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Consensus Plan for the Transmission of Electronic Data
in New Hampshire's Retail Electric Market

Docket DR 96-150
Electric Utility Industry Restructuring

Prepared for:
The New Hampshire Public Utilities Commission
8 Old Suncook Road
Concord, NH 03301
(603) 271-2431

Prepared by:
The Electronic Data Interchange Working Group

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Executive Summary

In order to facilitate the efficient and reliable transfer of data between regulated distribution companies and non-regulated providers of competitive services, the Commission in its Plan authorized the establishment of an Electronic Data Interchange (EDI) Working Group whose purpose was to develop a consensual plan for the transmission of electronic information among distribution companies and competitive power suppliers. This report is the result of the work carried out by that group.

The Working Group met for the first time on April 8, 1997 and has met on numerous occasions since. The group is comprised of representatives from each utility, the Commission staff, and several competitive power suppliers.

One of the first actions of the Working Group was to create two subgroups, the Business Rules Subgroup and the Implementation Subgroup. The task of the Business Rules Subgroup was twofold: to reach agreement on a standard set of data transactions that meet the basic needs of distribution companies and suppliers; and to formulate business rules for each standard transaction. In an effort to reach consensus on these issues, the subgroup examined the likely relationships between customers, competitive suppliers and distribution companies as retail competition develops. A set of data transactions corresponding to these anticipated business relationships, and the business rules that govern their use, are

described in the report. These rules will apply to each distribution company and all registered suppliers of competitive products and services.

The Implementation Subgroup's primary task was to review the technologies and services available for transferring large quantities of electronic data and to make recommendations which meet certain technical criteria and ensure the timely implementation of retail choice in 1998. The subgroup was also responsible for developing recommendations on the format of the electronic transactions.

The Working Group believes that the consensual plan establishes standard transactions that for some distribution companies can be tested and made operational by July 1, 1998. These standard transactions satisfy the short-term needs of the competitive market while remaining flexible enough to accommodate the evolution of regional and national standards as they are further developed.

The EDI Working Group also recommends that competitive suppliers attend a mandatory training session that will introduce the attendees to the regulatory and operational requirements of the retail electric market in New Hampshire. Training sessions are currently planned for the first Thursday in the months of May, June and July of 1998 at the New Hampshire Fire Academy. A training manual that meets the basic information needs of

competitive suppliers will be available on request from distribution companies or the Commission. In addition, each competitive supplier will be required to demonstrate its capability to electronically send data to and receive data from each distribution company in whose service area it intends to offer competitive services. The detailed test criteria and a suite of standard test scenarios are described in an appendix to this report.

Finally, the EDI Working Group recommends that the Commission establish a standing working group to address the need for modifications and enhancements to the standards and processes described in the report.

The EDI Working Group's report can be viewed on the Commission's website at www.puc.state.nh.us.

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Introduction

In May 1996, the New Hampshire Legislature directed the Public Utilities Commission (Commission) to develop a statewide electric utility restructuring plan that would implement retail choice for all customers no later than July 1, 1998.¹ In response to that directive, the Commission issued on February 28, 1997 its Final Plan for restructuring New Hampshire's electric utility industry.

The Final Plan establishes a market structure which provides all customers the opportunity to purchase their power requirements directly from competitive suppliers (including brokers and marketers). Large customers are also allowed to purchase metering and customer services from competitive providers pending adoption of appropriate metering standards through a rulemaking process.² The delivery of power supplies to end users will, however, remain a monopoly service to be provided by regulated transmission and distribution companies at regulated rates. Electric utilities are also required to unbundle their retail rates and separate their regulated and competitive activities.

To implement the requirements of the Final Plan, as amended by Order No. 22,875, each utility except PSNH must submit to the Commission a compliance filing no later than May 1, 1998. At that time, the Commission intends to schedule utility-specific hearings to determine whether the filings are in compliance with its orders.

In order to facilitate the efficient and reliable transfer of data between regulated distribution companies and non-regulated providers of competitive services, the Commission in its Final Plan directed that an Electronic Data Interchange (EDI) Working Group be established for the purpose of developing a consensual plan for the transmission of electronic information among retail market participants. The EDI Working Group met for the first time on April 8, 1997 and has met on numerous occasions since. The group is comprised of representatives from Connecticut Valley Electric, Granite State Electric, NH Electric Cooperative, Public Service Company of NH, Unitil, the Commission staff, ALLEnergy,

¹ See, RSA 374-F:4

² Energy billing services will be provided competitively to all customers.

Enron, Green Mountain Energy, Strategis Energy Ltd, Wheeling Electric Power, Until Resources, Select Energy, PG&E Energy, Xenergy, Eastern Utilities Associates, and Granite State Energy. One of the first actions of the Working Group was create two subgroups, the Business Rules Subgroup and the Implementation Subgroup. The task of the Business Rules Subgroup was twofold: to reach agreement on a standard set of data transactions that meet the basic informational needs of each market participant; and to formulate business rules for each standard transaction.

The Implementation Subgroup's primary task was to review the technologies and services available for transferring large volumes of electronic data and to make recommendations which ensure the smooth and timely implementation of retail access in 1998. The subgroup was also responsible for developing recommendations on the format of the electronic files and for producing training and systems testing manuals for use by competitive providers.

