARATION OF FORM E-6421B

9.01 Form E-6421B is a two-page summary report. It will provide all management echelons with a summary of the switching performance of the No. 1 ESS offices within their area of responsibility.

9.02 The form provides four summaries of results information:

(a) The number and percent of offices by index band in each measured component

(b) The number of offices beyond threshold in each performance indicator

(c) The trend of Band D offices in each measured component

(d) Actual results of offices in each Band D measured component.

9.03 All data recorded on Form E-6421B (except percentage calculations) are taken directly from the represented E-6421A reports.

9.04 A dash (—) or no entry should be made in the Band D Trends section of Form E-6421B, if all offices exceeded Band D performance during the applicable preceding report period.

9.05 The form serves three purposes. Attachments are provided as examples to follow when preparing Form E-6421B for each of the purposes.

(a) Multioffice, single month—Attachment 2

(b) Multimonth, single office—Attachment 3

(c) Multioffice, multimonth—Attachment 4

9.06 The following subparagraphs define the column headings of Form E-6421B and provide the source data locations on Form E-6421A:

(a) ***Column C:*** Enter the number of control groups measured in each component.

(b) ***Column D:*** Enter the number of office month reports (see attachment).

(c) ***Column E Through H:*** Enter the number and percent of control groups in the appropriate band column for each component from columns L on Forms E-6421A.

(d) ***Column AL:*** Enter the number and percent of control groups which experienced Band D performance in any of the twelve preceding report periods. These data are obtained from the previous E-6421B report.

(e) ***Column AM:*** Enter the office name of those control groups which experienced Band D performance in any measured component. If the report is a multimonth report, enter the appropriate months.

(f) ***Column AN:*** Enter the number of times in the twelve previous periods in which the listed office experienced any component Band D performance. If the report is a multimonth report, make no entries.

(g) ***Column AP Through BA:*** Enter the Band D component index levels for each office listed. If the report is a multioffice-multimonth report, enter the number of Band D offices in each component.

(h) ***Column BB:*** Enter the number of soft spot performance indicators for each listed office from line 19E of Form E-6421A.

(i) ***Column BC:*** Enter the number of measured performance indicators for each listed office from line 19C of Form E-6421A.

(j) ***Line 25, # Office Months:*** Enter the number of office report months in each of the performance indicators from columns E of Forms E-6421A.

(k) ***Line 26, # Soft Spot:*** Enter the number of office months in which soft spot performance was experienced from Forms E-6421A, columns E.

E6421B
(1)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

	A		B	C	D	E	F	G	H	
	Measured Component		WEIGHT	Total No. of Offices	Total No. of Ofc. Month Reports	Number and % of Office Mo. Rpt. by Index Band				
						A 100 – 98.0	B 97.9 – 96.0	C 95.9 – 90.0	D < 90	
1	MACHINE ACCESS	Dial Tone		10	10	2	4	3	1	1
2		Speed	15	% of Total		20.0	40.0	30.0	10.0	2
3		Receiver		10	10	7	2	-	1	3
4		Overflow	5	% of Total		70.0	20.0	-	10.0	4
5		Restore Verify		10	10	6	2	2	-	5
6		Failures	5	% of Total		60.0	20.0	20.0	-	6
7	MACHINE SWITCHING	Transmitter		10	10	3	6	1	-	7
8		Time-Outs	10	% of Total		30.0	60.0	10.0	-	8
9		Office		10	10	5	3	1	1	9
10		Overflow	15	% of Total		50.0	30.0	10.0	10.0	10
11		FCG & Supv.		10	10	2	6	2	-	11
12		Failures	10	% of Total		20.0	60.0	20.0	-	12
13		Receiver		10	10	2	3	3	2	13
14		Time-Outs	10	% of Total		20.0	30.0	30.0	20.0	14
15		Equipment		10	10	4	1	3	2	15
16		Irregularities	5	% of Total		40.0	10.0	30.0	20.0	16
17	BILL	Non-Salvageable		10	10	7	2	1	-	17
18		Entries	10	% of Total		70.0	20.0	10.0	-	18
19	CUST. REPORT	Code 5 & 8		10	10	6	1	3	-	19
20		Equipment	10	% of Total		60.0	10.0	30.0	-	20
21		Code 5		10	10	7	1	1	1	21
22		Frame	5	% of Total		70.0	10.0	10.0	10.0	22
23				10	10	2	6	1	1	23
24	Total Index		100	% of Total		20.0	60.0	10.0	10.0	24

PERFORMANCE INDICATORS

	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z	AA	AB	
	Machine Access			Machine Switching										Billing			CTR	
	CDR % Ovfl	Blk Dial Tone	RADR	Final GP >3% NC	Trk Out	Hdw Lost Calls	% RO NC	Load Bal	IML	Mtc Int	EA Unpld	Equip Out	Trk to Trk Ovfl	Hdw Lost Bill	AMA Reg Ovfl	Coin Cont Fail	Code 7	
25 #Office Months	10	6	3	10	10	8	10	10	10	10	10	10	10	10	10	8	10	25
26 #Soft Spot	0	0	0	3	3	1	2	1	0	1	1	2	1	0	1	2	2	26

REMARKS

	AC	AD	AE	AF	AG	AH	
27	Office	District	Division	Area	Company	Report Period	27
		Center	North	Eastern	Some Co	October 1975	

Attachment 2 (Sheet 1 of 2)

E-6421 B
(2)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

BAND D TRENDS

		Measured Component		Preceding Periods 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
28	MACHINE ACCESS	Dial Tone	No. of Offices	1	-	-	1	2	-	1	3	1	-	1	-
29		Speed	% of Total	10.0	-	-	10.0	20.0	-	10.0	30.0	10.0	-	10.0	-
30		Receiver Overflow	No. of Offices	-	-	1	-	-	1	1	-	1	-	-	1
31			% of Total	-	-	10.0	-	-	10.0	10.0	-	10.0	-	-	10.0
32		Restore Verify Failures	No. of Offices	-	-	1	-	-	-	2	-	-	-	-	-
33			% of Total	-	-	10.0	-	-	-	20.0	-	-	-	-	-
34	MACHINE SWITCHING	Transmitter Time-Outs	No. of Offices	1	-	-	2	-	-	-	-	1	-	-	-
35			% of Total	10.0	-	-	20.0	-	-	-	-	10.0	-	-	-
36		Office Overflow	No. of Offices	-	1	-	-	-	-	-	1	-	-	-	-
37			% of Total	-	10.0	-	-	-	-	-	10.0	-	-	-	-
38		FCG & Supv. Failures	No. of Offices	-	1	2	-	-	-	-	-	-	1	-	-
39			% of Total	-	10.0	20.0	-	-	-	-	-	-	10.0	-	-
40		Receiver Time-Outs	No. of Offices	3	1	-	-	1	-	-	-	-	-	2	-
41			% of Total	30.0	10.0	-	-	10.0	-	-	-	-	-	10.0	-
42		Equipment Irregularities	No. of Offices	1	-	-	1	-	-	1	1	-	-	-	-
43			% of Total	10.0	-	-	10.0	-	-	10.0	10.0	-	-	-	-
44	BILL	Non-Salvageable Entries	No. of Offices	-	-	-	-	-	-	-	-	-	-	-	-
45			% of Total	-	-	-	-	-	-	-	-	-	-	-	-
46	CUST. REPORT	Code 5 & 8 Equipment	No. of Offices	-	-	-	-	-	-	-	-	-	-	-	-
47			% of Total	-	-	-	-	-	-	-	-	-	-	-	-
48		Code 5 Frame	No. of Offices	1	-	-	1	-	-	-	-	-	1	-	-
49			% of Total	10.0	-	-	10.0	-	-	-	-	-	10.0	-	-
50		Total Index	No. of Offices	1	-	-	-	-	-	-	1	-	-	-	-
51			% of Total	10.0	-	-	-	-	-	-	10.0	-	-	-	-

BAND D OFFICES THIS PERIOD

	Office (or Month)	Measured Component Index: No. of Times in 12 Prev. Periods	Machine Access: DTS	Machine Access: Recvr Ovfl	Machine Access: Rst Verify Fail	Machine Switching: Trans Time Outs	Machine Switching: Office Ovfl	Machine Switching: FCG & Supv Fail	Machine Switching: Recvr Time Outs	Machine Switching: Equip Irregs	Billing: Non-Sal Ent	Cust. Report: 5&8 Equip	Cust. Report: 5 Frame	Performance Indicators: Total No. Soft Spot	Performance Indicators: Total No. of Ind.
52	Bay	3		85					88	82				4	17
53	North	5	88						82	88				5	17
54	West	1					88							3	16
55	South	0											88	3	17
56															
57															
58															
59															
60															
61															
62															
63															
64															
65															
66															
67															
68															
69															

Attachment 2 (Sheet 2 of 2)

