# Acceptance Test NTI/DMS

## Contents

# 1. General

## 1.1 Purpose

This practice includes:

- The requirements for completing the DMS (Digital Multiplex System) Series product line Acceptance Tests at turnover to the customer.
- Copies of the Northern Telecom Incorporated (NTI) DMS Host/Remote Acceptance Test forms, which reference the:
  - Appropriate NTI Installation Manual.

    AND
  - Method/Module Process sections within those manuals.

## 1.2 Filing Instructions and Supersedures

Discard all previous issues and associated addenda of this practice and file this issue numerically in your GTE Telephone Operations practices set.

This practice supersedes and cancels:

- All policies, procedures, general instructions, letters, and memoranda which address this subject.
- Any document which provides information contrary to the information contained in this practice.

## 1.3 Reason for Reissuing

This practice has been reissued to:

- Include GTE's use of NTI's DMS-10 and100 mutually agreed to Acceptance Test forms.
- Discontinue the use of GTE Telephone Operations' Acceptance CO Facilities – DMS-10 Switching Equipment Frames form (Form 90001859).
- Include references on the Acceptance Test forms to the new NTI Installation Manual modules for test and installation processes.

Read this entire practice to ensure your familiarity with the new information.

## 1.4 Responsibility

This practice was published by the GTE Telephone Operations Administrative Services Department. For more information about this practice, contact the Headquarters COE Construction (COEC) Department.

## 1.5 Disclaimer

This practice was prepared solely for the use of GTE Telephone Operations. It must be used only by its employees, contractors, customers, and end users when installing, operating, maintaining, and repairing GTE Telephone Operations' equipment, facilities and services. Any other use of this practice is forbidden. The information contained in this practice may not be applicable in all circumstances and is subject to change without notice. By using this practice the user agrees that GTE Telephone Operations will have no liability (to the extent permitted by applicable law) for any consequential, incidental, special, or punitive damages that may result.

# 2. Overview

## 2.1 Introduction

This practice includes the current version of the NTI DMS series Process and Test Summary forms, with GTE form numbers assigned, for control and ease of accessibility to the forms (Forms 000911 PS through 000917PS, Exhibits I-7). To obtain these forms, submit a request to the printshop that serves your Area.

The test and installation procedures are described in the referenced module numbers of the appropriate NTI Installation Manual.

Each item (switch, addition, or rearrangement) must be reviewed to determine whether or not it is applicable to a given work order before the system is placed in service.

## 2.2 Definitions

The following chart provides definitions for the acronyms used in this practice.

| Acronym | Definition |
|---|---|
| CA | Cabling Assignments |
| CO | Central Office |
| COE | Central Office Equipment |
| COEC | Central Office Equipment Construction |
| DMS | Digital Multiplex System |
| EV | Equipment View |
| GS | General Specification |
| IS | Intra-Connection Schematic |
| **NTI** | Northern Telecom Incorporated |
| NTP | Northern Telecom Practices |
| OPCEN | Operations Center |
| ORR | Office Release Record |
| POP | Performance Oriented Practice |
| TLS | Traffic Load Simulator |

## 2.3 References

The following chart provides sources of supplementary information relating to this practice. The documents could be required for performing certain tasks. The GTE Telephone Operations practices are listed in the CH-110 COEC (Central Office Equipment Construction) Handbook.