Anticipated Business Relationships

In order to establish a set of mutually agreed upon standards, there first must be agreement on the business relationships which define how the market operates. The following represents the current understanding of these relationships:

Customers:

(i) Provide appropriate authorization to Competitive Suppliers for customer enrollment³. Such authorization may also be given by an agent acting on behalf of the Customer.

(ii) Responsible for evaluating and securing services from registered Competitive Suppliers and Competitive Service Providers. A Customer who has not been enrolled by a Competitive Supplier at least two (2) business days prior to the Customer's first scheduled cycle meter-read date following the start date for retail competition shall automatically receive transition power service.

(iii) Customers whose maximum demands exceed 100 kW may choose to purchase metering products and services competitively.

³ Enrollment includes switching Competitive Suppliers.

(iv) The initial Competitive Supplier selection and subsequent supplier changes shall become effective at the beginning of the Customer's next cycle meter-read date.

Competitive Suppliers:

(i) Obtain appropriate authorization from Customers or their authorized agents for Customer enrollment.⁴

(ii) Submit applicable information electronically to Distribution Company for enrollment, Competitive Supplier changes, or termination of generation service.

(iii) Render bills for generation service or provide Distribution Company with billing rates and pricing information for Consolidated Billing service.

(iv) Resolve Customer payment problems associated with the provision of energy services.

(v) Maintain own records to reconcile Distribution Company information related to Customer payments and fees.

(vi) Participate in training and successfully complete electronic systems testing of business transactions prior to submitting Customer enrollments or any other electronic business transactions within the scope of this report.

(vii) Nominate business and technical contact persons to facilitate inter-business communications.

(viii) Fulfill applicable registration requirements prior to enrollment of Customers or any other electronic business transaction within the scope of this report.

(ix) Abide by applicable rules and/or orders issued by the Commission.

Competitive Service Providers:

(i) Offer large customers or their authorized agents competitive metering products or services.

(ii) Notify Distribution Company of agreements to provide metering products and services to large customers.

⁴ Enrollment requests must not be submitted to Distribution Company until any Customer right of rescission has lapsed.

(iii) Install telemetering equipment at customer locations for the purpose of replacing estimated usage data with measured usage data.

(iv) Notify Distribution Company when telemetering installations have been completed and whenever the equipment malfunctions.

(v) Allow Distribution Companies to access the meter for usage determination or provide usage data to Distribution Companies in electronic format in a timely manner.

(vi) Fulfill applicable registration requirements prior to doing business in New Hampshire.

(vii) Abide by applicable rules and/or orders issued by the Commission.

(viii) Nominate business and technical contact persons to facilitate inter-business communications.

Distribution Companies:

(i) Provide Customers with list of registered Competitive Suppliers in a format which does not provide competitive advantage to any Competitive Supplier⁵.

(ii) Provide historical customer usage information to authorized Competitive Suppliers.

(iii) Maintain record of data related to current Customer/Competitive Supplier relationships.

(iv) Maintain an Internet site, for access by trading partners, containing various standard documents (e.g., tariffs, class average load shapes, and scheduled meter-read dates).

(v) Provide distribution services to all Customers who do not have telemetering capability and metering and billing services to Customers whose maximum demands are less than or equal to 100 kW.

(vi) Estimate hourly loads of Customers who do not have telemetering capability.

⁵ It is expected that the Commission will periodically update and sort this list in random order.

(vii) Provide billing information and offer Standard and Consolidated billing services to Competitive Suppliers.

(viii) Perform daily and monthly aggregate load estimates for each Competitive Supplier and report such estimates to the Independent System Operator (ISO), and to a requesting Competitive Supplier, the loads reported to the ISO for that Competitive Supplier. To accomplish this task, usage data for Customers whose meters are read by Competitive Service Providers must be made available in electronic format in a timely manner to the Distribution Company.

(ix) Nominate business and technical contact persons to facilitate inter-business communications.

(x) Responsible for terminating (i.e., physically disconnecting) electric service.

(xi) Schedule transition power service for Customers who are not enrolled with a Competitive Supplier at least two (2) business days prior to their scheduled cycle meter-read dates.

(xii) Not responsible for the resolution of disputes relating to competitive services. Competitive Service Providers, Competitive Suppliers, Customers or Distribution Companies may request the assistance of the Commission in resolving such disputes in accordance with the dispute resolution procedures prescribed in its rules.

General:

(i) Additions or modifications to the standard transactions and business rules specified in this document must be submitted to the Commission for its review.

(ii) Sanctions for unauthorized requests, or inappropriate use of confidential Customer data or unauthorized enrollment of customers by Competitive Suppliers are recommended for inclusion in the supplier registration requirements.

I. Standard Transaction Set and Associated Business Rules:

The following section provides a detailed description of the standard transactions and business rules which govern their implementation. A list of the standard transactions is included in the Table below.

