Infrastructure Provisioning Quality Inspection Program (IPQIP)

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1. General

1.1 Purpose

This practice outlines the procedures to use to administer the Infrastructure Provisioning Quality Inspection Program (IPQIP). The IPQIP was designed to monitor the quality of work performed in the four functions within the infrastructure Provisioning Process:

- Access Design (Outside Plant [OSP] Engineering).
- Access Construction (OSP Construction).
- Network Design, including National Design (Central Office Equipment [COE] Engineering).
- Network Construction (COE Construction).

Inspection points and evaluation criteria for each of the four functions are included as the following exhibits:

- Access Design (Exhibits 1, 2, 3, and 4).
- Access Construction (Exhibits 5, 6, and 7).
- Network Design (Exhibits 8 and 9).
- COE Construction (Exhibit 10).

Exhibit 11 is the COE Construction Practice Reference.

1.2 Filing Instructions and Supersedures

File this practice in numerical order 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 Responsibility

This practice was published by the GTE Telephone Operations Enterprise Services Department. For more information about this practice, contact the GTE Telephone Operations Headquarters Network Design Department.

1.4 Disclaimer

This practice was prepared solely for the use of GTE Telephone Operations. It must be used only by its employees, 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 result.

2. Overview

2.1 Definitions

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

Acronym	Definition
AC	Alternating Current
ADSL	Asymmetric Digital Subscriber Line
ALEC	Alternate Local Exchange Carrier
ASR	Access Service Request
BA	Business Analysis
BOM	Bill Of Materials
CAS	Centralized Attendant Service
CEMORES	Construction and Engineering Material Ordering, Reporting, and Evaluation Subsystem
C O	Central Office

(continued)

2.1 Definitions, continued

Acronym	Definition
C O E	Central Office Equipment
CPMS	Capital Program Management System
CZ	Customer Zone
DOR	Delayed Order Request
DSl	Digital Signal Level 1
ENGFAC	ENGFAC - project summary data for Special Service Control Center
ETSR	Electronic Telephone Service Request
FAP	Facility Area Plan
FCC	Federal Communications Commission
GTEAMS	GTE Advanced Materials System
HDSL	High Bit Rate Digital Subscriber Line
HICAP	High Capacity subscriber circuit
HQ	Headquarters
ICGS	Interactive Computer Graphics System
IDDS	Intelligent Design and Drafting System
ISDN	Integrated Services Digital Network
IP	Infrastructure Provisioning
IPQIP	Infrastructure Provisioning Quality inspection Program
JIM	Job information Memorandum
MARK	Mechanized Assignment Record Keeping [System]
OSP	Outside Plant
PARS	Problem Analysis Requests
PCM	Project Control Memorandum

(continued)

2.1 Definitions, continued

Acronym	Definition
PM0	Plant Maintenance Order
POTS	Plain Old Telephone Service
VF	Voice Frequency
M D	Year To Date

2.2 Forms

The following forms are referenced in this practice:

- IP Quality Inspection Access Design Internal Quality Checklist, Form 00-004-0001, Exhibit 1.
- IP Quality Inspection Access Design Inspector's Summary, Form 00-004-0002, Exhibit 2.
- IP Quality Inspection Access Construction - Placing Technician Checklist/ Coach/Supervisor Evaluation, Form 00-004-0006, Exhibit 3.
- IP,Quality Inspection Access Construction - Splicing Technician Checklist/ Coach/Supervisor Evaluation, Form 00-004-0005, Exhibit 4.
- lP Quality Inspection Access Construction Inspector's Summary, Page 1 of 3, Form 00-0004-0008, Exhibit 5.
- lP Quality Inspection Access Construction Inspector's Summary, Page 2 of 3, Form 00-0004-0009, Exhibit 6.
- lP Quality Inspection Access Construction Inspector's Summary, Page 3 of 3, Form 00-0004-0010, Exhibit 7.
- IP Quality Inspection Network Design Internal Quality Checklist, Form 00-004-0004, Exhibit 8.
- IP Quality Inspection Network Design Inspector's Summary, Form 00-004-0007, Exhibit 9.
- IP Quality Inspection COE Construction Inspector's Summary, Form 00-004-0003, Exhibit 10.

To obtain these forms, prepare a Form Request (Form 900001814) and send it to Forms Administration at:

GTE Telephone Operations
Forms Administration
700 Hidden Ridge
PO. Box 152092
Irving, TX 750152092
Fax : 972/718-2659

2.3 Forms, continued

An additional form is also referenced in this practice. It is IP Quality Inspection COE Construction Work Completion Summary Technician Checklist/Coach/ Supervisor Evaluation, Form COECVOl A.

Order the form via any of the following methods:

- Contact the Region Operations Support Center.
- Access telemail bulletin board COEC.GTEP
- Send an e-mail to your HQ COE staff, requesting a diskette containing the forms in ASCII or WordPerfect format.

3. Responsibilities

3.1 Infrastructure Provisioning BA Administration

The **IP** BA Administration in each Region is responsible for:

- Developing (in cooperation with the Manager - Network Design, Access Design and Construction, COE Construction, Area Customer Operations, and Network Reliability) a schedule for the IP quality inspections during the coming year.
- Selecting projects/work orders to be inspected in accordance with the coordinated schedule.
- Notifying the Managers of Network Design, Access Design and Construction, COE Construction, Area Customer Operations, and Network Reliability of the project(s)/work order(s) selected for the scheduled inspection.
- Collecting and reporting the results of the inspection.
- Submitting the results to HQ BA Staff on a quarterly basis.

NOTE:. Since the National Design Group within Headquarters Network Design engineers work orders throughout the nation, it is possible that a National Design engineered work order would be selected for quality inspection. For this reason, the Manager - National Design must be aware of the timing of the scheduled inspections of Network Design work orders in each Region. Consequently, in addition to the notifications, each Region BA Administrator provides the Manager - National Design with the planned inspection schedule in their respective regions.

3.2 Access Design and Network Design

Access Design and Network Design are responsible for:

- Completing Designer Internal Quality checklists in accordance with Section 4.1 as an initial quality assurance step.
- Supporting and participating in the IPQIP on the Design phase of projects selected.

3.3 Access and Central Off ice Equipment GOE) Construction

Access and COE Construction are responsible for:

- Completing the Technician Quality checklists by the responsible technician(s) on every project as an initial quality assurance step.
- Conducting the IP quality inspection for the Design phase on work orders.
- Supporting and participating in the IP quality inspections of the Build phase by the Customer Operations/Network Reliability next user inspectors on the projects selected for inspection.

3.4 Local Managers/ Customer Zone Coaches/ Network Reiiability

Local managers, Customer Zone coaches, and Network Reliability are responsible for:

- Inspecting the build or construction phases of projects.
- Providing timely and appropriate feedback on quality issues associated with the IP provisioning process outputs/products.

Direct questions and issues concerning the physical inspection and the related forms to the HQ Network Design - Functional Staff Support Group. Direct questions regarding the IP Quality Inspection administration procedure to HQ BA - Region Operations Support group.

4. Checklists

4.1 Checklists – Technician Checklist and Designer internal Quality Checklist

Individual responsibility and accountability for quality work is a key component for success in a competitive marketplace.

The IPQIP incorporates a quality checklist that is completed as an initial quality assurance step by the:

- Responsible designer.

  OR

- Construction technician(s).

Using a checklist ensures that the critical elements have been:

- Examined for applicability to the work.

  AND

- Checked off as having been completed by the responsible personnel.

The responsible designer or technician(s) sign the checklists, as required, to signify a personal commitment to quality on their work.

me Coach/Supervisor can use the completed checklists as a training or performance evaluation tool by periodically comparing completed checklists with the completed work to ensure completeness and accuracy relative to work order requirements.

Complete Designer checklists on work orders with gross additions of $50,000 or more as a minimum.

Designer checklists are not required for:

- ASR/HICAP

  OR

- Plug-in orders.

me Network and Access Design managers can direct other levels of checklist completion, as appropriate, to ensure quality levels within the Design phase.

4.1 Checklists – Technician Checklist and Designer internal Quality Checklist, continued

Until the checklists are made a pan of the on-line work order documentation, the Designer maintains Designer checklists on file for one year from the date of signature.

Technician checklists are returned to the Operations Center and maintained in the work order file through work order closing.

5. Inspection Process

5.1 Inspection Methodology

A key element af the IPQIP is the use of a “next user” evaluation of the products of the Design and Build phases of the IP process. The following illustrates the primary inspector involved in the evaluation of the two IP phases.

	Access RelatedProject (OSP)	Nepmrlt Relakd Project (COE)
Design Phase	OSP Constr. Coach/Supervisor	COE Corm. Coach/Sumwisor’
Build Phase	Zone Coach/Supervisor	Zone Coach/Supervisor or Network Reliabil’ky Coach/Supervisor

The involvement of the “next user” in the inspection and evaluation process is seen to have benefits in:

- Identifying those elements of the provisioning process that have the greatest impact on the ability of the next user to use the products provisioned (e.g., a work order design or a constructed network addition) in the fulfillment of their mission.
- Promoting a dialog among the interfacing functions about the quality of the network elements provisioned that leads to improvements in overall quality.

Inspections involve a physical inspection of the work products of the Design and Build phases. For the Design phase, the inspection examines the following:

- Project/Work Order documents, either manually prepared or system generated.
- Any supporting documentation and design information provided to the construction function as part of the project/work order.
- As-built marked work order prints, drawings, or other associated records.

Inspection of the Build phase of the project requires a physical inspection of the completed equipment or facility installation to confirm its compliance with the required standards. Conduct the inspection from the work order as-built information..

For Access facilities, conduct the inspection on a maximum of ten work locations selected from the work prints.

5.1 Inspection Methodology, continued

A work location can be:

- A pole placement.
- An aerial cable span.
- A pedestal placement.
- A cross-connect box placement or similar activity.