| See GTE Telephone Operations Practice... | For Information About... |
|---|---|
| 004-200-001 | Quality Assurance Operational Review COE Construction |
| 200-002-010 | Acceptance Test General Plan |
| 200-002-700 | Acceptance Test Procedures Performance Audit Forms |
| 200-025-000 | Systems and Equipment General Performance Requirements and Definitions |
| 205-000-500 | Power Equipment Power Connections, Central Office – Inspection and Tightening Procedures |
| 205-005-200 | Batteries, Central Office and Remote, Installation and Maintenance |
| 205-502-701 | Engine-Driven Emergency Power Unit Functional Tests |
| 220-014-007 | Quiescent Traffic Load Simulator (TLS) Test Criteria – GTD-5 EAX |
| 237-050-204 | Erection Methods CO Bay and Frame Uprights |
| 237-050-206 | Erection Methods-Central Office Cable Runaway |
| 237-050-207 | Erection Methods Central Office Cable Grid |
| 237-050-213 | Erection Methods CO Equipped Relay Racks |
| 256-050-203 | Cabling Methods – Installation Planning and Safeguards |
| 256-050-204 | Cabling Methods- Running and Securing Switchboard Cable |
| 256-050-205 | Cabling Methods – Butting, Stripping, and Fanning Switchboard Cable |

(continued)

## 2.3 References, continued

| See GTE Telephone Operations Practice... | For Information About... |
|---|---|
| 256-050-206 | Cabling Methods Running and Securing Power Cable |
| 256-050-207 | Cabling Methods Power Cable -Terminating Using Compression Connectors |
| 256-050-208 | Cabling Methods Switchboard Cables – Connecting (Wrap & Solder Methods) |
| 256-050-209 | Cable Buzzing Methods |
| 256-050-211 | Cabling Methods Connecting Wires – Solderless Wrap Method |
| 256-050-213 | Cabling Methods Spares and Unused Wires |
| 256-050-214 | Cable Splicing Switchboard Cable- Using A-MP VS-3 Tool |
| 256-050-215 | Cabling Methods Installing Shield Terminations with IR-550 Heating Tool |
| 256-150-200 | Procedures for Cross-Connecting (Jumpering) CO Distributing Frames |
| 256-150-201 | Cabling Methods – Distributing Frames |
| 331-310-510 | Transmission Testing Battery Supply Circuits in Central Offices Message Noise Measurements |
| 331-365-510 | Transmission Testing Impulse Noise Measurements |
| 795-805-071 | Central Office Grounding Systems – Engineering Applications |
| 795-805-072 | AC Service Grounding Engineering Applications |
| 795-805-073 | Central Office Grounding Transmission Equipment |
| 795-805-074 | Inspecting Central Office Grounding and Electrical Protection |
| 795-805-075 | Remote Electronic Serving Area Grounding Systems – Engineering Considerations |

## 2.4 Related NTI Practices and Installation Documentation

Refer to the Northern Telecom Practices' (NTPs') index in the site NTI documentation set of practices for additional specific functionality and maintenance/test requirements.

Use the appropriate NTI DMS Installation Manual listed in the following chart for installation and turnover testing processes. The Installation Manual sections for each item's acceptance are referenced on the Acceptance forms shown in Exhibits 1-7.

| See... | **For Information About...** |
|---|---|
| IM 10-I/E | DMS-10 Installation Manual for Initial and Extensions |
| IM 10-R | DMS-10 Installation Manual for Remotes |
| IM 1001-001 | DMS-100 Customer Installation Manual (Previously c/o: IM925, IM926, IM940, IM964, IM966) |
| AND/OR | |
| CD-ROM Documentation ICD-IDP5-525 | DMS-10/100 Installation Methods |

## 2.5 Forms

This section describes the:

- NTI product line specific DMS forms that have been assigned GTE form numbers.
- Formal Acceptance Summary and Basic Equipment forms.

### 2.5.1 NTI Product Line Specific DMS Forms

| Form Number | Form Tiile | Exhibit |
|---|---|---|
| 000911PS | Process and Test Summary- DMS-10 Host Initial/Extension | 1 |
| 000912PS | Process and Test Summary- DMS-10 Remote Initial/Extension | 2 |
| 000913PS | Process and Test Summary – DMS 100/200 Host Initial | 3 |
| 000914PS | Process and Test Summary – DMS 100/200 Host Extension | 4 |
| 000915PS | Process and Test Summary- DMS 100/200 Remote Initial | 5 |
| 000916PS | Process and Test Summary- DMS 100/200 Remote Extension | 6 |
| 000917PS | Process and Test Summary- DMS 100/200 Miscellaneous | 7 |

Review each applicable form in accordance with the module number referenced in the appropriate NTI Installation Manual. If you find that Central Office equipment installation standards differ, use the standards in the GTE COEC CH-110 Handbook. If you have additional questions that require discussion, please contact your Area COEC Staff or Headquarters Staff contacts for clarification.