STANDARD TRANSACTIONS

Function	Business Transaction	Number	Flow	Data Format
Account Administration	Enroll Customer	1	NS -> DC	I-Enroll
	Change Enrollment Detail	2	ES -> DC	I-Change
	Change Enrollment Detail	3	DC -> ES	I-Change
	Successful Enrollment	4	DC -> NS	I-Success
	Customer Move	5	DC -> ES	I-Move
	Error	6	DC -> NS,	I-Error
	Customer Drops Supplier	7	ES	I-Cust.-Drop
	Supplier Drops Customer	8	DC -> OS	I-Supp.-Drop
	Confirm Drop Date	9	ES -> DC	I-Confirm
	Request Usage History	14	DC -> ES NS,ES -> DC	I-History
Usage/Billing	Customer Usage Information - (Standard Option)	10	DC -> ES	II-Customer Usage
	Customer Usage and Billing Information - (Consolidated Option)	11	DC -> ES	II-Customer Usage/Billing
Payments & Adjustments	Customer Payment/Adjustment	12	DC -> ES, OS	III- Payment/Adjustment
Customer Usage	Customer Usage History	15	DC -> NS, ES	V- History

DC, Distribution Company; ES, Existing Supplier; OS, Old Supplier; NS, New Supplier

Electronic-Mail Transaction

Settlement	Aggregate Load Estimate	13	DC -> ES	IV-Load
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Prior to the submission of any transaction, a Competitive Supplier must first comply with the Commission's registration requirements, participate in training, successfully complete tests of electronic transaction transfer capability, will obtain the initial authorization of a Customer for enrollment, and execute trading partner agreements with the Distribution

Companies in whose service territories it intends to do business.

Account Administration:

Enroll Customer

The Competitive Supplier shall submit customer enrollment after receiving the appropriate authorization for each account and after any rescission period has lapsed. Appropriate authorization can be submitted by the customer in writing, in electronic form, or be given orally to a qualified and independent third party.

The Competitive Supplier must electronically notify Customer's Distribution Company of the selection no less than two (2) business days prior to the scheduled cycle meter-read date or the enrollment will be deferred until the following read date. See Transaction #1.

The Distribution Company shall process enrollment requests in the order in which they are received at its VAN or alternative transfer mechanism.

Multiple Enrollments

In most cases, it is anticipated that a Customer will select a Competitive Supplier, the Competitive Supplier will allow the customer rescission period to lapse, and will enroll the Customer with the Distribution Company, as outlined above. In the event that a Customer selects more than one Competitive Supplier, and those suppliers attempt to enroll that Customer for the same cycle meter-read period, the Distribution Company shall respond as follows:

The Distribution Company shall process the first valid enrollment transaction received during the enrollment period. Once received, any other enrollment transaction submitted for the same Customer during the enrollment period will be rejected.

The enrollment period commences one (1) business day prior to the Customer's scheduled cycle meter-read date and ends two (2) business days prior to the Customer's next scheduled cycle meter-read date.

Multiple Services

Where more than one distribution service is assigned to a Customer account, a Competitive Supplier may submit one enrollment transaction for all services or one enrollment for each service. When a Competitive Supplier successfully enrolls a

Customer with multiple services, a successful enrollment transaction will be transmitted to Competitive Supplier for each service enrolled. Because of the nature of these accounts, if one enrollment transaction is rejected due to data error, then the enrollment of the entire account must be rejected.

Change Enrollment Detail

The Competitive Supplier will notify the Distribution Company to change enrollment detail for a specific customer (e.g. adjustments to Competitive Supplier billing rates). See Transaction #2. Changes will be effective on the day of notification.

The Distribution Company will notify the Competitive Supplier of a change in enrollment detail for a specific customer (e.g. different cycle meter-read date). See Transaction #3.

Customer Changes Supplier

When a Customer changes his Competitive Supplier, the new Competitive Supplier sends an Enrollment transaction. See Transaction #1. If appropriate, a Successful Enrollment transaction (Transaction #4) will be returned to the new Competitive Supplier and a Customer Drops Supplier transaction will be sent to the old Competitive Supplier. See Transaction #7. For customer accounting purposes, the old Competitive Supplier will also be sent a final Customer Usage or a final Customer Billing and Usage Information transaction. The Customer will not be required to inform the old Competitive Supplier of the change.

Customer Drops Supplier

If a Customer desires to drop a Competitive Supplier other than through enrolling with a new supplier, the Customer can direct its current Competitive Supplier to submit a Supplier Drops Customer transaction to the Distribution Company. See Transaction #8. The Competitive Supplier is obligated to immediately transmit the Drop transaction to the Distribution Company, which would become effective at the Customer's next scheduled cycle meter-read date.

The requirement that the Customer notify its current Competitive Supplier of its intent to terminate their relationship affords both parties the opportunity to resolve any outstanding issues, and acknowledges that there may be a contractual connection between the two.

Successful Enrollment/Drop

The Distribution Company notifies the Competitive Supplier that the requested enrollment/drop was successful. See Transaction #4 and #9. Notification will include the projected date that the

new or changed energy service (including termination of service) will become effective, the account name characters used for customer identification, and the billing address.

Error

In the event an enrollment/change/drop transaction does not meet approved specifications, the Distribution Company will discontinue processing the transaction and to the extent possible, inform Competitive Supplier of the nature of any errors or omissions. See Transaction #6. Unless delayed by unforeseen circumstances, Competitive Suppliers will be notified electronically by noon of the next business day that the transaction was unsuccessful provided it was received by noon on the previous business day.

Customer Move

In the event a Customer moves within the Distribution Company's service territory, a Distribution Company customer service representative will initiate a process which enables the Customer to continue to receive energy service from its current Competitive Supplier at the new service address, unless the Customer indicates otherwise.

- A. A Customer is automatically enrolled with his current Competitive Supplier at the Customer's new address and a Customer Move transaction⁶ is sent to the Competitive Supplier. See Transaction #5.
- B. A Customer Usage Information transaction or Customer Usage and Billing transaction is sent to the Competitive Supplier providing energy service at the old address.
- C. A Change Enrollment Detail transaction will be sent by the Competitive Supplier to notify Distribution Company of new Supplier account number and other pertinent account information changes. See Transaction #2.