E6421B
(1)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

	A		B	C	D	E	F	G	H	
	Measured Component		WEIGHT	Total No. of Offices	Total No. of Ofc. Month Reports	Number and % of Office Mo. Rpt. by Index Band A 100 – 98.0	B 97.9 – 96.0	C 95.9 – 90.0	D < 90	
1	MACHINE ACCESS	Dial Tone		1	3	2	1	-	-	1
2		Speed	15	% of Total		66.7	33.3	-	-	2
3		Receiver		1	3	2	1	-	-	3
4		Overflow	5	% of Total		66.7	33.3	-	-	4
5		Restore Verify		1	3	-	3	-	-	5
6		Failures	5	% of Total		-	100	-	-	6
7	MACHINE SWITCHING	Transmitter		1	3	-	2	1	-	7
8		Time-Outs	10	% of Total		-	66.7	33.3	-	8
9		Office		1	3	1	1	-	1	9
10		Overflow	15	% of Total		33.3	33.3	-	33.3	10
11		FCG & Supv.		1	3	-	2	1	-	11
12		Failures	10	% of Total		-	66.7	33.3	-	12
13		Receiver		1	3	-	-	3	-	13
14		Time-Outs	10	% of Total		-	-	100	-	14
15		Equipment		1	3	-	2	-	1	15
16		Irregularities	5	% of Total		-	66.7	-	33.3	16
17	BILL	Non-Salvageable		1	3	-	3	-	-	17
18		Entries	10	% of Total		-	100	-	-	18
19	CUST. REPORT	Code 5 & 8		1	3	1	2	-	-	19
20		Equipment	10	% of Total		33.3	66.7	-	-	20
21		Code 5		1	3	-	2	1	-	21
22		Frame	5	% of Total		-	66.7	33.3	-	22
23				1	3	-	2	1	-	23
24	Total Index		100	% of Total		-	66.7	33.3	-	24

PERFORMANCE INDICATORS

	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z	AA	AB	
	Machine Access			Machine Switching										Billing			CTR	
	CDR % Ovfl	Blk Dial Tone	RADR	Final GP >3% NC	Trk Out	Hdw Lost Calls	% RO NC	Load Bal	IML	Mtc Int	EA Unpld	Equip Out	Trk to Trk Ovfl	Hdw Lost Bill	AMA Reg Ovfl	Coin Cont Fail	Code 7	
25	#Office Months	3	3	NP	NP	3	3	3	3	3	3	3	3	3	3	3	3	25
26	#Soft Spot	-	-			1	1	1	-	-	-	-	-	-	-	-	1	26

REMARKS

	AC	AD	AE	AF	AG	AH	
27	Office	District	Division	Area	Company	Report Period	27
	East CG-0	Center	Town	State	Some Co	3Q76	

Attachment 3 (Sheet 1 of 2)

E-6421 B
(2)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

BAND D TRENDS

		Measured Component		AJ	AK	AL										
				2Q	1Q	4Q	Preceding Periods									
				1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	
28	MACHINE ACCESS	Dial Tone	No. of Offices	-	-	1										28
29		Speed	% of Total	-	-	33.3										29
30		Receiver Overflow	No. of Offices	-	-	-										30
31			% of Total	-	-	-										31
32		Restore Verify Failures	No. of Offices	-	-	-										32
33			% of Total	-	-	-										33
34	MACHINE SWITCHING	Transmitter Time-Outs	No. of Offices	-	-	-										34
35			% of Total	-	-	-										35
36		Office Overflow	No. of Offices	-	-	1										36
37			% of Total	-	-	33.3										37
38		FCG & Supv. Failures	No. of Offices	1	1	-										38
39			% of Total	33.3	33.3	-										39
40		Receiver Time-Outs	No. of Offices	-	-	-										40
41			% of Total	-	-	-										41
42		Equipment Irregularities	No. of Offices	-	1	-										42
43			% of Total	-	33.3	-										43
44	BILL	Non-Salvageable Entries	No. of Offices	-	-	-										44
45			% of Total	-	-	-										45
46	CUST. REPORT	Code 5 & 8 Equipment	No. of Offices	-	-	-										46
47			% of Total	-	-	-										47
48		Code 5 Frame	No. of Offices	-	-	-										48
49			% of Total	-	-	-										49
50		Total Index	No. of Offices	-	-	-										50
51			% of Total	-	-	-										51

BAND D OFFICES THIS PERIOD

	AM	AN	AP	AR	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	
	Office (or Month)	Measured Component Index: No. of Times in 12 Prev. Periods	Machine Access: DTS	Machine Access: Recvr Ovfl	Machine Access: Rst Verify Fail	Machine Switching: Trans Time Outs	Machine Switching: Office Ovfl	Machine Switching: FCG & Supv Fail	Machine Switching: Recvr Time Outs	Machine Switching: Equip Irregs	Billing: Non-Sal Ent	Cust. Report: 5&8 Equip	Cust. Report: 5 Frame	Performance Indicators: Total No. Soft Spot	Performance Indicators: Total No. of Ind.	
52	July									85				2	15	52
53	August													1	15	53
54	September						88							1	15	54
55																55
56																56
57																57
58																58
59																59
60																60
61																61
62																62
63																63
64																64
65																65
66																66
67																67
68																68
69																69

Attachment 3 (Sheet 2 of 2)

E6421B
(1)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

	A		B	C	D	E	F	G	H	
	Measured Component		WEIGHT	Total No. of Offices	Total No. of Ofc. Month Reports	Number and % of Office Mo. Rpt. by Index Band				
						A 100 – 98.0	B 97.9 – 96.0	C 95.9 – 90.0	D < 90	
1	MACHINE ACCESS	Dial Tone		10	120	30	60	27	3	1
2		Speed	15	% of Total		25.0	50.0	22.5	2.5	2
3		Receiver		10	120	26	55	35	4	3
4		Overflow	5	% of Total		21.7	45.8	29.2	3.3	4
5		Restore Verify		10	120	25	65	29	1	5
6		Failures	5	% of Total		20.8	54.2	24.2	.8	6
7	MACHINE SWITCHING	Transmitter		10	120	32	67	19	2	7
8		Time-Outs	10	% of Total		26.7	55.8	15.8	1.7	8
9		Office		10	120	30	80	10	0	9
10		Overflow	15	% of Total		25.0	66.7	8.3	0	10
11		FCG & Supv.		10	120	21	68	29	2	11
12		Failures	10	% of Total		17.5	56.7	24.2	1.7	12
13		Receiver		10	120	27	65	28	0	13
14		Time-Outs	10	% of Total		22.5	54.2	23.3	0	14
15		Equipment		10	120	24	52	42	2	15
16		Irregularities	5	% of Total		20.0	43.3	35.0	1.7	16
17	BILL	Non-Salvageable		10	120	28	62	28	2	17
18		Entries	10	% of Total		23.3	51.7	23.3	1.7	18
19	CUST. REPORT	Code 5 & 8		10	120	29	83	8	0	19
20		Equipment	10	% of Total		24.2	69.2	6.7	0	20
21		Code 5		10	120	30	70	19	1	21
22		Frame	5	% of Total		25.0	58.3	15.8	.8	22
23				10	120	29	70	21	0	23
24		Total Index	100	% of Total		24.2	58.3	17.5	0	24

PERFORMANCE INDICATORS

	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z	AA	AB	
	Machine Access			Machine Switching										Billing			CTR	
	CDR % Ovfl	Blk Dial Tone	RADR	Final GP >3% NC	Trk Out	Hdw Lost Calls	% RO NC	Load Bal	IML	Mtc Int	EA Unpld	Equip Out	Trk to Trk Ovfl	Hdw Lost Bill	AMA Reg Ovfl	Coin Cont Fail	Code 7	
25 #Office Months	120	120	NP	110	120	120	120	120	120	120	120	120	120	120	120	96	120	25
26 #Soft Spot	6	10	-	13	3	1	7	3	0	4	8	2	9	2	1	4	15	26

REMARKS

	AC	AD	AE	AF	AG	AH	
27	Office	District	Division	Area	Company	Report Period	27
		Center	Town	State	Some Co	1976	

Attachment 4 (Sheet 1 of 2)

E-6421 B
(2)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

BAND D TRENDS

		Measured Component		Preceding Periods 1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
28	MACHINE ACCESS	Dial Tone	No. of Offices	2											
29		Speed	% of Total	1.7											
30		Receiver	No. of Offices	1											
31		Overflow	% of Total	.8											
32		Restore Verify	No. of Offices	-											
33		Failures	% of Total	-											
34	MACHINE SWITCHING	Transmitter	No. of Offices	-											
35		Time-Outs	% of Total	-											
36		Office	No. of Offices	3											
37		Overflow	% of Total	2.5											
38		FCG & Supv.	No. of Offices	1											
39		Failures	% of Total	.8											
40		Receiver	No. of Offices	-											
41		Time-Outs	% of Total	-											
42		Equipment	No. of Offices	1											
43		Irregularities	% of Total	.8											
44	BILL	Non-Salvageable	No. of Offices	-											
45		Entries	% of Total	-											
46	CUST. REPORT	Code 5 & 8	No. of Offices	-											
47		Equipment	% of Total	-											
48		Code 5	No. of Offices	2											
49		Frame	% of Total	1.7											
50			No. of Offices	-											
51		Total Index	% of Total	-											

BAND D OFFICES THIS PERIOD

	Office (or Month)	Measured Component Index: No. of Times in 12 Prev. Periods	Machine Access: DTS	Machine Access: Recvr Ovfl	Machine Access: Rst Verify Fail	Machine Switching: Trans Time Outs	Machine Switching: Office Ovfl	Machine Switching: FCG & Supv Fail	Machine Switching: Recvr Time Outs	Machine Switching: Equip Irregs	Billing: Non-Sal Ent	Cust. Report: 5&8 Equip	Cust. Report: 5 Frame	Performance Indicators: Total No. Soft Spot	Performance Indicators: Total No. of Ind.
52	Jan		1					1		1					
53	Feb														
54	Mar				1								1		
55	Apr			1				1							
56	May		1	1							1				
57	Jun										1				
58	Jul									1					
59	Aug			2											
60	Sep					1									
61	Oct		1												
62	Nov					1									
63	Dec														
64															
65															
66															
67															
68															
69															

