DIAL FACILITIES MANAGEMENT PRACTICES
ENGINEERING AND ADMINISTRATION DATA ACQUISITION SYSTEM
IMPLEMENTATION—COORDINATION

CONTENTS PAGE

FIGURES

DIAL FACILITIES MANAGEMENT PRACTICE

ENGINEERING AND ADMINISTRATION DATA ACQUISITION SYSTEM

IMPLEMENTATION—COORDINATION

1. GENERAL

1.01 This practice covers the activities required to establish a precutover implementation coordination plan. This section complements TFP Div. B, Sec. 9-b. The content of this section presupposes that the Operating Telephone Company (OTC) has conceived a valid overall EADAS strategy which includes a series of corporate policy decisions regarding the ultimate configuration of the system. This section presumes that the policy decisions concerning long range schedules and intermediate objectives of this Total Network Data System (TNDS) have fully saturated the respective lower managerial layers.

1.02 This section assumes that: the Central Control Unit (CCU) will be administered by a Network Operations group (formerly Traffic); and the central computers for processing of the Traffic Data Administration System (TDAS) and the down stream programs, i.e., Trunk Servicing System (TSS), Trunk Forecasting System (TFS), etc., are within the general domain of the Accounting/Comptroller's Department.

1.03 Whenever this section is reissued, the reason for the reissue will be listed in this paragraph.

1.04 References in this section to methods, planning, data requirements, service levels and equipment quantities are based on American Telephone and Telegraph Company recommendations.

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

1.06 A general description of EADAS is available in TFP Division B, Section 9-a, Jan. 1974.

2. SCOPE

2.01 Included in this section will be a suggested makeup of an overall coordination committee, a recommended approach to establishing an "opening of business" Central Control Unit (CCU) Staff, a training plan, a general recommendation for the items to be included in a Program Evaluation Review Technique (PERT) chart and the portion of implementation relative to installing, testing, and verifying the EADAS.

3. IMPLEMENTATION COMMITTEE

3.01 It is strongly recommended that as soon as the decision has been made to install an EADAS an interdepartmental implementation (cutover) committee be formed with a clear charge based upon the policy decisions discussed in 1.01. It is hoped that several key members of this group also participated in the justification studies for the system. This is desirable from a "follow through" aspect.

3.02 This committee should provide the basic quantities and types of offices with appropriate data collection apparatus (DCA) to initialize the EADAS to the engineering group prior to an order being issued to the Western Electric Company. In order for the committee to arrive at a viable system configuration, the overall EADAS plan, which is also presumed to have been conceived in the planning stage, should be readily available.

3.03 The makeup of the committee may vary depending upon the departmental location of the various functions which are necessary to the implementation of this system. In this discussion, the requisite functions are identified. It is up to the Operating Telephone Company (OTC) to specify the actual organization in which the function is embedded. It is recommended that this group consist of first and second-level managers.

3.04 The functions and positions to be considered in the formation of this committee are as follows:

(a) Operations/Service/Maintenance

(1) Present data collection administrator

(2) CCU Administrator and/or Project Manager

(3) Staff Dial Administration

(4) Staff data collection representative from each State/Area to be served by EADAS.

(5) Training representative

(6) Maintenance representative(s) for:

(a) Central Control Unit maintenance

(b) Facility coordination

(c) Various types of data collection apparatus in this EADAS

(d) Building Services (Environmental Support)

(7) Network Management (if system is to supply output to EADAS NM)

(b) Engineering

(1) Equipment

(2) Office Layout and Design

(3) Building and Power

(4) Network design for:

(a) Trunking

(b) Switching

(5) Customer Service

(6) Plant Extension

(7) Transmission

(c) Accounting/Comptroller's

(1) Central processor production group for TDAS

(2) Programming

(3) Mag tape Administration

(4) Output data link/communications (if not collocated)

(d) Administrative Services

(1) Official Communications (for Private Lines from Switchers to CCU, order wires and message telephone).

(2) Administrative support (supplies, form maintenance, duplicating and mailing capability).