If a Customer moves to a new location within the same service territory and desires to receive competitive generation service, but with a different Competitive Supplier, the Customer must authorize the new Competitive Supplier to submit an enroll transaction with the Distribution Company.

⁶ Distribution Company may also send Customer's new billing address subject to the provisions of the Supplier-Distribution Company billing service agreement.

Competitive Supplier Drops Customer

A Competitive Supplier must notify the Distribution Company of its intent to terminate energy service for Customer. See Transaction #8. The termination of service will coincide with Customer's next scheduled cycle meter-read date if the drop transaction is received at least two business days prior to the Customer's next scheduled meter read date. Following the receipt of such notification, the Customer will be scheduled for transition service unless successfully enrolled with a new Competitive Supplier.

The Distribution Company will notify the current Competitive Supplier of the date that energy service is projected to terminate. See Transaction #9.

Usage/Billing:

In order to aid the provision of competitive electric generation services, Distribution Companies or their agents shall offer both Standard (Passthrough) and Consolidated billing services as described below⁷

Standard Billing Service - Passthrough (Separate Bills):

A Distribution Company shall offer a standard billing service to all Competitive Suppliers doing business in its service area. Standard billing service requires the Distribution Company to electronically transfer to a Customer's authorized Competitive Supplier the Customer's usage data within twenty four (24) hours of the Distribution Company's issuing a bill to that Customer. See Transaction #10. After receiving the data, the Competitive Supplier can issue a separate bill for energy services provided.

Consolidated Billing Service

Under this option, a Competitive Supplier or its agent must provide the Distribution Company with its price schedule for the relevant Customer or customer class. Using these prices and metered usage data, the Distribution Company can calculate the Customer's energy service bill and include this on a single bill together with Distribution Company's unbundled transmission, distribution and stranded cost charges. See Transaction #11.

⁷ Note that these options assume that both Distribution Company and Competitive Supplier (or its metering agent) have access to large Customers' metering data. Alternatively, the Competitive Supplier (or its metering agent) must electronically transfer customer usage data to the Distribution Company in a timely manner.

Competitive Suppliers who select the Consolidated Billing Option are limited to the rate structures, customer class definitions and availability requirements that are within the capabilities of the Distribution Company's billing system.

Customer Usage/Usage and Billing Information

In the event a Competitive Supplier selects the Consolidated Billing Option, the Distribution Company will provide Competitive Supplier with the usage and billing information. See Transaction #11. If the Standard Billing Option is selected, only the Customer's usage information will be transmitted. See Transaction #10.

If the Customer moves, the Distribution Company will send a final bill for the old location to the billing address. The Distribution Company also will send the Competitive Supplier final Usage, or Usage and Billing, information as appropriate. In accordance with computer processing schedules in Section II below, validated usage and billing information will be transmitted to Competitive Suppliers.

A Task Group will be formed within the EDI Working Group to define the business processes and information flow needed to support the situation where metering and metering services are provided to large customers by a Competitive Service Provider or Supplier.

Arrears Processing

Regardless of the billing option selected, Competitive Suppliers are responsible for resolving payment problems associated with energy services. Distribution Companies are responsible for resolving payment problems related to Distribution Company components of the bill.

Payments and Adjustments (Consolidated Billing Option Only):

Each business day, information about recorded Customer payments and adjustments is sent to the Customer's Competitive Supplier. See Transaction #12. Recorded payments and adjustments trigger the release of funds to the Customer's Competitive Supplier.

Terminate:

Service Terminated by Distribution Company

In the event a Customer fails to pay the full amount billed to it by the Distribution Company, the Distribution Company may terminate service to the Customer in accordance with Commission disconnection procedures specified in its rules. The Distribution Company shall notify the Customer's supplier electronically of the service termination at the time a final bill is issued. See Transaction #10 or #11, depending on the billing option.

Service Terminated by Supplier

Termination of energy service by a Competitive Supplier shall be controlled by the terms and conditions of the power supply contract, unless otherwise amended by Commission rules and/or orders. The Competitive Supplier must notify the Distribution Company electronically of its intent to discontinue service at least two (2) business days prior to the Customer's next scheduled meter read date. See Transaction #8. Following the receipt of valid notification, power supply service to the Customer will terminate upon the Customer's next scheduled meter read date. Absent successful enrollment with a new Competitive Supplier, a Customer whose energy service has been terminated will automatically receive transition power service. If the Competitive Supplier ceases operations in New Hampshire due to bankruptcy or for any other reason and fails to submit customer drop transactions in a timely manner, the Distribution Company may generate and process the Customer Drop Transactions as required.

Settlement:

Distribution Companies are responsible for reporting to the regional Independent System Operator (ISO) the aggregate hourly loads (including associated distribution and transmission losses) for each Competitive Supplier doing business in its service territory. The daily reporting of hourly loads, plus subsequent adjustments, shall be performed in accordance with the procedures established by ISO.

The daily settlement of Competitive Supplier accounts by the ISO requires reporting of aggregate hourly loads for each Competitive Supplier. Load reporting by the Distribution Company (with transmission and distribution losses included) will be based either on actual telemetered data (collected daily) or estimated hourly loads (calculated daily) using the load profiling process approved by the Commission. A summary description of each Distribution Company's load estimation process is included in the Supplier Guide, to be made available shortly. Estimated Supplier loads will be re-calculated each month using actual metered usage data, and the adjustments reported to the ISO.

