

A. Test Results: Change Management Practices Verification and Validation Review (PPR1)

1.0 Description

The Change Management Practices Verification and Validation Review evaluated aspects of Verizon Pennsylvania's (Verizon PA) change management process. The objectives of the test were to determine the existence and functionality of procedures for developing and evaluating change proposals, as well as implementing the proposals. The test also focused on the reasonableness of change intervals and tracking mechanisms. Interviews, attendance at change management meetings, reviews of Verizon change notifications, and documentation reviews were conducted to evaluate Verizon's change management process.

2.0 Methodology

This section summarizes the test methodology.

2.1 Business Process Description

The change management process provides the framework by which interested parties can communicate desired changes, and Verizon can communicate subsequent alterations to its systems and processes. Change Management policies categorize changes into five types:

- ◆ Type 1 emergency changes
- ◆ Type 2 regulatory requirements
- ◆ Type 3 industry-led changes
- ◆ Type 4 Verizon-initiated changes
- ◆ Type 5 CLEC-requested changes

The change management process governs all aspects of the CLEC/Verizon relationship excluding metrics change management. All changes to documentation, interfaces, business rules, and other functions excluding metrics are subject to the time frames, tracking, logging, and coding of the change management process.

The process begins with the submittal of a change request under any one of the five types listed above. Type 1 changes are emergencies, as determined by Verizon, and are implemented immediately. Type 2 and 3 changes carry priorities and implementation schedules that are governed by regulatory or industry requirements. The submitting entity for Type 4 and 5 changes can suggest a priority for the item. Verizon determines the overall priority of Type 4 and Type 5 changes after consultation with the CLECs.

The change management documentation published by Verizon includes required intervals for evaluation and completion of changes within each change request type. Final documentation must be available for a specific period prior to implementation of non-emergency changes.

Effective June 2000, Verizon implemented changes to the notification intervals for Type 4 and Type 5 Change Requests (CR). With CLEC and industry agreement, Type 4 and Type 5 CR documentation for business rules and EDI specifications will follow 73-day and 66-day notification intervals, respectively.

Verizon has initiated a number of communication enhancement activities to increase CLEC awareness of changes in Verizon interfaces that are not specified in the Principles of Change Management document.

- ◆ Verizon has initiated a series of workshops to discuss and gain CLEC “buy-in” or agreement for specific areas of the Change Management process. The topics discussed at these workshops have been escalations, timelines, prioritization, and notification intervals.
- ◆ Verizon now also schedules conference calls to discuss Type 1 changes. These calls include Verizon subject matter experts who can answer technical questions and provide tentative solution timelines.
- ◆ Verizon also holds monthly “prioritization” meetings, during which attending CLECs vote on the priority of the Type 4 and Type 5 changes.

The Verizon Wholesale Markets Group Change Control Manager and Change Control Director manage the change control process.

2.2 Scenarios

Scenarios were not applicable to this test.

2.3 Test Targets & Measures

The test target was the Verizon PA Change Management process. Processes, sub-processes, evaluation measures, and associated test cross-reference numbers are summarized in Table 1-1 which follows. The last column, “Test Cross-Reference,” indicates where the particular measures are addressed in Section 3.1 “Results & Analysis.”

Table 1-1: Test Target Cross-Reference

Process	Sub-Process	Evaluation Measure	Test Cross-Reference
Change Management	Developing Change Proposals	Completeness and consistency of change development process	PPR-1-1, PPR-1-2
Change Management	Evaluating Change Proposals	Completeness and consistency of change evaluation process	PPR-1-3, PPR-1-4, PPR-1-7
Change Management	Implementing Change	Completeness and consistency of change implementation process	PPR-1-7
Change Management	Intervals	Reasonableness of change interval	PPR-1-5, PPR-1-9
Change Management	Documentation	Timeliness of documentation updates	PPR-1-6, PPR-1-9
Change Management	Tracking Change Proposals	Adequacy and completeness of change management tracking process	PPR-1-7, PPR-1-9

2.4 Data Sources

The sources of data for this test included the Verizon CLEC Handbook and Verizon Resale Handbook, Telecom Industry Services change management process documentation, interviews with Verizon’s Change Control Manager and Change Control Director, meeting minutes and material from industry change control meetings, change requests provided by Verizon, and Verizon’s change management database.

The data collected for the test are summarized in Table 1-2 below.