(3) Personnel Management

(e) Western Electric

(1) CCU installation

(2) Data collection apparatus installation

Note: Several of these functions do not require fulltime representation, for example, the building engineer's representative would not be needed after the location has been properly constructed nor the personnel expert after the CCU organization has been dimensioned with appropriate job descriptions written and hiring for the initial organization completed.

3.05 The Coordination (Working) Committee should either have the designated CCU representative as chairman or co-chairman with the leading engineering representative.

3.06 The frequency of the committee meetings as a whole should be discussed at the kickoff meeting. Experience has shown it to be beneficial that a regular monthly date should be planned, with adjustments made as needed by the chairman. It is presumed that the various subcommittees would meet as often as is needed.

3.07 A high priority objective of the initial meeting of the Coordination Committee is the complete agreement of the members as to the specific functional responsibilites of each representative and the period during which the formal committee will assume overall responsibility. The committee should be maintained as an accountable organization at least through the end of the post cutover evaluation phase. The reason for this is that if any part of EADAS is found unacceptable for service, during the evaluation, the committee should provide the resources necessary to resolve the problem(s).

3.08 In order to help identify and assign the specific items to be included in the overall

charge to the Coordination Committee, it is recommended that either a Program Evaluation Review Technique (PERT) Chart application in concert with a critical path concept or a Project List by major area be utilized in the Coordination Committee activities. Either mechanism will be helpful in tracking the progress of all the items needed to bring about an effective cutover of an EADAS.

3.09 PERT, combined with a critical path of each item is a method of coordinating, sychronizing, and managing the various parts of a project to complete it with a minimum of delays, interruptions and conflicts. It allows an implementer to see the total scope of a project, to identify major objectives, and to see the relationship between and among all objectives. It identifies each work function that requires time and resources for its completion. Every activity or work function should have a scheduled start and completion time. The PERT concept entails building a basic time line to be used as a track for following the progress of the subprojects needed to effectively cutover a system and meet the objective deadline. The time line should be stepped backwards from the overall project completion objective date so that the known installation and ordering times may be plotted. Quite obviously a diligent posting of all the subprojects associated with cutting over an EADAS will require a fairly large chart or sequence of many associated charts. It enables the Coordination Committee's leadership to follow the progress or lack of it on the EADAS' cutover path. Fig. 1 shows a simplified reduction of a PERT application.

3.10 An alternative to utilizing the PERT method is to control the progress of the cutover using the project list concept. This is similar to PERT in that each item enumerated in 3.11 must be included on a list instead of a chart. There is some feeling that this mechanism facilitates broader review in that each list can be used readily in many forums whereas PERT may be difficult to utilize except in a central point. Application of the project list method lends itself to customized identification which reflects the exigencies of a specific installation. Each list should tell a progress story almost on a "stand alone" basis. Fig. 2 illustrates a single list on one item (CCU).

3.11 The following list includes areas that should be considered in defining a cutover plan. Each OTC will have unique considerations so this listing should not be presumed to be inexhaustive.

(a) Operational organization agreement

(1) Define total roles to be performed in CCU group i.e. EADAS—TDAS exception report analysis, etc.

(2) Dates for hiring initial group.

(b) Training Plan for operational and maintenance personnel

(1) Includes availability of training materials and a proposed schedule for providing training for CCU personnel including the administrator's course, CCU clerical course and DA course. Note: All types may have to be scheduled several times to cover all who have a "need." There are several maintenance OJTs as well as formal training courses for each component of EADAS except for the outside vendor manufactured portion of the CCU.

(c) CCU

(1) Building items including:

- Floor Plans—raised, carpeted, storage space
- Power—emergency wakeup, separate supply, alarms
- Lighting—emergency supply
- Environment—heat & temperature support systems, alarms
- If commercial building—security aspect

(2) Hardware items:

- Arrangement of line printer and TTY
- Provision and plan for optional equipment
- Spare parts storage
- Testing capability in CCU space
- Provision and storage of testing equipment

(3) Defining and entering initial System Definitions:

(d) Switching Location Data Devices & Modifications.