Distribution Companies shall provide individual Competitive Suppliers, on request, their aggregate hourly loads. These loads will be posted to the Competitive Supplier's electronic mailbox using the Daily Supplier Aggregate Results transaction. See Transaction #13.

Historical Usage Data

Distribution Companies shall provide to appropriately authorized Competitive Suppliers 12 months of a Customer's usage history if

available for that Customer⁸. Appropriate authorization by the customer can be submitted in writing, in electronic form, or be given orally to a qualified and independent party. The data shall be requested and made available electronically (see Transaction #14 and 15) and must be treated confidentially by the receiving party. The Working Group did not agree on whether interval usage data in the possession of Distribution Companies should be provided to authorized Competitive Suppliers free of charge.

Telemetering:

Registered Competitive Suppliers may elect to install telemetering equipment at a Customer's location in order that the Customer's hourly usage for ISO settlement purposes will be based on metered data rather than estimated data. Competitive Suppliers who elect telemetering in lieu of estimation must arrange for the installation, initialization, and commissioning of the necessary telemetering and communications equipment and shall be responsible for all associated installation, operation, data collection, and maintenance costs.

The Competitive Supplier or its metering agent must notify the Distribution Company that telemetering and communications installations have been completed, and provide the necessary information to communicate with the recording devices. The Distribution Company must notify the Competitive Supplier or its metering agent when it is able to communicate successfully with the recording device.

The Competitive Supplier will own all telemetering equipment which it installs, and is responsible for making timely repairs should the telemetering or communications equipment malfunction.

The Distribution Company will notify the Competitive Supplier or its metering agent if it is unable to access or collect data from the recording device. Until such time as repairs are made, the Customer's historic load profile (if available) or the class average load profile will be used to estimate the Customer's load for settlement purposes.

⁸ One member believes that usage data should be provided directly to customers, not Competitive Suppliers.

The Competitive Supplier or its metering agent must notify the Distribution Company that repairs have been completed.

Continuation of the Working Group

We note that these business rules are intended to resolve most questions about business relationships between Distribution Companies and providers of competitive services. Those unusual or less common situations not covered by these rules, or not covered completely, may require the development of additional transactions. The Working Group recommends that those new transactions will be developed by a permanent standards working group for submission to the Commission for its review and approval. See "Working Group Continuation" in Section II.

Training and Testing

Among other requirements, Competitive Suppliers and Distribution Companies must have the capability and readiness to participate in the generation marketplace using the standard electronic transactions and business rules described in this proposal.

To assist in the solution of this potential problem, the EDI Working Group proposes a training framework that can be developed and delivered by rotating voluntary resources from Distribution Companies. In addition, the Working Group proposes a framework for testing the electronic data transfer and processing systems.

The purpose of the testing is to verify that Distribution Companies and Competitive Suppliers are capable and ready to comply with the data transfer standards specified in this document.

The Working Group further recommends that the Commission include in its supplier registration requirements the requirement that each new Competitive Supplier present certification of its successful completion of the training and testing programs prior to the submission of their first Customer enrollment or any other electronic business transaction.

In an effort to provide an orderly transition to competitive market operations, the Working Group recommends that prior to the Retail Access Date, Distribution Companies provide testing time frames, testing lead times, and anticipated dates when each Distribution Company will be prepared to initiate a test schedule with Competitive Suppliers.

Proposed Training Framework

Given the importance of understanding the operation and communication requirements of the new market infrastructure, the EDI Working Group strongly recommends that attendance at an

introductory training session (i.e., Supplier Workshop) be made part of the Competitive Supplier Registration Requirements. The cost of providing this training should be recoverable through Distribution Company regulated rates.

Workshops will be offered on a monthly schedule and be open to Competitive Suppliers that have initiated or completed the registration process with the Commission at least one week prior to the scheduled date. Each Workshop will be staffed by representatives from the Commission and each Distribution Company. This will minimize inconsistencies between different training sessions, as well as reduce the burden on the Commission or a single Distribution Company.

These Workshops will be structured to provide an introduction to the regulatory and operational requirements of the retail electric market in New Hampshire. A detailed agenda is included in Appendix F - Training Standards.

In addition to the Workshops, each Competitive Supplier will be provided with a New Hampshire Supplier Guide. This guide will contain all the general information necessary to participate in retail market in New Hampshire. A sample Table of Contents and Statement of Purpose are also included in Training Appendix F.

Proposed Testing Requirements

Prior to providing energy services to Customers in New Hampshire's retail market, a Competitive Supplier must demonstrate its capability to electronically send, receive, and process data with each Distribution Company in whose service area it intends to offer competitive services. Successful testing must be completed prior to the first enrollment transaction or customer usage history request being submitted to a Distribution Company.

The purpose of the testing is to verify that the Competitive Supplier is capable of complying with the data transfer standards specified in this document and has the necessary software and hardware required to send, receive, translate and process the standard transactions required to do business in the market.

Compliance testing will be accomplished by Competitive Supplier exchanging a standard set of test transactions [See Appendix C - Testing Standards] with each Distribution Company it intends to do business with. Distribution Companies will typically require at least two weeks notice to set up a test with a Competitive Supplier.

The test will utilize transactions from the standard transaction set described herein, and verification of 100% error free transmission, receipt, translation and processing of the data by both Competitive Supplier and Distribution Company is required. An approved data transfer system will be used for the data exchange tests. Prior to the effective date for retail competition, each Distribution Company must also demonstrate its capability to send and receive the transactions specified herein without modification to format or data elements.

