

**SWITCHING SYSTEMS MANAGEMENT  
GENERAL ADMINISTRATION  
OFFICE ADDITIONS – METHODS OF PROCEDURE**

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**1.02 Scope:**

**1.02.1** It is not the intention of these Dial Facilities Management Practices to assign responsibility to other groups or departments, to direct their activities, or to dictate changes in their existing practices or procedures. Rather, it is intended that this information be used interdepartmentally and intercompany in developing improved methods and techniques for adding equipment to a working central office, and at the same time making adequate provisions for protection of service.

**1.02.2** This section will be limited to information associated with WECO installation activity relating primarily to general addition type jobs in switching systems. However, it is recommended that these or similar procedures be formulated for use with other types of installation activity (non-WECO) and additions of all types.

**1.03 Designation of Organizational Contacts:**

**1.03.1** Because of differences in organizational structure, specific titles of individual groups and departments are avoided. Instead, general descriptive or functional names are used. This type of format permits identification by the individual company of a particular organizational contact (or sequence of organizational contacts) responsible for the procedures described herein.

**1.03.2** For the purpose of this practice the following designations will be used:

- (a) The Telephone Company representative normally responsible for administration and utilization of switching equipment will be referred to as the "Network Administrator".
- (b) The Telephone Company representative normally responsible for requesting the provision of equipment (preparing the Traffic Order) will be referred to as the "Network Engineer".
- (c) The Telephone Company representative actually performing the equipment provision function and producing the output (preparing the authorization, placing the order, coordinating the job, etc.), will be referred to as the "Equipment Engineer".

(d) The Telephone Company representative normally responsible for the maintenance of the switching equipment will be referred to as the "Maintenance Supervisor".

(e) The Western Electric Company's Service Division does the majority of installation for Bell System Companies. The installation force will be referred to as "WECO".

**2. OBJECTIVES OF THE METHOD OF PROCEDURE**

**2.01 General:**

**2.01.1** The Method of Procedure (MOP) is a detailed step-by-step procedure covering all phases of the installation activity associated with a particular job. It must be reviewed, agreed upon, and signed by both Telephone Company and WECO representatives prior to starting any work on live equipment and other equipment deemed necessary by any of the Telephone Company representatives.

**2.01.2** A carefully planned and well thought out MOP is essential for work activities associated with equipment additions, changes and modifications.

**2.01.3** A properly followed MOP enables a job to be worked:

- (a) Effectively, with minimum or no service deterioration.
- (b) Efficiently.
- (c) Safely.

**2.01.4** Examples of work activities requiring a MOP are:

- (a) Junctor pattern changes.
- (b) Junctor reconfigurations.
- (c) Relocating trunks on trunk link frames.
- (d) Relocating trunks on trunk link networks.
- (e) Regrading working selector levels.
- (f) Modifying common control equipment.

- (g) Retrofitting new generic programs.
- (h) Power plant work.
- (i) Additions, changes, or modifications associated with traffic measuring devices.

2.01.5 The MOP may be a very formal document, or somewhat informal, depending upon the magnitude of the job and the desires of the organizational contacts. WECO Handbook 3, Section 5A, attached, is a sample of the basic work agreement required on all jobs.

2.01.6 The MOP in its final form is a written plan, concurred in and signed by WECO and the Telephone Company, defining:

- (a) What has to be done: e.g.,
  - (1) Major changes or additions involved.
  - (2) Sequence of adding or changing.
- (b) How the job will be done with provision for:
  - (1) Continuity and quality of service.
  - (2) Efficiency in WECO installation effort.
  - (3) Minimum interference with normal maintenance routines.
  - (4) Emergency restoral procedures.
- (c) It may also include references to in-service requirements, due dates for cross connection lists or translations, dates for advance turn-over, testing, etc., and other items deemed necessary by the organizational contacts.

## 2.02 *Service Protection From Equipment Failure:*

2.02.1 The MOP must provide for absolute minimum probabilities of service interruptions. The following items are pertinent:

- (a) The specific location of WECO activity.
- (b) The specific equipment activity with which WECO is involved.

(c) Reasonable assurance that WECO is following the MOP.

(d) Emergency restoral of equipment removed from service for modification.

(e) Service barometers (D.T.S., Matching Loss, Overflow, Group Busy, L.T.B., A.T.B., etc.) must be kept in service at all times during WECO activity.

(f) Manual readings *may be necessary* during critical periods to permit immediate analysis and corrective action when necessary.

2.02.2 Pertinent practices of other groups concerning prevention of service interruptions during periods of installation activity in central offices include:

- (a) BSP Sections 201-112-001, 800-614-150, and 802-005-180.
- (b) WECO Handbook O, Sections 10, 11, 12, 13, and 14.

## 3. RESPONSIBILITIES ASSOCIATED WITH MOP

### 3.01 *General:*

3.01.1 Responsibility for acceptable service to telephone customers must be shared by all telephone people as a part of their daily job.

3.01.2 Subordination of departmental interests may be necessary in placing service above all other considerations.

### 3.02 *Job Contact Committee:*

3.02.1 The Job Contact Committee is initiated for the purpose of coordinating the work of WECO and the operating Telephone Company departments and will take care of any problems arising during the equipment job.

3.02.2 Responsibilities of various departments and departmental representatives and their involvement in the Job Contact Committee are outlined later in this practice.

3.02.3 The initial meeting will be held at least one week before the start of the installation.

3.02.4 It may be desirable to form separate committees or subcommittees to cover the facilities or other portions of a complex job. When this occurs, there should be cross representation between committees by the respective chairmen.

3.02.5 The membership of the committee depends on the complexity of the job. The following shall be members for all types of jobs:

- (a) Equipment Engineer.
- (b) Maintenance Supervisor.
- (c) Network Administrator.
- (d) Network Engineer (as required).
- (e) WECO Supervisor.

3.02.6 When deemed necessary by the Equipment Engineer or any other member of the Job Contact Committee, a meeting should be convened.

3.02.7 The responsibilities of the Job Contact Committee are:

- (a) Insure close cooperation and liaison between Telephone Company and WECO representatives in following the MOP.
- (b) Provide and maintain a job schedule covering all work items.
- (c) Determine the extent of operating Telephone Company representation during the installation phase of the job.
- (d) Coordinate the field work of the departments represented.
- (e) When required, establish a Test and Analysis Committee (T & A) and set the date for the first meeting.

*Note:* On smaller jobs, the committee may assume the responsibilities of the T & A Committee.

- (f) In the first meeting of the Job Contact Committee, review the past three month's maintenance and Network indicators (Service Index, Service Results Index Summary, Dial Line Index, etc.). This will estab-

lish a basis of comparison during and immediately following completion of the job.

(g) In the first meeting review current in-service equipment requirements presented by the Network Engineer or Network Administrator. These data will be used by WECO in preparing and releasing working equipment and trunks.

(h) Establish procedures for removing working equipment and trunks from service.

(i) Review all detailed MOP's prepared by WECO with particular emphasis on procedures for preventing service interruptions and emergency restoration of equipment.

(j) Establish dates for: furnishing cross connection and translation assignments, cuts, rearrangements, transitions, allowing WECO access to working equipment, trunks, and test facilities.

(k) Insure that dust and dirt control measures are established.

(l) Insure that installation work progresses safely.

(m) Report progress of the job to the coordination committee. (This Committee's membership usually consists of District Level supervisors and is charged with the responsibility of directing the efforts of all departments to insure that work items will be completed on time.) (See BSP Section 790-100-420 for additional information associated with this committee.)

(n) Prepare and publish minutes of all meetings as a formal record of joint agreements and decisions.