Determine the work locations to be inspected from the work prints before the inspectors go to the field.

Check all applicable items from the Inspector's Summary that apply at the selected location for compliance to standards. For example, at a pedestal location, all items are checked that pertain to:

- Pedestal placement.
- Service wire termination, if one is present.
- Buried splicing.
- Bonding.
- Grounding.

This means that if the work order selected for inspection has 20 opportunities (work locations) a **maximum** of ten are inspected. If the work order selected has less than ten work location possibilities, then all work locations are inspected.

For COE, 100% inspection of large projects (e.g., office replacements, major line additions, etc.) is not advocated due to the time that would be involved. The extent of the inspection on any given work order will be sufficient to provide assurance that the:

- Installation followed prescribed practices and procedures.
- Quality being observed is representative of the overall work on the project.

Inspections are addressed to those evaluation points or items listed in the IP Quality Inspection - inspector's Summary forms (included in Exhibits 2, 5, 6, 7, 9, and 10).

Evaluation of the items is guided by the evaluation guidelines included in Exhibits 3 and 4 and in:

- The GTE Telephone Operations Practices applicable to the work being inspected.
- Other published internal standards (e.g., Engineering Procedures, PARS, etc.) as they might apply to the work being inspected.
- Generally accepted industry standards.

Only items or points applicable to the work being inspected are rated and entered into the scoring.

5.2 Inspection Scheduling

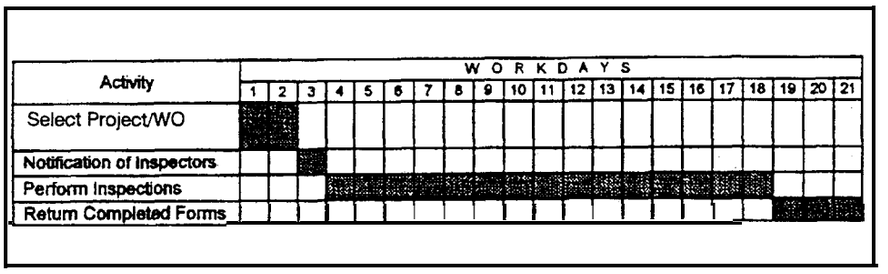
The IPQIP requires the'performance of 32 inspections per provisioning function per year in each Region for a total of 128 inspections per year in each Region (1288 inspections GTE-wide).

5.2 Inspection Scheduling, continued

The level of inspection of 32 inspections per function per year is based on an expected performance level of 97% for each provisioning function at a precision level of ±5%. me overall results are reviewed yearly by HQ BA - Regional Operations Support to determine the leve. inspection to be established for the coming year based on the actual performailie level for the previous year.

Make every attempt to balance the inspections over the entire year to the extent possible. Take into account seasonal obstacles and known operational demands. Perform inspections monthly and establish a monthly time line in working days.

The following illustration shows a possible format for a typical month's schedule of work days. If this schedule is followed, a smooth flow of inspections should occur.



NOTE: Perform the inspections for the Design and Build phases on the same projects/work orders. Doing so provides a better picture of the overall quality capability, and a more thorough end-to-end view of how well the IP provisioning phases interface in the accomplishment of specific assignments.

Using this methodology, perform the 128 required inspections on 84 projects or work orders (32 selected for Network Design and COE Construction inspections, and 32 selected for Access Design and Access Construction inspections).

Conduct the Design and Build inspections on separate projects or work orders, in which case a total of 128 projects/work orders will have been selected for inspection in each region for the year.

Coordinate the inspection of the Design and Build phases during the 14 working day inspection interval among the:

- Designer Coach/Supervisor.
- Construction Coach/Supervisor.
- Local Manager/CZ Coach/Supervisor/Network Reliability representatives on the inspection team.

5.3 Project (Work Order) Selection

HQ support for Region BA will:

- Design a CPMS query which generates a list of projects that meet the selection criteria for each of the functions.
- Provides instructions on how to use LOTUS 1-2-3® to randomly select projects from that list.

5.3 Project (Work Order) Selection, continued

Projects eligible for inspection must have:

- Completed construction (Construction Complete Date) within the last 30 days.

  AND

- Expenditures of:
  - $50,000 or more for COE.
  - $25,000 or more for OSP

If there are minimal numbers of work orders (or none) that meet these selection criteria, the construction complete date can be pushed to 90 days.

For OSP only, expenditure levels can be lowered to $10,000 to facilitate obtaining a reasonable number of projects/work orders from which to select the inspection candidate.

On a monthly basis, the IP BA Administrator in each Region runs a CPMS data query to generate a list of eligible projects in the Region for each plant grouping (COE and OSP).

Treating each group individually, the projects in these lists are assigned a number 1 through n. Using a random number function, generate a list of random numbers, in the quantity of projects/work orders scheduled to be inspected during the month, for each grouping. The projects, whose assigned number in the list corresponds to the random numbers generated, are identified as the inspection candidates.

5.4 Notification of Scheduled Inspections

The IP BA Administration in each Region provides notification of the projects identified for inspection to the:

- Managers - Network Design.
- Managers - Access Design and Construction.
- Manager - National Design.
- Area Customer Operations Managers.
- Managers - Network Reliability.

These managers are responsible for assignment of the inspection to the appropriate Design, Construction, Zone Coach, or Network Reliability personnel for the location of the work order selected for inspection.

The designated Design representative might be the:

- Designer/Engineer of Record on the project/work order.

  OR

- Section Manager at the discretion of the Manager - Network Design and/or Access Design.

NOTE: In the event that a National Design engineered work order is selected randomly for an inspection, the Manager- Network Design coordinates with the Manager - National Design on the assignment of the Network Design inspection representative. This is required in the event the Manager- National Design decides to provide the Designer of record on the work order or one of the Section Managers- National Design.

5.4 Notification of Scheduled Inspections, continued

For contractor designed/engineered projects/work orders, the Manager – Network Design and Manager – Access Design and Construction can, in addition to an internal Design Representative, and as they deem appropriate and logistically feasible, request the contract firm to provide a management representative for the inspection.

NOTE: To avoid co-employment implications in such evaluations of contracted work, it is imperative that the evaluation of contractor work be focused on the contract firm's performance as opposed to individual performance.

The individuals assigned inspection responsibilities in tne locations covered by the projects selected for inspection meet at a mutually agreeable time and location to coordinate the inspection of the Design and the Build phases on those projects.

If time constraints or other factors limit the ability of the Local Manager, Zone Coach/Supervisor, or Network Reliability Coach/Supervisor to conduct the inspections, Region Operations Support is contacted as a possible alternative inspector.

The IP BA Administrator provides as even a distribution of the inspection assignments throughout the year as possible. This means that every attempt is made to select a total of eight inspections for each process during each quarter, or two to three inspections per month per process..

Any scheduling arrangement must take into account:

- Seasonal factors.

  AND/OR

- Operational issues in the Regions.

The IP BA Administrator distributes inspection forms with the notification to the inspector of the project/work order they must inspect.

5.5 Time Reporting

Any occupational personnel involved in the inspection that must do positive time reporting must report the hours spent on these IP Quality inspections as follows. Charge inspection hours to the:

- Dominant account for projects/work orders that are still open for accepting charges (Status F or G).
- Department expense for projects/work orders that have closed to charges (Status H).

5.6 Tabulating and Reporting Results

Include scoring criteria for each of the IP functions in the Exhibits of their respective inspection forms (Exhibits 2, 5, 6, 7, 8, 9, and 10). Scoring uses a Pass/Fail methodology as opposed to numeric scoring.

Notwithstanding the scoring methodology, complete the inspection on the selected projects to ascertain the total quality condition. For future quality element performance tracking, inspect sufficient items to ascertain the level of quality. Encountering the failing criteria that determines the overall evaluation on a project or work order should not be cause for terminating the inspection on that project.

Submit results of the individual Quality Inspections to the responsible Region Infrastructure Provisioning BA Administration on the first work day following the inspection.

5.6 Tabulating and Reporting Results, continued

NOTE: Submission by FAX is encouraged.

The Regional IP BA Administrator communicates the results of the individual ,inspections to the General Managers in the following organizations:

- Infrastructure Provisioning.
- Customer Operations.
- Network Reliability.

The Region IP BA Administrator provides quarterly progress reports to the Manager - BA Region Operations Support at HQ. Quarterly reporting is limited to the number of inspections completed YTD.

Due to the statistical method used to establish the number of inspections, and the associated precision level derived from that sample size, valid overall results are only obtainable after all required inspections have been performed and rated (e.g., 32 per provisioning function).

The following format can be used to submit the quarterly results.

Process	YTD Completed iIspections	YTD Inspections Passed
Access Design	4	4
Access Construciion	9	9
Network Design	16	15
Network Construction	12	11

Annual reporting provides management with an overall quality rating by IP function based on the completion of 32 inspections for each function. me overall rating is based on the following scoring performance:

Scoring Performance	Performance Rating
31-32 Passing	Exceeds Expectations
29-30 Passing	Meets Expectations
27-28 Passing	Approaches Expectations
Less Than 27 Passing	Does Not Meet Expectations

The Manager - BA Region Operatiofls Support compiles the overall annual report using the quarterly reports to develop the score for each provisioning function for each Region for year-end report.

IP QUALITY INSPECTION
ACCESS DESIGN INTERNAL QUALITY CHECKLIST
nrcUoDclwm1
REF: GTEP 004-007-002

Exchange/Wire Center Name	State	Plant Code	Subplant Code	W. O. Number	Control #

Description

I certify that the subject project is in compliance with GTE standards on applicable ITEMs below.