## 2.5 Forms, continued

### 2.5.2 Basic Equipment Forms

Refer to GTE Telephone Operations Practice 200-002-700 for basic equipment Acceptance Test procedures and forms (90002631) applicable to all work orders.

The following forms as needed are required for Acceptance Test documentation on all work orders. The latest version of these forms can be obtained by accessing the COEC Electronic Bulletin Board entitled HQ.COEI.NEWS. Enter Scan *All* to review the bulletin board postings for:

- Selecting and downloading the forms to a diskette to print later.

  OR

- Selecting and printing the forms required.

If PCs or terminal access is not possible order the forms from your local stationery storeroom.

| Form Number | Form Title |
|---|---|
| 90002631 | Acceptance CO Facilities – Basic Equipment (a seven-part form):<br>A. Central Office Construction Quality Assurance or Equipment Acceptance COE Superstructure/Off ice Conditions<br>B. Central Office Construction Quality Assurance or Equipment Acceptance COE Cable and Wire<br>C. Central Office Construction Quality Assurance or Equipment Acceptance COE Power Installation<br>D. Central Office Construction Quality Assurance or Equipment Acceptance Safety and Housekeeping<br>E. Central Off ice Construction Quality Assurance or Equipment Acceptance Equipment Erection<br>F. Central Office Construction Quality Assurance or Equipment Acceptance COE Administration<br>G. Central Office Construction Quality Assurance or Equipment Acceptance COE Grounding, Isolation, and Protection |

## 2.5 Forms, continued

### 2.5.2 Basic Eauioment Forms. continued

Form 90002631 is a dual-purpose form used for both Acceptance and COEC Quality reviews as covered in GTE Telephone Operations Practice 004-200-001. Refer to GTE Telephone Operations Practice 200-002-700 for Basic Equipment Acceptance which is a requirement for acceptance on all work orders. Use the form parts that are applicable to the particular work order type equipment. At times, certain pans may not be required. Initial the applicable items when installed/completed in the space provided on the right hand side of the forms. The individual items acceptance signoff on these forms can be optional for the COEC final inspection and Switching Service acceptance representatives, if mutually agreed. However, the inidividual items signoff provides for a more thorough audit trail should further investigation be required. The signoff on the Acceptance Formal Summary, Form 90002634, is the required controlling acceptance document.

### 2.5.3 Formal Acceptance Summarv

Acceptance Test personnel must complete the Acceptance Formal Summary (Form 90002634) as follows:

- Ensure that proper header information is filled in.
- Include the date and initials of the COEC person who inspects each applicable Physical Core Category (Parts A-G), and any other manufacturer's physical/hardware checklist items, categorized in Part titled, Product Line Specific.
- Include the date and initials of the person responsible for accepting Parts A-G, and any other manufacturer's physical/hardware checklist items, categorized in Part entitled, "Product Line Specific."
- Date and initial each functional category part as testing is complete.
- Ensure that the COEC supervisor and the Switching Service/Maintenance supervisor have signed the bottom of the form, signifying that the Acceptance Test has been completed.

This form is posted on the HQ.COEI.NEWS bulletin board.

### 2.5.4 Groundinca and Protection Checklist

Form 90001528 is the Grounding and Protection checklist which is required on all new sites, reference GTE Telephone Operations Practice 795-805-074. This form is not posted on the HQ.COEI.NEWS bulletin board.

