**Texas Market Test Plan**

**Prepared by**

**Texas SET Working Group**

**RMS approved 03/23/11**

# **Table of Contents**

Table of Contents 2

**Document History** 5

Date/Version 5

Summary of Changes 5

1. Texas Market Test Plan 7

**1.1 Purpose and Scope** 7

**1.2 Testing Assumptions** 7

**1.3 Texas Market Test Plan Revision** 8

2. Testing Website 9

**2.1 Testing Worksheet (TW)** 9

**2.1.1 Contacts** 9

**2.1.2 Exceptions to the Test Plan** 9

**2.1.3 Manually-Assisted Processes** 10

**2.1.4 Testing Responsibilities** 10

3. Testing Guidelines 11

**3.1 Testing Requirements Matrix** 11

**3.2 In-Flight Texas Retail Market Testing** 11

**3.2.1 New TX SET/ANSI X12 EDI Version Releases** 11

**3.2.2 Contingency EDI Providers** 12

**3.2.3 Certified Market Participant Changes to a Non-Established Service Provider** 12

**3.2.4 New Trading Partnership** 12

**3.2.5 Market Participants who Fail to Maintain Certification** 12

**3.2.6 Marketplace Functional Changes** 13

**3.2.7 Banking Changes** 13

**3.3 Out-of-Flight Texas Retail Market Testing** 13

**3.3.1 Timing Guidelines** 14

**3.3.2 Emergency Changes** 14

**3.3.3 Changes Constituting a Specified Ad Hoc Testing** 15

**3.4 System Changes** 16

**3.4.1 System Change Categories** 17

**3.4.2 Translator System Changes and/or Updates** 18

**3.4.3 Translator Change Checklist** 18

**3.4.4 Back-end System Changes and/or Updates** 18

**3.4.5 Marketplace Production Failures** 19

4. Testing Details 20

**4.1 Round Robin Testing** 20

**4.1.1 MP Testing Flights** 20

**4.1.2 Scenarios** 20

**4.1.3 Scripts** 20

**4.1.4 Test Days** 21

**4.1.5 Check Points** 21

**4.1.6 Simulated System Dates** 21

**4.1.7 Meter Read and Switching Cycles** 21

**4.1.8 EDI Testing** 22

**4.1.9 Testing Status Checklist** 22

**4.1.10 Conference Calls** 22

**4.1.11 Risk Mitigation** 22

**4.1.12 General Principals Guiding Test Structure and Completion** 22

**4.1.13 Escalation Procedures** 23

**4.2 Data Loading** 23

**4.2.1 Loading ESI IDs into ERCOT Systems** 24

**4.2.2 Providing ESI IDs to CRs** 24

**4.3 Certification** 24

**4.3.1 Pre-Flight Activities** 24

**4.4 Business Process Scenarios** 24

**4.4.1 Business Process Certification** 24

5. Testing Requirements of ERCOT and Market Participants 26

**5.1 General Marketplace Requirements** 26

**5.2 CR Requirements** 26

**5.2.1 Prior to Testing** 26

**5.2.2 During Testing** 27

**5.2.3 After Testing** 27

**5.3 TDSP Requirements** 27

**5.3.1 Before Testing** 27

**5.3.2 During Testing** 27

**5.3.3 After Testing** 28

**5.4 ERCOT Requirements** 28

**5.4.1 Before Testing** 28

**5.4.2 During Testing** 28

**5.4.3 After Testing** 28

**5.5 PUCT Requirements** 29

**5.5.1 Before Testing** 29

**5.5.2 During Testing** 29

**5.5.3 After Testing** 29

**5.6 Flight Administrator Requirements** 29

6. Details of Testing Phases 31

**6.1 Technical Connectivity and Verification** 31

**6.1.1 NAESB EDM Testing** 31

**6.1.2 TX SET Verification** 31

**6.2 End-to-End Testing** 32

**6.3 Point-to-Point Testing** 32

Appendices 33

**Appendix A - Testing Worksheet** 33

**Appendix B - Resources** 33

**Appendix C - Marketplace Issue Resolution Form** 35

**Appendix D - Texas Retail Market Test Bed Load Form** 36

**Appendix E - Testing Requirements Matrix** 36

**Appendix F – Glossary of Terms & Acronyms Used in this Document not defined in Section 2 of the ERCOT Protocols** 37

**Appendix G – Approved Test Flights Schedule** 37

**Appendix H – Random ANSI X12 and Business Validation Testing – Procedure Document** 38

Issue 38

Goals and Objectives 38

Value of Random Testing 38

Effects of the Problem 38

Causes of the Problem 39

Recommended Solution 39

Communicating Results 40

Reject Transactions 40

## **Document History**

|  |  |
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| **Date/Version** | **Summary of Changes** |
|  |  |
| 10-28-14 v 1.10 |  |
| 03-23-11 v 1.9  07-15-09 v 1.8 | * Cleanup related to merger of Texas Test Plan Team into Texas SET Working Group and updated outdated procedures * Updated Section 4.1.8 to remove language regarding testing through TML * Added language regarding Round Robin Testing Approach * Removed Non Established Service Provider from definitions. * Corrected cosmetic issues |
| 05-13-09 v 1.7 | * Changes were made to Section3.3.3, Changes Constituting a Specified Ad Hoc Testing |
| 05-29-08 v 1.6 | * “Out of Flight Testing” added to Table of Contents * Clarified responsibilities of Market Flight Administrator in regards to pass/fail situations * Added language on Connectivity Issues * Defined Escalation Procedures * Removed Affiliated REP (AREP) and Disconnect for Non Pay (DNP) from conditional testing scenarios |
| 11-16-06 v1.5 | * Added DUNS+4 Reference for clarification * Changed Flight Test to Texas Retail Market testing to parallel the new verbiage in the Flight Orientation presentation * Added clarifying language in section 3.1 regarding Retail Testing Matrix * Included reference to Random Testing in the Responsibilities section of the Flight Administrator * Added Appendix H for Random ANSI X 12 and Business Validation Testing Procedure Document |
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| --- | --- |
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| 02-21-01 v1.03d | Second draft |
| 01-23-01 v1.0d | First draft |

**1. Texas Market Test Plan**

## **1.1 Purpose and Scope**

The purpose of this document is to define the market plan for testing retail commercial operations systems and business processes to support the Texas Electric Choice Market. This document covers all retail testing requirements and procedures between ERCOT and the Market Participants (MPs) and Point-to-Point retail testing between MPs. In an effort to diminish the potential risks that could be introduced into the Texas Retail Electric Market from new unproven systems or MPs or from the effects of new TX SET/ANSI X12 EDI Version Releases, the Texas Market Test Plan provides the mechanism for ensuring that the central retail systems operated by ERCOT are functioning properly, and that the retail systems operated by MPs interface properly with both ERCOT’s systems and other MPs’ systems. In addition to Testing Procedures, the Texas Standard Electronic Transaction (Texas SET) Working Group monitors and reviews metrics on production environments looking for opportunities to improve existing testing procedures. The Texas Market Test Plan addresses the following:

* Testing Guidelines
* Testing Details
* Testing Requirements for Market Participants and ERCOT
* Testing Phases
* Success Criteria
* Overview of Testing Scenarios for Certification in the Texas Market

Texas SET is responsible for maintaining and updating the information in this document as defined in Section 19.8 of the ERCOT Protocols.