Access Designer Signature — Date

ITEM	N/A (✓)	COMPLETE (✓)
WORK ORDER GENERAL INFORMATION		
1. Site Location and Description		
2. Budgetary Requirements		
3. Labor Hour Requirements		
4. Milestone Schedule Dates		
5. Related Work Orders Identified		
6. Narrative		
7. Billing Information		
8. Safety Notes		
WORK ORDER ATTACHMENTS		
9. Location Maps		
10. Material List		
11. Billing Agreements/Documents		
12. Right-of-Way Permits and Private Easements		
13. Special Services detail		
14. Plant Maintenance Order (PMO)		
15. Delayed Order Request (DOR)		
16. Span Line Design		
ENGINEERING JUDGMENT AND TECHNICAL APPLICATION		
17. Type of Construction		
18. Facility Area Plan		
19. Measurements and Field Notes		
20. Loading Scheme		
21. Air Pressurization		
22. Protection/Bonding and Grounding		
23. Transmission Design		
24. Clearances and Separations		
25. Cable		
26. Manholes and Conduit		
27. Terminals		
28. Cross Connect Boxes		
29. Poles		
30. MARK Pre-Posting		
31. ICGS Pre-Posting		

Comments:

Exhibit 1 -. IP Quality Inspection Access Design Internal Quality Checklist, Form 00-004-0001 (Page 1 of 2)

ACCESS DESIGN INTERNAL QUALITY CHECKLIST
COMPLETION INSTRUCTIONS

1. As a minimum, this checklist is to be completed and retained with each work order/control *number of $50,000 or more in gross additions.*

2. Complete the header section of the form including the Exchange/Wire Center Name, State, Plant Code, Subplant Code (if applicable), Work Order Number, Control Number (if applicable), and Description.

3. Complete the "Work Order General Information" section of the form as follows:
   a. Site Location and Description
      Ensure that all pertinent information such as Exchange/Wire Center Name, Plant Code, Work Order Number, Control Number and Description are clearly presented on the work order face sheet.
   b. Budgetary Requirements
      Ensure that the appropriate account codes, estimated cost by account and year, and budgetary approvals have been included in the work order package. This will only apply to non-blanket type work orders where dollar estimates are provided as a part of the work order package.
   c. Labor Hour Requirements
      Ensure that all estimates of required labor hours and CAS codes are included within the work order package. These requirements are developed within IDDS as the work order is being detailed and are utilized for scheduling purposes within the Operations Center.
   d. Milestone Schedule Dates
      Ensure that all milestone schedule dates are included within the work order package.
   e. Related Work Orders Identified
      Make certain that other projects which are interdependent to this project have been noted. It is acceptable to note related projects within the work order narrative. Related work orders may be from COE, Land and Buildings, or OSP projects which span exchange boundaries.
   f. Narrative
      The narrative should concisely indicate the location and nature of the work to be performed, the reason for the work (i.e. growth, maintenance, public works, etc.), and any customer billing information which might be applicable.
   g. Billing Information
      The OSP Engineering Billing Guideline (Dec. 1991) provides directions for customer billing under a variety of situations. It is also necessary in the event of actual cost billing agreements (strongly discouraged), to provide pertinent customer data, such as name, address, etc., within the work order narrative. This will signal the Property Operations Department of the need to generate a bill once the work order has been closed and all charges have been accumulated.
   h. Safety Notes
      Ensure that the appropriate caution and location notes are shown regarding high voltage, buried pipeline, and buried power lines. Also, ensure that other hazards, such as manhole lids in roadways, have been noted.

4. Complete the "Work Order Attachments" section of the form as follows:
   a. Location Map
      Ensure that a summary map and detailed site location map are included with the final work order package.
   b. Material List
      Ensure that a printed copy of the material list is to be included within the work order package. IN ICGS-CONVERTED WIRE CENTERS, IT IS THE STANDARD BUSINESS PROCESS OF GTE TO PREPOST ALL MATERIAL ITEMS UTILIZING THE IDDS PROGRAM. The ICGS companion program CEMORES provides the electronic interface between ICGS and GTEAMS for material ordering in the Operations Center.
   c. *Billing Agreements/Documents*
      Ensure that all appropriate documentation, including copies of signed forms, has been included with the work order package.
   d. Right-of-Way Permits and Easements
      Be certain that all necessary private easements or public rights-of-way have been secured prior to releasing the work order. Also, ensure that all right-of-way boundaries and easement lines have been clearly marked on the work order prints.
   e. Special Services Detail
      Provide copies of any special-services loop makeup sheets with the work order package. When applicable, ensure that all counts involving special circuits have been properly noted on the work prints.
   f. *Plant Maintenance Order (PMO)*
      If applicable, ensure that a properly approved copy of any PMOs related to the work order are included with the work order package.
   g. Delayed Order Request (DOR)
      If applicable, ensure that a properly approved copy of any DORs related to the work order are included with the work order package.
   h. Span Line Design
      If applicable, ensure that all span line design drawings and calculations are included with the work order package. Details should include binder separations, repeater spacing calculations noting both section length and loss, and the ultimate number of systems used in the calculations. A copy of the Engineering Directive (ED) will provide the required information.

5. Complete the "Engineering Judgment and Technical Application" section of the form as *follows (A to B design work orders and Construction-Detailed work orders are exempt from* construction details, such as bonding & grounding, air pressurization, and clearances and separations. All such work orders should be clearly identified in the description header of the work order):
   a. Type of Construction
      Ensure that careful consideration has been given to the method of construction chosen and that the plant can be built without further modification to the released work order package. Determining factors include customer preferences, GTE standards, obligatory requirements, maintainability, economics, and physical environment.
   b. Facility Area Plan
      Ensure that all new construction has been sized in accordance with approved FAP *guidelines; that multiplex counts have not been added in the process of construction;* and, that fixed-counting of all new terminals has been prescribed.
   c. Measurements and Field Notes
      Ensure that any important construction notations (e.g., site condition cautions, special construction requirements) are included with the work order package. Also, ensure work print measurement references are consistent with field measurements.
   d. Loading Scheme
      Ensure that all loops requiring loading have been designed within the parameters of GTEP 632-100-072. All loading work sheets should be retained with the original copy of the work order. Make certain that all affected load points are clearly marked with proper cable count information shown. Also ensure that the work prints clearly state the *length of all loading sections, including end sections.*
   e. Air Pressurization
      Ensure that the correct location and size for all ancillary devices such as contactors, blocks, bypass valves, air dryers, pipelines, transducers, etc. are clearly marked on all work prints. Also, ensure that all alarm pairs have been properly marked and reserved.
   f. Protection/Bonding and Grounding
      Ensure that GTE-standard bonding and grounding symbols are clearly marked on all work prints. Affected locations include all splice points and equipment locations relative to building terminals, entrance cables, pair gain sites, repeater sites, aerial strand, CO cable entrances, underground cable, buried cable, and cross-connect boxes.
   g. Transmission Design
      Ensure that all POTS loops are designed within the parameters established in GTEP 632-100-072. Ensure that all estimated transmission design calculations are clearly noted on the work prints at the longest point of each affected cable lead. At a minimum, estimated loss and resistance figures should be shown. Cable counts requiring loop treatment (either VF repeater, loop extender, or both) should be clearly marked on the work print as well. Loops less than 12KF will be excluded from these requirements.
   h. Clearances and Separations
      Ensure that adequate roadway and railway separation are provided for. Also ensure that all commercial power and cable television separations are provided for on GTE owned/contacted poles.
   i. Cable
      Ensure that the proper type of cable has been specified for the type of construction selected. Make certain that all FAP guidelines have been considered in the correct sizing/tapering of cables. Also, ensure that cable rearrangements have been minimized to avoid both service interruptions and unnecessary expense.
   j. Manholes and Conduit
      Ensure that the proper type of manhole has been specified for the given location in which it is to be placed. When known, not any locations which potentially may present a hazard or additional expense (i.e. wet/swampy areas requiring well points, presence of hazardous chemicals in existing manholes, etc.). Also, ensure that all duct assignments, cable racking, and clearances within the manhole are marked on the work print.
   k. Terminals
      Ensure that the proper size and type of terminal are specified. Note both the address of the serving terminal and all customer addresses to be served from the terminal. Ensure that the fixed-count concept was applied and that terminal counts are clearly marked on the work print.
   l. Cross-connect Boxes
      Ensure that any new cross-connect boxes have been assigned a unique number for identification purposes. Also, make certain that all cable in-counts and out-counts are clearly marked on the work print.
   m. Poles
      Ensure that all of the details regarding length, class, and location of all poles are plainly marked on the work print.
   n. *MARK Preposting*
      Ensure that all necessary preposting to the MARK system is complete prior to release of the work order package for construction. All new terminals, cross-connect boxes, and cables should be established within the MARK system prior to work order release. The necessity for any cable rearrangement detail sheets should be clearly noted within the work order package.
   o. ICGS Preposting
      Ensure that all material items, text notes, and labor hour estimates have been preposted into the ICGS system prior to release of the work order for construction. As was state previously, IN ICGS-CONVERTED WIRE CENTERS, IT IS THE STANDARD BUSINESS PROCESS OF GTE TO PREPOST ALL MATERIAL ITEMS UTILIZING THE IDDS PROGRAM. After-the-fact updates to ICGS are allowed only on rush projects for which there was no intervention on the part of an Access Designer prior to construction.