**Table 1-2: Data Sources for Change Management Practices
Verification and Validation Review**

Document	File Name	Location in Workpapers	Source
Verizon Industry Change Control Meeting Agenda (May 1999)	Mtg_0599.pdf	PPR-1-A-I-1	Verizon PA
Verizon Industry Change Control Meeting Agenda (June 1999)	0699mtg.pdf	PPR-1-A-I-2	Verizon PA
Verizon Industry Change Control Meeting Agenda (July 1999)	ICC_Materials_0799.pdf	PPR-1-A-I-3	Verizon PA
Verizon Industry Change Control Meeting Agenda (August 1999)	Mtg0899.pdf	PPR-1-A-I-4	Verizon PA
Verizon Industry Change Control Meeting Agenda (September 1999)	Mtg0999.pdf	PPR-1-A-I-5	Verizon PA
Verizon Industry Change Control Meeting Agenda (October 1999)	Mtg1099.pdf	PPR-1-A-I-6	Verizon PA
Verizon Industry Change Control Meeting Agenda (November 1999)	Mtg1199.pdf	PPR-1-A-I-7	Verizon PA
Verizon Industry Change Control Meeting Agenda (December 1999)	Mtg1299.pdf	PPR-1-A-I-8	Verizon PA
Verizon Industry Change Control Meeting Agenda (January 2000)	Mtg0100.pdf	PPR-1-A-I-9	Verizon PA
Verizon Industry Change Control Meeting Agenda (February 2000)	Mtg0200.pdf	PPR-1-A-I-10	Verizon PA

Document	File Name	Location in Workpapers	Source
Verizon Industry Change Control Meeting Agenda (March 2000)	0300mtgmaterials.pdf	PPR-1-A-I-11	Verizon PA
Verizon Industry Change Control Meeting Agenda (April 2000)	0400ICC meeting.pdf	PPR-1-B-I-1	Verizon PA
Verizon Industry Change Control Meeting Agenda (May 2000)	0509_ICC Mtg.pdf	PPR-1-B-I-2	Verizon PA
Verizon Industry Change Control Meeting Agenda (June 2000)	June_materials.pdf	PPR-1-B-I-3	Verizon PA
Verizon Industry Change Control Meeting Agenda (July 2000)	July_ICC_materials.pdf	PPR-1-B-I-4	Verizon PA
Verizon Industry Change Control Meeting Agenda (August 2000)	Aug_ICC_Materials.pdf	PPR-1-B-I-5	Verizon PA
Verizon Industry Change Control Meeting Agenda (September 2000)	09_00_Meeting_materials.pdf	PPR-1-B-I-6	Verizon PA
Principles of Change Management (January 28, 1998)	Prpcp_227.pdf	PPR-1-C-I-1	Verizon PA
Telecom Industry Services Change Management Process	CM_process.pdf	PPR-1-C-I-2	Verizon PA
Type 1 Notification Process	0811_Type_1_Process.pdf	PPR-1-C-I-3	Verizon PA
CLEC Change Management Notification Process (February 2000)	Chg_mg_not.pdf	PPR-1-C-I-4	Verizon PA

Document	File Name	Location in Workpapers	Source
Verizon CR database	KPMG PA database-06_00_exp.xls	PPR-1-C-I-5	Verizon PA
Verizon response to KPMG Consulting's Interview Summary	Pa rev.doc	PPR-1-C-I-6	Verizon PA
PPR1 Detailed Test Plan	Hard Copy	PPR-1-C-II-7	KPMG Consulting
KPMG Consulting – Verizon Initial Data Request	Ppr1_init_data_req.doc	PPR-1-C-II-8	KPMG Consulting
KPMG Consulting – Verizon Interview Guide	Ppr1_int_guide.doc	PPR-1-C-II-9	KPMG Consulting
KPMG Consulting – Verizon Interview Report	Ppr1_int_report.doc	PPR-1-C-II-10	KPMG Consulting
KPMG Consulting – Verizon Interview Summary	PPR1_int_summ_PA.doc	PPR-1-C-II-11	KPMG Consulting
KPMG Consulting – Verizon Supplemental Data Request	PPR1_data_requestIIPA.doc	PPR-1-C-II-13	KPMG Consulting
KPMG Consulting – Verizon Supplemental Data Request	Ppr1_init_data_req2.doc	PPR-1-C-II-14	KPMG Consulting
KPMG Consulting – Verizon Interview Guide	Ppr1_int_guide2.doc	PPR-1-C-II-15	KPMG Consulting
KPMG Consulting – Type 2, Type 3, Type 4, and Type 5 CR Analysis	CR analysis PA.xls	PPR-1-C-II-16	KPMG Consulting