Attachment 4 (Sheet 2 of 2)

10. INDEX TABLES

10.01 This part contains threshold levels and index tables to be used to complete the monthly E-6421A form.

Threshold Levels

Machine Access	*Threshold*
(a) Customer Digit Receiver Overflow	1
(b) Blocked Dial Tone	8
(c) Receiver Attachment Delay	.20
Machine Switching	
(a) Final Trunk Groups over 3% NC	0
(b) Trunk Outage	95.00
(c) Hardware Lost Calls	22.00
(d) Overflow (service observed)	.80
(e) Load Balance Index	94.00
(f) Incoming matching loss	1.80
(g) Maintenance interrupts	.40
(h) Emergency Actions	0
(i) Common Equipment Outage	.60
(j) Trunk-to-Trunk Path Memory Overflow	.01
Billing	
(a) Hardware Lost Billing	0
(b) AMA Register Overflows	.01
(c) Coin Control Failures	10.00
Customer Reports	
(a) Customer Trouble Reports—Code 7	2.40

DIAL TONE SPEED

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
35.00	34.98	100.00	15.00
34.97	34.79	99.50	14.92
34.78	34.61	99.00	14.85
34.60	34.42	98.50	14.77
34.41	34.24	98.00	14.70
34.23	34.06	97.50	14.62
34.05	33.88	97.00	14.55
33.87	33.70	96.50	14.47
33.69	33.52	96.00	14.40
33.51	33.35	95.50	14.32
33.34	33.17	95.00	14.25
33.16	32.99	94.50	14.17
32.98	32.82	94.00	14.10
32.81	32.65	93.50	14.02
32.64	32.47	93.00	13.95
32.46	32.30	92.50	13.87
32.29	32.13	92.00	13.80
32.12	31.96	91.50	13.72
31.95	31.79	91.00	13.65
31.78	31.63	90.50	13.57
31.62	31.46	90.00	13.50
31.45	31.31	89.50	13.42
31.30	31.19	89.00	13.35
31.18	31.08	88.50	13.27
31.07	30.98	88.00	13.20
30.97	30.89	87.50	13.12
30.88	30.80	87.00	13.05
30.79	30.72	86.50	12.97
30.71	30.65	86.00	12.90
30.64	30.58	85.50	12.82
30.57	30.51	85.00	12.75
30.50	30.44	84.50	12.67
30.43	30.38	84.00	12.60
30.37	30.32	83.50	12.52
30.31	30.26	83.00	12.45
30.25	30.21	82.50	12.37
30.20	30.15	82.00	12.30
30.14	30.10	81.50	12.22
30.09	30.05	81.00	12.15
30.04	29.99	80.50	12.07
29.98	29.95	80.00	12.00
29.94	29.85	79.00	11.85
29.84	29.76	78.00	11.70
29.75	29.67	77.00	11.55
29.66	29.58	76.00	11.40
29.57	29.50	75.00	11.25
29.49	29.42	74.00	11.10
29.41	29.34	73.00	10.95
29.33	29.27	72.00	10.80
29.26	29.19	71.00	10.65
29.18	29.12	70.00	10.50
29.11	29.05	69.00	10.35
29.04	28.98	68.00	10.20
28.97	28.92	67.00	10.05
28.91	28.85	66.00	9.90
28.84	28.79	65.00	9.75
28.78	28.72	64.00	9.60
28.71	28.66	63.00	9.45
28.65	28.60	62.00	9.30
28.59	28.54	61.00	9.15
28.53	28.48	60.00	9.00
28.47	28.42	59.00	8.85
28.41	28.37	58.00	8.70
28.36	28.31	57.00	8.55
28.30	28.26	56.00	8.40
28.25	28.20	55.00	8.25
28.19	28.15	54.00	8.10
28.14	28.10	53.00	7.95
28.09	28.04	52.00	7.80
28:03	27.99	51.00	7.65
27.98	27.94	50.00	7.50
27.93	27.84	48.00	7.20
27.83	27.73	46.00	6.90
27.72	27.62	44.00	6.60
27.61	27.51	42.00	6.30
27.50	27.40	40.00	6.00
27.39	27.28	38.00	5.70
27.27	27.16	36.00	5.40
27.15	27.03	34.00	5.10
27.02	26.90	32.00	4.80
26.89	26.76	30.00	4.50
26.75	26.61	28.00	4.20
26.60	26.46	26.00	3.90
26.45	26.30	24.00	3.60
26.29	26.12	22.00	3.30
26.11	25.93	20.00	3.00
25.92	25.73	18.00	2.70
25.72	25.50	16.00	2.40
25.49	25.23	14.00	2.10
25.22	24.90	12.00	1.80
24.89	24.42	10.00	1.50
24.41	23.75	8.00	1.20
23.74	23.06	6.00	0.90
23.05	22.36	4.00	0.60
22.35	21.64	2.00	0.30
BELOW	21.64	0.00	0.00

Measured Component Index Table

(Sheet 1 of 10)

RECEIVER OVERFLOW

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.10	100.00	5.00
0.11 -	0.47	99.50	4.97
0.48 -	0.82	99.00	4.95
0.83 -	1.14	98.50	4.92
1.15 -	1.44	98.00	4.90
1.45 -	1.73	97.50	4.87
1.74 -	2.00	97.00	4.85
2.01 -	2.26	96.50	4.82
2.27 -	2.51	96.00	4.80
2.52 -	2.75	95.50	4.77
2.76 -	2.99	95.00	4.75
3.00 -	3.21	94.50	4.72
3.22 -	3.43	94.00	4.70
3.44 -	3.65	93.50	4.67
3.66 -	3.85	93.00	4.65
3.86 -	4.06	92.50	4.62
4.07 -	4.25	92.00	4.60
4.26 -	4.45	91.50	4.57
4.46 -	4.63	91.00	4.55
4.64 -	4.82	90.50	4.52
4.83 -	5.00	90.00	4.50
5.01 -	5.17	89.50	4.47
5.18 -	5.32	89.00	4.45
5.33 -	5.46	88.50	4.42
5.47 -	5.58	88.00	4.40
5.59 -	5.70	87.50	4.37
5.71 -	5.81	87.00	4.35
5.82 -	5.92	86.50	4.32
5.93 -	6.02	86.00	4.30
6.03 -	6.12	85.50	4.27
6.13 -	6.21	85.00	4.25
6.22 -	6.30	84.50	4.22
6.31 -	6.39	84.00	4.20
6.40 -	6.47	83.50	4.17
6.48 -	6.56	83.00	4.15
6.57 -	6.64	82.50	4.12
6.65 -	6.71	82.00	4.10
6.72 -	6.79	81.50	4.07
6.80 -	6.86	81.00	4.05
6.87 -	6.93	80.50	4.02
6.94 -	7.00	80.00	4.00
7.01 -	7.14	79.00	3.95
7.15 -	7.27	78.00	3.90
7.28 -	7.40	77.00	3.85
7.41 -	7.52	76.00	3.80
7.53 -	7.64	75.00	3.75
7.65 -	7.75	74.00	3.70
7.76 -	7.86	73.00	3.65
7.87 -	7.97	72.00	3.60
7.98 -	8.08	71.00	3.55
8.09 -	8.18	70.00	3.50
8.19 -	8.28	69.00	3.45
8.29 -	8.38	68.00	3.40
8.39 -	8.48	67.00	3.35
8.49 -	8.58	66.00	3.30
8.59 -	8.67	65.00	3.25
8.68 -	8.76	64.00	3.20
8.77 -	8.85	63.00	3.15
8.86 -	8.94	62.00	3.10
8.95 -	9.03	61.00	3.05
9.04 -	9.11	60.00	3.00
9.12 -	9.19	59.00	2.95
9.20 -	9.28	58.00	2.90
9.29 -	9.36	57.00	2.85
9.37 -	9.44	56.00	2.80
9.45 -	9.52	55.00	2.75
9.53 -	9.60	54.00	2.70
9.61 -	9.67	53.00	2.65
9.68 -	9.75	52.00	2.60
9.76 -	9.83	51.00	2.55
9.84 -	9.90	50.00	2.50
9.91 -	10.05	48.00	2.40
10.06 -	10.20	46.00	2.30
10.21 -	10.36	44.00	2.20
10.37 -	10.52	42.00	2.10
10.53 -	10.69	40.00	2.00
10.70 -	10.86	38.00	1.90
10.87 -	11.04	36.00	1.80
11.05 -	11.22	34.00	1.70
11.23 -	11.42	32.00	1.60
11.43 -	11.62	30.00	1.50
11.63 -	11.83	28.00	1.40
11.84 -	12.05	26.00	1.30
12.06 -	12.28	24.00	1.20
12.29 -	12.53	22.00	1.10
12.54 -	12.80	20.00	1.00
12.81 -	13.09	18.00	0.90
13.10 -	13.41	16.00	0.80
13.42 -	13.78	14.00	0.70
13.79 -	14.22	12.00	0.60
14.23 -	14.80	10.00	0.50
14.81 -	15.55	8.00	0.40
15.56 -	16.37	6.00	0.30
16.38 -	17.29	4.00	0.20
17.30 -	18.36	2.00	0.10
ABOVE	18.36	0.00	0.00