(o) Determine frequency of future Job Contact Committee meetings.

### 3.03 *Traffic Order Preparation:*

3.03.1 All members of the Job Contact Committee can make significant contributions to the development of the MOP. Many of these contributions however, should begin early during the initial planning of the addition and are depend-

ant on joint efforts by the Network Engineer and the Network Administrator.

**3.03.2** Planning must begin before the Traffic Order is prepared. Information concerning transitions, advance turnover, placement, replacement or rearrangement of equipment, etc. should be included in the Traffic Order when possible, *because it might affect the way in which the WECO Engineer prepares the job specifications.*

Significant information might include:

- (a) Dates for advance turnover.
- (b) Time interval for transition or replacement.
- (c) Requested procedure for rearrangement.
- (d) Maximum equipment quantities available for modification.
- (e) Equipment distribution requirements.
- (f) When necessary, a detailed step-by-step procedure for doing a transition or rearrangement.

**3.03.3** The Network Engineer arranges a meeting with the Network Administrator prior to starting the preparation of the Traffic Order. Following are examples of items which should be reviewed and jointly resolved:

- (a) Office performance, past, present, and forecasted.
- (b) Data, past and present.
- (c) The need for and plans for obtaining special data if required.
- (d) Existing problems, such as overloads, and plans for correcting.
- (e) Any needs for advanced turnover of equipment and/or trunks. *It is essential that all equipment components, associated with an advance turnover request, be specified in detail in the Traffic Order.*
- (f) Determine rearrangements, relocations, replacements, modifications and trans-actions requiring equipment and/or trunk

outages, or resulting in reduced capacities.

- (g) Estimate allowable equipment and trunk outages, based on projected loads.
- (h) Using projected loads, determine line transfers, trunk relocations and/or rearrangements required to achieve load balance among frames and equipment groups.

**3.03.4** This early planning is essential to the preparation of an adequate Traffic Order and in many cases permits the detection of major problems that require an unusual provision of equipment to safely effect transitions; or special installation procedures; or a redistribution of office load. *When this is apparent, a suitable statement must be included in the Traffic Order to serve as a guide to the Equipment Engineer and the WECO job planner.*

**3.03.5** Only through a well planned and thorough Traffic Order can an adequate MOP be developed by the Job Contact Committee.

#### **3.04** *Network Administrator:*

**3.04.1** The Network Administrator can make significant contributions to the development of a MOP in the following areas:

- (a) *Review Traffic Order and Official Job Documents*
  - (1) The Traffic Order should be reviewed at the earliest opportunity with questions or problem areas being promptly resolved. Items of particular significance will include:
    - (a) The installation interval and date of completion.
    - (b) Special instructions to the Equipment Engineer and WECO.
    - (c) Service affecting work.
    - (d) Coordinating jobs.
    - (e) Working equipment and trunks that must be cleared before associated work activities can be performed: e.g.,

- (1) Reassociation of working L.L.F. supplements.
- (2) Conversion of Tip Translators to Ring Translators.
- (3) Relocation of working trunks.
- (4) Conversion of incoming register link frame to a different type of pulsing.

(2) Official Job documents such as equipment schedules, sequence lists, etc., used for reflecting official job dates (ship, start, advance completion, etc.), should be reviewed and discrepancies promptly resolved.

(b) *Cross Connections and Translations*

(1) Drawing Schedules — official job dates should be used to prepare a schedule for receiving WECO drawings required in the preparation of cross connections and translations. A generally accepted date for receiving drawings is six weeks prior to the job start date.

(2) Follow-Up Procedures — Procedures, including provisions for prompt action, should be established for use in the event drawing schedules are not met. Local procedures may require referral of these conditions to the Network Engineer, Equipment Engineer or WECO representative. This function is extremely important and failure in this area can, in some cases, result in jobs not completing as scheduled; if drawings are not received, cross connections and translations can not be prepared and furnished. The Network Administrator should maintain a record of activities and efforts in this area and furnish it to the Job Contact Committee at the initial meeting.

(3) Preparing and Furnishing — Schedules should be established for preparing and furnishing cross connections and translations. Dates for furnishing cross connections and transla-

tions vary by type of equipment. However, a generally accepted date for electro-mechanical systems is the job start date. ESS translations should be furnished at about the 50% and 90% points of installation.

(c) *Plans for Making Equipment and Trunks Available to WECO*

(1) Plan ahead for making available to WECO, equipment and trunks that are involved in rearrangements, relocations, modifications, replacements, transitions, etc.

(2) Prior to the initial meeting of the Job Contact Committee, these plans should consist only of the initial planning outlined in the Traffic Order Preparation section of this practice.

(3) At the initial meeting of the Job Contact Committee, the Network Administrator should obtain a list from the WECO representative defining the following:

(a) Equipment and trunks requiring outage time.

(b) Expected duration of these outages.

(c) Quantities of equipment and trunks desired to perform the various work operations.

(d) Time frames desired for performing the various work operations.

(4) The Network Administrator should promptly arrange a meeting with the Network Engineer. Joint determinations for outages, time frames along with any special procedures required should be finalized and furnished in writing to the Maintenance Supervisor, WECO representative and other representatives designated by the Job Contact Committee. This procedure eliminates unnecessary efforts by the Network Administrator and allows adequate time for this information to be used in the preparation of the MOP.

**(d) Office Balance**

- (1) Plan ahead for balancing line and trunk equipment groups.
- (2) Trunk reassignments associated with the balance of trunk equipment groups, normally will be finalized prior to the initial meeting of the Job Contact Committee since these must be included in cross connections and translations.
- (3) A general plan for line transfers should be available, however, at the initial Job Contact Committee meeting, the Network Administrator should obtain the following information:
  - (a) Dates for modifications, replacements, or transitions associated with line equipment groups.
  - (b) Dates for providing new line equipment groups.
  - (c) Methods for performing the work operations associated with items in (a).
- (4) The Network Administrator should promptly proceed with formulating finalized plans for line transfers, obtaining assistance from the Network Engineer, as required.

**(e) Load Service and Capacity Charts**

- (1) Charts, as necessary, should be completed and available at the initial Job Contact Committee Meeting.
- (2) Duplication of efforts by the Network Administrator and Network Engineer should be avoided. In some companies, load-service charts are prepared by the Network Engineer. In these cases, the Network Administrator should obtain a copy.

**(f) Load – Service Barometers**

- (1) Arrange for monitoring D.T.S., I.M.L., overflow, group busy, L.T.B., A.T.B., etc., data as required.

Manual data collection may be required in some cases.

**(g) Joint Tests**

Participate in determining and scheduling any joint tests in which the Network Administrator would be a participant. *The responsibility for determining that all equipment, including measuring devices, is properly installed and adequately tested lies with WECO, the Maintenance Supervisor, and the Equipment Engineer. The Network Administrator's role is to assist when necessary, primarily in the determination of tests required from a Network viewpoint. Involvement by the Network Administrator in the actual performance of tests should occur only in very exceptional cases (e.g., TUR continuity tests).*

**(h) Departmental Coordination**

Provide a single person contact for liaison and coordination with other groups (Toll, Directory Assistance, Intercept). Organizational structure and local desires should control the Network Administrator's involvement in this area.

**(i) Written Transition Plan**

If unusual equipment provisions or special installation procedures warrant, a written plan may be prepared for presentation at the initial or subsequent Job Contact Committee meetings. Feasibility of the plan should be explored prior to the meeting and alternates should also be developed. Plans must be approved by the Network Department District level Supervisor. The best service plan can be advanced for those items involving the Network Department's responsibilities if a positive approach is developed prior to the meeting.