Document	File Name	Location in Workpapers	Source
KPMG Consulting Type 1 CR Analysis	CR analysis2.xls	PPR-1-C-II-17	KPMG Consulting
KPMG Consulting Observation Background Information	Hard Copy	PPR-1-C-II-18	KPMG Consulting
Verizon Type 1 FLASH Announcements	Type1PA.pst	PPR-1-C-II-19	KPMG Consulting
Verizon FLASH Announcements	FLASH_PA.pst	PPR-1-C-II-20	KPMG Consulting
Verizon Change Request Type 4 History (CR 273 – CR 811)	Hard Copy	PPR-1-D-II-1	KPMG Consulting
Verizon Change Request Type 4 History (CR 816 – CR 1051)	Hard Copy	PPR-1-E-II-1	KPMG Consulting
Verizon Change Request Type 4 History (CR 1055 – CR 1396)	Hard Copy	PPR-1-F-II-1	KPMG Consulting

2.4.1 Data Generation/Volumes

This test did not rely on data generation or volume testing.

2.5 Evaluation Methods

Verizon PA's change management function was evaluated for compliance with stated notification and documentation intervals set forth in the July 6, 2000 Verizon TIS change management policy documents. Verizon Change Management correspondence, the Verizon Change Control Database, and Verizon Industry Change Control meeting minutes were reviewed for the period of December 1998 through September 2000. Change request items during the May 1999-September 2000 period were examined, and an assessment was performed to determine whether the appropriate change notifications and requisite documents were sent. Specifically, change request items that had the following attributes were included in the assessment:

- ◆ A commitment date within the May 1999 through September 2000 timeframe.
- ◆ Applicable Verizon region equal to either South (S) or Pennsylvania (PA).
- ◆ Changes discussed with the CLEC community but not assigned a Change Request number were excluded from the assessment.

2.6 Analysis Methods

The Change Management Practices Verification and Validation Review included a checklist of evaluation criteria developed by the Test Manager during the initial phase of the Verizon Pennsylvania OSS Evaluation. These evaluation criteria provided the framework of norms, standards, and guidelines for the Change Management Practices Verification and Validation Review.

The data collected were analyzed employing the evaluation criteria referenced above.

3.0 Results Summary

This section identifies the evaluation criteria and test results.

3.1 Results & Analysis

The results of this test are presented in Table 1-3 below.

Table 1-3: PPR1 Evaluation Criteria and Results

Test Cross-Reference	Evaluation Criteria	Result	Comments
PPR-1-1	Change management process responsibilities and activities are defined.	Satisfied	The July 6, 2000 Verizon Telecommunications Industry Services' Change Management Process Document describes change management activities and defines Verizon PA and CLEC responsibilities. Continuing workshops have been held to gain consensus within the CLEC community for any proposed changes to the agreements.
PPR-1-2	The change management process is in place and documented.	Satisfied	The change management process is defined in the July 6, 2000 Change Management Process Document. The change management documentation describes the steps in the change management process. Additionally, workshops have further clarified some issues including: how changes are initiated, evaluated, and implemented.

Test Cross-Reference	Evaluation Criteria	Result	Comments
PPR-1-3	The change management process has a framework to evaluate, categorize, and prioritize proposed changes.	Satisfied	The process for evaluating, categorizing, and prioritizing proposed Type 4 and 5 changes is outlined and discussed in newly implemented communications enhancements to the Principles of Change Management. The change management process defines five types of changes, and the new communications enhancements define a system to prioritize changes within each type. Processes and procedures have been instituted to update and maintain a database that tracks the progress of each specific change. Verizon tracks and reports change requests systematically using change request (CR) numbers. CR numbers are utilized in change management communications with CLECs to identify specific changes. Verizon hosts monthly prioritization meetings where CLECs (in person or by phone) vote to prioritize Change Requests based on available information.
PPR-1-4	The change management process includes procedures for allowing input from all interested parties.	Satisfied	The change management process allows input from interested parties following the notification of changes. Parties can both formally comment through email directly to Verizon or share comments with the CLEC community. Comments and points may be made during monthly change management meetings.
PPR-1-5	The change management process defines intervals for considering and notifying customers about proposed changes.	Satisfied	The Principles of Change Management Process document and the Telecom Industry Services Change Management Process define the types and intervals for all five categories of change request. These intervals were reviewed and agreed to with CLECs as part of a collaborative process.

Test Cross-Reference	Evaluation Criteria	Result	Comments
PPR-1-6	Documentation regarding proposed changes is distributed on a timely basis.	Satisfied	As illustrated in Table 1-4, Verizon PA has achieved a 95% on-time interval for notification and documentation issuance for Type 1 changes and 100% on-time for notifications and documentation issuances for Types 2 and 3 changes. For Type 4 changes, Verizon PA notified CLECs on-time 74% of the time and issued documentation on-time for 54% of these changes. However, Verizon PA met 100% of the time intervals for both notification and documentation issuance for the June 2000, August 2000, and October 2000 releases.
PPR-1-7	Procedures and systems are in place to track information such as descriptions of proposed changes, notification dates, and change status.	Satisfied	Each Change Request (CR) is issued a unique CR tracking number. Records of communication, as well as when documentation was distributed, are part of the change control database.