Exhibit 1 - IP Quality Inspection Access Design Internal Quality Checklist, Form 00-004-0001
(Page 2 of 2)

IP QUALITY INSPECTION
ACCESS DESIGN INSPECTOR'S SUMMARY
FORM 00-004-0002
REF GTEP 004-007-002

White: Business Analysis - Region BA Support
Yellow. Access Design & Construction Manager

Exchange/Wire Center Name	State	Plant Code	Subplant Code	w. O.#	Control #

Description

WORK ORDER GENERAL INFORMATION

vq@qp&~~J$t@g@#:

ITEM	N/A	PASS (✓)	FAIL (✓)	ITEM	N/A	PASS (✓)	FAIL (✓)
1. Site Location and Description				7. Internal Quality Checklist			
2. Budgetary Requirements				8. Location Maps			
3. Labor Hour/CAS Requirements				9. material List			
4. Milestone Schedule dates				10. Billing Agreements/Documents			
5. Related Work Orders				11. Rights-of-Way/Easements			
6. Safety Notes				12. Special Services Detail			
				13. Plant Maintenance Order (PMO)			
				14. Delayed Order Request (DOR)			
				15. Span Line Design			

ENGINEERING JUDGMENT AND TECHNICAL APPLICATION

ITEM	N/A	PASS (✓)	FAIL (✓)
16. Type of Construction			
17. Air Pressurization			
18. Bonding and Grounding			
19. Clearances and separations			
20. manholes and Conduit			
21. Terminals			
22. Cross Connect Boxes			
23. Poles			
24. MARK Posting			
25. ICGS Posting			

Scoring: A Failing mark on any item will result in failure for this inspection.

The results of this inspection: ❒ Pass ❒ Fail

Inspector: I certify that these findings have been reviewed with the responsible supervisor and the results are accurate.

Name:	Date:

Designer: I certify that these findings have been reviewed with the inspector and the results are accurate.

Name:	Date:

Exhibit 2 - IP Quality inspection Access Design Inspector's Summary, Form 00-004-0062
(Page 1 of 2)

ACCESS DESIGN INSPECTOR'S SUMMARY
CONSTRUCTION SUPERVISOR COMPLETION INSTRUCTIONS

1. Please observe the following guidelines for inspection of the Access Design portion of the project:
   a. Inspect miy closed work orders. A to B Design work orders and Construction-Detailed work orders are exempt from construction details, such as bonding & grounding, air pressurization, and clearances and separations. All such work orders should be clearly identified In the
   b. description header d the work order.
   Inspect only the number me (master) copy of he work order. The number one copy of the work order is archived and utilized for record-keeping purposes by mandate of the FCC and other regulating agencies.
   A failing mark should only be given when it is clear that the criterion for
   c. acceptance has not been met.

2. Complete the header section d the form including the Exchange/Wire Center Name, State, Plant Code, Subplant Code (ii applicable), Work Order Number. Control Number (if applicable), and Description.

3. Complete the "WORK ORDER GENERAL INFORMATION' section d the form as follows:
   a. Site Location and Description
   Did the Access Designer include all pertinent information such as the Exchange/Wire Center Name, Plant Code, Work Order Number, Control Number (if applicable), and a concise Description of the work to be performed on the work order face sheet?
   b. Budgetary Requirements
   (1) Were all necessary budgetary approvals included in the work order package?
   (2) Were all appropriate account codes indicated?
   c. Labor Hour/CAS Requirements
   (1) Did the Access Designer include an estimate of GTE labor hours by labor group and account code?
   (2) Did the Access Designer include an estimate of CAS codes?
   d. Milestone Schedule Dates
   Were all appropriate milestone schedule dates clearly indicated within the work order package?
   e. Related Work Orders
   Did the Access Designer identify all related work orders?
   NOTE: Related work orders may be of the OSP, COE, or Land & Buildings variety.
   f. Safety Notes
   Did the Access Designer include information on known safety hazards, such as buried power lines, underground pipelines, overhead high voltage commercial power lines, manhole lids located in high-traffic areas, etc?

4. Complete the WORK ORDER ATTACHMENTS' section of the form as follows:
   a. Access Design Internal Quality Checklist
   A completed and signed Access Design Internal Quality Checklist is to be completed work order/control number d $50,000 or more in gross additions. Was this checklist included with *me* work order *package?*
   b. Location Maps
   (1) Did the Access Designer include a summary map d the exchange/wire center?
   (2) Did the Access Designer include a site-specific location map clearly indicating key street/highway
   intersections or other significant landmarks for quick reference?
   c. Material List
   Was a copy d the material list included in the work order package?
   d. Billing Agreements/Documents
   Did the Access Designer include copies d all signed billing agreements? These documents are necessary in the event either all or a &on d the construction costs are being paid by a customer.
   e. Rights-of-Way/Easements
   (1) Are all applications for permits to public rights-of-way included in the work order package. This application
   is necessary in order for the Access Construction supervisor to secure access *lo* public *ROW.*
   (2) Are copies *d* all signed private easements included within the work order package? A private easement
   is provided by a private landowner to GTE. usually for a negotiated wst and predetermined time period.
   Private easements may include particular restrictions which must be made known to the Access
   Construction supervisor prior to commencing construction.
   f. Special Services Detail
   Special Services Detail sheets should be included for all non-POTS loops which require special grooming of the network. Specialized digital services including ISDN, HDSL, ADSL, and others often require grooming of the copper network. Did the Access Designer provide a special services detail for all non-POTS loops?
   g. Plant Maintenance Order (PMO)
   Did the Access Designer include copies of all applicable PMOs?
   h. Delayed Order Request (DOR)
   Did the Access Designer include copies of all applicable DORs?
   i. Span Line Design
   Like the Special Services Detail, the Span Line Design sheet is of critical importance in documenting those facilities which will be groomed for DS1/T1 service. Did the Access Designer include a copy of the Span Line Design sheet?

5. Complete the "ENGINEERING JUDGMENT AND TECHNICAL APPLICATION" section of the form as follows:
   a. Type of Construction
   (1) Was the method of construction specified by the Access Designer applicable?
   (2) Were there major deviations to the specified construction method? Major deviations would be the inability to place buried facilities and subsequently being forced to construct the facility aerially. Being forced to open-trench when plowing had been specified would also qualify as a major deviation.
   b. Air Pressurization
   (1) Did the Access Designer correctly specify the location of all devices, including contractors, transducers, bypass valves, blocks, air dryers, etc?
   (2) Were the air pressurizabon facilitbes properly sized?
   c. Bonding and Grounding
   Were GTE-standard bonding and grounding symbols plainly marked at all appropriate locations?
   d. Clearances and Separations
   (1) Were all aerial clearances for roadways and railways clearly specified on the work prints?
   (2) Were all separations with commercial power, cable television, and ALECs on jointly utilized poles plainly indicated on the work prints?
   e. Manholes and Conduit
   (1) Was the proper type of manhole construction (i.e. site-poured versus precast) specified?
   (2) Were all known hazards (i.e. presence of hazardous chemicals, wet/swampy/unstable soil conditions, etc.) clearly indicated?
   f. Terminals
   (1) Did the Access Designer correctly size the terminal?
   (2) Were the addresses of both the serving terminal and the customers to be served clearly indicated?
   (3) Was fixed-counting specified?
   g. Cross Connect Boxes
   (1) Was a unique cross-connect box number assigned by the Access Designer?
   (2) Were all in- and out-counts clearly specified?
   h Poles
   Did the Access Designer specify the correct location, length, and class of all poles on the work order?
   i. MARK Posting
   Was all MARK posting indicated as having been completed in a timely fashion?
   j. ICGS Posting
   Was all ICGS posting indicated as having been completed in a timely fashion?

Exhibit 2 - IP Quality Inspection Access Design Inspector's Summary, Form 00-004-0002 (Page 2 of 2)

IP QUALITY INSPECTION
ACCESS CONSTRIJCTION - PLACING
TECHNICIAN CHECKLIST/SUPERVISOR EVALUATION
FORM 00-004-0006
REF GTEP 004-007-002

Exchange/Office Name	State	Plant Code	Subplant Code	W. O. Number	Rev #

Description

I certify that the work completed on this work order is in compliance with GTE quality standards on applicable ITEMs below.

Technician(s) signature Date

I certify that work completed on this work order is in compliance with GTE quality standards on applicable ITEMs below.

Supervisor signature Date

UNDERGROUND FACILITIES			BURIED FACILITIES/FLUSH MOUNT CONSTRUCTION			AERIAL FACILITIES		
ITEM	EMP CHECK	SUPV CHECK	ITEM	EMP CHECK	SUPV CHECK	ITEM	EMP CHECK	SUPV CHECK
1. Cable			1. Cable			1. Poles/Push Brace		
A. Bends			A. Depth			A. Placement		
B. Racking			B. Location			B. Height/Class		
C. Building Entrances			C. Warning Signs			C. Labeling/ID		
D. Duct Use			2. Pedestals/Cabinets/Terminals			D. Clearance/Separation		
E. Removal			A. Size/Type			E. Steps		
F. Strapping/securing			B. Location			F. Removal		
2. Manholes/Handholes/Pullboxes			C. Depth			G. Location		
A. Duct sealing			D. Bonded/Grounded			2. Anchoring		
B. Bonding/Grounding			E. Leveling			A. Size/Type		
C. Racks/Hooks			F. Pad/Mounting			B. Location		
D. Ladder			G. Removal			C. Depth		
E. Pull Box Covers			3. Drops			D. Down Guy		
F. Identification			A. Length			E. Lead		
3. BOC/BOLs/Load Coils/etc.			B. Depth			F. Bonding/Grounding		
A. Placement			C. Bonding/Grounding			G. Removal		
4. Conduit			D. Protector/NID			3. Strand/Overhead Guy		
A. Depth			E. Route			A. Size/Type		
B. Location			4. Risers			B. Sag		
5. Risers			A Bends			C. Bonding/Grounding		
A. Bends			B Strapping			D. Clearances/Separation		
B. Starpping			C. Guards			E. Hardware		
C. Guards			D. Clearance			F. Removals		
D. Clearance			E. Location			4. Cable		
E. Location			F. Removal			A. Lashing/Termination		
F. Removal			G. Building Entrances			B. Supports		
G. Building Entrances			H. Cap/Seal Conduit			C. Guards		
H. Cap/Seal Conduit			5. BOC/BOLs/Load Coils/etc.			D. Building Cable		
			A. Placement			E. Dampers		
Supervisor observations:						F. Removals		
						5. BOC/BOLs/Load Coils/etc.		
						A. Placement		
						6. Drops		
						A. Hardware		
						B. Route		
						C Sag		
						D. Protector/NID		
						E. Clearance		
						F. Removal		
						G. Length		
						7. Wire		
						A. Hardware		
						B Sag		
						C. Clearance		
						D. Protection		
						E. Removal		

Exhibit 3 - IP Quality inspection Access Construction – Placing Technician Checklist/Coach/Supervisor Evaluation, Form 00-004-0006 (Page 1 of 2)

ACCESS CONSTRUCTION - TECHNICIAN/SUPERVISOR CHECKLISTS
COMPLETION INSTRUCTIONS

I. RESPONSIBILITIES

1.l The technician(s) shall use this form as a quality review check on completed work. The form must be completed, signed, and retained in the completed work order folder. At each work activity, it is the technician's responsibility to place his/her initials in the appropriate box to indicate the completed activity has been inspected nd is in compliance with applicable policy and/or procedure.

