

**RECORD OF EQUIPMENT AND
TRUNKS OUT OF SERVICE
NETWORK OPERATIONS—COMMON METHODS
SUPPLEMENTAL INFORMATION—CENTRAL OFFICES**

CONTENTS	PAGE
1. GENERAL	1
2. DESCRIPTION OF NORMAL BUSINESS DAY	1
3. WHEN TO RECORD AND COUNT EQUIPMENT OUTAGES	2
4. HOW TO USE THE OUTAGE FORM . . .	3
5. ORDERING INFORMATION	4
 Figure	
1. Record of Equipment Outage	5

1. GENERAL

1.01 This section describes the method and the form to be used in recording details and in administering central office equipment which is out of service.

1.02 ♦This section is reissued to define the criterion by which a switching entity may qualify for abbreviated normal business day consideration. Arrows are used to identify significant changes in this section.♦

1.03 The purpose of recording equipment out of service is to indicate the availability of equipment for customer service and to enable administration of restoral work. Since it is probable that the removal of equipment from service during the normal business day will affect customer service, prompt restoral of equipment to service,

particularly for the busiest periods, should be a firm objective.

1.04 The outage control form described in this section will be used for keeping accurate records of equipment removed from service, so that the amount and duration of equipment outage can be readily determined and held to a minimum. This form shows the specific item of equipment affected, the duration of outage, and the serial number of the trouble ticket which should show details of the outage.

1.05 The outage control form is also used in connection with standard plans for measurement of switching service. The individual service results plan will specify use of normal business day (NBD) outage hours. If needed for a results plan, the NBD outage shall be recorded in the NBD column of the form, as herein described. If not needed for a results plan, it is nevertheless recommended that NBD outage be recorded and used for outage control administration.

2. DESCRIPTION OF NORMAL BUSINESS DAY

2.01 A normal business day (NBD) is generally the time period associated with a switching entity when outage may be expected to have a significant effect on service. NBD is not the same for all switch entities. The service results plan for each type of switching system that has equipment outage as a component defines the NBD (days and hours) applicable to that switching system. To determine the applicable NBD, reference should be made to the appropriate service results plan.

2.02 An abbreviated NBD is allowed for those offices which mainly serve a business community that largely terminates its activities

NOTICE

Not for use or disclosure outside the
Bell System except under written agreement

around 5:30 pm each day. The purpose of the abbreviated NBD is to allow outages without penalty during a known period of prolonged light traffic.

2.03 If permitted by the service results plan, the abbreviated NBD may be assigned to a switching entity upon written approval of the Area or State General Plant Supervisor (or equivalent) when the conditions described below have been met. The approval shall be reviewed and renewed no less than once a year. To make it available for audit purposes, a copy of the letter authorizing the abbreviated NBD shall be retained in the associated central office for one year.

2.04 Switching entity vintage compounded with various design and assignment practices of data collection devices (DCDs) prohibits specific designation of DCDs to be used for accumulating NBD data.

2.05 When a Telephone Company Network Administrator has determined that a switching entity satisfies the following criteria, the entity may be considered for abbreviated NBD status.

- (a) Network Switching Performance Measurement Plan (NSPMP) for the system entity provides deviation from the NBD.
- (b) DCDs are furnished and assigned from which hourly data can be obtained in the following traffic categories:
 - (1) Total originating peg count
 - (2) Total incoming peg count
 - (3) Total thru- (tandem) peg count.
- (c) Cumulative totals of 1, 2, and 3 above, less permanent signal and abandoned partial dial data recorded for the same period will be used to establish "total hour" peg count.
- (d) For a period of at least ten consecutive normal business days, a minimum of 80 percent of "total hour" peg count occurs between 9:00 am and 6:00 pm.

2.06 Before a request for such studies are made, it is recommended that the maintenance force evaluate from maintenance peg count registers the probability that the abbreviated NBD may apply.