## **1.2 Testing Assumptions**

 MPs who wish to participate in the market using NAESB EDM for conducting retail operations in the Texas Marketplace will refer to this document for guidelines on these processes.

* Testing shall occur during Business Hours on a Retail Business Day which are documented in ERCOT Protocols Section 2, Definitions and Acronyms.

 MPs may elect to not participate in testing optional processes as identified in this document but will inform their trading partners (TPs) and the Flight Administrator in advance. However, an MP does not have the option to refuse to test the basic processes necessary to ensure that their retail systems interface properly with both ERCOT’s and other MPs’ systems.



* All entities attempting to certify in the Texas Retail Market, will use dedicated test environments that are representative of their production environments.

 The Flight Administrator is the final authority on all levels of Business Process Certification among trading partners, including the verification that a party has successfully passed testing and is eligible to go into production. At any time during flight testing, an MP that is not meeting testing expectations may be advised by the Flight Administrator to withdraw from the flight. This may be related to such scenarios as not sending transactions to Trading Partners in a timely manner or sending transactions containing NAESB/TX SET errors.

* Flight Administrator will follow escalation procedures set forth in the TMTP. If at the end of the flight the MP has not withdrawn and the Flight Administrator determines the MP has failed flight testing, the testing certificate shall not be granted and the MP must complete testing in a future flight.

 The Flight Administrator will moderate testing and report on test status including progress and issues to ERCOT, Retail Market Subcommittee (RMS), Texas SET, other appropriate committees, and/or the PUCT.

 Functional Acknowledgements provide a critical audit trail. All parties will send Functional Acknowledgements (FA/997) for all EDI transactions (except for the receipt of a 997, which would create an endless cycle) during testing. Parties shall monitor acknowledgements sent and received, but are not a checklist item for flight success.

## **1.3 Texas Market Test Plan Revision**

Revisions to the Texas Market Test Plan shall be reviewed by the Texas SET Working Group and approved by the Retail Market Subcommittee.

**2. Testing Website**

The Flight Administrator maintains a Texas Retail Testing website (RTW) that details the current status of the testing process. The URL address for this website can be found in Appendix B.

This website includes:

 The Texas Market Test Plan (TMTP)

 Test Scripts

* Approved Texas Retail Market Test Flight Schedule Timelines

 Daily agenda and minutes of each conference call

 Texas SET meeting schedule

 Testing contact lists

 Frequently Asked Questions (FAQs) on the Testing Process

 Testing Status - Each organization will be able to obtain a status of the testing process, including its own status. Information will be secured by organization.

 Market Links

 File Cabinet for significant testing materials

 Testing Worksheet (TW)

## **2.1 Testing Worksheet (TW)**

Each MP completes a Testing Worksheet (TW) online. This worksheet includes basic contact information, as well as specific testing communications information, required for effective testing. It also identifies processes that will be tested including optional functions that the MP will use in their business plan and which they plan to test.

The TW link can be found in Appendix A.

### **2.1.1 Contacts**

Parties shall provide daily and emergency contact information for the test lead and the test lead alternate. Issue Resolution procedures require that an executive level contact also be provided.

At least one Business Contact shall be an employee of the Market Participant, not a vendor or service provider.

### **2.1.2 Exceptions to the Test Plan**

Parties cannot arbitrarily require other parties to test certain features, scenarios or scripts, nor can they arbitrarily refuse to test certain features, scenarios or scripts. This Test Plan details full-testing requirements for MPs. There are legitimate scenarios where a party will not support a feature or scenario that is identified in a test script. In these cases, a party can claim an ‘exception to the Test Plan’. These exceptions shall be documented in the TW, and shall be approved by the Flight Administrator. The Flight Administrator will review exceptions on a case-by-case basis to determine the impact on the Marketplace. Parties that claim “approved” exceptions will not be required to test those features. Once approved, this information will be shared with trading partners.

### **2.1.3 Manually-Assisted Processes**

Each party shall identify the different processes that directly support data exchanges that require manual intervention. Manual intervention increases the risk of errors or process failures and could serve to conceal systemic problems that might introduce transaction errors or hazards into the Market. ANSI X12-formatted files shall never be altered manually except in the case of a simulated error for a test script. This information will be documented in advance on the Testing Worksheet and shared with trading partners.

### **2.1.4 Testing Responsibilities**

The ‘Testing Responsibilities’ section details the responsibilities each party has in the testing process. This Test Plan is focused on testing the most significant features of the marketplace. Also, each party has certain obligations prior to, during, and after testing which are outlined in the ‘Testing Responsibilities’ section.

**2.1.5 Connectivity Schedules**

Connectivity schedules are arranged by the dates stated in the approved Texas Retail Market Test Flight Schedule.

* If a New MP chooses to use a Service Provider they must communicate their choice of Service Provider to the Flight Administrator by noon of the day the Flight Administrator is scheduled to send the testing matrix. (see approved Texas Retail Market Test Flight Schedule. ) No Service Provider changes will be made after the Flight Administrator has sent the testing matrix unless all testing participants have agreed to the change.

3. Testing Guidelines

Pursuant to PUCT rules, any entity intending to participate in the Texas Market must successfully certify their retail commercial applications through Texas Retail Market testing and maintain that certification in accordance with TX SET Version upgrades. Market Testing can be categorized as two types: In-Flight and Out-of-Flight Texas Retail Market testing. In-Flight Texas Retail Market testing consists of market approved scheduled Texas Retail Market testing. There are a defined number of test flights adopted by Texas SET and approved each year by the Retail Market Subcommittee, as directed by the PUCT. Out-of-Flight Texas Retail Market testing is considered only for those changes deemed an “emergency” or a “Specified Ad-Hoc Testing” for existing Market Participants in a specific service territory.

As mentioned above, “emergency” changes or those deemed a “Specified Ad Hoc Testing” for existing Market Participants in a specific service territory are the only changes that will be considered for Out-of-Flight Texas Retail Market testing. Out-of-Flight Texas Retail Market testing requires advance notice to ERCOT and the Market Participant testing contacts listed on the testing website. Upon confirmation of the “emergency” change or “Specified Ad Hoc Testing” by the Flight Administrator, based on the scenarios described further in this section, a mutually agreeable Out–of-Flight Texas Retail Market testing schedule will be developed between parties. If an MP is unsure of the lead-time required, it is best practice to contact the Flight Administrator for guidance or clarification.

This section provides baseline requirements to assist a Market Participant in determining whether their change qualifies for Out-of-Flight Texas Retail Market testing, or needs to be tested in an approved test flight. These guidelines are intended to minimize risk to the Marketplace. Market Participants (MPs) shall follow well-defined internal change management processes that document results and demonstrate due diligence when making changes.