# 3. Administrative Procedures

## 3.1 Basic/Physical Acceptance Completion

If it appears that subsequent work activities will not affect the final acceptance test results, the DMS Basic Equipment Acceptance Test may be started at any time during the installation process. If subsequent activities will change the results of the Acceptance Test, inspect the DMS after a point in the installation process when subsequent activities will not change the results. See Section 2 of this practice for additional information on the Formal Acceptance Summary and Basic Equipment Forms.

## 3.2 Functional Acceptance Completion

Perform Functional Acceptance Test routines for newly installed equipment in accordance with:

- NTPs.
- NTI DMS Installation manuals.
- CH-110 Handbook.
- Installation Test Plan and Method of Procedures.

AND

Use the GTE or NTI PS forms described in Section 2.5.1 as illustrated in Exhibits 1-7 of this practice.

Since much of the Functional Acceptance Test will be accomplished at the turnover time frame, and after a successful 24-hour Quiescent Test, any subsequent major rework or new activities may necessitate additional testing/retesting for a successful mutually agreed to Acceptance Test. See GTE Telephone Operations Practice 220-014-007 for the test criteria of the Quiescent Traffic Load Simulator (TLS).

## 3.3 Preconversion Testing Period Activities

The COE Construction and Equipment Maintenance Departments have direct responsibility for implementing and administering all Acceptance Test procedures.

To eliminate duplicate testing efforts during the period between the turnover date and in-service date, COE Construction and Equipment Maintenance personnel are responsible for:

- Administering DMS.
- Preparing DMS for “in service.”

Guidelines covering acceptance work and administrative functions that must be performed by the two departments are described in Sections 3.3, 3.4, and 3.5.

## 3.3 Preconversion Testing Period Activities, continued

During the period between the turnover date and in-service date, COE Construction and Equipment Maintenance personnel will jointly:

- Complete all items on the various Acceptance Test forms.
- Correct all deficiencies found (COE Construction personnel).
- Perform diagnostics on all system hardware.

  **NOTE: Diagnostics may be performed before turnover. A joint effort on system diagnostics reduces duplicate testing and is the recommended procedure.**
- Schedule all routines and log printouts.
- Verify office database, and correct all errors and deficiencies identified.
- Operate the TLS across the entire network to ensure that DMS meets prescribed criteria if:
  - Not run at turnover.

    OR
  - A second run is required.
- Read system image tape.
- Test metering packages and traffic studies of the system with the TLS running.
- Evaluate DMS performance based on the maintenance terminal printouts and TLS reports. Clear or explain all malfunctions that occur.
- Complete the billing test.
- Operate the office in an "on-line" environment to acquaint Equipment Maintenance Department personnel with all functions related to operating a DMS office.

## 3.4 COE Construction Department

The COE Construction Department is responsible for:

- Providing required documentation (as listed in Sections 2.4 and 2.5 of this practice) and test equipment (voltmeters, scopes, etc.) to properly perform all required physical and functional tests.
- Ensuring that three site-specific job drawing sets are marked where required and distributed as follows:
  - One set left on-site with the Maintenance supervisor.
  - Two sets sent to the Operations Center (OPCEN) to be forwarded to the local telephone company engineering department and one for transmittal to NTI to have the side documentation updated and reviewed.
- Determining schedule and approximate completion dates for the Acceptance Test phase of the job.
- Preparing Acceptance Test forms as required for inspecting the physical and functional portions of the installation.
- Making all corrections of faults found during acceptance testing of equipment (unless otherwise determined by the office Maintenance supervisor).

## 3.5 Maintenance Department

The Equipment Maintenance Department is responsible for:

- Verifying that all site-specific job drawings and engineering documentation are received from the COE Construction Department.
- Ensuring that all marked drawings are current, and confirming that correct processing procedures have been followed.
- Assisting the COE Construction Department (if needed and arranged) in correcting detected equipment failures.
- After the turnover date, maintaining DMS in an in-service environment by conducting routine, diagnostic testing.