Measured Component Index Table

(Sheet 2 of 10)

RESTORE VERIFY FAILURES

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.03	100.00	5.00
0.04 -	0.13	99.50	4.97
0.14 -	0.23	99.00	4.95
0.24 -	0.33	98.50	4.92
0.34 -	0.43	98.00	4.90
0.44 -	0.53	97.50	4.87
0.54 -	0.63	97.00	4.85
0.64 -	0.73	96.50	4.82
0.74 -	0.83	96.00	4.80
0.84 -	0.93	95.50	4.77
0.94 -	1.03	95.00	4.75
1.04 -	1.13	94.50	4.72
1.14 -	1.23	94.00	4.70
1.24 -	1.33	93.50	4.67
1.34 -	1.43	93.00	4.65
1.44 -	1.53	92.50	4.62
1.54 -	1.63	92.00	4.60
1.64 -	1.73	91.50	4.57
1.74 -	1.83	91.00	4.55
1.84 -	1.93	90.50	4.52
1.94 -	2.03	90.00	4.50
2.04 -	2.12	89.50	4.47
2.13 -	2.19	89.00	4.45
2.20 -	2.25	88.50	4.42
2.26 -	2.31	88.00	4.40
2.32 -	2.36	87.50	4.37
2.37 -	2.41	87.00	4.35
2.42 -	2.46	86.50	4.32
2.47 -	2.50	86.00	4.30
2.51 -	2.54	85.50	4.27
2.55 -	2.58	85.00	4.25
2.59 -	2.62	84.50	4.22
2.63 -	2.65	84.00	4.20
2.66 -	2.69	83.50	4.17
2.70 -	2.72	83.00	4.15
2.73 -	2.75	82.50	4.12
2.76 -	2.78	82.00	4.10
2.79 -	2.81	81.50	4.07
2.82 -	2.84	81.00	4.05
2.85 -	2.87	80.50	4.02
2.88 -	2.90	80.00	4.00
2.91 -	2.95	79.00	3.95
2.96 -	3.00	78.00	3.90
3.01 -	3.05	77.00	3.85
3.06 -	3.10	76.00	3.80
3.11 -	3.15	75.00	3.75
3.16 -	3.19	74.00	3.70
3.20 -	3.24	73.00	3.65
3.25 -	3.28	72.00	3.60
3.29 -	3.32	71.00	3.55
3.33 -	3.36	70.00	3.50
3.37 -	3.40	69.00	3.45
3.41 -	3.44	68.00	3.40
3.45 -	3.48	67.00	3.35
3.49 -	3.52	66.00	3.30
3.53 -	3.55	65.00	3.25
3.56 -	3.59	64.00	3.20
3.60 -	3.62	63.00	3.15
3.63 -	3.66	62.00	3.10
3.67 -	3.69	61.00	3.05
3.70 -	3.72	60.00	3.00
3.73 -	3.76	59.00	2.95
3.77 -	3.79	58.00	2.90
3.80 -	3.82	57.00	2.85
3.83 -	3.85	56.00	2.80
3.86 -	3.88	55.00	2.75
3.89 -	3.91	54.00	2.70
3.92 -	3.94	53.00	2.65
3.95 -	3.97	52.00	2.60
3.98 -	4.00	51.00	2.55
4.01 -	4.03	50.00	2.50
4.04 -	4.09	48.00	2.40
4.10 -	4.15	46.00	2.30
4.16 -	4.21	44.00	2.20
4.22 -	4.27	42.00	2.10
4.28 -	4.34	40.00	2.00
4.35 -	4.40	38.00	1.90
4.41 -	4.47	36.00	1.80
4.48 -	4.54	34.00	1.70
4.55 -	4.62	32.00	1.60
4.63 -	4.70	30.00	1.50
4.71 -	4.78	28.00	1.40
4.79 -	4.87	26.00	1.30
4.88 -	4.96	24.00	1.20
4.97 -	5.06	22.00	1.10
5.07 -	5.16	20.00	1.00
5.17 -	5.28	18.00	0.90
5.29 -	5.41	16.00	0.80
5.42 -	5.56	14.00	0.70
5.57 -	5.75	12.00	0.60
5.76 -	6.03	10.00	0.50
6.04 -	6.43	8.00	0.40
6.44 -	6.83	6.00	0.30
6.84 -	7.23	4.00	0.20
7.24 -	7.63	2.00	0.10
ABOVE	7.63	0.00	0.00

Measured Component Index Table

(Sheet 3 of 10)

TRANSMITTER TIME-OUTS

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00	0.22	100.00	10.00
0.23	0.66	99.50	9.95
0.67	1.10	99.00	9.90
1.11	1.54	98.50	9.85
1.55	1.98	98.00	9.80
1.99	2.42	97.50	9.75
2.43	2.86	97.00	9.70
2.87	3.30	96.50	9.65
3.31	3.74	96.00	9.60
3.75	4.18	95.50	9.55
4.19	4.62	95.00	9.50
4.63	5.06	94.50	9.45
5.07	5.49	94.00	9.40
5.50	5.93	93.50	9.35
5.94	6.37	93.00	9.30
6.38	6.81	92.50	9.25
6.82	7.25	92.00	9.20
7.26	7.69	91.50	9.15
7.70	8.12	91.00	9.10
8.13	8.56	90.50	9.05
8.57	9.00	90.00	9.00
9.01	9.39	89.50	8.95
9.40	9.71	89.00	8.90
9.72	9.98	88.50	8.85
9.99	10.23	88.00	8.80
10.24	10.46	87.50	8.75
10.47	10.67	87.00	8.70
10.68	10.87	86.50	8.65
10.88	11.06	86.00	8.60
11.07	11.24	85.50	8.55
11.25	11.41	85.00	8.50
11.42	11.57	84.50	8.45
11.58	11.72	84.00	8.40
11.73	11.88	83.50	8.35
11.89	12.02	83.00	8.30
12.03	12.16	82.50	8.25
12.17	12.30	82.00	8.20
12.31	12.43	81.50	8.15
12.44	12.56	81.00	8.10
12.57	12.69	80.50	8.05
12.70	12.81	80.00	8.00
12.82	13.05	79.00	7.90
13.06	13.28	78.00	7.80
13.29	13.50	77.00	7.70
13.51	13.71	76.00	7.60
13.72	13.91	75.00	7.50
13.92	14.11	74.00	7.40
14.12	14.30	73.00	7.30
14.31	14.49	72.00	7.20
14.50	14.67	71.00	7.10
14.68	14.85	70.00	7.00
14.86	15.03	69.00	6.90
15.04	15.20	68.00	6.80
15.21	15.36	67.00	6.70
15.37	15.52	66.00	6.60
15.53	15.68	65.00	6.50
15.69	15.84	64.00	6.40
15.85	15.99	63.00	6.30
16.00	16.14	62.00	6.20
16.15	16.29	61.00	6.10
16.30	16.44	60.00	6.00
16.45	16.58	59.00	5.90
16.59	16.72	58.00	5.80
16.73	16.86	57.00	5.70
16.87	17.00	56.00	5.60
17.01	17.13	55.00	5.50
17.14	17.27	54.00	5.40
17.28	17.40	53.00	5.30
17.41	17.53	52.00	5.20
17.54	17.65	51.00	5.10
17.66	17.78	50.00	5.00
17.79	18.03	48.00	4.80
18.04	18.29	46.00	4.60
18.30	18.56	44.00	4.40
18.57	18.84	42.00	4.20
18.85	19.12	40.00	4.00
19.13	19.42	38.00	3.80
19.43	19.72	36.00	3.60
19.73	20.04	34.00	3.40
20.05	20.36	32.00	3.20
20.37	20.71	30.00	3.00
20.72	21.07	28.00	2.80
21.08	21.45	26.00	2.60
21.46	21.85	24.00	2.40
21.86	22.28	22.00	2.20
22.29	22.75	20.00	2.00
22.76	23.26	18.00	1.80
23.27	23.84	16.00	1.60
23.85	24.50	14.00	1.40
24.51	25.33	12.00	1.20
25.34	26.56	10.00	1.00
26.57	28.31	8.00	0.80
28.32	30.07	6.00	0.60
30.08	31.82	4.00	0.40
31.83	33.58	2.00	0.20
ABOVE	33.58	0.00	0.00

Measured Component Index Table

(Sheet 4 of 10)