1.2 The technician must initial each item completed that pertains to his/her particular activity. Initialing signifies that the completed activity complies with related practices, policies and/or procedures. The technician will be accountable for any defects encountered during the quality inspection process.

1.3 When more than one technician participated in performing work on a particular work order, it is the Supervisor's selected lead person's responsibility to review the work activities on a work order, initial those items according to his/her review, and sign the completed form before submitting it to the work order file for retention.

1.4 The Supervisor must sign and date the completed technician's check list after veriiying that the work has been completed in compliance with the quality standards.

1.5 Every completed work order file must contain the completed technician's check list, endorsed by the Supervisor.

2. FILING INSTRUCTIONS

2.1 The Supervisor, after reviewing and signing the check lit, forwards the completed form for retention in the work order file.

2.2 The check list must remain in the work order file.

3. QUALITY AUDITS

3.1 The check list will be reviewed during the routine quality audits, and will accompany the quality inspector during his review of the work order.

3.2 Defects encountered during the quality audit will be referred to the responsible supervisor along with the name(s) identified on the check list.

3.3 All defects must be resolved within 72 hours of detection by the responsible supervisor.

Exhibit 3 - IP Quality Inspection Access Construction – Placing Technician Checklist/Coach/Supervisor Evaluation, Form 00-004-0006 (Page 2 of 2)

IP QUALITY INSPECTION
ACCESS CONSTRUCTION- SPLICING
TECHNICIAN CHECKLIST/SUPERVISOR EVALUATION
FORM 00-004-0005
REF GTEP 004-007-002

Exchange/Office Name	State	Plant Code	Subplant Code	W. 0. Number	Rev #

Description

I certify that the work completed on this work order IS in compliance with GTE quality standards on applicable ITEMs below.

Technician(b) signature Date

I certify that work completed on this work order is in compliance with GTE quality standards on applicable ITEMs below.

Supervisor's signature Date

UNDERGROUND FACILITIES			BURIED FACILITIES/FLUSH MOUNT CONSTRUCTION			AERIAL FACILITIES		
ITEM	EMP CHECK	SUPV CHECK	ITEM	EMP CHECK	SUPV CHECK	ITEM	EMP CHECK	SUPV CHECK
1. Cable			1. Cable			1. Cable		
A. Bonding/Grounding			A. Bonding/Grounding			A. Bonding/Grounding		
B. Splice/Wire Work			B. Pedestal Caps/Closures			B. Splice/Wire Work		
C. Ends Cleared			C. Binder Identification			C. Ends Cleared		
D. Connectors			D. Arrangement			D. Binder Identification		
E. Binder Identification			E. Connectors			E. Connectors		
F. Labeling/ID			F. Splicing/Wire Work			2. Closures		
G. Racking			2. Cabinets/Pedestals/Terminals			A. Size		
2. Closures			A. Bonding/Grounding			B. Location		
A. Size/Type			B. Jumpering			C. Support/Straps		
B. Supports/Straps			C. Pea Gravel/Foam			D. End Seal/End Plate		
C. Bonding/Grounding			D. Labeling/ID			E. Lashing/Termination		
D. Location			E. Removal			3. Pressurization		
3. Pressurization			F. Term Seal			A. Contactor/Transducer		
A. Contactor/Transducer			G. Terminal Blocks			B. Location		
B. Location						C. Blocking		
C. Blocking						D. Bypass Valve		
D. Bypass Wire						E. Vents		
4. Terminals						4. Cabinets/Terminals		
A. Depth						A. Size		
B. Location						B. Location		
C. Bonding/Grounding						C. Grounding		
D. Labeling/ID						D. Jumpering		
E. Drops						E. Stenciling/Labeling		
F. Term Seal						F. Drops		
G. Supports/Securing						G. Term Seal Caps		
5. Manholes/Handholes/Pullboxes						H. Supports/Securing		
A. Duct Seal								
B. Drop Placement								
Testing								
A. Required tests completed on (date):			on (date):					
B. Test results records submitted by (name):								
Records								
A. Records submitted to MARK by (name):			on (date):					
Supervisor Observations.								

Exhibit 4 - IP Quality Inspection Access Construction- Splicing Technician Checklist/Coach/Supervisor Evaluation, Form 00-004-0005 (Page 1 of 2j

IP QUALITY INSPECTION
ACCESS CONSTRUCTION - SPLICING
TECHNICIAN CHECKLIST/SUPERVISOR EVALUATION
FORM 00-004-0005
REF GTEP 004-007-002

Exchange/Office Name	State	Plant Code	Subplant Code	W. O. Number	Rev #

Description

I certify that the work completed on this work order is in compliance with GTE quality standards on applicable ITEMs below.

Technician(s) signature Date

I certify that work completed on this work order is in compliance with GTE quality standards on applicable ITEMs below.

Supervisor's signature Date

UNDERGROUND FACILITIES			BURIED FACILITIES/FLUSH MOUNT CONSTRUCTION			AERIAL FACILITIES		
ITEM	EMP CHECK	SUPV CHECK	ITEM	EMP CHECK	SUPV CHECK	ITEM	EMP CHECK	SUPV CHECK
1. Cable			1. Cable			1. Cable		
A. Bonding/Grounding			A. Bonding/Grounding			A. Bonding/Grounding		
B. Splice/Wire Work			B. Pedestal Caps/Closures			B. Splice/Wire Work		
C. Ends Cleared			C. Binder Identification			C. Ends Cleared		
D. Connectors			D. Arrangement			D. Binder Identification		
E. Binder Identification			E. Connectors			E. Connectors		
F. Labeling/ID			F. Splicing/Wire Work			2. Closures		
G. Racking			2. Cabinets/Pedestals/Terminals			A. Size		
2. Closures			A. Bonding/Grounding			B. Location		
A. Size/Type			B. Jumpering			C. Support/Straps		
B. Supports/Straps			C. Pea Gravel/Foam			D. End Seal/End Plate		
C. Bonding/Grounding			D. Labeling/ID			E. Lashing/Termination		
D. Location			E. Removal			3. Pressurization		
3. Pressurization			F. Term Seal			A. Contactor/Transducer		
A. Contactor/Transducer			G. Terminal Blocks			B. Location		
B. Location						C. Blocking		
C. Blocking						D. Bypass Valve		
D. Bypass Wire						E. Vents		
4. Terminals						4. Cabinets/Terminals		
A. Depth						A. Size		
B. Location						B. Location		
C. Bonding/Grounding						C. Grounding		
D. Labeling/ID						D. Jumpering		
E. Drops						E. Stenciling/Labeling		
F. Term Seal						F. Drops		
G. Supports/Securing						G. Term Seal Caps		
5. Manholes/Handholes/Pullboxes						H. Supports/Securing		
A. Duct Seal								
B. Drop Placement								
Testing								
A. Required tests completed on (date): on (date):								
B. Test results records submitted by (name):								
Records								
A. Records submitted to MARK by (name) on (date):								
Supervisor Observations:								

Exhibit 4 – IP Quality Inspection Access Construction – Splicing Technician Checklist/Coach/Supervisor Evaluation, Form 00-004-0005 (Page 2 of 2)

IP QUALITY INSPECTION ACCESS CONSTRUCTION INSPECTOR'S SUMMARY
FORM 00-004-0008
REF GTEP 004-007-002

White: Business Analysis - Region BA Support
Yellow: Access Design & Construction Manager
Pink: Customer Operations Manager

Page 1 of 3

Exchange/Office Name	Region	District	state	Plant Code	Subplant Code	W. 0. Number	Rev#
Description/Title						Date inspected	

Item	CONSTRUCTION ACTIVITY LOCATION (SEE KEY PAGE 3)																			
	1		2		3		4		5		6		7		8		9		10	
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
1. GROUND - Aerial, buried, underground																				
A. Attachment																				
1 MGN																				
2 Building structure																				
3 Driven ground electrode (rod)																				
4 Cold water pipe																				
5 Other																				
6 Standard hardware																				
7 Proper attachment to telephone equipment																				
B. Ground Lead																				
1 Proper gauge																				
2 Properly secured to structure																				
3 Bends (< 90°)																				
2. BUILDING TERMINAL / NID																				
A. Protection / Bonding / Grounding																				
1 Standard / Proper arresters																				
2 Bond Connectors																				
3 Braid / Ribbon																				
4 Attachments																				
5 Properly tightened																				
6 Standard Installation																				
B. Wire Work - Cable Pairs																				
1 Properly terminated																				
2 Contained in wire trough / run																				
4 Free of defects (nicks, pinching)																				
5 Free of unnecessary splices																				
3. TERMINALS / ENCLOSURES																				
A. Aerial																				
1 Closure secured																				
2 Drop terminations																				
3 No splices in drop																				
4 Cable bonded / grounded																				
5 Accessibility - work safety																				
B. Buried - Pedestal																				
1 Properly grounded																				
- Pedestal																				
- Ground rod																				
2 Enclosure secured																				
3 PST installed																				
4 Pea gravel placed																				
5 Terminal secured																				
6 Wire work																				
7 Drop terminations																				
8 Drops bonded																				
9 Accessibility - work safety																				
10 Warning marker(s) in place																				
C. Buried Flush-to-Grade BMT																				
1 Hand Hole / pullbox lid secured																				
2 BMT grounded to ground rod																				
3 Drops bonded																				
4 Drop terminations																				
5 BMT/PST properly secured [grommets]																				
6 Wire work																				