## **3.1 Testing Requirements Matrix**

A tool has been developed to assist in determining the testing requirements for any changes made to systems or contracts. This matrix is a dynamic guide, which may be changed by Texas SET, to assist with Retail Testing requirements; all testing requirements shall be verified with the Flight Administrator. (See Appendix E for the current version)

## **3.2 Texas Retail Market Flight Testing**

There are a defined number of test flights adopted by Texas SET and approved each year by the Retail Market Subcommittee (RMS), as directed by the PUCT. Test flights are posted on the Texas Retail Testing Website.

### **3.2.1 New TX SET/ANSI X12 EDI Version Releases**

All market participants, including ERCOT, shall complete required certification through Texas Retail Market testing as defined by Texas SET when a new TX SET/ANSI X12 EDI Version Release is approved by the Market. On occasion, a Version Release will not consist of any system or transaction changes to the Market or its participants. In that instance, Texas SET and RMS may determine that additional testing is not necessary.

### **3.2.2 Contingency EDI Providers**

A Market Participant who is certified in the Texas Marketplace with the current TX SET version that chooses to test with a Contingency Market Interface Service Provider shall do so in a scheduled test flight. Testing for Contingency EDI Provider cannot be done during a TX SET Version Release. A CR does not have to acquire an alternate DUNS number for testing with a Contingency EDI Provider. One CR cannot test with two different EDI Providers in same flight.

### **3.2.3 Certified Market Participant Changes to a Non-Established Service Provider**

A Market Participant who is certified in the Texas Marketplace with the current TX SET version may choose to move from their Market Interface Service Provider to another Market Interface Service Provider. If the new Market Interface Service Provider has not successfully completed certification testing for another Market Participant in the service territory in question this “Non-Established Service Provider” is required to execute tests during a scheduled market test flight. Market Interface Service Provider is a term used to refer to an MP’s internal organization or an outsourced company that provides both connectivity and translation services for an MP.

An MP that chooses to use a Market Interface Service Provider that has not successfully completed certification testing is required to contact the Flight Administrator to determine what Connectivity and Translator tests they are responsible for executing during the next scheduled market test flight.

An MP may not switch to a Non-Established Market Interface Service Provider as an “Emergency” without the express permission of the Flight Administrator. A switch to a Non-Established Market Interface Service Provider by an MP is not considered a “Specified Ad Hoc Testing” and does require Texas Retail Market testing.

##### Non-Established Market Interface Service Provider Checklist

1. Provide new Testing Worksheet (TW) to all trading partners (as required by test flight).
2. Complete all scripts specified under the “New” testing track.

### **3.2.4 New Trading Partnership**

All new trading partnerships shall go through the “In-Flight” testing process as prescribed in the TMTP during a scheduled market test flight. The only exceptions are clearly set forth in the Out-of-Flight section.

### **3.2.5 Market Participants who Fail to Maintain Certification**

* A certified MP may choose to not actively participate in the Marketplace. Regardless of this decision, they are required to maintain certification according to the current Marketplace baseline, including TX SET version and associated emergency change controls. A party that fails to maintain the current baseline certification loses its certification. .
* There are scenarios where the PUCT will revoke a CR/REP’s certification. In this case, retail market certification is also revoked. The CR/REP will be treated as a new MP and shall complete all certification testing during a scheduled market test flight in order to re-enter the marketplace.

### **3.2.6 Marketplace Functional Changes**

Marketplace functional changes can include the following:

 New tracks, such as

* + Continuous Service Agreement (CSA)
  + Provider of Last Resort (POLR)
  + Competitive Metering (COMET)
  + Service Order Option 1
  + Disconnect for Non-Pay

 New TX SET versions, including normal and emergency change controls

 New transactions

 Outage proof of concept

 New Connectivity Options (NAESB EDM)

### **3.2.7 Banking Changes**

Trading partners shall be notified when changes occur with the banking institutions they use. The changes may be caused by any number of reasons including bank mergers or upgrades to newer releases of ANSI standards. These changes may result in new routing codes, account numbers, format changes to the remittance advice or other changes that would affect one party’s ability to deliver and/or reconcile invoices and payments. When such changes occur, it the responsibility of the party whose bank made the change to initiate testing with their trading partners.

Testing shall use one or more of the following methods to verify that payments and remittances between trading partners remain timely and accurate.

1. Penny test
2. Invoice/Remittance

## **3.3 Adhoc Texas Retail Market Testing**

The Texas Market Test Plan assumes that testing will occur during a regularly scheduled test flight. However on those occasions when the only requirements for testing between Market Participants are connectivity with ERCOT, connectivity with the TDSPs and/or connectivity with their Bank, the REP has the option to request testing from the TDSPs and ERCOT at anytime during a regularly scheduled flight. The definition of a regularly scheduled flight for the purposes of this section is the time frame between the connectivity kick-off call and the end date for Contingency testing for the Flight. This request shall be made via e-mail to the primary, secondary, and business testing contacts of the TDSP and ERCOT no later than two weeks in advance of their requested testing timeline. Upon receipt of request, the TDSPs and ERCOT, within two weeks, will be required to propose a test schedule with the REP.

### **3.3.1 Timing Guidelines**

If a Market Participant encounters a situation that can be categorized as an “Emergency Change” or a need for “Specified Ad Hoc Testing”, their request for testing shall be made via e-mail to the primary, secondary, and business testing contacts of the TDSP and ERCOT at least two weeks in advance of their requested testing timeline. Upon receipt of request, the TDSPs and ERCOT have two weeks to propose a test schedule with the REP. While such testing can take place during or between scheduled Test Flights as defined by Texas SET, there will exist a “blackout period” during which such testing will not be conducted. The blackout period is required for ERCOT and the TDSPs to set up test beds (See Appendix D) and establish connectivity with new trading partners for a regularly scheduled Test Flight. The blackout period begins at the scheduled end of the previous Test Flight and ends on the date of the Flight Connectivity Testing Kick Off Call. The Approved Test Flights Schedule link can be found in Appendix G.

### **3.3.2 Emergency Changes**

There are a number of scenarios that may dictate emergency action to resolve production problems. Emergency Out-of-Flight Texas Retail Market testing guidelines address situations like:

 System failures, disaster recovery, and/or business resumption plan execution.

 Failure of internal or subcontracted entities - There are a number of situations that may require a party to quickly replace an entity because of production failures.

* The party requesting the Out-of-Flight Texas Retail Market testing has the final discretion on what constitutes a failure providing they choose to use a Market Interface Service Provider that has successfully completed certification testing with another Market Participant in the specified service territory.
* If they choose to use a Market Interface Service Provider that has not successfully completed certification testing for another Market Participant in the service territory in question, the Flight Administrator will have the final discretion on what can be tested Out-of-Flight.

 Current bank used by Market Participant goes out of business.

If a Market Participant encounters a situation that can be categorized by one of the above-mentioned scenarios, their request for testing shall be made as outlined in the Timing Guidelines.