2.07 Details of the study by the network administrator are to be included in the letter signed by the general plant supervisor (or equivalent) authorizing the abbreviated NBD for a switching entity.♦

3. WHEN TO RECORD AND COUNT EQUIPMENT OUTAGES

3.01 A record shall be kept of each item of equipment out of service for any reason except as permitted below.

3.02 The term "equipment" refers to any element of call-carrying equipment which, when removed from service, reduces to any degree the call-carrying capacity of the switching entity. ♦It also includes all "billing" equipment and duplicated units in stored program control systems such as No. 1 ESS Electronic Translator System (ETS), and Traffic Service Position System (TSPS).♦

3.03 The term "out of service," as used in this section, refers to equipment which has been made unavailable for selection and use on a call. The method of removal may be by the use of plugs, switches, keys, blocking devices, other deliberate means, or automatically through transfer devices or other common control features.

3.04 An item of equipment which is operating improperly shall be removed from service promptly. The equipment shall not be restored to service until appropriate tests show that it meets all performance requirements.

3.05 Any equipment that is removed from service for any reason for 9 minutes or less **and** where work related to the outage is in progress throughout the period need **not** be recorded. This is not a 9-minute exemption applying to all outages. If the outage extends beyond nine minutes, it shall be recorded as of the time the equipment was removed from service. The uninterrupted attention to equipment which has been made busy is illustrated in the following examples:

- **Permitted:** A marker is removed from service for 9 minutes or less for test. Such outage need not be recorded. If the outage lasts more than 9 minutes, a record shall be made as of the time the marker was removed from service.

Not Permitted: A register is removed from service for testing. Within 9 minutes, the testing work is interrupted for other work and the register is not restored to service during the interruption. This outage shall be recorded and must begin at the time the register was removed from service.

3.06 Sender out of service time due to sender trouble, tracing stuck senders, or holding by an operated Cancel Time Release key (or equivalent) is to be recorded and counted as outage except as excludable under the 9-minute rule.

3.07 Outages shall start at the time that action is taken to deny normal accessibility to the equipment. The time that the equipment is removed from service is to be recorded. If this time occurs outside of the NBD, the outage shall start at the beginning of the next NBD if the equipment is still out of service.

3.08 Outage time continues during NBD periods until the equipment is restored to service in a condition fully capable of performing its intended functions.

3.09 Items of common equipment which may be provided as so-called "maintenance spare" shall be treated as though provided for customer service. Outages of such equipment shall be recorded.

3.10 Items of equipment which have been provided solely for test or measurement purposes (loop-around test trunks, automatic progression trunk test [APTT], traffic usage recorder [TUR], etc) and which are not used to provide customer service shall be recorded. However, the elapsed outage time shall not be subject to NBD outage measurement. For example, an outage of a tone trunk is subject to NBD outage, while an outage of a loop-around test trunk or TUR is not.

3.11 Outages of equipment turned down by network design forces for special studies, network management, or local central office relief shall be recorded with a note showing authority such as name in the "Remarks" column, but not subject to NBD outage measurement.

3.12 When equipment is removed from service in connection with central office additions, modifications, and rearrangements, such outages

shall be recorded, but shall not be subject to NBD measurement when a formal written method of procedure (MOP) for that job has been prepared and agreed to by the Telephone Company. A copy of the MOP shall be retained in the office file for three months. Outage of equipment in connection with central office installation work not covered by a written MOP shall be recorded and shall be subject to NBD measurement. When a MOP is the basis for excluding outage measurement, the MOP number shall be entered in the "Remarks" column.

4. HOW TO USE THE OUTAGE FORM

4.01 Record all outages of equipment, including trunks classified as IA, IM, and MI, on Form E-4256, Record of Equipment Outages. Entries shall be neat, legible, accurate, and current. It is recommended that time entries be made using the 24-hour clock. NBD outage time should be entered in increments of tenths of an hour (Fig. 1).

4.02 Start a new form at the beginning of each report period (typically on the 23rd of each month). When more than one sheet is used during a report period, number the sheets consecutively in the space provided.