**(j) Job Contact Committee**

- (1) The Network Administrator should always be a member of the Job Contact Committee and actively participate in the development of the MOP.

(2) The Network Administrator should determine, at the initial meeting of the Job Contact Committee, that the efforts of the Network Engineer and the Equipment Engineer have resulted in agreement between the WECO Job Specification and the Traffic Order — including special instructions, advance turnover, completion schedules, etc.

(k) *Miscellaneous*

The Network Administrator should:

(1) Be thoroughly familiar with the office and with all aspects of the job to be discussed. This may include coordinating jobs, previous or subsequent jobs, etc.

(2) Know the service results and loads since the last job, the current results and loads, and the predicted results and loads during the job interval.

(3) Have a conceptual view of Network Department responsibility: i.e., recognize problem areas not directly related to the immediate area of responsibility, such as:

- Switchboard facilities or operating procedures.
- Trunking problems associated with transitions, transfer of working groups, turndown of working equipment, loading new frames and equipment groups, testing and utilizing new equipment, marker cross connections and trunk orders, etc.
- Effects on working conditions, including those requiring labor-management discussions.
- Conflicts with pending Division of Revenue studies, trunk base studies, or any scheduled activity which preclude WECO proceeding in a normal manner with their work activity.

- Intercept service for single customer, a large centrex cutover, an area transfer, etc.
- New services such as TOUCH-TONE<sup>®</sup>, WATS, Computer Ports, Custom Calling Services, etc.

(4) References to practices of other Companies, groups, and departments, which may define their responsibilities, will give the Network Administrator a better understanding of the interdepartmental and intercompany responsibilities associated with Western Electric Company activity in making additions to dial central offices.

3.05 *Network Engineer:*

3.05.1 The Network Engineer should assure that the Traffic Order and the Equipment Order are in agreement. Any discrepancies (errors, omissions, etc.) should be resolved prior to the Equipment Engineer furnishing the Equipment Order to WECO. If discrepancies are detected after furnishing to WECO, they should be promptly resolved.

3.05.2 The Network Engineer should be a member of the Job Contact Committee as appropriate. Examples of areas where participation by the Network Engineer would be appropriate are as follows:

- (a) The initial meeting of the Job Contact Committee to assist in supplying input information pertinent to the preparation of the MOP.
- (b) The meeting for the purpose of approving the MOP.
- (c) Subsequent meetings dealing with revisions to the service affecting areas of the approved MOP or when established schedules appear to be in jeopardy.

3.06 *Western Electric Company:*

3.06.1 Utilizing input information furnished through the Job Contact Committee, WECO is responsible for preparing a MOP.

**3.06.2** Since any WECO activity in an office can prove to be service affecting, even items such as erecting equipment, running cable, etc., WECO is responsible for including procedures associated with all job activities in the MOP.

**3.06.3** WECO is responsible for identifying all known service affecting type operations, such as transitions, reduced capacities, equipment and trunk outages, etc., and noting them in the MOP.

**3.06.4** Strict adherence to the approved MOP by WECO is necessary to insure service protection and proper coordination by all groups.

**3.06.5** Removing equipment and trunks from service, testing, restoring to service, etc., must be in accordance with WECO Handbook instructions and procedures established by the Job Contact Committee.

**3.06.6** Transitions, rearrangements, replacements, etc., must be accomplished with a minimum interval of reduced capacity and with a minimum probability of service interruption, but consistent with reasonable job efficiency.

**3.06.7** WECO is responsible for promptly notifying the chairman of the Job Contact Committee when any established schedules appear to be in jeopardy. All associated conditions and causes should be furnished in sufficient time to allow for corrective action or alternate planning by the Job Contact Committee.

### **3.07** *Equipment Engineer:*

**3.07.1** The Equipment Engineer initiates the Job Contact Committee. On complex jobs, he normally serves as chairman. For minor jobs, the Equipment Engineer retains the overall job responsibility, but may delegate the Chairmanship to the Maintenance Supervisor (with Maintenance Department concurrence).

**3.07.2** The Equipment Engineer should assure that the Traffic Order and the Equipment Order are in agreement. Any discrepancies (errors, omissions, etc.) should be resolved prior to furnishing to WECO.

**3.07.3** The Equipment Engineer shall be responsible for assuring that the WECO Job

Specification is in complete accordance with Telephone Company requests for the job.

**3.07.4** The actual preparation of the MOP is the responsibility of WECO, however the Equipment Engineer has the prime responsibility for assuring that it is prepared, adequately and on schedule.

**3.07.5** The Equipment Engineer's duties as they relate to MOP's are covered in detail in BSP Section 790-100-240. The Equipment Engineer is generally responsible for:

- (a) Scheduling all required meetings associated with the job.
- (b) Providing liaison between the Telephone Company and WECO.
- (c) Ensuring WECO adherence to the MOP.
- (d) Economic aspects of the job: i.e., overtime, unusual transition methods, additional effort to avoid equipment and trunk outages, etc.
- (e) Arranging advance turnover of equipment.
- (f) Coordinating acceptance, turnover, and notification procedures.
- (g) Insuring the correction of drawing errors.

### **3.08** *Maintenance Supervisor:*

**3.08.1** The Maintenance Supervisor has the responsibility for physically removing equipment and trunks from service, testing, restoring to service, etc., during periods of WECO activity. These actions should be in accordance with the approved MOP.

**3.08.2** The Maintenance Supervisor maintains a log of equipment and trunk removal from service for any reason such as WECO activity and normal maintenance activity.

**3.08.3** During periods of WECO activity, the Maintenance Supervisor is responsible for maintaining a running record of where WECO is working and what equipment and/or trunks are

involved. This record is very useful when trouble is encountered.

3.08.4 The Maintenance Supervisor participates in joint tests, as required.

3.08.5 Certain cross connection, translations, and/or rearrangement work may be done by the Maintenance Supervisor.

3.08.6 In most cases, the Maintenance Supervisor is responsible for the performance and maintenance of the central office. Therefore the Maintenance Supervisor should ensure that day-to-day WECO work operations are in accordance with the procedures of the MOP. These efforts should assure an acceptable installation, one without service deterioration and one which results in the provision of properly tested equipment and trunks.

#### 4. DEVELOPMENT OF MOP

##### 4.01 *General:*

4.01.1 Proper planning in connection with a Method of Procedure is of primary importance in ensuring that risks are at a minimum and efficiency is at a maximum.

4.01.2 Assuring continuity and reliability of service during periods of activity connected with the installation, modification, or rearrangement of equipment by WECO requires the joint interest and is the responsibility of all Telephone Company representatives and WECO. The attainment of this objective requires full and continued cooperation prior to and during the activity period. A procedure generally found practical for attaining this objective involves a full discussion, at the initial meeting of the Job Contact Committee, concerning items such as:

- (a) Equipment to be added, modified, or rearranged.
- (b) Line equipment affected.
- (c) Choice of periods for taking working equipment out of service.
- (d) Amount and duration of equipment outage.

(e) Whether a change in working hours may be necessary because of service-affecting work.

(f) Method of accomplishing transitional work.

(g) Assignments, cross-connections, or translations required.

(h) Requirements and transitional procedures for all traffic measuring devices.

(i) WECO drawings and other information required, but not furnished.

4.01.3 The preparation of a proper Method of Procedure requires the joint interests and contributions of both the Telephone Company and WECO and involves the following processes:

(a) The Job Contact Committee meets to discuss all aspects of the job. Each representative furnishes input information pertinent to the preparation of the MOP.

(b) With the aid of this information, WECO develops a plan.

(c) The Job Contact Committee meets again and WECO proposes the plan.