##### Emergency Change Testing Checklist

* 1. Provide new Testing Worksheets (TW) to all trading partners (as required by test flight).
  2. Complete the Connectivity Test Scripts as defined by Texas SET.
  3. Complete the Penny Test Script as defined by Texas SET.
  4. Complete the Basic Enrollment Script(s) as defined by Texas SET, at the discretion of the Market Flight Administrator.

Emergency changes considered for Out–of-Flight Texas Retail Market testing do not include market-wide emergency changes that may occur due to a PUCT Ruling.

### **3.3.3 Changes Constituting a Specified Ad Hoc Testing**

There are a number of scenarios when an existing Market Participant may determine that there exists a need for “Specified Ad Hoc Testing: to institute a particular change to their systems or processes and they can do so in a manner that does not impose undue risk to the Market. Out-of-Flight Texas Retail Market testing guidelines address the following situations that are considered applicable for “Specified Ad Hoc Testing”:

1. **Current Market Participant adds a New Additional DUNS by Certified REP**

A Market Participant who is certified in the Texas Marketplace with the current TX SET version determines that they need to establish a new Additional DUNS by Certified REP (DUNS or DUNS + 4) under that MP’s existing umbrella. In this instance the certified Market Participant in a specific service territory is simply adding a new trade name and DUNS number that will be utilizing the same Load Serving Entity (“LSE”), same banking relationships, same back-end systems, and an Established EDI Provider.

If a Market Participant encounters this situation, their request for testing shall be made as outlined in the timing guidelines. The REP will be required to complete the following before being certified to enter the Market under the new ADDITIONAL DUNS BY CERTIFIED REP name and DUNS number.

##### New Additional DUNS By Certified REP (DUNS or DUNS + 4) Checklist

* 1. Provide new Testing Worksheet (TW) to all trading partners.
  2. Complete the Connectivity Test Scripts.
  3. Complete the Penny Test Script.

1. **Current Market Participant Changes to an “Established” Service Provider**

A Market Participant who is certified in the Texas Marketplace with the current TX SET version determines that they need to change their Market Interface Service Provider to another Market Interface Service Provider that is currently serving another Market Participant in a specified service territory or to an “Established Service Provider.” Market Interface Service Provider is a term used to refer to an MP’s internal organization or an outsourced company that provides both connectivity and translation services for an MP. An “Established Service Provider” is defined as an organization or company that provides both connectivity and translation services to another Market Participant in the same service territory and that has successfully tested in the Marketplace provided they tested using the current TX SET version. This includes changes to internal organizations, external subcontractors, and/or external companies and service providers.

If they choose to use a Market Interface Service Provider that has not successfully completed certification testing for another Market Participant in the service territory in question or a “Non-Established Service Provider” they will be required to complete In-Flight-Testing.

If a Market Participant wishes to make this change, their request for testing shall be made as outlined in the timing guidelines. The REP will be required to complete the following before being certified to enter the Market with the new “Existing Service Provider”:

##### Established Market Interface Service Provider Checklist

* 1. Provide new Testing Worksheet (TW) to all trading partners (as required by test flight).
  2. Complete the Connectivity Test Scripts.
  3. Complete the Penny Test Script.
  4. Complete the Basic Enrollment Script(s).

## **3.4 System Changes**

During the normal course of Marketplace operations, companies will need to make changes to their systems, including connectivity systems, translation systems, and other back-end systems including billing, metering, customer information, etc. Once a party has qualified and is in production in the Marketplace, changes to systems can have a significant impact on trading partners and the Marketplace.

System Change Assumptions:

 System changes made by one MP can have an impact on trading partners (TPs) of that MP.

 An MP shall do sufficient internal testing, including regression testing, to minimize the impact of changes on its TPs.

 An MP shall communicate to its TPs clearly and early regarding changes to systems. This includes advance notice of the change, copies of migration plans, etc…

 An MP shall identify a ‘back-out’ strategy where appropriate in case problems as a result of changes cannot be resolved quickly.

 ‘Translator systems’ include any hardware, software, and system configuration used to create the ANSI X12-compliant files sent to TPs. It does not include mapping.

 ‘Connectivity systems’ include any hardware, software and system configuration used to deliver files to and from a TP. It includes the NAESB-based electronic delivery mechanisms (EDM).

 ‘Service Provider’ is a vague term that can refer to many different types of entities used by MPs in the Marketplace. These could include connectivity, translation, testing, billing, metering, etc.

 Market Interface Service Provider is a term used to refer to an MP’s internal organization or an outsourced company that provides both connectivity and translation services for an MP.

* While many changes to systems will be intentional and planned, there are emergency scenarios, such as a system failure, where advanced planning and notice are not possible.

### **3.4.1 System Change Categories**

#### Connectivity System Changes and/or Updates

Connectivity is defined as the systems used to send and/or receive files to/from your trading partners. These include NAESB EDM for CR/TDSP/ERCOT communications as well as changes in security keys, IP addresses, DNS names, and DUNS numbers.

##### Connectivity Change Checklist

1. Communicate the planned changes of communication systems to the Market Participant testing contact listed in the Testing Worksheet (TW) on the website, in accordance with sign-up for an approved Texas Retail Market testing.
2. Send new Testing Worksheet (TW) and new Trading Partner Agreements to TPs where necessary, including changes to DUNS, IP address, name change, or any other change to the information on the Testing Worksheet (TW).
3. Complete the change during the approved In-Flight Texas Retail Market testing or in accordance with the Out-of-Flight Texas Retail Market testing requirements set forth above and schedule migration date with each trading partner. If connectivity is the only change for that trading partner the migration date is not dependent upon the end of the Texas Retail Market testing.

Major changes to communication protocols may require more rigorous testing. Specific requirements for testing these changes will be defined within the specifications for the new communication protocol.

### **3.4.2 Translator System Changes and/or Updates**

Translators or systems used to perform the data transformation that create EDI ANSI X12 files may be changed or require upgrades. These changes pose significant risks to individual participants and the marketplace as a whole. All participants in the market shall therefore address these changes with a clear understanding that;

 ERCOT and market participants shall take responsibility for any changes they make in their data transformation system(s) and test with trading partners when they perceive a risk.

 ERCOT and market participants shall do internal testing to help minimize the risk to the market.

 Best practices include regression testing of translator changes using historical data.

### **3.4.3 Translator Change Checklist**

1. Provide new Testing Worksheets (TW) to all trading partners (as required by test flight).
2. Complete the Connectivity Test Scripts as defined by Texas SET.
3. Complete the Penny Test Script as defined by Texas SET.
4. Complete the Basic Enrollment Scripts as defined by Texas SET.

### **3.4.4 Back-end System Changes and/or Updates**

A company’s “back-end system” is defined as any part of an MP system that exists behind the connectivity protocol (NAESB, FTP, HTTPS, etc.) and the Market Interface Service Provider. Once the data passes through the communication interface and the Market Interface Service Provider, the data enters the back-end system. Because each MP's back-end system architecture is different, back-end systems couldinclude, but are not limited to the business process management system, billing system, or the data management system (database).