OFFICE OVERFLOW

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.07	100.00	15.00
0.08 -	0.23	99.50	14.92
0.24 -	0.39	99.00	14.85
0.40 -	0.54	98.50	14.77
0.55 -	0.70	98.00	14.70
0.71 -	0.85	97.50	14.62
0.86 -	1.00	97.00	14.55
1.01 -	1.15	96.50	14.47
1.16 -	1.30	96.00	14.40
1.31 -	1.45	95.50	14.32
1.46 -	1.59	95.00	14.25
1.60 -	1.74	94.50	14.17
1.75 -	1.88	94.00	14.10
1.89 -	2.03	93.50	14.02
2.04 -	2.17	93.00	13.95
2.18 -	2.31	92.50	13.87
2.32 -	2.45	92.00	13.80
2.46 -	2.59	91.50	13.72
2.60 -	2.73	91.00	13.65
2.74 -	2.86	90.50	13.57
2.87 -	3.00	90.00	13.50
3.01 -	3.12	89.50	13.42
3.13 -	3.22	89.00	13.35
3.23 -	3.32	88.50	13.27
3.33 -	3.40	88.00	13.20
3.41 -	3.47	87.50	13.12
3.48 -	3.54	87.00	13.05
3.55 -	3.61	86.50	12.97
3.62 -	3.67	86.00	12.90
3.68 -	3.73	85.50	12.82
3.74 -	3.79	85.00	12.75
3.80 -	3.84	84.50	12.67
3.85 -	3.89	84.00	12.60
3.90 -	3.94	83.50	12.52
3.95 -	3.99	83.00	12.45
4.00 -	4.04	82.50	12.37
4.05 -	4.08	82.00	12.30
4.09 -	4.13	81.50	12.22
4.14 -	4.17	81.00	12.15
4.18 -	4.21	80.50	12.07
4.22 -	4.26	80.00	12.00
4.27 -	4.34	79.00	11.85
4.35 -	4.41	78.00	11.70
4.42 -	4.49	77.00	11.55
4.50 -	4.56	76.00	11.40
4.57 -	4.63	75.00	11.25
4.64 -	4.69	74.00	11.10
4.70 -	4.76	73.00	10.95
4.77 -	4.82	72.00	10.80
4.83 -	4.88	71.00	10.65
4.89 -	4.94	70.00	10.50
4.95 -	5.00	69.00	10.35
5.01 -	5.06	68.00	10.20
5.07 -	5.11	67.00	10.05
5.12 -	5.17	66.00	9.90
5.18 -	5.22	65.00	9.75
5.23 -	5.28	64.00	9.60
5.29 -	5.33	63.00	9.45
5.34 -	5.38	62.00	9.30
5.39 -	5.43	61.00	9.15
5.44 -	5.48	60.00	9.00
5.49 -	5.53	59.00	8.85
5.54 -	5.57	58.00	8.70
5.58 -	5.62	57.00	8.55
5.63 -	5.67	56.00	8.40
5.68 -	5.71	55.00	8.25
5.72 -	5.76	54.00	8.10
5.77 -	5.80	53.00	7.95
5.81 -	5.84	52.00	7.80
5.85 -	5.89	51.00	7.65
5.90 -	5.93	50.00	7.50
5.94 -	6.02	48.00	7.20
6.03 -	6.10	46.00	6.90
6.11 -	6.19	44.00	6.60
6.20 -	6.29	42.00	6.30
6.30 -	6.38	40.00	6.00
6.39 -	6.48	38.00	5.70
6.49 -	6.58	36.00	5.40
6.59 -	6.69	34.00	5.10
6.70 -	6.80	32.00	4.80
6.81 -	6.92	30.00	4.50
6.93 -	7.04	28.00	4.20
7.05 -	7.17	26.00	3.90
7.18 -	7.30	24.00	3.60
7.31 -	7.45	22.00	3.30
7.46 -	7.60	20.00	3.00
7.61 -	7.78	18.00	2.70
7.79 -	7.97	16.00	2.40
7.98 -	8.19	14.00	2.10
8.20 -	8.46	12.00	1.80
8.47 -	8.86	10.00	1.50
8.87 -	9.41	8.00	1.20
9.42 -	9.98	6.00	0.90
9.99 -	10.56	4.00	0.60
10.57 -	11.16	2.00	0.30
ABOVE	11.16	0.00	0.00

Measured Component Index Table

(Sheet 5 of 10)

FCG & SUPV FAILURES

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.35	100.00	10.00
0.36 -	0.67	99.50	9.95
0.68 -	0.99	99.00	9.90
1.00 -	1.31	98.50	9.85
1.32 -	1.62	98.00	9.80
1.63 -	1.94	97.50	9.75
1.95 -	2.25	97.00	9.70
2.26 -	2.56	96.50	9.65
2.57 -	2.87	96.00	9.60
2.88 -	3.18	95.50	9.55
3.19 -	3.49	95.00	9.50
3.50 -	3.80	94.50	9.45
3.81 -	4.10	94.00	9.40
4.11 -	4.41	93.50	9.35
4.42 -	4.71	93.00	9.30
4.72 -	5.01	92.50	9.25
5.02 -	5.31	92.00	9.20
5.32 -	5.61	91.50	9.15
5.62 -	5.91	91.00	9.10
5.92 -	6.20	90.50	9.05
6.21 -	6.50	90.00	9.00
6.51 -	6.76	89.50	8.95
6.77 -	6.98	89.00	8.90
6.99 -	7.18	88.50	8.85
7.19 -	7.35	88.00	8.80
7.36 -	7.51	87.50	8.75
7.52 -	7.66	87.00	8.70
7.66 -	7.79	86.50	8.65
7.80 -	7.92	86.00	8.60
7.93 -	8.05	85.50	8.55
8.06 -	8.17	85.00	8.50
8.18 -	8.28	84.50	8.45
8.29 -	8.39	84.00	8.40
8.40 -	8.50	83.50	8.35
8.51 -	8.60	83.00	8.30
8.61 -	8.70	82.50	8.25
8.71 -	8.79	82.00	8.20
8.80 -	8.89	81.50	8.15
8.90 -	8.98	81.00	8.10
8.99 -	9.07	80.50	8.05
9.08 -	9.15	80.00	8.00
9.16 -	9.32	79.00	7.90
9.33 -	9.48	78.00	7.80
9.49 -	9.64	77.00	7.70
9.65 -	9.78	76.00	7.60
9.79 -	9.93	75.00	7.50
9.94 -	10.07	74.00	7.40
10.08 -	10.20	73.00	7.30
10.21 -	10.34	72.00	7.20
10.35 -	10.46	71.00	7.10
10.47 -	10.59	70.00	7.00
10.60 -	10.71	69.00	6.90
10.72 -	10.83	68.00	6.80
10.84 -	10.95	67.00	6.70
10.96 -	11.06	66.00	6.60
11.07 -	11.17	65.00	6.50
11.18 -	11.28	64.00	6.40
11.29 -	11.39	63.00	6.30
11.40 -	11.50	62.00	6.20
11.51 -	11.60	61.00	6.10
11.61 -	11.70	60.00	6.00
11.71 -	11.81	59.00	5.90
11.82 -	11.90	58.00	5.80
11.91 -	12.00	57.00	5.70
12.01 -	12.10	56.00	5.60
12.11 -	12.19	55.00	5.50
12.20 -	12.29	54.00	5.40
12.30 -	12.38	53.00	5.30
12.39 -	12.47	52.00	5.20
12.48 -	12.56	51.00	5.10
12.57 -	12.65	50.00	5.00
12.66 -	12.83	48.00	4.80
12.84 -	13.01	46.00	4.60
13.02 -	13.20	44.00	4.40
13.21 -	13.40	42.00	4.20
13.41 -	13.60	40.00	4.00
13.61 -	13.80	38.00	3.80
13.81 -	14.02	36.00	3.60
14.03 -	14.24	34.00	3.40
14.25 -	14.47	32.00	3.20
14.48 -	14.71	30.00	3.00
14.72 -	14.96	28.00	2.80
14.97 -	15.23	26.00	2.60
15.24 -	15.52	24.00	2.40
15.53 -	15.82	22.00	2.20
15.83 -	16.15	20.00	2.00
16.16 -	16.51	18.00	1.80
16.52 -	16.91	16.00	1.60
16.92 -	17.38	14.00	1.40
17.39 -	17.95	12.00	1.20
17.96 -	18.80	10.00	1.00
18.81 -	19.99	8.00	0.80
20.00 -	21.20	6.00	0.60
21.21 -	22.43	4.00	0.40
22.44 -	23.68	2.00	0.20
ABOVE	23.68	0.00	0.00

Measured Component Index Table

(Sheet 6 of 10)