Test Cross-Reference	Evaluation Criteria	Result	Comments
PPR-1-8	Criteria are defined for the prioritization system and for severity coding.	Satisfied	<p>Type 1 changes are emergencies and do not require prioritization. Type 2 changes are mandatory regulatory changes that include required dates for implementation. Type 3 changes are industry standard changes and intervals are determined by Verizon PA. Type 4 changes are Verizon PA initiated changes and are prioritized by Verizon PA. Type 5 changes are CLEC initiated.</p> <p>Verizon PA hosts monthly prioritization meetings where attending CLECs vote to prioritize Type 4 and 5 change requests based on available information.</p>
PPR-1-9	Compliance of process and software changes pertaining to documentation and notification intervals.	Satisfied	<p>Verizon PA adhered to the notification intervals and documentation releases that have been defined in the Process of Change Management document dated July 6, 2000. The CR analysis as indicated in Table 1-4 describes the compliance with documentation and notification intervals. With respect to notification intervals, Type 1, Type 2, Type 3, Type 4, and Type 5 CRs resulted in compliance of 98%, 100%, 100%, 74%, and 0%, respectively. Documentation compliance for Type 1, Type 2, Type 3, Type 4, and Type 5 CRs resulted in 98%, 100%, 100%, 55%, and 0%, respectively.¹</p>

¹ Eight (8) of 495 Type 1 CRs revealed in rare instances problems such as implementation dates being rescheduled, unrelated sub-issues added in Type 1 Changes, and incomplete documentation or revised Electronic Data Interchange (EDI) maps.

3.2 Additional Results

3.2.1 Notification Interval Breakout

Table 1-4: Notification Compliance

Change Type	Applicable Intervals and Timelines	Notification Interval Compliance	Documentation Interval Compliance
Type 1 (Emergency Maintenance)	Type 1 changes may be initiated by Verizon PA or a wholesale customer. Changes are processed on an expedited basis (typically within hours to one or two days) with a maximum interval of 30 days between identification of a problem and implementation of the change. Processing includes impact analysis, requirement definition, industry notification, and system modification (implementation).	486 of 495	486 of 495
Type 2 (Regulatory)	Type 2 changes are mandated by regulatory or legal entities such as the Federal Communications Commission (FCC). Timelines vary based on applicable law and regulatory rules.	6 of 6	6 of 6
Type 3 (Industry Standard)	Type 3 changes require notification to CLECs of Verizon PA draft change specifications within 60 days after the industry standard draft specifications are released. After CLEC agreement on the type and for of the change occurs, Verizon PA has up to 100 days to develop the change and 30 more days to implement it.	7 of 7	7 of 7
Type 4 (Verizon Originated)	Required notification interval is 66 days prior to implementation. Required documentation interval is 45 days prior to implementation. There are no required intervals for new functionality roll-outs.	31 of 42	23 of 42
Type 5 (CLEC Originated)	Required notification interval is 66 days prior to implementation. Required documentation interval is 45 days prior to implementation. There are no required intervals for new functionality roll-outs.	0 of 1	0 of 1

In addition to the nine Type 1 CRs that did not meet the pre-specified intervals, KPMG Consulting noted that in 11 instances, Verizon PA did not adhere to the agreed-upon definitions, as outlined in the Principles of Change Management, for Type 1 changes. Type 1 changes are defined as emergency changes that correct system deficiencies. KPMG Consulting found instances of problems with Type 1 CRs. These problems include:

- ◆ Problem complexity – The problems described in the CR are very complex and difficult to understand and implement.
- ◆ Solution design and implementation. The solution to be designed and implemented would require a significant effort.
- ◆ Implementation dates being rescheduled.
- ◆ Unrelated Sub-Issues included in Type 1 changes.
- ◆ No or incomplete documentation, including revised Electronic Data Interchange (EDI) maps.

In a few cases, Verizon PA combined multiple, unrelated, and non-emergency changes into one CR. A CLEC was obliged to make changes to their interface for issues that were not emergencies. Many of these “combined” changes could have been categorized as Type 4 changes and had the 66-day interval applied.

Verizon PA’s overall compliance with the Change Management policies for notifying the CLEC community of Type 1 FLASH announcements for the duration beginning May 1, 1999 and ending on September 30, 2000 resulted in a success rate of 98% (486 of 495).

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