(1) Hardware

- OTDC modifications
- ESS data port
- TUR modifications
- ETDC installation

(2) Assignments to all DCAs

(3) Verification of data apparatus through

- TUR verification
- Register dumps

(e) Data Links

(1) Facilities

(2) Testing capabilities

- Is CCU in Telco Bldg or commercial?
- In CCU space/Tstbd?

(f) Teletype Assignments

(1) Where to locate (16 max.)

(2) TTY Links including testing

(g) TDAS/Common Update

(1) TNDS Plan

(2) Accounting interface items

(3) Simplified Input Documentation from dial administrators

(h) Downstream Users

(1) Understanding new system—capabilities and constraints

(2) Effect on report schedules

(3) Transition from present to EADAS era

(i) Maintenance responsibility—telco—Digital Equipment Corporation (DEC) for

- Data Links
- DCA's
- TUR's, DTS, SADR
- Data sets
- CCU equipment

(1) Provision for remote alarms

(j) Miscellaneous

(1) Administrative forms and supplies

(2) General equipment items—furniture, fixtures and office devices.

(3) Spare parts, test equipment, maintenance documentation

Note: In addition to identifying start and complete dates for each of these topics, where a lengthy time is involved, benchmarks within a specific topic might be useful in the path to completion.

4. STEERING COMMITTEE

4.01 Coincident with the sub-district level coordination committee, it has been found prudent to activate a third or fourth level "steering committee" to assist in policy decision interpretation, in personnel assignments and in assistance in expediting the resolution of items involving higher authority such as funding authorities. The make-up of this steering committee is similarly dependent upon the departmental structure of the Operating Telephone Company (OTC) but at a minimum there should be a representative from the equipment engineering organization, and from the operational group that will ultimately administer and maintain the system. There may also be a need for a representative from the data processing group which will receive the EADAS mag tape. The actual size of the steering committee will vary but its ability to fully contribute to the cutover should

not be compromised by the lack of appropriate people.

4.02 This committee might consider establishing a minimum quarterly meeting schedule with more frequent meetings on an "as needed" basis. The committee will probably have a need to meet more frequently in the quarters preceding and following the cutover. In the first instance, to forestall any jeopardy situations and in the latter case, to evaluate the effects of and recommend, as appropriate to higher authority, changes in the basic policy decisions.

5. CCU ORGANIZATION

5.01 One of the major responsibilities which the Coordination Committee should delegate to a subcommittee is the personnel or organizational recommendation for the initial staffing, training and the setting up of administrative aspects of the Central Control Unit (CCU) location. The subcommittee should have a specific understanding on which departmental organization will be assigned the on-going operational responsibility for running this data system. If clarification of responsibilities or policies are required, the steering committee referred to in 4.01 should be available.

5.02 Critical considerations in both the make-up of the organizational subcommittee and in any resultant personnel recommendations they might make will be dependent upon several policy decisions:

(a) Are the CCU operational and maintenance functions going to be combined in one group:

(1) Is an outside vendor Digital Equipment Coorporation (DEC) contract also a consideration?

(2) Is the centralized maintenance concept as described in Section 4-i of this series to be implemented?

(b) Does the EADAS plan indicate any additional functions are to be accomplished at the CCU, i.e.

(1) Report analysis

(2) Service report preparation and distribution

(3) Overlap operational responsibilities for other similar minicomputers such as EADAS NM.

(c) Hourly coverage/availability requirements should be predefined. In other words, during off hours, are qualified people to be either in the CCU space or reasonably available such as at the plant maintenance center.

(d) In order to start out with a lean, efficient organization, is there a plan to establish a backup pool of qualified operators to assist during "flap conditions" or during sickness and vacation intervals or should these be provided for in the primary organization?

5.03 Assuming a joint CCU organization of operations and maintenance, the subcommittee should consist of the CCU Administrator if previously appointed or a representative of the department predetermined to have the ultimate operational responsibility, a maintenance representative and a personnel department supervisor with job description/evaluation and training expertise.