Overview of Compliance Test

Distribution Companies will provide test scripts or data files for interface testing and Competitive Suppliers will process these scripts and provide evidence of successful testing. The compliance test shall require the complete and error-free transmission, receipt, translation and processing of the full set of Administrative, Usage/Billing, and Payment test transactions described in Appendix C to this document.

Standard Set of Test Scenarios

The Competitive Supplier shall contact the Distribution Companies in whose service area it intends to do business and arrange for the exchange of test transactions. Distribution Companies will provide test procedures, the set of standard test scenarios, and any differences from the standard test plan to the Supplier.

Testing - Competitive Supplier to Distribution Company

The Competitive Supplier will initiate the test by creating the test transaction files with its software and post the files to the Distribution Company's Value Added Network (VAN). The Distribution Company will retrieve and translate the test transactions and verify the accuracy of the received data. This test will be repeated until satisfactory results are attained prior to proceeding with the "Distribution Company to Competitive Supplier" phase of testing.

Testing - Distribution Company to Competitive Supplier

Once the foregoing test is satisfactorily completed, the Distribution Company will send a set of test transactions to the Competitive Supplier's VAN. The Competitive Supplier will retrieve and translate the test transactions and verify the accuracy of the received data.

Discrepancy Resolution - Repeated Testing

The Distribution Company and Competitive Supplier will work to resolve any discrepancies in transmitted or received data and confirm correctness by repeating the test data exchanges described above until both parties are satisfied that consistently error free results can be accomplished.

Test Completion - Commission Notification

Upon completion of Supplier registration and successful completion of the test, the Distribution Company will activate the Competitive Supplier on their production business system.

The details of the test data scenarios and transactions may vary over time. They are presented in Appendix C - Test Standards.

II. Implementation of Electronic Transaction Standards:

Introduction:

This consensual proposal of the Implementation Subgroup of the New Hampshire Electronic Data Interchange (EDI) Working Group presents the Working Group's recommendation for establishing practical, operational, electronic standards for the transaction of business between Competitive Suppliers and Distribution Companies for the implementation of Electric Utility Restructuring and Retail Open Access in New Hampshire. The Implementation Subgroup's primary task was to review the technologies and services available for transferring large volumes of electronic data and to make recommendations which meet certain technical standards and ensure the timely implementation of retail choice in 1998. The subgroup was also made responsible for preparing recommendations on the format of the electronic files. This proposal establishes standard transactions that for some Distribution Companies can be tested and made operational in time for Retail Access by July 1, 1998. These standard transactions satisfy immediate and short-term needs of the competitive market while remaining flexible enough to accommodate the evolution of regional and national standards as they are further developed.

In order to craft standards as all-encompassing and comprehensive as possible, the Working Group was required to make assumptions regarding policy in the development of certain transactions. Where such assumptions are made, every effort has been undertaken to highlight the need for those assumptions and support for the particular outcome.

We believe the results set forth in this proposal reflect the high level of commitment and energy expended by the Distribution Companies and Competitive Suppliers who devoted substantial amounts of time and resources in bringing this first phase of the development of electronic standards to consensus. At the same time, recognizing that the processes outlined in this proposal are new to all stakeholders and have not been tested in high volume market competition, the Working Group is unanimous in recommending that a continuing effort at least through 1999 be supported by the Commission to ensure the prompt and efficient resolution of issues which are certain to arise during the implementation stage of these new protocols. A plan for the continuation of the Working Group is also outlined in this section of the proposal.

Below is a high-level Gantt chart depicting just a few of the major milestones that industry participants will be required to accomplish before they are ready to proceed, operationally, with the electronic commerce required for customer choice.

Implementation Timeline

Some points to consider:

- Customer enrollment beginning June 1, 1998 remains possible pending successful Supplier Training and EDI testing.
- The electronic transaction system development is dependent on the business processes and rules of the marketplace which have been developed by the Business Rules Subgroup. In order to implement the processes described herein, Distribution Companies and Competitive Suppliers will be required to make substantial investments in electronic systems based on the proposed business rules and transactions described in this report. Significant changes in these business rules and transactions could jeopardize the timely completion of the electronic systems necessary for market operation.
- The timeline does not reflect many other major tasks such as the development of trading partner agreements or the resolution of open issues.

- The time allowed for testing may not be adequate if large numbers of Competitive Suppliers request certification by the Retail Access Date.
- Testing and training will continue beyond the Retail Access Date.
- Systems development work will continue beyond the Retail Access date.
- This timeline addresses electronic transaction processing and communication only. There are significant impacts on other segments of the business, e.g. call center training, payment processing.

Proposed Standard Approach

The Implementation Subgroup has reviewed the standards, technologies and services available for defining transaction sets and transport mechanisms. It also has considered developments taking place in neighboring New England states and other regions of the country. Based on this work the Subgroup recommends that transaction formats should be standardized so that all parties can develop the business rule framework and automated systems for timely and efficient processing of the business transactions required for the operation of the market.

Summary of Content

The following sections of the implementation proposal provide a description of the transaction sets recommended to implement the business rules, the record layouts and data formats, the transmission methodology, and suggested computer operations schedules to implement the standards.

Data Formats: This section presents an approach for grouping the business transactions into standard record formats. The method for packaging and transporting the transactions is also discussed.