RECEIVER TIME-OUTS

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00	0.69	100.00	10.00
0.70	2.03	99.50	9.95
2.04	3.34	99.00	9.90
3.35	4.63	98.50	9.85
4.64	5.90	98.00	9.80
5.91	7.16	97.50	9.75
7.17	8.39	97.00	9.70
8.40	9.61	96.50	9.65
9.62	10.80	96.00	9.60
10.81	11.99	95.50	9.55
12.00	13.15	95.00	9.50
13.16	14.30	94.50	9.45
14.31	15.44	94.00	9.40
15.45	16.56	93.50	9.35
16.57	17.67	93.00	9.30
17.68	18.77	92.50	9.25
18.78	19.85	92.00	9.20
19.86	20.92	91.50	9.15
20.93	21.98	91.00	9.10
21.99	23.03	90.50	9.05
23.04	24.07	90.00	9.00
24.08	25.01	89.50	8.95
25.02	25.81	89.00	8.90
25.82	26.52	88.50	8.85
26.53	27.16	88.00	8.80
27.17	27.76	87.50	8.75
27.77	28.31	87.00	8.70
28.32	28.84	86.50	8.65
28.85	29.33	86.00	8.60
29.34	29.80	85.50	8.55
29.81	30.25	85.00	8.50
30.26	30.68	84.50	8.45
30.69	31.10	84.00	8.40
31.11	31.50	83.50	8.35
31.51	31.89	83.00	8.30
31.90	32.27	82.50	8.25
32.28	32.64	82.00	8.20
32.65	32.99	81.50	8.15
33.00	33.34	81.00	8.10
33.35	33.68	80.50	8.05
33.69	34.01	80.00	8.00
34.02	34.65	79.00	7.90
34.66	35.27	78.00	7.80
35.28	35.86	77.00	7.70
35.87	36.43	76.00	7.60
36.44	36.98	75.00	7.50
36.99	37.52	74.00	7.40
37.53	38.04	73.00	7.30
38.05	38.54	72.00	7.20
38.55	39.04	71.00	7.10
39.05	39.52	70.00	7.00
39.53	39.99	69.00	6.90
40.00	40.45	68.00	6.80
40.46	40.89	67.00	6.70
40.90	41.33	66.00	6.60
41.34	41.77	65.00	6.50
41.78	42.19	64.00	6.40
42.20	42.60	63.00	6.30
42.61	43.01	62.00	6.20
43.02	43.41	61.00	6.10
43.42	43.81	60.00	6.00
43.82	44.20	59.00	5.90
44.21	44.58	58.00	5.80
44.59	44.96	57.00	5.70
44.97	45.33	56.00	5.60
45.34	45.69	55.00	5.50
45.70	46.05	54.00	5.40
46.06	46.41	53.00	5.30
46.42	46.76	52.00	5.20
46.77	47.11	51.00	5.10
47.12	47.45	50.00	5.00
47.46	48.14	48.00	4.80
48.15	48.85	46.00	4.60
48.86	49.57	44.00	4.40
49.58	50.32	42.00	4.20
50.33	51.09	40.00	4.00
51.10	51.89	38.00	3.80
51.90	52.71	36.00	3.60
52.72	53.57	34.00	3.40
53.58	54.45	32.00	3.20
54.46	55.38	30.00	3.00
55.39	56.36	28.00	2.80
56.37	57.38	26.00	2.60
57.39	58.47	24.00	2.40
58.48	59.63	22.00	2.20
59.64	60.89	20.00	2.00
60.90	62.26	18.00	1.80
62.27	63.80	16.00	1.60
63.81	65.57	14.00	1.40
65.58	67.74	12.00	1.20
67.75	70.83	10.00	1.00
70.84	75.05	8.00	0.80
75.06	79.46	6.00	0.60
79.47	84.10	4.00	0.40
84.11	89.00	2.00	0.20
ABOVE	89.00	0.00	0.00

Measured Component Index Table

(Sheet 7 of 10)

EQUIPMENT IRREGULARITIES

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS	PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.00	100.00	5.00	1.45 -	1.46	72.00	3.60
0.01 -	0.05	99.50	4.97	1.47 -	1.48	71.00	3.55
0.06 -	0.10	99.00	4.95	1.49 -	1.49	70.00	3.50
0.11 -	0.15	98.50	4.92	1.50 -	1.51	69.00	3.45
0.16 -	0.20	98.00	4.90	1.52 -	1.53	68.00	3.40
0.21 -	0.25	97.50	4.87	1.54 -	1.55	67.00	3.35
0.26 -	0.30	97.00	4.85	1.56 -	1.56	66.00	3.30
0.31 -	0.35	96.50	4.82	1.57 -	1.58	65.00	3.25
0.36 -	0.39	96.00	4.80	1.59 -	1.60	64.00	3.20
0.40 -	0.44	95.50	4.77	1.61 -	1.61	63.00	3.15
0.45 -	0.48	95.00	4.75	1.62 -	1.63	62.00	3.10
0.49 -	0.53	94.50	4.72	1.64 -	1.64	61.00	3.05
0.54 -	0.57	94.00	4.70	1.65 -	1.66	60.00	3.00
0.58 -	0.61	93.50	4.67	1.67 -	1.67	59.00	2.95
0.62 -	0.66	93.00	4.65	1.68 -	1.69	58.00	2.90
0.67 -	0.70	92.50	4.62	1.70 -	1.70	57.00	2.85
0.71 -	0.74	92.00	4.60	1.71 -	1.72	56.00	2.80
0.75 -	0.78	91.50	4.57	1.73 -	1.73	55.00	2.75
0.79 -	0.82	91.00	4.55	1.74 -	1.75	54.00	2.70
0.83 -	0.86	90.50	4.52	1.76 -	1.76	53.00	2.65
0.87 -	0.90	90.00	4.50	1.77 -	1.77	52.00	2.60
0.91 -	0.94	89.50	4.47	1.78 -	1.79	51.00	2.55
0.95 -	0.97	89.00	4.45	1.80 -	1.80	50.00	2.50
0.98 -	0.99	88.50	4.42	1.81 -	1.83	48.00	2.40
1.00 -	1.02	88.00	4.40	1.84 -	1.85	46.00	2.30
1.03 -	1.04	87.50	4.37	1.86 -	1.88	44.00	2.20
1.05 -	1.06	87.00	4.35	1.89 -	1.91	42.00	2.10
1.07 -	1.08	86.50	4.32	1.92 -	1.94	40.00	2.00
1.09 -	1.10	86.00	4.30	1.95 -	1.97	38.00	1.90
1.11 -	1.12	85.50	4.27	1.98 -	2.00	36.00	1.80
1.13 -	1.14	85.00	4.25	2.01 -	2.04	34.00	1.70
1.15 -	1.15	84.50	4.22	2.05 -	2.07	32.00	1.60
1.16 -	1.17	84.00	4.20	2.08 -	2.11	30.00	1.50
1.18 -	1.19	83.50	4.17	2.12 -	2.14	28.00	1.40
1.20 -	1.20	83.00	4.15	2.15 -	2.18	26.00	1.30
1.21 -	1.21	82.50	4.12	2.19 -	2.23	24.00	1.20
1.22 -	1.23	82.00	4.10	2.24 -	2.27	22.00	1.10
1.24 -	1.24	81.50	4.07	2.28 -	2.32	20.00	1.00
1.25 -	1.26	81.00	4.05	2.33 -	2.37	18.00	0.90
1.27 -	1.27	80.50	4.02	2.38 -	2.43	16.00	0.80
1.28 -	1.28	80.00	4.00	2.44 -	2.50	14.00	0.70
1.29 -	1.31	79.00	3.95	2.51 -	2.58	12.00	0.60
1.32 -	1.33	78.00	3.90	2.59 -	2.70	10.00	0.50
1.34 -	1.35	77.00	3.85	2.71 -	2.86	8.00	0.40
1.36 -	1.37	76.00	3.80	2.87 -	3.03	6.00	0.30
1.38 -	1.40	75.00	3.75	3.04 -	3.21	4.00	0.20
1.41 -	1.42	74.00	3.70	3.22 -	3.40	2.00	0.10
1.43 -	1.44	73.00	3.65	ABOVE	3.40	0.00	0.00

Measured Component Index Table

(Sheet 8 of 10)

NON-SALVAGEABLE ENTRIES

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.00	100.00	10.00
0.01 -	0.07	99.50	9.95
0.08 -	0.13	99.00	9.90
0.14 -	0.20	98.50	9.85
0.21 -	0.27	98.00	9.80
0.28 -	0.33	97.50	9.75
0.34 -	0.40	97.00	9.70
0.41 -	0.47	96.50	9.65
0.48 -	0.53	96.00	9.60
0.54 -	0.60	95.50	9.55
0.61 -	0.67	95.00	9.50
0.68 -	0.73	94.50	9.45
0.74 -	0.80	94.00	9.40
0.81 -	0.87	93.50	9.35
0.88 -	0.93	93.00	9.30
0.94 -	1.00	92.50	9.25
1.01 -	1.06	92.00	9.20
1.07 -	1.13	91.50	9.15
1.14 -	1.20	91.00	9.10
1.21 -	1.26	90.50	9.05
1.27 -	1.33	90.00	9.00
1.34 -	1.39	89.50	8.95
1.40 -	1.44	89.00	8.90
1.45 -	1.48	88.50	8.85
1.49 -	1.52	88.00	8.80
1.53 -	1.55	87.50	8.75
1.56 -	1.58	87.00	8.70
1.59 -	1.61	86.50	8.65
1.62 -	1.64	86.00	8.60
1.65 -	1.67	85.50	8.55
1.68 -	1.69	85.00	8.50
1.70 -	1.72	84.50	8.45
1.73 -	1.74	84.00	8.40
1.75 -	1.77	83.50	8.35
1.78 -	1.79	83.00	8.30
1.80 -	1.81	82.50	8.25
1.82 -	1.83	82.00	8.20
1.84 -	1.85	81.50	8.15
1.86 -	1.87	81.00	8.10
1.88 -	1.89	80.50	8.05
1.90 -	1.91	80.00	8.00
1.92 -	1.94	79.00	7.90
1.95 -	1.98	78.00	7.80
1.99 -	2.01	77.00	7.70
2.02 -	2.04	76.00	7.60
2.05 -	2.07	75.00	7.50
2.08 -	2.10	74.00	7.40
2.11 -	2.13	73.00	7.30
2.14 -	2.16	72.00	7.20
2.17 -	2.19	71.00	7.10
2.20 -	2.22	70.00	7.00
2.23 -	2.24	69.00	6.90
2.25 -	2.27	68.00	6.80
2.28 -	2.29	67.00	6.70
2.30 -	2.32	66.00	6.60
2.33 -	2.34	65.00	6.50
2.35 -	2.37	64.00	6.40
2.38 -	2.39	63.00	6.30
2.40 -	2.41	62.00	6.20
2.42 -	2.43	61.00	6.10
2.44 -	2.46	60.00	6.00
2.47 -	2.48	59.00	5.90
2.49 -	2.50	58.00	5.80
2.51 -	2.52	57.00	5.70
2.53 -	2.54	56.00	5.60
2.55 -	2.56	55.00	5.50
2.57 -	2.58	54.00	5.40
2.59 -	2.60	53.00	5.30
2.61 -	2.62	52.00	5.20
2.63 -	2.64	51.00	5.10
2.65 -	2.66	50.00	5.00
2.67 -	2.70	48.00	4.80
2.71 -	2.74	46.00	4.60
2.75 -	2.78	44.00	4.40
2.79 -	2.82	42.00	4.20
2.83 -	2.86	40.00	4.00
2.87 -	2.91	38.00	3.80
2.92 -	2.95	36.00	3.60
2.96 -	3.00	34.00	3.40
3.01 -	3.05	32.00	3.20
3.06 -	3.10	30.00	3.00
3.11 -	3.16	28.00	2.80
3.17 -	3.22	26.00	2.60
3.23 -	3.28	24.00	2.40
3.29 -	3.34	22.00	2.20
3.35 -	3.41	20.00	2.00
3.42 -	3.49	18.00	1.80
3.50 -	3.58	16.00	1.60
3.59 -	3.68	14.00	1.40
3.69 -	3.80	12.00	1.20
3.81 -	3.99	10.00	1.00
4.00 -	4.26	8.00	0.80
4.27 -	4.52	6.00	0.60
4.53 -	4.79	4.00	0.40
4.80 -	5.05	2.00	0.20
ABOVE	5.05	0.00	0.00