6. CUTOVER METHOD OF PROCEDURE

6.01 One of the more significant output documents of the Coordination Committee should be a detailed method of procedure (MOP) for use in the installation, testing and verification of equipment at the CCU location as well as the switching location input data device locations.

6.02 The CCU Cutover MOP should be based on the following references:

(a) An Overall EADAS Plan

(b) Standard BSP (see Operational Maintenance Section 4-i.)

(c) Engineering Specifications for CCU and the Building

(d) Maintenance Plan—CCU and field locations

(e) WECO Handbook Acceptance Tests

(f) CCU Staffing Plan

(g) Mag Tape Administrative Plan with EDP

(h) DEC manuals

6.03 The CCU Administrator should contribute to and support the appropriate maintenance group(s) in designing a telco acceptance plan of both the CCU and of all new data collection apparatus of modifications of existing devices. In addition to the requisite BSP's, it is urged that significant portions of the WECO handbook tests be followed.

6.04 The CCU Administrator will need to arrange for a DA/Users consensus to determine the initial set of complete System Definitions (see DFMP, Division D, Section 4-g). This will require that all participants in the consensus be fully oriented in the capabilities and constraints of EADAS. The time required to achieve this consensus will be dependent to a large degree upon the present method of collecting data.

6.05 By utilizing the System Definitions, and by applying the Surveillance procedures spelled out in DFMP, Division D, Section 4-h, the CCU Administrator and the "cutover involved" dial administrators will be able to write a game plan to test all EADAS features including hourly reports, exception reports and demand reports. In addition, various utility commands and similar tests of EADAS should be made as part of a systematic verification of proper system operation.

6.06 The CCU Administrator and the Accounting data processing coordinator should similarly have conceived procedures to evaluate the flow of the mag tapes between EADAS and TDAS. In addition, in the cutover procedures, tapes including known data problems should be run through the interface programs to test the standard exception reporting capability of TDAS.

6.07 The Committee should develop communications procedures among the CCU, CCU maintenance (including appropriate outside vendors), the switcher locations, the data link maintenance group, the TDAS production group and the PECC. Within EADAS, the TTY links may be used. Included in this aspect should be a "call-out" list with office and home numbers to obtain prompt assistance as needed.

6.08 Where there is an existing mechanical data collection system being replaced by EADAS, the Coordination Committee should provide a transitional data collection plan that may suggest a short dual collection interval while EADAS is initially being evaluated. There is also a consideration where conversion to TDAS is being accomplished in about the same time frame. It may be necessary to effect a software interface with either the present system into TDAS or from EADAS into the present data processing system for the overlap interval.

7. CENTRAL OFFICE CUTOVER MOP

A. General Cutover MOP

7.01 The Central Office (CO) Cutover MOP should be defined by the Coordination Committee soon after the EADAS Plan has been designed. It should supplement the CCU Cutover MOP in that the CCU will need to be in its acceptance stages before any 'end to end' tests are implemented from each central office. If a variety of data collection apparatus' (DCA) will be passing data to the CCU in the initial stages of EADAS, then it is encumbent to provide a plan for each type of DCA, i.e., ETDC, TURC, PCC, ESS, or outside supplier. In addition a slightly different approach in ETDC offices should be considered where the TUR's are being partially or wholly supplanted by the new ETDC.

7.02 A significant portion of the general CO Cutover MOP, should provide for a well-thought out schedule by which the CCU may be progressively loaded with working channels. Each CCU Administrator's group will gradually become more proficient in assisting in cutting in new DCA's. Similarly, there are different levels of field experience which should be considered in this loading schedule such as installation and testing data collection and data link maintenance. These variables coupled with varying degrees of training of the contributory people have shown the following average time intervals to be generally reasonable:

(a) ETDC's—one per week

(b) OTDC's (TURC & PCC)—two per week presuming they were working on previous system, one if new DCA's.

(c) ESS—two per week

7.03 It is strongly urged that the CO cutover include provision for a complete TUR verification check. This may be accomplished by WECO or by a local data verification team consisting of both maintenance and administrative personnel.

See BSP 252-122-502, Iss. 1 for the No. 4A TUR Verifier procedures.