Electronic Transmission: This section presents a standard approach for sending and receiving electronic data between Competitive Suppliers and Distribution Companies. The approach allows for evolution of the standard transaction sets as regional and national standards emerge.

Implementation Tasks: This section enumerates the major tasks and associated time requirements for implementation of the proposed standard data formats and transmission methods.

Computer Operations Considerations: This section addresses operational issues (both manual and automated) that are consistent with efficient and timely business processes.

Process Continuation: This section recommends that the Working Group remain in place to address future implementation issues and problems.

Data Formats:

A key question addressed by the Implementation Subgroup was how to package the data in the records (i.e. the transactions) for transmission over the telecommunications network.

The Implementation Subgroup reviewed available technologies and services for packaging standardized transaction formats for transmission over public and private networks, including methods used in New England retail access pilots, and proposed in other states and regions of the country. Based on this work, the Subgroup recommends use of the electronic commerce industry's Electronic Data Interchange (EDI) formats and protocols.

The EDI format we plan to implement will use existing American National Standards Institute (ANSI) ASC X12 transactions which will be tailored for use in the exchange of information between Distribution Companies and Competitive Suppliers. This will be accomplished by "mapping" the fields defined in Appendix D of this report to the appropriate segments of the established EDI transaction sets.

The Subgroup has used the expertise of individuals who are involved in the implementation of these standards in the New England region and in other parts of the country. The draft standard guidelines developed for these EDI transactions for the utility industry by the Utility Industry Group (UIG) have also provided guidance in developing the implementation guidelines proposed for the New Hampshire market. Although the implementation of the ANSI ASC X12 EDI formats required considerable up front effort, it is expected that the standardized formats will reduce costs over the long term, allow for systematic implementation by market participants, and create a more efficient market.

The benefits of standardization include:

- Automatic notification of transaction file receipt
- Date and time stamping mechanisms

- Unique identification of files and records, allowing for example, identification and rejection of records with specific errors rather than rejection of an entire file.

Electronic Transmission:

For any data transfer method to be allowed, it must be shown that it meets certain minimum criteria in the following key areas:

- Security/encryption of transactions and customer information
- Proof of transmission and receipt
- Positive identity of sender and recipient (non-repudiation)
- Reliability
- Data and file integrity
- Network performance and availability
- Recoverability and archiving of data.

The Subgroup did not determine that a single means of transferring the data should be mandated for use by all parties.

Successful implementation of both Value Added Network (VAN) and Internet file transfer systems are presently in use in New Hampshire, Massachusetts and Rhode Island. In addition, other methods, such as dedicated, leased phone line connections, dial-up phone connections, and other computer-to-computer file transfer mechanisms are available and could be practical and economical transfer mechanisms for certain scenarios.

In order to facilitate the opening of New Hampshire's retail market by July 1, 1998, Subgroup recommends that a default data transport vehicle be required. However, other transport methods should be permitted if there is bilateral agreement between trading partners, and provided those other methods meet the minimum requirements specified above.

The Working Group endorses use of a Value Added Network (VAN) as the default transport medium for the opening of competition. VANs provide reliable and proven technology for business data transfers, an audit trail, and they specialize in providing services in the key areas identified above.

The Subgroup acknowledges that other transport mechanisms may be deemed practical and realizes that there are possible financial and operational efficiencies to be gained through their use. Considering the resources (financial, technical, and human) required to implement a solution prior to the Retail Access Date, it is not feasible to design, standardize, and implement a custom designed VAN alternative within the required time frame. This is not to indicate that other options shouldn't be considered or utilized in the future, only that their adoption as a standard

prior to the Retail Access date is impractical (see section regarding continuation of working group).

The Working Group recognizes that the allocation of transaction costs associated with the VAN is an issue to be addressed by the Commission.

Implementation Tasks:

The following is a summary of the tasks to be completed before Retail Competition can be implemented. The Subgroup emphasizes that each trading partner's implementation team must develop implementation plans for their specific circumstances. We note that implementing the Electronic Commerce standards may require up to three months of focused effort for trading partners that do not have personnel experienced in EDI matters.

Tasks:

1. The data elements required to support the New Hampshire business transactions must initially be mapped to EDI standard transaction sets so that EDI translation software can be configured for automated translation. The product of this effort is the EDI Implementation Guidelines, presented in Appendix E. Although this task has been substantially completed, there may be a need to revisit this step if final business rules and transactions vary substantially from those assumed in this report. Up to two weeks may be required for remapping.
2. Acquire a copy of the New Hampshire EDI Implementation Guidelines resulting from the preceding step, and attend technical training. The EDI translation software vendor and/or EDI implementation staff will also need the Implementation Guidelines to map the New Hampshire transactions to the EDI translation software. The completion of the EDI Implementation Guidelines, already started by the Implementation Group, will take several weeks.
3. Select and install required computer and communications equipment and EDI translation software, if appropriate. Assure that the translation software supports the required versions of the EDI transactions. This could take up to a month working with a software vendor.
4. Each trading partner must configure their selected translation software and develop interface programs to interpret the transactions sent and received by their customer billing systems. This customization could take up to two months. It must include the programming needed to perform error checking, validate

customer identity, and acquire and match appropriate time and date stamps to the transactions.

5. Finally, the pre-production testing of the translation software, application interfaces and data exchange may take up to three weeks, plus additional time for full testing between each Distribution Company and registered Competitive Supplier.