Measured Component Index Table

(Sheet 9 of 10)

CODE 5 & 8 EQUIPMENT

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.01	100.00	10.00
0.02 -	0.04	99.50	9.95
0.05 -	0.07	99.00	9.90
0.08 -	0.10	98.50	9.85
0.11 -	0.12	98.00	9.80
0.13 -	0.15	97.50	9.75
0.16 -	0.18	97.00	9.70
0.19 -	0.21	96.50	9.65
0.22 -	0.24	96.00	9.60
0.25 -	0.26	95.50	9.55
0.27 -	0.29	95.00	9.50
0.30 -	0.32	94.50	9.45
0.33 -	0.35	94.00	9.40
0.36 -	0.37	93.50	9.35
0.38 -	0.40	93.00	9.30
0.41 -	0.43	92.50	9.25
0.44 -	0.45	92.00	9.20
0.46 -	0.48	91.50	9.15
0.49 -	0.51	91.00	9.10
0.52 -	0.53	90.50	9.05
0.54 -	0.56	90.00	9.00
0.57 -	0.60	89.00	8.90
0.61 -	0.64	88.00	8.80
0.65 -	0.66	87.00	8.70
0.67 -	0.69	86.00	8.60
0.70 -	0.73	84.00	8.40
0.74 -	0.77	82.00	8.20
0.78 -	0.80	80.00	8.00
0.81 -	0.83	78.00	7.80
0.84 -	0.85	76.00	7.60
0.86 -	0.90	72.00	7.20
0.91 -	0.95	68.00	6.80
0.96 -	0.99	64.00	6.40
1.00 -	1.03	60.00	6.00
1.04 -	1.06	56.00	5.60
1.07 -	1.09	52.00	5.20
1.10 -	1.13	48.00	4.80
1.14 -	1.16	44.00	4.40
1.17 -	1.19	40.00	4.00
1.20 -	1.23	36.00	3.60
1.24 -	1.27	32.00	3.20
1.28 -	1.32	28.00	2.80
1.33 -	1.37	24.00	2.40
1.38 -	1.42	20.00	2.00
1.43 -	1.49	16.00	1.60
1.50 -	1.58	12.00	1.20
1.59 -	1.77	8.00	0.80
1.78 -	1.98	4.00	0.40
ABOVE	1.98	0.00	0.00

CODE 5 FRAME

PERFORMANCE FROM	TO	COMP. INDEX	INDEX POINTS
0.00 -	0.00	100.00	5.00
0.01 -	0.02	99.50	4.97
0.03 -	0.03	99.00	4.95
0.04 -	0.05	98.50	4.92
0.06 -	0.06	98.00	4.90
0.07 -	0.08	97.50	4.87
0.09 -	0.09	97.00	4.85
0.10 -	0.10	96.50	4.82
0.11 -	0.12	96.00	4.80
0.13 -	0.13	95.50	4.77
0.14 -	0.15	95.00	4.75
0.16 -	0.16	94.50	4.72
0.17 -	0.17	94.00	4.70
0.18 -	0.18	93.50	4.67
0.19 -	0.20	93.00	4.65
0.21 -	0.21	92.50	4.62
0.22 -	0.22	92.00	4.60
0.23 -	0.23	91.50	4.57
0.24 -	0.25	91.00	4.55
0.26 -	0.26	90.50	4.52
0.27 -	0.27	90.00	4.50
0.28 -	0.29	89.00	4.45
0.30 -	0.31	88.00	4.40
0.32 -	0.32	87.00	4.35
0.33 -	0.33	86.00	4.30
0.34 -	0.35	84.00	4.20
0.36 -	0.37	82.00	4.10
0.38 -	0.38	80.00	4.00
0.39 -	0.40	78.00	3.90
0.41 -	0.41	76.00	3.80
0.42 -	0.44	72.00	3.60
0.45 -	0.46	68.00	3.40
0.47 -	0.48	64.00	3.20
0.49 -	0.50	60.00	3.00
0.51 -	0.52	56.00	2.80
0.53 -	0.53	52.00	2.60
0.54 -	0.55	48.00	2.40
0.56 -	0.56	44.00	2.20
0.57 -	0.58	40.00	2.00
0.59 -	0.60	36.00	1.80
0.61 -	0.62	32.00	1.60
0.63 -	0.64	28.00	1.40
0.65 -	0.67	24.00	1.20
0.68 -	0.70	20.00	1.00
0.71 -	0.73	16.00	0.80
0.74 -	0.77	12.00	0.60
0.78 -	0.86	8.00	0.40
0.87 -	0.96	4.00	0.20
ABOVE	0.96	0.00	0.00

Measured Component Index Table

(Sheet 10 of 10)

11. AUDIT PROCEDURES (to be furnished later)

12. COMPILATION OF REGISTER READINGS

12.01 The use of output reports from computerized data processing systems should be used for this Plan whenever possible.

12.02 If, however, a specified busy hour for one or more performance indicators or measured components is not available from the data processing system, then manual recording will be required. Generally manual recording will also be required for the Blocked Dial Tone performance indicator, which is based on data from the D schedule.

12.03 Attached to this section on unnumbered pages are forms which may be used by the network administrator for the manual compilation of register reading data and the calculation of performance results for the following items in this Plan:

(a) Performance Indicators

Customer Digit Receiver Overflow (NSP-1)
Blocked Dial Tone (NSP-2)
Receiver Attachment Delay (NSP-3)
Trunk-to-Trunk Path Memory Overflow (NSP-4)
AMA Register Overflow (NSP-5)

(b) Measured Components

Receiver Overflow (NSP-6)
Office Overflow (NSP-7)

Note: These forms may be reproduced locally as required.

12.04 Forms E-4372 and E-6183 (which are included in the Traffic Service Observing Practices, Division F, Section 2) should be used for compiling Dial Tone Speed and Incoming Matching Loss results.

E-6421A

NO. 1 ESS
NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

PERFORMANCE INDICATORS

		A	B		C	D	E	
	Indicator	Failures	Base Item	Base Data	Performance	Threshold	Soft Spot	
	Machine Access							
1	C D R % Ovfl							1
2	Blocked Dial Tone							2
3	RADR							3
	Machine Switching							
4	Final Gp > 3% NC							4
5	Trunk Outage							5
6	Hardware Lost Calls		O + I PC/10K					6
7	% RO/NC		# of S O					7
8	Load Balance							8
9	Inc. Match Loss		Inc – Tdm BH PC					9
10	Maint Interrupts		O + I PC/10K					10
11	E.A. Planned							11
12	E.A. Unplanned							12
13	Equipment Outage		Total Equipment					13
14	Trk to Trk Mem Ovfl		T-T Mem BH PC					14
	Billing							
15	Hardware Lost Billing							15
16	AMA Register Ovfl		AMA Reg BH PC					16
17	Coin Control Failures		Coin Cont Seizures					17
	Customer Reports							
18	Code 7		/100 MS					18
19				Total No. of Indicators		Total No. Soft Spot (√)		19

MEASURED COMPONENTS

		F	G		H	J	K	L	
	Component	Max. Points	Failures	Base Item	Base Data	Performance	Component Index	Index Points	Band	
	Machine Access									
20	Dial Tone Speed	15								20
21	Receiver Overflow	5		Rec PC O+I BH						21
22	Restore Verify Failures	5		O+I PC/10K						22
	Machine Switching									
23	Trans Time-Outs	10		Trans or OG PC						23
24	Office Overflow	15		O + I BH PC						24
25	FCG & Supv Failures	10		O + I PC/10K						25
26	Receiver Time-Outs	10		Inc P C /10K						26
27	Equipment Irregs	5		# of S O						27
	Billing									
28	Non-Salvageable Entries	10		AMA Ent /10K						28
	Customer Reports									
29	Code 5 & 8 Equipment	10		/100 MS						29
30	Code 5 Frame	5		/100 MS						30

REMARKS

31						Total Points		31
32						Max. Available Points		32
33						Index		33

	M		N		P		R	
34	Prepared by		Generic Prog.		District		Company	34
35	Checked by		Control Grp.		Division		Period	35
36			Office		Area			36