ERCOT and other MPs are required to take responsibility for any changes they make in their back-end system(s) and, if a potential risk is perceived, shall test with trading partners to minimize that risk. MPs shall follow change management best practices, including extensive internal testing, regression testing on historical data, etc.

ERCOT and MPs are not required to test when changes are made to their back-end system(s). As part of the company’s internal testing procedures, they may request to test with all, some, or none of their trading partners; however, it is considered good business practice for MPs and ERCOT to communicate any changes, replacements, and/or upgrades to their trading partners.

##### Back-end System Change Checklist

1. Where appropriate, notify TPs and the Flight Administrator of the planned changes to back-end systems. Notification needs to be provided to the Market Participant testing contact listed in the Testing Worksheet (TW) on the website.
2. Where appropriate, communicate testing plans to TPs including cut-over, migration and back-out plans.
3. Where appropriate, coordinate and agree on plan schedules/milestones with TPs.
4. Complete the change and confirm successful migration with each trading partner.

### **3.4.5 Marketplace Production Failures**

Nearly all production failures and/or rejections increase the costs of the Marketplace. Parties are required to work through any production failures directly with their TPs.

Parties that habitually cause these failures may be required to conduct additional testing to demonstrate their certification. Parties that are the victims of production failures can use the defined Issue Resolution Process after several direct attempts to resolve the problems have failed.

# **4. Testing Details**

## **4.1 Round Robin Testing**

New and existing Competitive Retailers (CRs) will execute testing in a round robin approach where applicable. A new CR will test with a minimum of one Transmission and/or Distribution Provider (TDSP) but will not be required to test with all TDSPs. However, if a new or existing CR indicates they want to certify in a Municipally Owned Utility (MOU) territory, they will be required to test with that TDSP. Once a CR completes testing all other TDSPs shall consider them to be certified. The final authority on what territory/territories a CR will test with will be at the discretion of the Flight Administrator.

### **4.1.1 MP Testing Flights**

Testing “Flights” have been established to organize testing scenarios into pre-defined groups. Specific details of these flights are covered in the section “Details of Testing Phases” herein below. Script Sub-team working with any appropriate Market Coordination Team will determine the appropriate length of the test flight. Texas Retail Market testing will occur according to schedules announced by ERCOT, Texas SET, and the Market Flight Administrator.

In a TX SET version upgrade flight, not all trading relationships will be tested; this was decided in order to test the depth of the TX Set Version Release not the breadth of the TX Retail Market.

### **4.1.2 Scenarios**

Texas SET has defined a number of business process scenarios. The Test Plan is focused on exercising these scenarios; especially business processes that are frequently executed and/or may cause major problems if not performed correctly in the Marketplace. See link to TX SET Swimlane Diagrams in Appendix B.

### **4.1.3 Scripts**

The Test Scripts defined in this document are a narrative depiction of the business processes being tested. The Test Script details each step of the testing process for each Scenario. Scripts are testing business process not transaction flow. There may be several test scripts for a defined business process scenario. For example, a number of processes may be tested for both positive and negative (reject) results. Some scripts will carry through to usage and billing. Some scripts will test the new version release functionality with a single CR. Not every version release change control or requirement will have its own script; some scripts test multiple change controls. The Test Scripts are each given a unique script name. The test scripts can be found on the Texas Retail Testing website link noted in Appendix B.

Each Test Script is assigned unique ESI ID number(s) by each of the TDSPs. Unless the business process specifically requires it, IDR ESI IDs will not be used for scripts. Some scripts are testing multiple CRs (limit 4) on one ESI ID. In a multi-party script, ERCOT will simulate a CR in the event one CR is unable to fulfill their assigned task. The TDSP will provide the completed Texas Retail Market Test Bed Load template to ERCOT and all CRs with whom it participates in the Texas Retail Market testing, on the day scheduled in the Flight Schedule. This information will be sent on the standard Test Bed Template, maintained by ERCOT and Texas SET (See Appendix D).

### **4.1.4 Test Days**

For End-to-End testing, each Test Script involves an exchange (request and response) of data between trading partners. Each step in the process is generally referred to as a ‘test day’. Each test day equates to a day of simulated time and in most instances a day of actual time. However, the Flight Administrator may alter this timing based on progress of the Market Participants. To accommodate these changes, it may be necessary for an MP to bypass logic that enforces rules for exchanges that require waiting longer than the scheduled number of days. Transition from one testing day to the next will progress naturally unless the test day is a critical date for the script; in which case, the parties shall successfully complete the critical tasks prior to progressing to the next testing day. MPs are required to keep up with the market testing pace. MPs and ERCOT are required to complete their daily activities as outlined in the testing scripts. Should a situation arise where a market participant falls behind, that Market Participant will be required to take action to catch up. The Flight Administrator may elect to use weekends for testing in the event testing has fallen behind schedule. Scripts are marked with several critical dates that must be met for script success. If one MP misses a critical date, all MP’s testing that instance of the script will be affected. In a multi-CR script, if a CR is failing the script, ERCOT will simulate the failing CR so as to not jeopardize the success of the script. MPs that are consistently unable to keep up may be asked to leave the test. In addition, the Flight Administrator may require that an MP start a script over during the flight.

### **4.1.5 Check Points**

Checkpoints will exist throughout the test. These check points exist to allow the Flight Administrator to gauge where the test is in relation to the Flight Timeline and take necessary action to get Flight back on schedule.

### **4.1.6 Simulated System Dates**

The Test Scripts identify two types of dates for each test day: the actual calendar date and the simulated system date. Only business days will be used for the simulated system dates.

All tests will use simulated dates that are at least four weeks earlier than the actual date of the testing. This provides time for the TDSPs to properly condition their Test Beds (See Appendix D).

There may be times when system clocks are held on a particular date to allow Market Participants to catch up or make fixes to their system, or times when system clocks are advanced multiple days within a short timeframe. The Flight Administrator will provide direction on these actions during the conference calls to ensure efforts are made to keep Market Participants’ system clocks synchronized. The Master Flight Calendar is referenced in Appendix B.

### **4.1.8 EDI Testing**

CRs must certify using TX SET EDI with ERCOT and TDSPs. The party will automatically qualify for use of the ERCOT Texas Market Link. All transactions shall be tested prior to use in production.

### **4.1.9 Testing Status Checklist**

ERCOT maintains a password-secured section on the Texas Retail Testing website to track the progress of each entity through the testing process. Through the Checklist link on this site, the MPs have the capability to view overall progress of the Texas Retail Market testing on the Complete/Total Tasks by MP link. They are also expected to update their individual status with the most current information on their testing progress by selecting View Checklist by Partner or View Checklist by Custom Criteria.

### **4.1.10 Conference Calls**

Conference calls will be initiated by the Flight Administrator as deemed necessary. as needed at a predetermined time and will be facilitated by the Flight Administrator or a person designated by the Flight Administrator. In the event the Flight Administrator finds it necessary, a follow-up call will be scheduled for later that day or the following morning.