7.04 The general CO cutover plan should include the identification and training of the appropriate dial administration and maintenance forces. Should a central maintenance effort for an EADAS be established as suggested in Section 4-i of this series, there are still specific responsibilities for central maintenance groups which should be identified. The plan should also outline trouble ticket procedures by which installation related problems are followed to resolution. A further consideration should be the provision of spare parts and the availability of adequate test equipment at the DCA locations. See TFP Division B, Section 9-b.

7.05 The dial administrative forces should be given benchmark dates for completing critical data converter assignments and for completing their customized system definitions such as: which schedules will be utilized, what hourly reports are appropriate to their offices, what specific threshold schedules should be applied on their entities and what calculations should be entered for exception reporting.

7.06 If the EADAS Plan provides for remote ETDC's homing on another ETDC, then specific cutover planning should include the various EADAS features included in this situation such as entity definitions, detector test procedures, exception reports, delivery of reports, and the like.

7.07 If an EADAS Plan provides for the utilization of PDT 1A remote terminals, then the autocall capability in the CCU needs to be included in the testing of these remote devices. See BSP 252-115-103.

7.08 The early determination of local switcher maintenance responsibilities needs to be addressed in the same respect as at the CCU. This determination should include the relationship of the DCA maintenance group with the CCU maintenance force. It should include coverage availability as well as a provision for spare parts storage and the proper test equipment.

B. Individual Central Office (CO) Cutover MOP

7.09 Each DCA location data team consisting of the dial administrator, the maintenance supervisor responsible for the DCA and the related equipment should meet with the CCU Administrator and CCU maintenance representative to initiate a specific cutover plan for that office's entry into EADAS.

7.10 A significant portion of this CO MOP should provide for basic training and orientation in the capabilities and constraints of EADAS. In this training plan, full use of the standard DA EADAS training course is highly recommended. It is based upon DFMP, Div. D, Sec. 4f and TFP, Div. B, 9b. These include assignment requirements, software features available to the DA, output reports and their significance, and the relationship of EADAS to the Total Network Data System. It may be appropriate for local policies and procedures of an EADAS to be fully explored with each DA representative. It is best to clarify these before service starts.

7.11 The assignment lists for loading the EADAS Traffic Data Converter (ETDC)'s or other DCA types should be based upon the recommendations included in TFP Division B, Section 9-b. These assignments become all the more critical in an EADAS utilizing remote ETDC's or which intend to utilize the Network Management features when they become available. Although the original assignments may be a portion of the traffic order for the ETDC, it is mandatory that the assignments be totally reviewed to ensure accuracy and currency. Much of the utilization of the EADAS is dependent upon these assignments.

7.12 The CCU Administrator and central maintenance supervisor should arrive at a remote testing schedule for each ETDC or similar device. Ample time should be allowed to check hardware, authenticity of assignments and that the full EADAS DA TTY capabilities as identified in DFMP, Division D, Section 4-f are operational prior to the desired cutover date. These checks are fairly straight forward. The CCU should be able to work with several ETDC's simultaneously.

7.13 The specific hardware items which should be identified in the cutover MOP are dependent upon the switching location arrangement of data collection devices. These may include:

(a) TUR lead verification

(b) ETDC or OTDC

(c) Outside vendor data terminal

(d) Data link to CCU

(e) DA TTY and facility to CCU

(f) Remote TUR/ETDC space alarms To DA quarters

SUGGESTED SIMPLIFIED EADAS PERT CHART, (3.09)