(d) The plan is evaluated by all representatives:

(1) The Network Administrator assesses the impact on service. Special attention should be given to procedures requiring equipment outages, junctor pattern changes and to the adequacy of service dates associated with equipment required on an advance service basis.

(2) The Equipment Engineer examines the cost aspect as well as the sequence of the addition to insure that the MOP is in agreement with requests included in the specification and that all work operations are in accordance with the agreement required for the job.

(3) The Maintenance Supervisor evaluates the maintenance effort, testing and force requirements.

- (4) Other departments (Commercial, Accounting, Public Relations, etc.) are consulted as necessary.
  - (e) Adjustments are made based on contributions from all groups involved.
  - (f) A final MOP is agreed upon.
  - (g) The MOP is prepared in writing and is signed by appropriate levels of management in the departments involved. District level approval is recommended, especially in the Network and Maintenance Departments.
- 4.02 Timing:**
- 4.02.1** Timing of the installation interval is extremely important and should be considered in the preparation of a MOP.
- 4.02.2** Changes in the Commercial Department forecast of demand may force a change to an undesirable time interval.
- 4.02.3** The exhaust date of the installed equipment generally controls the period during which additional equipment will be installed.
- 4.02.4** Directory delivery dates are sometimes controlling if a large quantity of number changes are involved.
- 4.02.5** Transitional work may be confined to certain time periods on some jobs.
- 4.02.6** Replacement or modification of critical common control components may need to be scheduled for the least busy periods of the year: e.g., the replacement of flat-spring markers with wire-spring markers during the summer in a winter busy season office.
- 4.02.7** Where additions, rearrangements, and/or modifications of traffic measuring devices are required, care must be exercised in scheduling so that essential data are not lost. This will require positive control of out-of-service on TUR's, EADAS, traffic registers, cameras, DTS equipment, and all other traffic measuring devices. The Network Administrator shall furnish data requirements at the initial meeting of the Job Contact Committee and shall assure that all work operations associated with and/or involving all types of

measuring devices are adequately included in the MOP. *Network Department approval of a MOP will not be given unless work operations covering all activities associated with measuring devices are included.*

**4.03 Transitions, Rearrangements, and Modifications:**

**4.03.1** Service may be affected by transitions. Capacities may have to be reduced and measured results may be affected in varying degrees, according to the loads generated during the period of capacity reduction. However, the purpose of the MOP is to provide for the protection of service while the transition is accomplished.

**4.03.2** Transitional Methods of Procedure must provide for minimum capacity reduction for minimum periods of time. This requires a careful examination of all aspects of the job by all the groups involved.

**4.03.3** The Network Administrator must be alert to recognize work resulting in outages, reduced capacities and service deterioration and must exercise the necessary control to minimize the effects of these types of work operations.

**4.03.4** Methods of accomplishing difficult jobs should be explored prior to the initial Job Contact Committee meeting.

**4.03.5** The amount and duration of outages permissible should be determined to the extent possible, prior to the initial Job Contact Committee meeting.

**4.03.6** Equipment and trunks involved in transition, rearrangement, or modification work that is service-affecting should be identified and thoroughly discussed at the initial Job Contact Committee meeting. This will permit maximum time to establish necessary liaison and develop information required for proper job completion.

**4.03.7** Arrangements should be made as necessary to clear equipment for WECO activity so that service is not adversely affected if at all possible. Consideration must be given to other groups and departments in establishing dates for this work; e.g., clearing trunk equipment requires considerable time and effort to prepare and complete trunk orders.

4.03.8 Work of a service-affecting nature may require that incoming trunks be temporarily removed from service. These trunks may be from local, toll, tandem, switchboards, etc., and the administrative groups responsible for those entities will be affected and involved in the MOP. The Network Administrator must identify the other groups involved and must coordinate with them as necessary.

4.03.9 Control must be exercised by the Network Administrator in the release of equipment and trunks, in clearing working equipment, and in the monitoring of service.

4.03.10 Concurrence should be obtained from all groups involved on what is to be removed from service, how long it will be out of service, what effect it will have, and procedures for emergency restoral.

#### 4.04 *Loading and Balancing:*

4.04.1 Loading of equipment groups involved in rearrangement, modification, transition, etc., should be examined carefully. Evaluate the load before, during, and after the change.

4.04.2 Units being relocated from one equipment group to another, will reduce the overall capacity during the relocation, unless additional units or trunks (if provided) are added first. Trunk rearrangements involved with the relocation should be accomplished prior to or coincident with the relocation.

#### 4.04.3 Line Equipment Transfers:

(a) Line equipment transfers necessary to balance an office before, during, and after an addition must be planned well in advance and this plan adhered to during the job process. The balance in the office during specific time periods must be determined and examined carefully. Service predictions must be made and corrective transfers scheduled and completed as necessary.

(b) The number of lines to be transferred should be determined. A plan should be prepared, showing the required transfers spread over a recommended time interval.

(c) The Maintenance Supervisor should be consulted for concurrence in the timing and volume of the additional work load.

(d) Line Equipment Transfers should be prepared and executed within a minimum time interval to maintain optimum service levels.

#### 4.05 *Forecasting Service Levels:*

4.05.1 When a central office is involved with WECO activity, predictions of service are useful tools. These predictions may be referred to as "Before" and "After" for jobs completing during the busy season, or for a specific time interval where it is not possible to avoid reducing capacity during a transition. In these cases all appropriate levels of supervision should be advised of the estimated service deterioration and service penalty. Local policies may warrant otherwise, but it is recommended that Division Level supervisors be advised if these conditions are anticipated.

4.05.2 Predictions of service for a busy season are usually desirable for:

- (a) Keeping higher management informed.
- (b) Satisfying System requests for such predictions.
- (c) Properly evaluating the effects of WECO activity in an office.
- (d) Planning administrative routines.

4.05.3 Minimum permissible service levels during a period of WECO activity may be established by examining service for a comparable period when there was no such activity, or by planning so that service will be normal for the installation period.

*Note:* Should the predicted service levels for the installation period not be met, *immediate review of the MOP is needed.*

#### 4.06 *Load and Capacity Charts:*

4.06.1 Load distribution and capacity charts can be used by all departments involved in planning the procedures required for a job.

**4.06.2** These charts are useful in determining the allowable amount and duration of equipment and trunk outages as well as predicting service levels.

**4.06.3** Load Charts and Capacity Charts should be available on any job where WECO activity results in equipment outages, or capacity reductions that are service affecting. Jobs of a minor nature, with little or no transitional work, may not require such charts, but the Network Administrator should be prepared to provide them on request from either the Maintenance Supervisor or the Equipment Engineer.

*Note:* The use of these charts should not be misconstrued. Cooperation between all departments is both intended and is essential, however, the Network Administrator, with assistance from the Network Engineer, when required, is responsible for all capacity determinations during transitions.

**4.06.4** Since we can assume that all equipment must be in service on the higher days of the busy season, the charts should generally reflect loads and capacity for the average days when WECO will be removing equipment from service and reducing capacity.

**4.06.5** Caution should be exercised where component engineering is based on high day engineering concepts. Estimated loads and capacities for high days should be based in empirical data where possible.

**4.06.6** Estimates of equipment loads and requirements must be prepared for all components involved in service-affecting work.

**4.06.7** Loads should be estimated and then distributed or related, as necessary to the requirements of each specific job.

**4.06.8** Preparing these charts, estimating loads and predicting service levels for specific periods of time requires considerable skill in using the following tools:

(a) The written practices that are a guide in the application and interpretation of most of the other tools. These include Dial Facilities Management Practices and Traffic Facilities Practices.

(b) Basic or historical data that are available. These might vary from raw data to very sophisticated extractions of data. Empirical curves, trends, statistical confidence limits, busy hour determination studies, etc., may be available for analysis.