### **4.1.11 Risk Mitigation**

Testing includes several steps to mitigate the risk that parties cannot maintain the pace:

 Connectivity Testing – MPs begin End-to-End testing after connectivity protocols have been tested, assuring that connectivity is operational.

* Additional mitigation steps not covered in the Test Days section above:
  + Weekend work as required to catch up.
  + Adjusted test schedule as indicated by Market Flight Administrator.
  + Contingency Time has been added to the end of most Flight Schedules. Time Permitting a script may be repeated within the Test Flight to allow a lagging MP the opportunity for a re-test.

### **4.1.12 General Principals Guiding Test Structure and Completion**

If ERCOT fails to successfully complete Texas Retail Market testing the market will endeavor to delay the completion of the test until success or ERCOT will be subject to Escalation Procedures as defined below.

If a certified and active TDSP fails to successfully complete Texas Retail Market testing the market will endeavor to delay the completion of the test until success or the TDSP will be subject to Escalation Procedures as defined below.

If a certified and dormant TDSP fails to successfully complete Texas Retail Market testing that TDSP will attempt to test again in the next market test flight.

If a new TDSP fails to successfully complete Texas Retail Market testing and that TDSP is not active in the market, they will attempt to test again in the next test flight. The TDSP cannot join the market until they successfully complete a test flight and fulfill all other registration requirements.

If a new CR fails to successfully complete Texas Retail Market testing and the CR is not active in the market, they will attempt to test again in the next test flight. A new CR cannot join the market until they successfully complete a test flight and fulfill all other registration requirements.

If a CR serving load fails to successfully complete Texas Retail Market testing the market will endeavor to delay the completion of the test until success. At the end of the scheduled flight and when 80% of the testing parties are 100% complete, anyone who has not completed required functionality is subject to the Escalation Procedures as defined below.

### **4.1.13 Escalation Procedures**

Parties shall work through problems and issues first with their trading partners. If an MP cannot meet a critical date and/or checkpoint success, the Flight Administrator will hold an informal follow up call with the MP. If the MP is still failing to meet a critical date and/or checkpoint success, the Flight Administrator will escalate the issue to the appropriate party, including the Executive Contact as listed on the Testing Worksheet (TW).

If ERCOT cannot meet a critical date and/or checkpoint success, MP shall contact the Texas SET Chair. Texas SET Chair will complete a follow up call with Flight Administrator, and if ERCOT is still failing to meet a critical date and/or checkpoint success, Texas SET Chair will contact RMS Chair and appropriate ERCOT Senior Management.

If issues cannot be resolved in these forums, then parties are required to submit a Marketplace Issue form, found in Appendix C, to the Market Flight Administrator. This form is used by the Flight Administrator to frame the issue for further clarification and mediation.

The Flight Administrator will hold the initial call on the issue and will report resolution to RMS or other appropriate committees. When necessary, other parties will be engaged by the Flight Administrator to resolve the issue including TX SET transaction experts, Texas SET members, and others. Details regarding the parties involved in the issue will remain confidential.

If resolution is not achieved, the issue will be escalated through appropriate ERCOT committees and to the ERCOT Board if required. The PUCT will have the final authority on the issue. The process is intended to resolve issues at the lowest possible level and in a fair and equitable manner for all MPs.

## **4.2 Data Loading**

TDSPs will develop the information necessary to establish test beds (See Appendix D) of customer information to be used by CRs and ERCOT during the testing process. The number of required ESI IDs will depend on two factors: the number of scripts to be tested and the number of CRs testing with the TDSP’s area. Test Bed (See Appendix D) information will be available for the CRs and ERCOT approximately two weeks prior to beginning the test.

Extra ESI IDs will be provided for any contingency testing that may be required.

### **4.2.1 Loading ESI IDs into ERCOT Systems**

TDSPs shall have their ESI ID Test Bed (See Appendix D) established at ERCOT no later than 7 calendar days before test day 1. The Test Bed will be loaded into ERCOT systems using 814\_20s. Prior to beginning a new flight of testing, Test Beds will be refreshed to ensure that all ESI IDs have been properly conditioned for the next flight.

### **4.2.2 Providing ESI IDs to CRs**

Each TDSP will provide unique test ESI IDs to the CRs that they will be testing with no later than 7 calendar days before test day 1 (see Appendix E). These ESI IDs will be sent to the CR and ERCOT via email.

The ESI ID and service addresses need to be altered so the customer/premise is not identifiable. Each ESI ID requires a unique service address/ZIP combination.

## **4.3 Certification**

ERCOT and MPs shall establish their readiness to participate in the marketplace. This readiness certification process consists of two steps: Pre-Flight Activities and Business Process Certification.

### **4.3.1 Pre-Flight Activities**

Pre-Flight Activities are described in the "Prior to Test" list in the Testing Requirements section. These steps shall be successfully demonstrated to ERCOT and the Flight Administrator prior to the Market Participant being allowed to test.

**997 Functional Acknowledgement (FA) Transactions**

Parties are required to use Functional Acknowledgement transactions to notify their trading partners that:

a) Transactions have been received.

b) They were either correct (positive) or incorrect (negative) according to X12 guidelines.

## **4.4 Business Process Scenarios**

Business scenarios have been defined by the Texas SET Working Group. The scenarios below cover various business processes. Swimlane Diagrams associated with these business processes can be found at the link in Appendix B.

### **4.4.1 Business Process Certification**

Once a Market Participant has successfully completed the Pre-Flight Activities, they are ready to begin business process testing. Business Process Certification requires an MP to demonstrate that systems work according to the business processes defined by the PUCT Rulemakings and ERCOT Protocols via test scripts. Any party that has completed Business Process Certification is considered “certified” to process valid market transactions once formally notified by ERCOT and the Market Flight Administrator.

Business Process testing will involve validation of End-to-End and Point-to-Point processes. These tests will enable MPs to establish the foundation required for successful trading partnerships in production.

Market Participants may choose to certify for all processes used within the Market, or they may receive partial certification by opting out of testing those processes that are considered optional. It is a requirement that all participants in the retail market successfully complete those tests that validate their capabilities to switch, move-in, move-out, process meter reads, send and receive invoices, make payments and provide remittance advices. These processes are considered mandatory and will be covered by a collection of scripts defined by Texas SET.

The only processes that are considered optional or conditional are those listed below:

* Continuous Service Agreement (CSA)
* Service Order Option 1
* Outage Option 1

These processes shall be validated through testing, and certification confirmation shall be received from ERCOT and the Flight Administrator before an MP may use them in production.

# **5. Testing Requirements of ERCOT and Market Participants**

## **5.1 General Marketplace Requirements**

Each MP in the Texas Market has specific requirements that shall be met before it will be allowed to begin production processing. The ERCOT Protocols and PUCT rules specify many of these requirements in detail. Market Participants shall thoroughly understand these requirements.

Trading partner agreements will not be required for a party to begin testing but may be required prior to moving into production. This will be determined by individual TDSPs.