SERVICE DATE: JULY 1, 1976

DFMP, DIVISION D
SECTION 4D
FIGURE 1

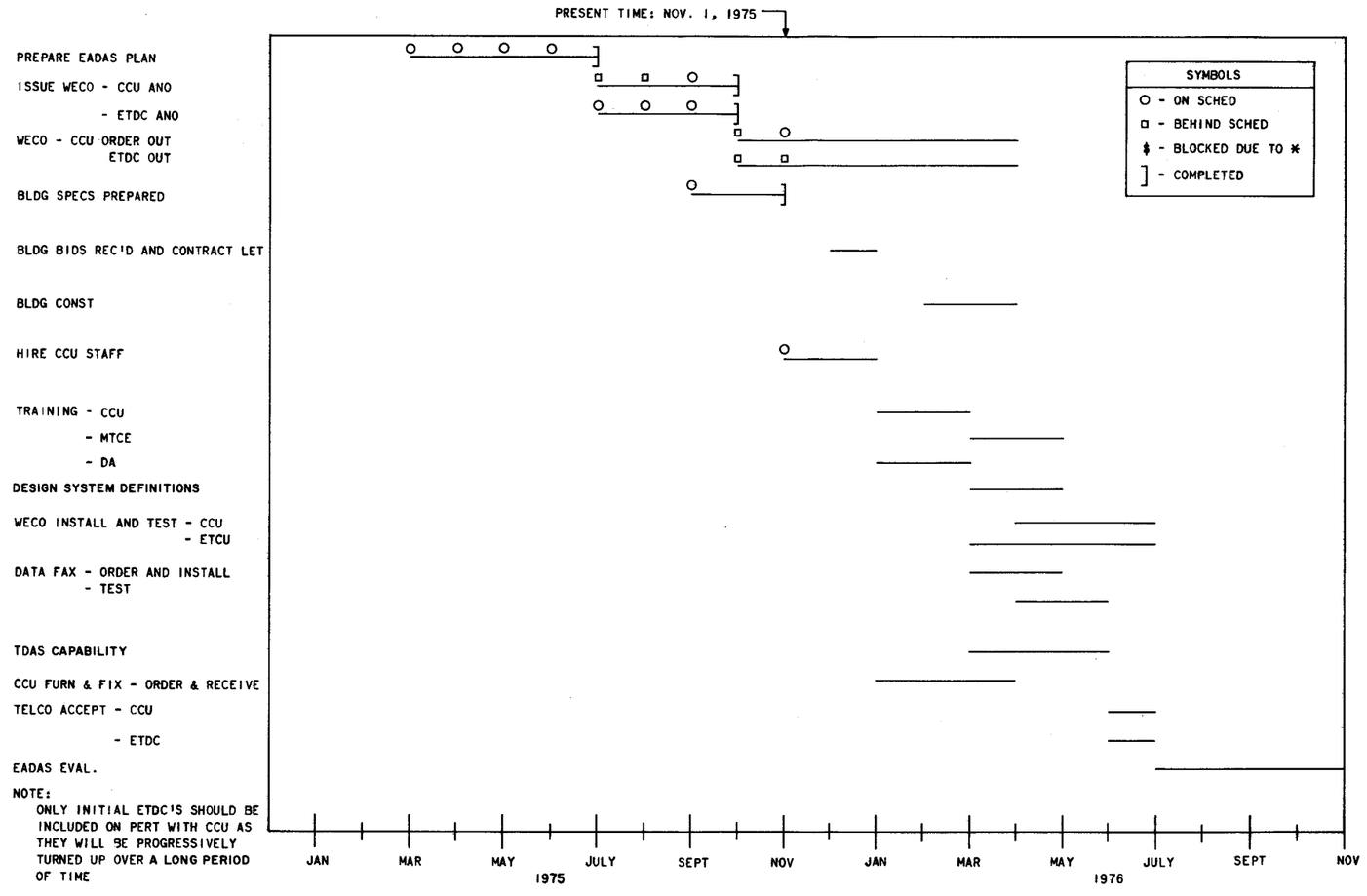

Fig. 1—Suggested Simplified EADAS PERT Chart

SECTION III COMPUTERS PAGE ____ OF ____

COMPUTER

EADAS	#1	WECO ORDER #	APPROVAL	SHIP	INSTALL	TEST	TURNOVER
RECOMMENDATION							
SWITCHING ORDER							
WECO ORDER #							

EQUIPMENT

D.E.C.
WECO.

PROGRAM

POWER

REQUIREMENTS TO ENGINEERING

CONTRACT

EQUIPMENT

FLOOR SPACE

Fig. 2—Suggested Project List