(c) Commercial forecasts of demand. This may require careful examination of the nature of the growth, especially if it includes growth of a volatile nature, such as Computer Ports, WATS, etc.

(d) The Traffic Order, Equipment Order requirements to WECO, estimates of trunking requirements, and any other locally published information that is useful for those purposes.

(e) Judgement based on experience is one of the most valuable tools available. It provides the reasoning ability and the logic that permit proper analysis of all other tools. Judgement permits us to recognize invalid data and tells us when a practice is not applicable, but it is most valuable in guiding us when we have neither valid data nor applicable practices.

#### **4.06.9** Load Distribution Charts:

(a) Estimates of load which might be included in a Load Distribution Chart are:

(1) Hourly distribution of office load as a percent of the office busy hour load.

(2) Hourly distribution of component load as a percent of the component busy hour load. All significant hours should be included. Separate distributions should be prepared for each component.

(3) Physical quantity of component installed.

(4) Hourly component requirements.

(b) Load Distribution Charts should be prepared, as necessary, for time periods as dictated by the requirements of a particular

job. Typical time periods might be as follows:

- (1) Each day during a critical portion of the installation interval.
  - (2) A typical Monday (or any other weekday) during a busy season.
  - (3) A weekend when a transition or a critical job step is taking place.
  - (4) A monthly distribution of the load over the busy season may also be useful. Each month may be related to the ABS (average of the three highest months).
- (c) The various distributions of load and relationship of each hour to the BH may be determined from previous BH determination studies, from special studies, or from any source of available historical data.

#### 4.06.10 Capacity Charts:

- (a) Capacities should be shown for all components involved in WECO installation activity, and for varying quantities of equipment.
- (b) These capacities may be matched against estimates of load for varying periods of time, to determine the most suitable time for reducing capacity in the office and for determining quantities of equipment that may be safely removed from service.
- (c) Separate capacities should be shown where a change in capacity occurs during an installation because:
  - (1) A transition, regrade, or rearrangement is done.
  - (2) Additional equipment is placed in service ahead of time to:
    - (a) Augment overloaded facilities.
    - (b) Facilitate transitions, rearrangements, or modifications.
- (d) ABS-BH Capacity Tables may be found in the appropriate sections of Traffic

Practices or in the Poisson Tables for most equipment components. These Capacity Tables were developed to fit a broad spectrum of offices, therefore they have a built-in margin of protection.

- (e) ABS-BH capacities may be estimated for those few cases where no table capacities are available. The Facilities Capacity Determination section of the Dial Facilities Management Practices should be helpful in preparing these estimates. Assistance may also be obtained from the Network Engineer.
- (f) When a component capacity is desired for a specific day, or a prediction of service for a service component for a specific day is necessary, reference may be made to a high day table, if available.

#### 4.07 Traffic Measuring Devices:

4.07.1 Traffic Measuring devices provided in accordance with current engineering and administrative concepts represent a considerable investment and are expected to return that investment by providing data needed for:

- (a) Better control of equipment outage.
- (b) Better estimates of equipment loads.
- (c) Empirical load-service curves for establishing component capacities.
- (d) Development of load charts for use during periods of WECO activity.

#### 4.07.2 Traffic measuring devices include:

- (a) Traffic registers for accumulating counts from many sources, such as peg count, overflow, group busy, totalizers, usage, etc.
- (b) Usage measuring devices of many kinds, the most common of which are the various types of traffic usage recorders.
- (c) Various mechanized systems, such as Traffic Data Recorder System, which translates counts into printed outputs or formats suitable for input to more sophisticated mechanized programs. Most of these systems have the capability of combining and

manipulating the various counts prior to printout.

**4.07.3** *It is incumbent upon all members of the Job Contact Committee to ensure efficient utilization of the investment in traffic measuring devices.* This requires continuity of operation as well as validity of output, before, during, and after periods of WECO activity. It should be recognized that additional equipment and trunks, circuit improvements, modifications, and rearrangements require installation activity in these measuring devices. During this activity, occasionally it may be necessary to remove the devices from service for short periods of time. *Efficient and required utilization of measuring devices can only be accomplished if all associated work operations, including the addition of new equipment and trunks, are detailed and adequately included in the MOP. A MOP not containing measuring device procedures should not be approved by the Job Contact Committee.*

**4.07.4** With the aid of input information furnished by the Job Contact Committee, WECO shall include procedures in the MOP for:

- (a) Connecting new equipment and trunks to all associated traffic measuring devices and performing all required tests prior to the new equipment and trunks being placed in service.
- (b) Circuit improvements and modifications, including time frame for those requiring measuring devices to be out of service.
- (c) Rearrangements of measuring devices and/or associated equipment and/or trunks, including time frames for these work operations.

**4.07.5** While the cooperation and assistance of all members of the Job Contact Committee is both intended and essential, the Network Administrator has the specific responsibility for:

- (a) Assuring that the out-of-service time:
  - (1) Is kept to an absolute minimum; e.g., done on an "In-Service" basis, while modifications of the TUR for the Traffic Data Recorder System may re-

quire its temporary removal from service.

- (2) Does not interfere with scheduled studies. (Division of Revenue, trunk base, etc.)
- (3) Does not jeopardize results for the Ten High Days of the year.
- (4) Is scheduled nights, weekends, outside the busy hour, etc., as necessary.
- (b) Concurring in, or establishing of, the time during which the measuring devices may be out of service, if necessary.
- (c) Participating in determining and scheduling any joint tests required to ensure validity of results when the devices are restored to service.
- (d) Providing the assignment and cross-connection information necessary to facilitate the work required on these devices.
- (e) Notifying other traffic groups, which may be represented by the Network Administrator, and obtain their concurrence in the proposed procedures if required.
- (f) Arranging for supplemental readings, as necessary, on other devices during the out-of-service period.

## 5. ASSIGNMENT, CROSS-CONNECTION, AND TRANSLATION INFORMATION

### 5.01 *General:*

**5.01.1** Increased sophistication in the newer facilities arrangements and new customer services increases the complexity of assignment, cross connection, and translation information required by the Maintenance Supervisor and WECO in adding to a central office. Service contributing to this complexity include:

- (a) CENTREX.
- (b) TOUCH-TONE®.
- (c) WATS.

- (d) CCSA.
- (e) Dial Tone First (DTF).
- (f) TSPS.

5.01.2 Generally accepted procedures and formats exist for communicating this information to the Maintenance Supervisor and WECO.

5.02 *Types of Information Required:*

5.02.1 Various types of assignment, cross connect, and translation information are required to successfully implement a central office addition. Some typical examples of the information required are:

- (a) TUR, TDR, EADAS, traffic registers, DTS test terminals, etc., in step-by-step and crossbar offices.
- (b) ROTS, selectors, grading, etc., in step-by-step offices.
- (c) Marker class of service, number groups, outgoing senders, incoming registers, etc., in crossbar offices.
- (d) Three digit translators, line class codes, chart columns, rate and route patterns, etc., in ESS offices.
- (e) Detail trunk assignments in all types of offices.
- (f) Designation strips and multiple assignments for cord switchboards.

5.03 *Responsibilities of the Network Administrator:*

5.03.1 The Network Administrator is responsible for coordinating, preparing, and furnishing assignment, cross connect, and translation information for use by the Maintenance Supervisor and WECO.

5.03.2 The Network Administrator is responsible for determining the information required. Assistance from the Equipment Engineer, Maintenance Supervisor, and WECO may be necessary in some cases, especially those involving new features or services.