Requirements specific to testing and validating Market Participant’s systems and processes are listed below. The following requirements shall be met before a Market Participant receives certification that its systems are ready to go into production with its trading partners. If an MP defaults in the market, that MP will lose its ERCOT certification and will be required to test as a new CR should it choose to re-enter the market.

Additional certification requirements that fall outside the scope of this document may be specified by the PUCT and/or ERCOT.

## **5.2 CR Requirements**

For TX SET version release flights, new CR’s entering the TX market will be required to test the version release scripts, in addition to the new CR track.

### **5.2.1 Prior to Testing**

 Apply for PUCT REP Certification (not applicable to MOU/ECs).

* Obtain DUNS number for testing entity.

 Adhere to Protocol 15 – Customer Registration.

 Adhere to Protocol 16 – Registration and Qualification of Market Participants.

 Adhere to Protocol 19 - Texas Standard Electronic Transaction.

 Implement a dedicated test system that closely resembles production.

 Complete the Testing Worksheet online; include specific details on required features that are not supported, test exceptions, manual processes.

 Identify bill scenarios (MOU/ECs only).

 Receive, review, and load test ESI IDs and associated zip codes from TDSP.

 Review Testing FAQs (see Appendix B).

 Review the TX SET Implementation Guidelines.

### **5.2.2 During Testing**

 Establish technical connectivity with ERCOT and TDSP trading partner.

 Participate in scheduled testing conference calls with the Market Flight Administrator, ERCOT and MPs.

 Adhere to the established test schedule by sending transactions on the given day in

accordance with the corresponding Test Script. If the CR cannot complete its assigned tasks, the CR will need to contact their ERCOT testing team representative and/or trading partner testing representative.

 Notify trading partner testing representative(s) via email when transactions are sent and received.

* MP shall contact the ERCOT testing team representative and/or trading partner testing representative in the event transactions are not received in accordance with the corresponding Test Script.

 Update status on the testing checklist.

### **5.2.3 After Testing**

 Receive Certification letter from ERCOT.

* Continue to work with the PUCT, TDSPs, and ERCOT Retail Client Services to complete any additional requirements prior to going into production.

## **5.3 TDSP Requirements**

### **5.3.1 Before Testing**

 Adhere to Protocol 15 – Customer Registration.

 Adhere to Protocol 16 – Registration and Qualification of Market Participants.

 Adhere to Protocol 19 - Texas Standard Electronic Transaction.

 Implement a dedicated test system that closely resembles production.

 Complete and submit the Testing Worksheet online; include specific details on required features that are not supported, test exceptions, manual processes.

* Establish Test Bed of ESI IDs and zip codes; include enough ESI IDs to cover all required scripts for each of the CRs (See Appendix D).

 Provide ERCOT and CRs with all required Test Bed data.

 Review Testing FAQs prior to testing (see Appendix B).

 Review the TX SET Implementation Guidelines.

### **5.3.2 During Testing**

 Establish technical connectivity with ERCOT and CR trading partners.

 Participate in scheduled testing conference calls with the Market Flight Administrator, ERCOT and MPs.

 Adhere to the established test schedule by sending transactions by the given day in

accordance with the corresponding Test Script. If the TDSP cannot complete its assigned tasks, the TDSP will need to contact its ERCOT testing team representative and/or trading partner testing representative.

 Notify trading partners via email when you send and receive test transactions.

 Update status on the testing checklist.

* Contact its ERCOT testing team representative and/or trading partner testing representative in the event transactions are not received in accordance with the corresponding Test Script.

### **5.3.3 After Testing**

 Receive Certification letter from ERCOT.

* Continue to work with the PUCT, MPs, and ERCOT Retail Client Services to complete any additional requirements prior to going into production.

## **5.4 ERCOT Requirements**

### **5.4.1 Before Testing**

 Adhere to Protocol 15 – Customer Registration.

 Adhere to Protocol 16 – Registration and Qualification of Market Participants.

 Adhere to Protocol 19 - Texas Standard Electronic Transaction.

 Establish a dedicated test system that closely resembles production.

 Update the online Testing Worksheet.

 Review Testing FAQs prior to testing (see Appendix B).

 Review the TX SET Implementation Guidelines.

 Establish technical connectivity with all testing Market Participants.

### **5.4.2 During Testing**

 Participate in scheduled testing conference calls with the Flight Administrator and MPs.

 Adhere to the established test schedule.

* ERCOT testing team representative will contact the Flight Administrator in the event they are unable to send transactions in accordance with the corresponding Test Script.

 Notify the MPs via email when you send and receive transactions.

* ERCOT testing team representative will contact the Flight Administrator in the event they did not receive transactions in accordance with the corresponding Test Script.

 Update status on the testing checklist.

### **5.4.3 After Testing**

 Develop Texas Retail Market testing Lessons Learned.

* Distribute certification letters.
* Assist MPs with production migration.

## **5.5 PUCT Requirements**

### **5.5.1 Before Testing**

 Confirm REP Certification application has been submitted (excludes MOU/ECs).

 Inform associated MPs of new MPs entry into marketplace.

 Identify POLRs for specific TDSP areas.

 Provide relevant information to new entrants to the market.

### **5.5.2 During Testing**

 Monitor progress of the testing process.

### **5.5.3 After Testing**

 Review certification notification from ERCOT and the Flight Administrator on each Market Participant.

 Award appropriate certification to the MP.

## **5.6 Flight Administrator Requirements**

The Flight Administrator will act as a neutral facilitator throughout the testing effort. Primary duties for the Flight Administrator will be to:

 Maintain a testing contact list on the Texas Retail Testing Website.

 Verify testing eligibility of MPs with ERCOT.

 Ensure TW is completed online by all testing MPs.

* Ensure that MPs participating in the Flight have completed all Requirements necessary Prior to Testing, as found in Section 5.2.1 of this document.

 Develop a consolidated list of testing FAQs and post on the Texas Retail Testing Website.

 Attend Texas SET meetings or send appropriate representation.

 Review and provide input to Texas SET agenda prior to meetings.

 Assist in facilitation of Texas SET meetings.

 Assist Texas SET in developing a standard Test Plan for Point-to-Point and End-to-End business processes.

 Assist Texas SET in developing Test Scripts.

 Facilitate End-to-End testing between ERCOT and MPs and Point-to-Point business processes between trading partners.

* ERCOT, in the role of Flight Administrator, may conduct Random ANSI X12 and Business Process Validation testing with MPs.

 Facilitate testing conference calls with MPs and ERCOT and document results.

* Ensure MPs meet critical date deadlines and/or checkpoint success.

 Act as an issue resolution agent for technical and process issues between all MPs including ERCOT.

 Confirm that MPs have completed certification testing.

 Verify adherence to TX SET standards by all MPs and ERCOT.

 Maintain MP testing status on a password-protected section of the Texas Retail Testing website.

* Adhere to RMS approved flight tasks/timelines.

# **6. Details of Testing Phases**

As indicated in the Testing Overview/Certification Section, certification testing consists of two steps: 1) pre-flight activities; 2) and business process certification, which is accomplished through End-to-End and Point-to-Point testing.