4.03 At the start of a new report period and a new form, first make entries for all equipment still out of service which has been recorded on the forms for the previous period. For each entry of the previous period forms which is thus brought forward, enter "BF" in the "Restoral to Service" space. Carefully check the "Restoral to Service" spaces on forms for the previous period to be sure that all unclosed entries are brought forward to the current form.

4.04 When any similar group of like plant items are removed from service at the same time, a single entry on the outage form will suffice. In the "Equip. and No." column, show the number of items of plant and encircle the number. When counting outage hours for this type entry, the NBD hours between the removal and restoral times must be multiplied by the number encircled.

4.05 The "NBD Outage" column is subdivided into two columns, "Plant" and "Other." The column "Plant" is provided for recording the elapsed outage time for equipment removed from service because of trouble or for tests, routine

work, rearrangement, or cross-connection work performed by the maintenance forces. The column "Other" is provided for recording elapsed outage time due to forces other than maintenance.

4.06 At the end of the report period, if need for a service results plan or other reasons, add the figures in the "NBD Outage" columns and record the totals in the space provided. If more than one sheet has been used, be sure to include the totals from all sheets.

4.07 In addition to providing the total NBD outage hours for the outage component of the various service results plans, the form provides for calculating the average NBD outage hours per outage. This can be used as an aid in controlling outage. To obtain this ratio, count the number of NBD outage entries and enter in the space provided. Divide the total NBD outage hours "Plant and Other," by the total number of outages. The quotient is the ratio and should be entered in the space provided.

4.08 At the start of each day, a review should be made of all entries on the previous day's

record which have not been closed out. At least weekly and preferable daily, an inspection of equipment and apparatus should be made to determine that the form accurately reflects the status of equipment and apparatus in the office. Discrepancies should be promptly investigated and appropriate tickets prepared, entries made, and action taken.

5. ORDERING INFORMATION

5.01 The form described in this section is packaged and ordered in the following manner:

PACKAGING INFORMATION

Form E-4256 — 25 forms to a package

ORDERING INFORMATION

Requisitions for this form, in multiples of the standard package units shown above, should be worded as follows:

(Quantity) Form-4256

RECORD OF EQUIPMENT OUTAGE

MONTH April 1972
SHEET 3 OF SHEETS

OFFICE OR MARKER GROUP 273+8

EQUIP AND NO.	TICKET NO.	OUT OF SERVICE					RESTORED TO SERVICE			N.B.D. OUTAGE		REMARKS	
		BY	REASON	REFERRED TO	DATE	TIME	DATE	TIME	BY	PLANT	OTHER		
MRKR #3	8	RC	NO SLK 2		3/31	0950	4/3	0820	WF	12	2		
OR #24	10	WE	Wrg #'s registered		4/3	1000	4/3	1048	WE		8		
DPOS #4	11	RC	STUCK - 393 #16	HJ 393	4/3	1012	4/3	1022	RC		2	REPAIRED SEE SHEET 2	
PRTR #10	15	WE	no tone sig		4/3	1126	4/3	1248	WE	14	0		
Marker #0	-	WE	W.E.C. modification		4/3	1300	4/3	1830	WE			Mop #4 3/22/72	
DTM #3	21	RC	BLOWN FUSE		4/4	0810	4/4	0820	RC				
APTX	23	WE	Can't start test frame		4/4	0400	4/4	1052	JM				
DTM #0	-	WE	Special Inf Study		4/4	1300	4/4	1400	WE			J. Smith Inf	
OR #16	28	WA	WRONG #'S REGISTERED		4/4	2109	4/4	2159	WA		8		
MFOS #3	-	RAA	WECC MOD.		4-5	0900	4-5	1100	RAA		2	0	NO MOP
A	6	TOTAL NUMBER OF OUTAGES		B.S.P. 201-114-001	B+C OUTAGE RATIO A = 5.0		TOTAL NUMBER OF N.B.D. HOURS			B	C		
										28	2		

Fig. 1—Record of Equipment Outage