5.03.3 Other responsibilities of the Network Administrator might include:

- (a) Participation in formulating interdepartmental schedules for significant additions.
  - (1) Dates must be established and confirmed to ensure proper interdepartmental coordination.
  - (2) Other groups must be notified. Items must be rescheduled, as necessary.
- (b) Continued follow-ups.
- (c) Updating of schedules.
- (d) Representation at meetings.
- (e) Distribution of schedules and minutes.
- (f) Liaison with other departments, etc.

5.04 *Preparation of Information:*

5.04.1 Preparation of assignment and cross connection information should be handled in accordance with local organization, policy, and instructions.

5.04.2 The format in which this information is prepared varies widely. Locally agreed upon formats are suitable; they should be acceptable to the Equipment Engineer, Maintenance Supervisor, and WECO, however, and should not be easily misinterpreted.

5.05 *Distribution of Information:*

5.05.1 Distribution of assignment, cross connection, and translation information should be in accordance with local instructions.

5.05.2 Network Department information for WECO will usually be handled by the Equipment Engineer.

5.05.3 Information for the Maintenance Supervisor will usually be handled in accordance with normal interdepartmental routines.

6. ADVANCE TURNOVER OF EQUIPMENT

6.01 *Reasons for Advancing Equipment:*

6.01.1 It may be necessary to have WECO complete and turn over to the Telephone Company certain equipment and/or trunks prior to the scheduled completion date for the job. In most cases requests for advanced service will have been included in the Traffic Order, Equipment Order, and WECO Job Specifications. In some cases however, conditions may have developed since the issuance of these documents which also require equipment and/or trunks on an advanced basis. Some reasons warranting advanced service might be:

- (a) A change in demand requiring additional line equipment and/or directory numbers.
- (b) To avoid overloading the office because:
  - (1) The estimated load has increased.
  - (2) The job has been delayed beyond a critical point.
- (c) To facilitate a rearrangement of existing facilities.
- (d) To permit an early redistribution of the load.
- (e) Involvement of other departments, coordinating jobs, building work, etc.

#### 6.02 *Arrangements for Advance Turnover:*

6.02.1 The Equipment Engineer is responsible for authorizing all work performed by WECO and therefore must be involved and concur in all advance turnover requests.

6.02.2 The request for advance turnover of equipment and/or trunks should always be made in writing to the Equipment Engineer.

6.02.3 The best arrangement to ensure advance turnover of equipment and/or trunks is to insert the request in the Traffic Order. Details may be included, as necessary.

6.02.4 Recognition of need and early notification are essential for WECO to plan the job installation properly.

6.02.5 Should conditions develop, which warrant advance turnover not previously requested

by the Traffic Order, the Equipment Engineer should be contacted promptly. The Equipment Engineer should make every effort toward obtaining the requested advance turnover including transition details in the MOP.

6.02.6 To ensure coordination, all cases of advance turnover should be thoroughly discussed at the initial meeting of the Job Contact Committee. Items to be considered might include:

- (a) Scheduling of joint tests.
- (b) Traffic measurements on advanced equipment.
- (c) Advancing assignment, cross-connection, or translation information.
- (d) Coordinating work required.

#### 6.03 *Planning for Advances:*

6.03.1 The Network Administrator should notify all groups involved when equipment is to be placed in service ahead of time. Interdepartmental notification may be required for some situations involving Accounting, data processing, methods, etc.

6.03.2 Arrangements may be necessary for issuing orders in advance for the following:

- (a) Trunk orders to utilize new trunk equipment on an advance frame.
- (b) Line equipment transfers to achieve balanced loads among old and new frames.
- (c) Service orders for connects on new frames.

6.03.3 The Maintenance Supervisor should be alerted at the earliest opportunity, to permit prewiring and to plan the work load.

6.03.4 Plans should be made to expedite the loading of new frames and equipment groups received on an advance basis from WECO. Unfavorable impressions are created and the service advantage is lost unless such advance equipment is promptly utilized.

**6.04** *Follow-Up On Advances:*

**6.04.1** The Equipment Engineer is responsible for coordinating schedules for advance turn-over and therefore should check the progress toward meeting these previously agreed upon schedules, as necessary.

**6.04.2** The Network Administrator, along with all members of the Job Contact Committee should be kept aware of the progress toward providing advance turnover of equipment and/or trunks.

**6.04.3** Cooperation between all departments and a complete awareness at all times of the status of the job will ensure satisfactory results.

**6.04.4** Advance equipment should not be placed in service until all associated traffic measuring devices are connected and tested. *Existing data may be seriously compromised if a portion of the load is placed on new equipment with no measurement.*

**7. ACCEPTANCE AND NOTIFICATION**

**7.01** *Responsibilities:*

**7.01.1** The Equipment Engineer normally has responsibility for the acceptance of all equipment, including measuring devices, and trunks added to a central office.

**7.01.2** The Maintenance Supervisor normally has the responsibility for notifying the Network Administrator of the availability of new equipment and trunks. The Maintenance Supervisor should further, take the necessary action to ensure that all new equipment and trunks are placed in service properly and in a trouble free condition.

**7.01.3** The Network Administrator is responsible for the prompt utilization of new equipment and trunks in a uniform and economical manner; a manner which will ensure optimum customer service.

**7.02** *Traffic Measurements:*

**7.02.1** The Network Administrator is responsible for collecting, validating, and furnishing

traffic measurements on equipment and trunks, both old and new. Assistance from the Equipment Engineer, Maintenance Supervisor, and WECO is essential in fulfilling this responsibility.

**7.02.2** Tests should be scheduled and performed, as necessary, to ensure proper recording of equipment and trunk data:

(a) Joint tests should be scheduled on large additions or whenever necessary.

(b) Extensive testing should be scheduled out-of-hours or weekends to avoid interference with scheduled data accumulation.

(c) Complete continuity tests should be made on additions, as well as anytime necessary.

**7.02.3** The Job Contact Committee should take all necessary actions to ensure that new equipment and trunks are properly associated with traffic measuring devices and tested, prior to being placed in service.

**7.02.4** The results of all tests should be recorded and distributed to all interested groups.

**7.03** *Utilization:*

**7.03.1** Appropriate utilization of additional central office equipment will ensure optimum service. This requires good planning and coordination among all groups involved:

(a) Trunk orders must be issued at the proper time.

(b) Line equipment transfers must be planned and prepared ahead of time.

(c) Plans for new service offerings must be coordinated with the availability of new or additional equipment.

(d) Timely notification of all departments and groups involved is essential for full use of additional facilities.

**8. CONCLUSION**

**8.01.1** The most effective method that can be used for a successful transition is one

developed through communication, group involvement, and planning. Areas of mutual responsibility have been identified to the extent necessary for Network Administration personnel to clearly recognize them.

8.01.2 No amount of written material can describe or anticipate every condition that might occur. In addition to good planning, "judgment" will be the most valuable tool that the Network Administrator will use in the final analysis.

## 9. REFERENCES

### 9.01 *Attachments:*

9.01.1 Attachment 1 is WECO Handbook 3, Section 5A which covers the requirements and format for preparing a written Method of Procedure. At present, WECO Handbook Sections for No. 5 Crossbar switching system contain preprinted forms for use in the preparation of the MOP. Consideration is being given toward similar forms for use with other types of switching systems.

*Note:* The WECO Handbook Section attached, is the current issue as of the date of this practice. Later issues are to be obtained locally. A standing order may be placed for WECO Handbook Sections through the local WECO Distributing House.

9.01.2 Attachment 2 is a chart reflecting involvement and responsibilities in the "Office Addition Process". The functions listed are general and to the extent possible are listed in the order which they should be performed. The purpose of this chart is to provide an overall view of the "Office Addition Process" and to serve as a check list. Use of this chart should be accompanied by references to the appropriate sections of this practice.