## **6.1 Technical Connectivity and Verification**

Each MP is required to establish technical connectivity with their trading partners using the NAESB EDM communication protocol. All parties shall review the NAESB EDM document (see Appendix B).

Establishing technical connectivity is a time-consuming process. New entrants to market testing shall begin the effort as soon as possible. Technical connectivity shall be completed before any End-to-End Business Process testing can begin.

Technical connectivity begins with prospective trading partners completing online Testing Worksheet. TDSPs will schedule a date to begin connectivity testing with each new trading partner.

Technical connectivity shall be established for each unique DUNS number that is used by a Market Participant.

### **6.1.1 NAESB EDM Testing**

Transactions exchanged point-to-point and to/from ERCOT will be sent via NAESB EDM. Scripts for establishing NAESB EDM connectivity can be found on the Texas Retail Testing website. Testing parties will use a standard X12 formatted file in this test. TDSPs, CRs, and ERCOT are required to establish and use PGP or GPG keys to send encrypted EDI transactions to their respective trading partners. This information is exchanged between trading partners using the Testing Worksheet.

### **6.1.2 TX SET Verification**

Transactions that are not compliant with X12 standards will be rejected using an FA/997 transaction in test and production. Transactions that are not compliant with TX SET standards will be rejected using the defined transaction based on TX SET standards and ERCOT Protocols.

TX SET standards require that parties receiving a transaction send an FA/997 upon receipt of each transaction. If the transaction is compliant with X12 standards, a positive FA/997 is sent. If the transaction is not compliant with X12 standards, a negative FA/997 is sent rejecting the transaction.

FA/997’s from ERCOT will be placed in each MP’s mailbox.

## **6.2 End-to-End Testing**

End-to-End testing will be conducted between ERCOT, TDSPs, and their respective CRs. End-to-End testing includes processes that involve all three parties as well as those point-to-point processes that affect only the TDSP and CR. This testing is designed to validate the End-to-End and Point-to-Point business scenarios outlined in the test scripts. End-to-End testing will utilize MP and ERCOT back-end systems to process entire business scenarios. End-to-End test scripts can be found on the Texas Retail Testing website (for the link, see Appendix B).

Each participant will be responsible for fulfilling its role within each test script by either sending or receiving the specified transactions. Participants are dependent on each other to correctly send and receive transactions in a timely manner as detailed in the testing schedule to realize successful completion.

## **6.3 Point-to-Point Testing**

Point-to-Point testing is performed between TDSPs and their CR trading partners. It covers the processes in the marketplace that do not involve ERCOT. Those processes include customer information updates, invoice and remittance, and service orders. Point-to-Point testing is included within the End-to-End scripts covered above and can be found on the Texas Retail Testing website. For the link, see Appendix B.

# Appendices

## **Appendix A - Testing Worksheet**

The Testing Worksheet can be found online at:

<https://etod.ercot.com/tw/TestingWorksheetOverview.asp>

## **Appendix B - Resources**

Market Participants:

<http://www.ercot.com/mktparticipants/>

The Texas Retail Testing website (RTW) can be found online at:

[https://etod.ercot.com/](https://etod.ercot.com/tw/TestingWorksheetOverview.asp)

The TX SET Transaction Names and Swimlane Diagrams can be found online at:

<http://www.ercot.com/mktrules/guides/txset/index.html>

TX SET Implementation Guidelines can be found at:

<http://www.ercot.com/mktrules/guides/txset/index.html>

Protocols can be found at:

<http://www.ercot.com/mktrules/nprotocols/>

ERCOT Registration information can be found at:

<http://www.ercot.com/services/rq/index.html>

The Master Flight Calendar can be found online at:

<https://etod.ercot.com/DailyAgenda.asp?Method=E2E>

The FAQ spreadsheet provides questions and answers relating to Retail Testing and it can be found online at:

<https://etod.ercot.com/FAQs.xls>

**Appendix C - Marketplace Issue Resolution Form**

|  |  |
| --- | --- |
| Issue Title: | |
| Date Identified: |  |
| Date Submitted: | Submitted by: |
| Parties Affected by Issue: | |

|  |
| --- |
| **Position 1** |
| Parties supporting Position 1: |
| Position 1 Summary of Supporting Logic (include any legislation, standards, etc.) |
| Position 1 Recommendations: |
| **Position 2** |
| Parties supporting Position 2: |
| Position 2 Summary of Supporting Logic (include any legislation, standards, etc.) |
| Position 2 Recommendations: |
| **Flight Administrator Position** |
| Comments: |
| Recommendation: |
| Status: |

## **Appendix D - Texas Retail Market Test Bed Load Form**

The Texas Retail Market Test Bed Load form can be found online (login required) at:

<http://etod.ercot.com/FileCabinet.asp>

## **Appendix E - Testing Requirements Matrix**

The Testing Requirements Matrix can be found online (login required) at:

<https://etod.ercot.com/FileCabinet.asp>

## **Appendix F – Glossary of Terms & Acronyms Used in this Document not defined in Section 2 of the ERCOT Protocols**

* Additional DUNS by Certified REP – determined by a Market Participant who is certified in the Texas Marketplace with the current TX SET version; involves adding a new trade name and DUNS Number for a Market Participant in a specific service territory.
* Existing Market Participant, Existing CR, and Current Market Participant - for use in the TMTP is defined as an MP that has successfully completed a previous flight test for the current TX SET release and has not terminated their relationship with ERCOT.

New Market Participant or New CR for use in the TMTP is defined as a MP that has not successfully completed a previous flight test for the current TX SET release or has terminated their relationship with ERCOT.

* ANSI X12 - The American National Standards Institute X12 standard relates to shared ways of defining formats and procedures for exchanging documents.
* Contingency EDI Provider – used for testing purposes by a Market Participant who is certified in the Texas Marketplace with the current TX SET version; cannot be used for testing during a TX SET Version Release.
* EDI Provider - used for testing purposes by a Market Participant who is certified in the Texas Marketplace with the current TX SET version.
* Established Service Provider - an organization or company that provides both connectivity and translation services to another Market Participant in the same service territory and that has successfully tested in the Marketplace provided they tested using the current TX SET version.
* Market Interface Service Provider - refers to a Market Participant’s internal organization or an outsourced company that provides both connectivity and translation services for an MP.
* NAESB EDM – North American Energy Standards Board Electronic Delivery Mechanism
* Non-Established Market Interface Service Provider - refers to a Market Participant’s internal organization or an outsourced company that provides both connectivity and translation services for an MP that has not successfully completed certification testing for another Market Participant in the service territory in question.
* Specified Ad Hoc Testing – refers to “emergency” testing to institute a particular change to a Market Participant’s systems or processes; these changes cannot impose undue risk to the Market.
* Trading Partner - TP – Companies which exchange EDI documents

## **Appendix G – Approved Test Flights Schedule**

The schedule for Approved Test Flights can be found online at:

<https://etod.ercot.com/>

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