Fig. 1—Form E-6421A

E6421B
(1)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

	A		B	C	D	E	F	G	H	
	Measured Component		WEIGHT	Total No. of Offices	Total No. of Ofc. Month Reports	Number and % of Office Mo. Rpt. by Index Band				
						A 100 – 98.0	B 97.9 – 96.0	C 96.9 – 90.0	D < 90	
1	MACHINE ACCESS	Dial Tone								1
2		Speed	15	% of Total						2
3		Receiver								3
4		Overflow	5	% of Total						4
5		Restore Verify								5
6		Failures	5	% of Total						6
7	MACHINE SWITCHING	Transmitter								7
8		Time-Outs	10	% of Total						8
9		Office								9
10		Overflow	15	% of Total						10
11		FCG & Supv.								11
12		Failures	10	% of Total						12
13		Receiver								13
14		Time-Outs	10	% of Total						14
15		Equipment								15
16		Irregularities	5	% of Total						16
17	BILL	Non-Salvageable								17
18		Entries	10	% of Total						18
19	CUST. REPORT	Code 5 & 8								19
20		Equipment	10	% of Total						20
21		Code 5								21
22		Frame	5	% of Total						22
23										23
24	Total Index		100	% of Total						24

PERFORMANCE INDICATORS

	J	K	L	M	N	P	R	S	T	U	V	W	X	Y	Z	AA	AB	
	Machine Access			Machine Switching										Billing			CTR	
	CDR % Ovfl	Blk Dial Tone	RADR	Final GP >3% NC	Trk Out	Hdw Lost Calls	% RO NC	Load Bal	IML	Mtc Int	EA Unpld	Equip Out	Trk to Trk Ovfl	Hdw Lost Bill	AMA Reg Ovfl	Coin Cont Fail	Code 7	
25	#Office Months																	25
26	#Soft Spot																	26

REMARKS

	AC	AD	AE	AF	AG	AH	
27	Office	District	Division	Area	Company	Report Period	27

Fig. 2—Form E-6421B (Sheet 1 of 2)

E-6421 B
(2)

NO. 1 ESS NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN

BAND D TRENDS

		Measured Component		Preceding Periods											
				1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
28	MACHINE ACCESS	Dial Tone Speed	No. of Offices												
29			% of Total												
30		Receiver Overflow	No. of Offices												
31			% of Total												
32		Restore Verify Failures	No. of Offices												
33			% of Total												
34	MACHINE SWITCHING	Transmitter Time-Outs	No. of Offices												
35			% of Total												
36		Office Overflow	No. of Offices												
37			% of Total												
38		FCG & Supv. Failures	No. of Offices												
39			% of Total												
40		Receiver Time-Outs	No. of Offices												
41			% of Total												
42		Equipment Irregularities	No. of Offices												
43			% of Total												
44	BILL	Non-Salvageable Entries	No. of Offices												
45			% of Total												
46	CUST. REPORT	Code 5 & 8 Equipment	No. of Offices												
47			% of Total												
48		Code 5 Frame	No. of Offices												
49			% of Total												
50	Total Index		No. of Offices												
51			% of Total												

BAND D OFFICES THIS PERIOD

	Office (or Month)	Measured Component Index												Performance Indicators	
		No. of Times in 12 Prev. Periods	Machine Access			Machine Switching					Billing	Cust. Report			
			DTS	Recvr Ovfl	Rst Verify Fail	Trans Time Outs	Office Ovfl	FCG & Supv Fail	Recvr Time Outs	Equip Irregs	Non-Sal Ent	5&8 Equip	5 Frame	Total No. Soft Spot	Total No. of Ind.
52															
53															
54															
55															
56															
57															
58															
59															
60															
61															
62															
63															
64															
65															
66															
67															
68															
69															

Fig. 2—Form E-6421B (Sheet 2 of 2)

E-6429

NETWORK SWITCHING PERFORMANCE MEASUREMENT PLAN
RECORD OF TEST FAILURE DEDUCTIONS

CENTRAL OFFICE _____ **TYPE** _____ **DISTRICT** _____

All failure deductions must meet the following conditions:

(a) A prior-to-the-fact MOP (Method of Procedure) covering the specific work which caused the scorings had been signed by the Installation Supervisor, the Central Office Supervisor and the Dial Administrator.

(b) The conditions which the installation forces introduced, and which caused the scoring of the failure counters, did not cause service failures.

(c) The failure counter scorings to be deducted are documented on Form E-6429, Record of Test Failure Deductions. The undersigned certify the above conditions were met.

(d) Only those scorings directly associated with equipment test list work operations for ESS offices can be deducted.

WECo. Installation Supervisor	Telephone Company C.O. Supervisor	Telephone Company Dial Administrator	Date

Date of Test Scorings	MOP Number	ESS ETL BSP Test Number	Plant Register Designation	Pre-Test Reading	Post-Test Reading	Total-Test Scorings

Remarks:

Fig. 3—Form E-6429

NSP-1(12-75)

NO. 1 ESS
Customer Digit Receiver Overflow

Entity_____ Busy Hour _____ Report Month _____ 19 ____

Date	Peg Counts			Overflows	CDR % OVF.	Exceeds Threshold	Remarks
	DP Group Reg.____	TT Group Reg.____	TOTAL (2) + (3)	OVF. Group Reg.____	$\frac{(5) \times 100}{(4) - (5)}$	(6) > 5%	
1	2	3	4	5	6	7	
Total						Days	Soft Spot (√)

NOTE: This form assumes the standard CDR configuration: DP and TT groups each route advancing to the overflow group. For any other arrangements, overflows on the CDR groups which are the final choice before entering CDR queue are entered in column 5.

NSP-2(12-75)

NO. ESS
TOTAL DAY % BLOCKED DIAL TONE

Entity _____ Report Month _____ 19 _____

Date	Originating Peg Count (OCN 014) Reg _____	Blocked Dial Tone Delays (OCN 087) Reg _____	Total Day % BDT (3) x 100 / (2) x 7	Exceeds Threshold (4) > .04%	Remarks
1	2	3	4	5	
TOTAL				DAYS	
				SOFT SPOT (√)	

NSP-3(12-75)

NO. 1 ESS
Receiver Attachment Delay Report

Entity _____ Report Month _____ 19____

Date	MF Rcvrs. (BH____)			DP Rcvrs. (BH____)			RP Rcvrs. (BH____)			Remarks
	TESTS OCN 217 Reg.____	DELAYS OCN 220 Reg.____	% DELAY (3) x 100 / (2)	TESTS OCN 223 Reg.____	DELAYS OCN 226 Reg.____	% DELAY (6) x 100 / (5)	TESTS OCN 229 Reg.____	DELAYS OCN 232 Reg.____	% DELAY (9) x 100 / (8)	
1	2	3	4	5	6	7	8	9	10	
Total										
Average										
High Grp. (√)										

NSP-4(12-75)

NO. 1 ESS
Trunk-to-Trunk Path Memory Overflow

Entity _____ Report Month _____ 19____

Date	Incoming Call BH _____			Tandem Call BH _____			Remarks
	TTM PC	Ovfls.	% Ovf.	TTM PC	Ovfls.	% Ovf.	
	OCN 034 Reg.____	OCN 035 Reg.____	(3) x 100 / (2)	OCN 034 Reg.____	OCN 035 Reg.____	(6) x 100 / (5)	
1	2	3	4	5	6	7	
Total							
Average							
High Hr. (√)							

NSP-5(12-75)

NO. 1 ESS
AMA Register Overflows

Entity_____ Busy Hour_____ Report Month_____ 19_____

Date	Detail Billed			Measured Rate			Remarks
	Peg Count	Ovfls.	% Ovf.	Peg Count	Ovfls.	% Ovf.	
	OCN 147 Reg.____	OCN 195 Reg.____	(3) x 100 / (2)	OCN 196 Reg.____	OCN 199 Reg.____	(6) x 100 / (5)	
1	2	3	4	5	6	7	
Total							
Average							
High Grp. (√)							

NSP-6(12-75)

NO. 1 ESS
Receiver Overflow

Entity _____ Busy Hour _____ Report Month _____ 19____

Date	Receiver Peg Counts				Receiver Overflows				Remarks
	MF Reg. ____	DP Reg. ____	RP Reg. ____	Total (2) + (3) + (4)	MF Reg. ____	DP Reg. ____	RP Reg. ____	Total (6) + (7) + (8)	
1	2	3	4	5	6	7	8	9	
Total									% Overflow

NOTES: % Overflow = $\frac{(9) \times 100}{(5)}$

NSP-7(12-75)

NO. 1 ESS
Office Overflow

Entity_____ Busy Hour_____ Report Month_____ 19____

Date	Originating Calls	Incoming Calls	Overflow Tone PC		Netw. Mgt. (NCA EA 1, 2)		Tandem (NCA ROA)		Deductible Overflows	Remarks
	OCN 014 Reg.____	OCN 015 Reg.____	Regular Overflow Reg.____	Common Overflow Reg.____	PC Reg.____	Ovfl. Reg.____	PC Reg.____	Ovfl. Reg.____		
1	2	3	4	5	6	7	8	9	10	
Total										% Overflow

NOTES: % Overflow = $\frac{(4) + (5) + (6) + (8) - (7) - (9) - (10)}{(2) + (3)} \times 100$