### 9.02 *Sources*

9.02.1 References to other practices will provide assistance and should be made, as necessary, to aid in the preparation of an adequate Method of Procedure for the various types of switching systems. These may include, other sections of the Dial Facilities Management Practices, Traffic Facilities Practices, WECO Handbooks, etc. Following are some which, in total or in part, may prove helpful:

<u>Reference Source</u>	<u>Subject</u>
DFMP, Div. E	Data Administration
DFMP, Div. G, Sec. 2	Traffic Measuring Devices
DFMP, Div. H	Switching Systems Management:
Sec. 1b	Administration
Sec. 2	Step-by-Step
Sec. 3	Panel
Sec. 4	No. 1 Crossbar
Sec. 5	No. 5 Crossbar (2 Wire)
Sec. 6	No. 1 ESS (2 Wire)
Sec. 7	No. 1 ESS (4 Wire)
Sec. 8	No. 1 ESS (ADF)
Sec. 9	No. 1 ESS (4 Wire-Toll)
Sec. 10	No. 2 ESS
Sec. 11	No. 5 Crossbar (4 Wire)
Sec. 12	Crossbar Tandem
Sec. 13	No. 4 Crossbar
Sec. 14	Community Dial Offices
TFP, Div. A, Sec. 1	Traffic Characteristics and Probability Theory
TFP, Div. B	Load Measurement Facilities
TFP, Div. D	Dial Facilities
Sec. 1	General Considerations
Sec. 2	No. 1 Crossbar
Sec. 3	Panel System
Sec. 4	Local Step-by-Step
Sec. 5	Community Dial Offices
Sec. 6	Crossbar Tandem
Sec. 7	No. 4A and 4M Crossbar
Sec. 8	No. 5 Crossbar
Sec. 9	Toll Step-by-Step
Sec. 10	No. 1 ESS (2 Wire)
Sec. 11	No. 1 ESS (4 Wire)
Sec. 12	No. 2 ESS
TFP, Div. G	Trunk Facilities
TFP, Div. K	Line and Trunk Assignment
BSP 201-112-001	Methods of Procedure — Plant
BSP 790-100-420	Scheduling and Coordination
BSP 800-614-150, Issue 4	General Installation Requirements
WECO Handbook 3, Sec. 5A	Method of Procedure

METHOD OF PROCEDURE

Attachment I

CONTENTS

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1. GENERAL

1.1 Scope of Section

1.11 This section covers the requirement and format for preparing a written Method of Procedure which is a detailed step-by-step procedure for a particular job which has been agreed upon and signed by both the Telephone Company and Western Electric Company representatives.

1.2 Purpose and Responsibility

1.21 The purpose is to record all installing operations on any live equipment and to establish a detailed method of procedure. The installer shall have the responsibility of preparing this document in writing. A form of this document may be prepared by the PECC in which case the installer shall verify that all items have been covered according to this section

1.3 Requirements

1.31 Before starting any work the Western Electric Company, installer shall contact the Telephone Company's representative, who will arrange with the plant and traffic representative, to discuss the work involved and assign dates and hours for start and completion of the various operations. These discussions are to be held as frequently as it is found necessary in order to protect the equipment and to assure the progress of the installation.

1.4 Installers Preliminary Work

1.41 The installer shall do as much work as possible, such as removing or placing cables as required, fan and connect cable ends where practicable without causing interference with live equipment. In some cases certain preliminary operations essential for a step may be outlined in connection with a step. However, this is not to be interpreted as meaning that any additional preliminary work found necessary or feasible should not be done.

1.5 Work Intervals

1.51 All work will be done between the hours covered in the procedure as agreed upon at the time of discussion with the Telephone Company. Work on common current supply should be performed between midnight and 6 A.M. Common current supply equipment is that equipment such as Batteries, Motor generator sets, Ringing machines, Rectifiers, Power Boards, Distributing Panels, Fuse Panels, Bus Bars, Power Cables, and Carrier Supplies.

2. BASIS OF INSTALLATION

2.1 In-Service

2.11 In those cases where the Western Electric Company can work on the equipment that is kept in service, the work is done on what is known as an "in-service" basis.

2.111 In some cases the working equipment can be made busy permitting the Western Electric Company to make changes.

2.112 When it is found necessary to have working equipment made busy, it will first be made busy in the standard manner by a representative of the Telephone Company.

2.113 When the work involved removes the busy condition, placed by the Telephone Company, the installer shall supplement this condition in a nonstandard manner.

2.114 When equipment is made busy, and held busy by a temporary nonstandard arrangement only, the installer will not remove busy condition or return equipment to service without the approval of the Telephone Company.

2.115 Upon completion of a step or a portion of a step, the installer will remove all busy conditions as required, except those that are placed by the Telephone Company.

2.116 It is the Telephone Company's responsibility to remove the busy conditions placed by them when returning equipment to service.

### 2.2 Out-of-Service

2.21 In those cases where the Western Electric Company can work on the equipment only when it is removed from service, the work is done on what is known as an "out-of-service" basis.

### 2.3 Temporary-Out-of-Service

2.31 In those cases where the Western Electric Company can work on the equipment during certain periods of time, due to the release of equipment by temporary routings, etc., the work is done on what is known as a "temporary-out-of-service" basis.

## 3. PRELIMINARY PREPARATIONS

### 3.1 General Information

3.11 The installer shall assemble all available information associated with the job. Job papers should be analyzed and new and old drawings compared to learn the extent of the modification or addition. He should specify Handbook 0, Section 10, 11, 12, 13 and 14 (safety precautions and protection), and Handbook 22 Section 10, 11, 20, 40 and 60 (if power work is involved) to prevent a possible service interruption.

3.12 All locations involved should be verified and marked in a temporary manner for easy identification.

## 4. FORMAT AND DETAILS OF PREPARATION

4.1 All information will then be recorded on Forms SD-4-2850. (Ordering information is included in Handbook 250 Section 0). See Exhibits A, B, C, D and E. A copy shall be available to the installer at all times.

### 4.2 General Information

4.21 Include a general outline of the entire equipment affected, work location, major equipment to be added or removed, general notes and other information as required.

### 4.3 Detailed Steps

4.31 For each step or group of steps show the dates, the start and complete time, the type of protection and where it will be used and any special precautions that must be observed. Next explain in detail all the work to be done in the step, how it will be done and indicate that portion of the work that will be the responsibility of the installer or the operating company.

4.32 The detailed step should follow a logical sequence of process based on the following considerations:

- (a) Equipment that will be required first.
- (b) The sequence of steps that will provide advance equipment for service.
- (c) The amount of work that can be done and still provide a margin of safety for returning released equipment to service within the specified time.
- (d) Work that can be done without affecting live equipment such as erecting, cabling, wiring, connecting, adjusting and testing.
- (e) Work that must be done at night within the specified hours.
- (f) ECP's or DCS's associated with live equipment.
- (g) Work done on an "in-service" basis.
- (h) The type of test and test equipment required during and at the completion of each step.

### 4.4 Items Not Specifically Mentioned

4.41 Rearrangement of auxiliary equipment (Testing, monitoring and alarm circuits) not specifically outlined, shall be taken care of, in general as part of the step covering the associated major circuit. Exceptions to this are noted under the step affected.

## → 5. DISTRIBUTION

5.1 Sufficient copies should be distributed to Telephone Company engineer and Plant and Traffic representative personnel for their information. When agreement has been reached signed copies shall be returned to the installer for the job and area supervisor files.