Exhibti 5 - IP Quality Inspection Access Construction Inspector's Summary, Form 00-004-0008

IP QUALITY INSPECTION ACCESS CONSTRUCTION INSPECTOR'S SUMMARY
FORM 00-004-0009
REF GTEP 004-007-002

White: Business Analysis Region BA Support
Yellow: Access Design & Construction Manager
Pink: Customer Operations Manager

Exchange/Office Name	Region	Distnct	State	Plant Code	Subplant Code	W. 0. Number	Rev#

Description/Title	Data Inspected

Item	CONSTRUCTION ACTIVITY LOCATION (SEE KEY PAGE 3)																			
	1		2		3		4		5		6		7		8		9		10	
	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
4. BURIED/CABLE ROUTE																				
1 Warning route markers																				
5. AERIAL DROP WIRE A. Attachments																				
1 To structure																				
2 Along cable lead																				
3 At terminal																				
B. Routing																				
1 Clearance																				
2 Separation from power																				
3 Through property																				
C. Condition																				
1 Splices																				
2 Insulation defects																				
6. BURIED SERVICE WIRE A. Entry / Attachments																				
1 At residence																				
2 At pedestal / in BMT																				
B. Termination																				
1 Property secured																				
2 Condition																				
C. Bonding / Grounding																				
1 At residence																				
2 At terminal																				
D. Placement																				
1 Depth																				
2 Route																				
7. CROSS CONNECTS A. Bonding / Grounding																				
1 Bus Bar to ground rod																				
2 Cable(s)																				
B. Wire Work																				
1 Jumpers placed / secured																				
2 Sealant boxes on modules																				
3 Term seal (binding post)																				
C. Placement																				
1 Accessible location																				
2 Ducts sealed (UG)																				
3 Doors / latches																				
8. UNDERGROUND A. Risers																				
1 Guard in place																				
2 Cable / guard properly secured																				
9. AIR PRESSURE A. Reading																				
1 At splice locations / end point																				
B. Equipment																				
1 Air dryer / flow panels																				
10. TRANSMISSION MEASUREMENTS A. Completion Tests																				
1 Results recorded																				
2 Results satisfactory																				
11. HOUSE KEEPING A. Work Site																				
1 Cleanup																				
2 Equipment secured																				
3 Customer property restored																				

Exhibit 6 - IP Quality Inspection Access Construction Inspector's Summary, Form 00-004-0009

IP QUALITY INSPECTION
ACCESS CONSTRUCTiON
INSPECTOR'S SUMMARY
FORM 00-004-0010
REF GTEP 004-007-002

White: Business Analysis - Region BA Support
Yellow: Access Design & Construction Manager
Pink: Customer Operations Manager

Page 3 o13

Exchange/Office Name	Region	District	State	Plant Code	Subplant Code	W. O. Number	Rev#

Description/Title	Date Inspected

	CONSTRUCTION ACTIVITY LOCATION (SEE KEY PAGE 3)																			
	1		2		3		4		5		6		7		8		9		10	
Item	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
12. SAFETY																				
A. Equipment																				
1 Placement / location																				
2 Wire work																				
3 Bonding / grounding																				
B. Overall (list other)																				
1																				
2																				
13. RECORDS UPDATING AND POSTING																				
1 MARK records posted																				
2 ICGS/IGS as-built drawing updates made																				
3 Quality - Technician Checklists included in work order																				

ACTIVITY LOCATION KEY (Address, Activity #, Pole or Housing #)	DEFECT/CONDITION/REMARKS
1.	
2.	
3.	
4.	
5.	
6.	
10.	

Comments/Observations:

Scoring: A Failing mark on any item will result in Failure for this inspection.

The results of this inspection: ❒ **Pass** ❒ **Fail**

Inspector: I certify that these findings have been reviewed with the responsible supervisor and the results are accurate.

Print Name: Signature: Date:

Supervisor: I certify that these findings have been reviewed with the inspector and the results are accurate. All items identified as a FAIL will be corrected within 72 business hours and reported back to the inspector.

Print Name: Signature: Date:

Exhibit 7 - IP Quality inspection Access Construction Inspector's Summary, Form 00-004-0010

IP QUALITY INSPECTION
NETWORK DESIGN INTERNAL QUALITY CHECKLIST
FORM 00-004-0004
REF GTEP 004-007-002

Exchange/Office Name	State	Plant Code	Subplant Code	W.O. Number	Rev#

Description

I certify that the subject work order is in compliance with GTE standards on applicable ITEMs below.

Network Designer signature Date

I find that the subject work order ☐ is ☐ is not in compliance with the applicable standards as indicated by the rated ITEMs.

Supervisor signature Date

The Network Designer shall check the subject work order against each ITEM in the checklist and indicate by ✔ that the ITEM has been completed and meets requirements, or indicate that the ITEM is not required for the subject work order (N/A).

ITEM	EMPLOYEE CHECK (✔)	SUPERVISOR CHECK PASS (✔)	SUPERVISOR CHECK FAIL (✔)
1. Site Location and Description			
2. Work Order Narrative			
3. Budgetary Requirements			
4. Related work order reference			
5. work order Schedule			
6. Special handling instructions noted (e.g., billing information)			
7. Construction/Maintenance Detail Sheet			
8. BOM / Specifications			
9. Drawings List			
10. Technical narrative (including installation notes & instructions)			
11. Office alarm armotations			
12. Office power drain reviewed			
13. Permits (when required)			
14. IP Units, for unit defined equipment			
15. ENGFAC, for applicable work orders			
16. Safety annotations			
17. Drawings updated (issue notes, graphic updates made)			
16. Span Designs (when required)			
19. Conformance to PCM requirements			
20. Conformance to applicable Policies			
21. Conformance to Design Standards			
22. Conformance to Product Standards			

Comments:

Exhibit 8 - IP-Quality Inspection Network Design Internal Quality Checklist, Form 00-004-0004 (Page 1 of 2)

NETWORK DESIGN INTERNAL QUALITY CHECKLIST
CHECK LIST ITEM DESCRIPTIONS

1. **Site** Location and Description - Shall include the location name and code. work order number, revision number, company, operating unit, State, description.

2. Work Order narrative - Shall describe the nature of the work (e.g., switching, transmission, etc.), and why the work is being done (gmwth, improvement, modemization, etc.).

3. Budgetary Requirements - Work order amounts shall be compared to the budget and variances justified, removals and rearrangement dollars shall be included. and proper budget categories noted in the detail.

4. Related work order reference - related work orders shall be fisted by number and title.

5. Work Order Schedule - All milestone dates shall be identified and logical.

6. Special handling instructions - Any special handling instructions for accounting, materials and equipment, or others shall be identffied and described in detail.

7. Construction/Maintenance Detail Sheet - The detail sheet shall indude relevant accounts and detail descriptions for construction and expense costs of the project.

8. BOM / Specifications - Bill of Materials and/or specifiitions to be provided by the Designer shall be included.

9. Drawings List - When provided by the Designer, all reievant drawings/prints for the project shall be listed with issue numbers.

10. Technical narrative - General and relevant installation notes shall be included as required for the work to be performed.

11. Office alarm annotations - Include relevant references for arrangements for offii alarms (ETSRs. etc.)

12. Office power drain reviewed - Review office power drain with this equipment additions to ensure adequate power reserves exist.

13. Permlts - Any required permits shall be referenced and Included in files for retneval.

14. IP Untts - The count of IP Units planned by the work order shall be entered for unit defined materials.

15. ENGFAC - The ENGFAC data sheet shall be completed when required by the work to be undertaken.

16. Safety annotations - References to the relevant safety practices/documents and specific notations shall be provided when appropriate.

17. Drawings updated - Drawing shall have graphical updates made and any required issue notes for the project included.

18. Span Designs - Span designs shaft clearty indicate transmission fadlity requirements and changes and shall be referenced and induded.

19. Conformance to PCM requirements - Project shall conform to the PCM requirements

20. Conformance to applicable Policies - Project shall conform to relevant engineering, and provisioning policies for the technology and equipment types being provisioned on the project.

21. Conformance to Design Standards - Project shall conform to the relevant design standards for the equipment type and application being provisioned on the project.

22. Conformance to Product Standards - Equipment and materials specified on the project shall reflect the use of standard materials and products. Exceptions shall have prior proper authorization. be so noted in the work order, and supporting documentation shall be made available when required.

Exhibit 8 - IP Quality Inspection Network Design Internal Quality Checklist, Form 00-004-0004 (Page 2 of 2)

IP QUALITY INSPECTION
NETWORK DESIGN INSPECTOR'S SUMMARY
FORM 00-004-0007
REF 0TFP 004-007-002

White: Business Analysis - Region BA Support
Yellow: COE Construction Manager
Pink: Network Design Manager

Exchange/Office Name	State	Plant Code	Subplant Code	W.O. Number	Rev #

Description

ITEM	N/A	PASS (✓)	FAIL (✓)
1. WORK ORDER INFORMATION			
A. Work order narrative			
B. Related work order references			
C. Work Order Schedule			
D. Special handling instructions, if required			
E. Construction/Maintenance Detail Sheet (including labor requirements specification)			
F. BOM / Specifications			
G. Technical narrative (including installation notes & instructions)			
H. Permits (when required)			
I. IP Units, when applicable			
J. ENGFAC, when required			
K. Drawings updated (graphic updates made as required by the work undertaken)			
L. Span Designs (when required)			
M. Electronic Telephone Service Request (ETSR) Information			
N. Job Information Memorandums			
2. TECHNICAL APPLICATION *Evaluate the details of the Designer's specification of equipment and apparatus for completeness and conformance to application standards in each of the categories below:*			
A. Ironwork and superstructure			
B. Frames and racks, including distributing frames			
C. Switching Equipment and/or Transmission Equipment			
D. Cabling and wiring			
E. Lighting and AC requirements			
F. Power equipment, including grounding			
G. Office alarms			
H. Test and support equipment			

SCORING - Attainment of a PASSING score on a work order will require the following:

	FAILURES PERMITTED.
Work Order Idormatii	2
Technical Application	0

Exceeding a two failures in Work Order information will FAIL the inspection. A single FAIL in the Technical Application will FAIL the inspection.

The results of this inspection: ❒ Pass ❒ Fail

Inspector: I certify that these findings have been reviewed with the responsible supervisor and the results are accurate.

Name:	Date:

Designer: I certify that these findings have been reviewed with the inspector and the results are accurate.

Name:	Date:

Exhibit 9 - IP Quality Inspection Network Design inspector's Summary, Form 00-004-0007 (Page 1 of 2)

NETWORK DESIGN INSPECTOR'S SUMMARY
ITEM DESCRIPTIONS and EVALUATION GUIDE

1. WORK ORDER GENERAL INFORMATION

A. Work order narrative - Shall indude the site looation name and code, work order number, revision number, company, operating unit, State, description: and shall describe me nature of **the work, (e.g.,** major network components being **added. such as** lines and trunks and wired and equipped quantities, etc.), and why the work is being done (growth, modernizatron, etc.).
B. Related work order reference - related work orders shall be listed by number and title.
C. Work Order Schedule - All milestone dates shall be identified, logical, and reasonable as needed to meet customer requirements.
D. Special handling *instructions - Any* special handling instructions for accounting or others shall be identified and described in detail (e.g., specific contacts, reuse material dispositiin/handling. billing arrangements, etc.
E. Construction/Maintenance Detail Sheet - The detail sheet shall indude relevant accounts andcost detail for construction and expense costs of me project, work functions and hourly requirements shall be accurately specified.
F. BOM / Specifications - Shall include account codes, material codes, quantifies, locations for equipment to be added. **Designer** provided specifications for the project shall be induded with the work order, and be of current issue. **This item** is N/A for One Lot orders for factory engineered equipment.
G. Technical narrative - Relevant general, safety, and installation notes, including contact lists, shall be induded as appropriate for the work to be performed on the project.
H. Permits - Any required permits shall be referenced and included in files for retrieval (e.g., building permits).
I. IP Units - **The number of IP** units, as designed, shall be entered when equipment being added **is unit defined**.
J. ENGFAC - ENGFAC data shall be included when required by the nature of me work order.
K. Drawings updated -All required drawings shall be provided for the work order. Drawings shall indicate required graphical update with equipment locations accurately shown and proper issue notes for the project.
L. Span Designs - Span designs shall clearly indicate transmission facility requirements and changes and shall be referenced and induded.
M. Electronic Telephone Service Request - Was an ETSR included when required by the nature of the work **to be** performed?
N. Job Information Memorandums - Assess the timeliness, relative to procedural requirements. and accuracy of the - responses **to JIMS** issued on the work order.

2. TECHNICAL APPLICATION

Inspection shall ***evaluate the equipment provisioned for its specification*** in the ***proper quantities with relevant features and functionality provided in conformance with applicable engineering and provisioning policies, design standards, and product standards for the technology and equipment types being used.***

A. Ironwork and ***superstructure*** - specifications shall include proper erection material, cable runway, **joining assemblies, and** seismic bracing as **appropriate.**
B. Frames and racks, including distributing frames - equipment specified shall be of the proper size, include erection and assembly materials, grounding hardware, power equipment (fuse panels, bay batter filters), and type mounting, terminal blocks and protectors as needed, and be properly and accurately located on floor plan.
C. Switching Equipment and/or Transmission Equipment - equipment specified shall be of the proper type and quantity for the application, specification of options and features (e.g., isolated or integrated) shall conform to requirements. and be properly located on drawings.
D. Cabling and**wiring - cabling provided** shall be of proper sizetype, connector type,**gauge, length, circuit count, with accurate** from/to locations in required number of runs, with any zoning requirements specified.
E. Lighting and AC requirements - Bay lighting. and commercial free AC receptacles and wiring shall be appropriately and accurately specified
F. Power equipment, including grounding and isolation requirements - specifications shall include required power distribution panel capacity additions, cabling of proper size and length, fusing in accordance with capacity limits, connectors and taps, ground bar locations and ground cabling, gauge, length, and terminating and ending points, and any isolation requirements.
G. Office alarms - specifications shall include provisions for extending appropriate alarms for all added equipment and environmental alarm leads to frames, induding sense points and block layouts for alarm leads, and any remote access arrangements.
H. Test and support equipment - specifications shall include provisions for appropriate and required test and support equipment, fixed and portable.

EVALUATIONS

To earn a PASS score on a checklist item will require the completion of the item to applicable GTE standards by the designer/engineer in accordance with relevant requirementstypical for the work being undertaken on the work order. Items not required for the network additions being specified shall be check N/A and not rated.

Exhibit 9 - IP Quality Inspection Network Design Inspector's Summary, Form 00-004-0007 (Page 2 of 2)

IP QUALITY INSPECTION
COE CONSTRUCTION INSPECTOR'S SUMMARY
FORM 00-004-0003
REF GTEP 004-007-002

Whim: Business Analysis - Region BA Support
Yellow: COE Construction Manager
Customer

Exchange/Office Name	State	Plant Code	Subplant Code	W.O. Number	Rev #
Description					

ITEM	N/A	P /	F /
1. SUPERSTRUCTURE			
A. All ironwork properly installed and secured as to not cause a service or safety problem			
B. Bolts and rods cut to correct length/sharp edges removed so as not to cause a service or safety problem.			
2. CABLING and WIRING			
A. Cables properly installed & secured. Amp connectors secured, bend radius adhered to, etc.			
B. DC power cables properly installed. Secured properly. Heat shrink/End caps placed			
C. Ground cables properly installed and secured (applies to cable runs - see item 6B for ground connections)			
D. Jumpers properly run and terminated. Sufficient slack at CDF to trace jumper, Sufficient wraps. (minimum of five wraps)			
E. HF Cables properly secured and installed. Sufficient wraps. If shielded HF cable is used grounded on equipment end only.			
3. POWER			
A. Power[illegible]ations properly secured.			
B. Batteries properly installed. Straps secured/torqued, greased, etc. to manufacturers specification. Records complete and documented on form 900025A6 (i.e., specific gravity, proper float voltage, etc.)			
C. Battery float voltage properly set: Antimony - 52.08 volts (24 cells) Calcium - 52.8 volts (24 cells) VRLA (Sealed) - 51.6 volts (23 cells) VRLA (Sealed) - 54.0 volts (24 cells)			
D. Power board installed properly and correctly labeled. Float, hi/lo voltage alarm ratings, etc. correctly labeled, fuse positions clearly and correctly designated.			
E. Fuse panels properly installed. Properly sized fuses installed and labeled. fuse panel labeled to indicate origin of power (i.e., fuse position at power board.)			
F. AC panel/AC outlets properly labeled. Breakers for chargers, etc. identified, AC outlets labeled as to origin of power feed.			
G. Rectifiers properly installed and labeled. Appropriate float voltage designated, Hi & Lo Voltage alarm ratings designated.			
H. Bus Bar properly installed, torqued to specifications, etc.			
4. SAFETY and HOUSEKEEPING			
A. Job site free of debris which might cause safety hazards.			
B. Cable openings properly closed.			
5. EQUIPMENT ERECTION			
A. Equipment frames/shelves properly secured, isolated, and installed.			
B. Equipment shelves/frames properly labeled & configured, Examples of configuration would be fiber optic terminals requiring point-to-point or ring software, etc.			
C. Terminal blocks properly installed and labeled. Easy circuit identification, etc.			
D. Protectors properly installed and labeled. Modules installed in all positions.			
6. GROUNDING, ISOLATION, and PROTECTION			
A. Equipment frames, MDF, relay racks, etc: properly grounded.			
B. Ground leads properly secured to the ground bar, labeled, and zoned properly. Two hole lugs used on all ground bar connections (applies to ground connections - see item 2C for ground cable runs)			
C. Protectors properly grounded at MDF or relay racks.			
7. ADMINISTRATION			
A. Bar codes placed on equipment properly and uploaded to GSTS.			
B. Documentation - Equipment manuals left on site, any necessary offices drawings left on site.			
C. Test Equipment furnished on work order turned over to Network Reliability.			
D. Alarms functioning properly - wired and properly monitoring equipment, tested with NOC. 1-800-483-6682			
E. Remote access/modems properly working and labeled. Connectivity to the X.25 network and/or equipped with dial-up modem access. Modem phone numbers labeled for easy identification.			
F. MARK/CNAS notified of equipment installed. ALAS, INSERV or other means of interface.			

Scoring: Critical items have been identified by being shaded. If any one critical item FAILS, the *entire inspection* FAILS. If more than 10% of the Non-Critical items FAIL inspection, the *entire inspection* FAILS. Items not identified on the inspection form but needing correcting are to be written Up in the comments section of the evaluation form but will not constitute a FAIL rating.

The results of this inspection: ☐ Pass ☐ Fail

Comments:

Inspector: I certify that these findings have been reviewed with the responsible supervisor and the results are accurate.