## 6. CHANGE IN PROCEDURE AFTER WORK HAS STARTED

6.1 When a change in the orderly procedure of the work is necessary due to unforeseen circumstances, a conference with the Telephone Company's representative shall be held at once to determine the extent of the change and its possible effect on service and job.

6.2 If it is agreed to continue the work on a changed basis, this agreement shall be indicated on a revised Method of Procedure.

→ Arrowed lines indicate new or changed information.

Manager, Engineering Practices

## ATTACHMENT

Exhibits A, B, C, D and E on pages 3, 4, 5, 6 and 7.

SD-4-2850

Page 1 of \_\_\_\_\_ Pages

METHOD OF PROCEDURE

AUTHORIZATION

Town \_\_\_\_\_ Office \_\_\_\_\_ Date \_\_\_\_\_

Start-Date \_\_\_\_\_ Time \_\_\_\_\_ Completion-Date \_\_\_\_\_ Time \_\_\_\_\_

W.E. Co. Order No. \_\_\_\_\_ Tel. Co. Spec. \_\_\_\_\_

Type of Plant \_\_\_\_\_

General Description of Work \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

This job has been reviewed and agreement reached on items listed on Page 2 of this Method of Procedure.

Responsibility for supervision of this job is assigned to ---

W.E. Co. Supervisor \_\_\_\_\_ Title \_\_\_\_\_

Tel. Co. Supervisor \_\_\_\_\_ Title \_\_\_\_\_

M.O.P. Prepared by (W.E.Co.) \_\_\_\_\_ Date \_\_\_\_\_

The undersigned approve this step by step procedure starting with Page 3. No changes shall be made without the approval of the Telephone Co. Plant Manager and the Western Electric Company Supervisor.

Concurred in by W.E. Co. Supervision

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

Approved by Tel. Co. Representative

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

PLANT DEPT.

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

TRAFFIC DEPT.

\_\_\_\_\_ Title \_\_\_\_\_ Date \_\_\_\_\_

TELEPHONE ENGINEERING

EXHIBIT A

METHOD OF PROCEDURE  
CHECK LIST OF PERTINENT ITEMS

Work should not start on this order until this form and the M.O.P. have been signed by the Telephone Company representative.

Place a check in brackets as each of the following items are discussed and agreed upon:

- ( ) 1. Equipment to be installed or removed.
- ( ) 2. Compatibility of the proposed equipment with existing equipment.
- ( ) 3. What working equipment might be affected.
- ( ) 4. When working equipment may be taken out of service.
- ( ) 5. Proximity of power plants and distributing systems.
- ( ) 6. Who shall remove fuses.
- ( ) 7. Portion of job that will require detailed Method of Procedure.
- ( ) 8. Steps requiring the presence of a Telephone Company supervisor.
- ( ) 9. Alarms to be disconnected, and when.
- ( ) 10. Records and drawings to be corrected.
- ( ) 11. Protection of equipment; floors, walls, etc.
- ( ) 12. Storage of tools and material.
- ( ) 13. Safety precautions.
- ( ) 14. Service restoration procedure and responsibilities in the event of an interruption.
- ( ) 15. Locations of select and government circuits.
- ( ) 16. Other pertinent factors.
- ( ) 17. Detailed step-by-step procedure Is ( ), Is Not ( ) required.

Western Electric Handbook "O", Sections 10, 11, 12, 13 and 14, Handbook 3, Section 9.2, Handbook 22, Sections 10, 11, 20, 40 and 60 (if power work is involved) and BSP-201-112-001 outline requirements, practices, precautions and procedures to be followed by Western Electric installer during the installation period.

We, the undersigned, have discussed the details on this page and have reached agreement on those applying to this installation.

	Date _____		Date _____
For Western Electric Co.		For Telephone Co.	

METHOD OF PROCEDURE

STEP-BY-STEP PROCEDURE

The following steps in doing this job must be followed in the order listed. Deviations from the procedure shall not be made without the approval of the Telephone Company supervisor who signed Page 1.

The following important items must be specifically included as steps in this procedure:

1. Special safety precautions required.
2. The restricted hours (period) that work may be done.
3. Service releases required - - when and by whom released. When and by whom restored.
4. Insulated tools required.
5. Location of spare fuses.
6. Check operation of associated fuse alarms prior to start of the job.
7. Fuses and leads to be removed, tagged and verified, and by whom.

General Information, Precautions, Notes, Check Lists, Reference to Instructions and Drawings, and the Step-by-Step Procedure follows. Each Item must be checked off as completed and initialled by the Telephone Company representative before proceeding to the next item.

If, after completing Page 1 and 2, the Telephone Company Plant Manager and the Western Electric Company Supervisor agree that a detailed step-by-step procedure is not required to prevent a service failure, a statement, below, to that effect will complete this M.O.P.

STEP #	RESPONSIBILITY	
	TEL. CO.	W.E. CO.







RESPONSIBILITIES AND INVOLVEMENT  
IN THE OFFICE ADDITION PROCESS

Division H  
Section 1 b (8)  
November 1974  
Attachment 2

FUNCTION (X indicates individual and/or joint responsibility)	REPRESENTATIVE					
	NE	NA	EE	MS	WI	WE
Plan for Traffic Order	X	X	-	-	-	-
Prepare and furnish Traffic Order	X	-	-	-	-	-
Prepare authorization & Equipment Order	-	-	X	-	-	-
Ensure complete agreement between Equipment Order & T.O.	X	-	X	-	-	-
Furnish Authorization & Equipment Order	-	-	X	-	-	-
Review T.O., promptly resolve questions; problems	-	X	-	-	-	-
Prepare & furnish WECO Job Specifications	-	-	-	-	-	X
Prepare & furnish WECO drawings	-	-	-	-	-	X
Review schedules & procedures associated with drawings	-	X	-	-	-	-
Ensure complete agreement between WECO Job. Spec. & T.O.	-	-	X	-	-	-
Prepare load & capacity charts, as required	X	X	-	-	-	-
Prepare & furnish assignment, cross connect, translation information	-	X	-	-	-	-
Initiate Job Contact Committee	-	-	X	-	-	-
Provide liaison between Telco & WECO Representatives	-	-	X	-	-	-
Attend meetings & supply Input Information to Job Contact Committee	X	X	X	X	X	-
Determine allowable equipment & trunk outages	X	X	-	-	-	-
Finalize plans for any required line & trunk transfers	X	X	-	-	-	-
Prepare written traffic plan, if required	X	X	-	-	-	-
Prepare MOP	-	-	-	-	X	-
Approve MOP	X	X	X	X	X	-
Perform installation activities in accordance with MOP	-	-	-	-	X	-
Ensure WECO adherence to MOP	-	-	X	X	-	-
Arrange for advance turnovers; subsequent follow-ups	-	-	X	-	-	-
Promptly notify Job Contact Comm. if schedules in jeopardy	-	-	-	-	X	-
Remove equipment & trunks from service, test, restore	-	-	-	X	-	-
Maintain log of all equipment & trunk outages	-	-	-	X	-	-
Maintain running record of location of WECO work activity	-	-	-	X	-	-
Ensure effective utilization of all Measuring Devices	-	X	X	X	X	-
Monitor service barometers	-	X	-	-	-	-
Coordinate acceptance, turnover, notification procedures	-	-	X	-	-	-
Participate in joint tests as required	-	-	-	X	X	-
Test & place in service, new equipment & trunks	-	-	-	X	-	-
Notify N.A. of availability of new equipment	-	-	-	X	-	-
Utilize new equipment & trunks	-	X	-	-	-	-

NE-Network Engineer; NA-Network Administrator; EE-Equipment Engineer; MS-Maintenance Supervisor; WI-WECO Installation; WE-WECO Engineering