Name: Date:

Supervisor: I certify that these findings have been reviewed with the inspector and the results are accurate. All items identified as a FAIL will be corrected within [illegible] and reported back to the inspector

Name: Date:

Exhibit 10 - IP Quality inspection COE Construction inspector's Summary, Form 00-004-0003 (Page 1 of 2)

The IP Quality Inspection- COE Construction Inspector's Summary Form is designed to evaluate the pmduct (work order) being delivered by COE Construction to the maintenance organization (CZT/Network Reliability). The form should be completed by a management employee: Zone Coach, First tine Supervisor, or Administrator. The form is intended to be easy to use but detailed enough to identify crftical items that could adversely impacf safety or customer service.

Upon completion of the inspection a copy of the Inspector's Summary must be provided to the appropriate COE Constructfon Manager. The COE Construction Manager is responsible for ensuring that all FAIL items are corrected within 72 business hours after receipt of the inspection. COE Construction must report the items corrected back to the inspector within two bustness days after the correction. Items noted in the comments section are to be corrected and reported to the inspector but do not have the same urgency as a FAIL item.

Instruction for completing the COE Constructron Inspector's Summary form.

- **Exchange:** the four digit plant/exchange code and three digit subplanUemote code
- **Locatfon:** the exchange/city name
- Work **Order No.:** **the seven** position CPMS/GSTS work order number
- **No.:** the sequential number of the item being checked, items not applicable to this inspection should be listed as NA
- **P**: **PASS** item, place a check mark 1 in this box for items inspeded that Pass
- **F:** FAIL item, place a check markin thts box for items inspected that Fail
- **TITLE:** work order description on face sheet of work order

Exhibit 10 - IP Quality Inspection COE Construction inspector's Summary, Form 00-004-0003 (Page 2 of 2)

ITEM	GTE PRACTICE REFERENCE
1. SUPERSTRUCTURE	
Wall Angles/Support Brackets	237-050-204, H440000
The length of bolt or rod	237-050-204
Superstructure and associated assemblies	237-050-204 8 H440000
Cable rack and/or grid	237-050-207
Signal brackets, goal posts, runway brackets, cable retaining brackets	256-050-204, 237-050-206
Earthquake bracing	780-740-070 and H-440000
Floor condition	740-500-700
Cable holes	742-200-070
Power and Generator Area ventilation	742-205-070, 808-210-070
Smoke and fire suppression system	742-100-100/101/102/103
Emergency generators	205-502-700/701, 743-100-070
2. CABLE AND WIRING	
Switchboard cables running and securing	256-050-203/204, 256-150-201, 256-224-216, 795-000-072
Vertical cables between floors sawn on every strap.	256-050-204/205
Switchboard cables are properly butted, fanned, and spare wires dressed	256-050-205/213
Use of cable ties	075-170-100, 256-050-204
High frequency cables	256-050-215, 256-224-216, 795-805-073, 835-000-071
Cable separation procedures	256-050-203/206, 256-224-216, 795-805-073, 835-000-071
Power cable6 separated by a minimum of three inches	256-050-206
Cable tag and label procedure	256-050-202
Jumpers and miscellaneous wires	256-010-201, 256-050-208/211, 256-150-200, 256-152-200, 258-600-201
Special circuits identification	200-050-101
Terminating wires on pins/blocks (wire wrap)	256-050-211
Terminating wires on pins/blocks (wrap and solder)	256-010-201, 256-050-208
Plug-ended cables (amp, cinch)	256-I 50-201
Screw type wire connections	200-001-000, 256-050-205
Power and ground cables installation	256-050-204/206
Cable radius requirements	256-050-206
Power cable labeling	244-251-200, 256-050-206
Power/ground cable connections. compression lugs, and compression connectors	205-000-500, 256-050-206/207
Heat shrink end caps	256-050-207
Ground Cable Requirements	795-805-071
Cables and wires	075-170-100, 205-000-500, 256-050-203/204/205/206
flber optical cables	624-632-000, 938-624-000, 803-101-070
Wires must be dressed away from sharp edges	256-050-205
3. POWER	
Distribution, supervisory and DC power installation	004-200-001, 205-001-500
PCUF,PDUF/BDFB,DSUF rectifiers and battery racks anchoring	205-005-200

Exhibit 11 - COE Construction Practice Reference (Page 1 of 4)

COE CONSTRUCTION PRACTICE REFERENCE

SHEET 2 OF 4

ITEM	GTE PRACTICE REFERENCE
Earthquake bracing	780-740-070
Battery numbering and labeling	244-251-200
Battery safety boards	200-001-000, 205-005-100/200
Battery thermometer and hydrometer	200-001-004, 205-005-200
Battery inter-cell connecting straps	205-005-200, 205-005-201
Battery electrolyte level	205-005-200
Storage battery records	205005200
Office battery noise readings	205-005-200, 331-310-510
Rectifier/Charger installation	108-850-505, 205-001-500, 205-100-200, 244-251-200
Power Plant Alarms	205-000-004, 205-001-500, 205-100-200, 205-605-501/502/503, 224-100-100,
Fuse Failure Test	026-100-500
Alarm signaling	205-605-501, 224-100-100
Power equipment and adjustment labeling	205-001-500
Remote sense leads	E-SW-POWER-795-000-072
Power Board fuses and Housings - alignment	244-251-200
Fuse positions and dummy fuses	026-100-500, 205-000-500
Toquing of fuse housing studs	205-000-500
Heat/voltage drop at power connections	026-220-300
Spare fuses availability	026-100-500
Bus bar/ground bars	205-705-201
Bellville washers on power/ground bars	205-705-201.
Ringing machines output voltage	224-100-100, 244-251-200
AC circuit identification-junction box/lights/receptacles	200-001-000, 244-251-200, 795-805-072
Branch AC circuits (receptacles and lights) wiring	224-100-100, NEC 210-4a, c
Low voltage wire for the remote control lighting	224-100-100
4. SAFETY AND HOUSEKEEPING	
First Aid kits	117-300-002
Fire extinguisher	200-001-000, 742-100-101
Caution sign6	007-005-015, 200-001-000
Mating installation equipment/material /hazards	200-001-000
Clean work areas	200-001-000/001/004, 742-100-100
Combustible materials storage in metal Me cabinets	200-001-004,742-100-100
No floor tiles damaged or anchors left	MO-001-000, 237-050-204
Floors protected from damage	220-001-000
Insulated tools and pro ctive	200-001-000/004
Safety goggles and hard hats	117-200-005, 200-001-000, 205-005-100
Wearing metal objects or jewelry	200-001-000
Emergency phone number and addresses	200-001-000, 742-100-102
"A" type ladders	200-001-000
Cable openings are property closed	200-001-000, 742-200-070
5. **EQUIPMENT** ERECTING	

Exhibit 11 - COE **Construction Practice Reference (Page 2 of 4)**

COE CONSTRUCTION PRACTICE REFERENCE

SHEET3 OF 4

ITEM	GTE PRACTICE REFERENCE
Distributing frame installation	237-050-204
Bare spots/scratches on iron and equipment touched up with paint cut bolts/iron filed and touched up.	200-050-203
Labeling of distributing frame	244-01 O-202
Labeling of distributing frame terminal blocks	237-050-204, 244-010-202
Distributing frame modifications to mount protectors	243-120-200
Guard rail extensions to protect equipment	237-050-204
U66 of solid state protector modules	887-903-026
Protector modules in all positions. Unassigned positions in detent position	243-100-200, 243-110-100, 243-120-200, 243-128-200, 243-150-200
Rolling ladders and tract installation	200-001-000/004, 237-200-202/203/204
Placement of equipment frames and brace support	237-050-201
Equipment units/shelves mounting,	237-050-211/212
Equipment fuses are property "seated", proper size, installed, and labeled	244-251-200
Spare cards are properly stored fmd tested	220-220-501
Supporting or trunk boards. relay racks/cabinets/frames	237-050-204, 780-740-205 and H440000.
Equipment Junctioning/Protection/Cabling Material	237-050-204, 256-050-205.
Card locks/restraints	200-050-203
Equipment frame labeling on both front, rear panels	244-010-202, 244-200-100, 244-251-200, 244-261-100
Equipment alarms	200-000-007, 205-000-000
Wired fuse positions have a fuse, or blank fuse	205-000-500
Labeling of repeaters, span lines, cross-connect panels	244-261-100,
SXS equipment installations	237-050-204/209/211/212/213
6. GROUNDING, **ISOLATION,** AND PROTECTION	
General grounding requirements for switching centers	795-805-071
Carrier/transmission equipment	795-805-071/073
Protector mounting (isolated non-isolated)	243-120-200
Protector grounding	243-120-200, 795-805-071
Spare card cabinet and work bench (Lead 54)	795-805-071
Ground bars - Preparation and hardware	256-050-207, 795-805-071
Ground lead size for equipment grounding	237-224-214
Chassis grounds	795-805-07 1 /073
Isolation of power equipment	237-224-214
Shielded cable grounding	795-805-071
Charger ground (Lead 32 and 29))	795-805-071
Circuit breaker panel ground	795-805-072
Master/Floor ground bar zoning	795-805-071
Metallic and/or non-metallic conduit	795-805-072
Light fixture grounding (lead 30)	224-100-100, 795-805-072
7. ADMINISTRATION	
Proper filing provisions are used for drawings,	220-001-001
Bar coda labels placed property	007-220-001

Exhibit 11 - COE Construction Practice Reference (Page 3 of 4)

COE CONSTRUCTION PRACTICE REFERENCE

SHEET 4 OF 4

ITEM	GTE PRACTICE REFERENCE
Changes to job specifications, or equipment layout concurred by JIWUCR	007-009-012,180-303-001.220-001-001
Test equipment cslibrafion	100-000-100, 200-002-010
Anti-&tic wrist and heel straps	007-005-015
Site logs	220-220-002
Load and volume test	220-014-007
OfVice ground inspection form	795805074
Fiber Oplic Acceptance	392-342-500
Check and forms	200-002-700

Exhibit 11 - COE Construction Practice Reference (Page 4 of 4)