Although the above schedule is aggressive, the Subgroup believes it can be completed in time to enable competition to begin on the Retail Access Date.

Computer Operations Considerations:

This section deals with the operational issues (both manual and automated) that affect the efficiency and consistency of business processes. The Subgroup agreed on the following principles for computer operations:

- Processing of data must be reliable, predictable, accurate and efficient
- Transaction processing must be fair and verifiable
- Trading partners' daily operational schedules should be accommodated
- The process must be designed to detect and report errors without manual intervention
- There must be a clear assignment of responsibility at all stages of transaction processing

Computer operations issues have been categorized into the following topics:

1. Scheduling
2. File Handling
3. Error Handling
4. Recovery

Scheduling

Each trading partner will have daily schedules that should be accommodated to the extent possible. Operating schedules cannot be standardized because of differences in daily transaction volumes, processing techniques, technology, etc. At the same time, there should be a baseline schedule that all trading partners can rely on and that does not place an undue burden on any trading partner.

The Subgroup has reviewed the daily computer operation schedules of each Distribution Company in order to develop a proposed

baseline schedule. The recommended schedule for a normal business day is as follows:

- Supplier transactions must be received ready for Distribution Company processing by noon each work day.
- Transactions received by noon of the current business day will typically be responded to by noon the following business day.
- Validated billing and usage transactions will be transmitted to Suppliers by noon of the day following the corresponding Distribution Company bill issuance date.
- Distribution Company output transactions should be transmitted to Competitive Suppliers by noon each business day.
- Refer to Exhibit A for a description of the customer enrollment process.

Each Distribution Company will publish their daily operation schedule as a guideline to Suppliers. The schedule should include cycle reading and billing dates, processing "work days" and "non work" days (i.e., holidays, weekends).

File Handling

The operational guidelines pertaining to file handling are based on the recommendations elsewhere in this document concerning transaction standards and data transmission. Any changes to these recommendations may impact file handling.

Exhibit B depicts a representative process flow. The Subgroup agrees that:

- Distribution Companies will attempt to process all files sent by Competitive Supplier unless specific action is taken by the Competitive Suppliers to avert processing (i.e., delete files, replace files). Refer to the Error Handling section for additional information.
- The recipient of a file (Competitive Supplier or Distribution Company) is responsible for reviewing (editing) file contents to prevent adverse impact on the recipient's operations or systems (data errors, duplicate files, illogical conditions, etc.). The recipient of a file has the right to reject the file in whole or in part due to

content or protocol errors. In the event that a file is rejected, the detail transactions will not be processed.

- The creator of a file is responsible for the accuracy and authenticity of the contents.
- All data exchanges will be accomplished in a pre-established manner to ensure data security and integrity (refer to "Electronic Transmission" section).
- Each file will have one recipient, and should contain transactions intended only for that recipient. A file may contain multiple transactions of the same or different type for the same customer account.
- Files will be processed by the recipient according to the recipient's operating schedule. Distribution Companies will sweep the input queue at least once each business day and will process all files that are available by the cut-off and up to the time of the last collection from the queue.
- Files will be processed in chronological order based on their receipt date/time stamp. Errors and confirmations (e.g., Successful Enrollments) will be returned to Competitive Suppliers no later than the first business day following the processing of the transactions by Distribution Companies.
- Daily transaction exchange between Competitive Suppliers and Distribution Companies will generally not be limited in terms of the total number of files or transactions processed daily.

Error Handling

The Subgroup recommends that each trading partner establish two points of contact for problem resolution: one for operations problems, and another for business issues. Each trading partner should establish appropriate procedures to ensure problems are identified, documented, properly classified and resolved in a timely manner.

Because access to and manipulation of data must be controlled, the creator of a file is responsible for correcting any errors in the data. Transactions that contain errors will not be accepted, and recipients will not make alterations to received transactions containing errors.

Recovery

A sound operation must include data recovery procedures that can be activated in the event of unexpected situations that require transactions to be recreated or resubmitted for any reason. The primary purpose of these recovery procedures is to protect the originator of the file from monetary damages related to loss of the data.

No matter what specific transmission method is used, the originator needs procedures so a file can be recreated and/or retransmitted or simply omitted from the job stream (unreadable data, invalid header, file control error, etc.). Supplier will have to coordinate with the Distribution Company in order to omit a file (dictated by Distribution Company operational schedules); other conditions are addressed in the "File Handling" section.

The Subgroup agreed that it is the responsibility of the originator of a file to maintain the ability to recover or recreate the data. In lieu of state or federal regulations specifying data retention requirements, the specific recovery mechanisms are left up to each trading partner. The minimum recovery criteria based on the normal file creation schedule is as follows:

- Files created daily, recover or recreate up to 10 files
- Files created weekly, recover or recreate up to 5 files
- Files created monthly, recover or recreate up to 3 files

Exhibit A: Enrollment

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This diagram illustrates the relationship between the Customer Enrollment/Change Supplier transaction and the Distribution Company meter reading dates for that customer.

Exhibit B: Electronic Business Transaction Process Flow

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This diagram is a conceptual example only. It depicts the essential components (in terms of Competitive Supplier interfaces) of a theoretical Distribution Company computer operations processing cycle. The complete process occurs over a 24 hour period (noon to noon) and includes:

- Daily input and validation of Competitive Supplier input transactions (Enrollments, etc.)
- Distribution Company billing cycle ("Distribution Company CIS")
- ISO New England load estimating and reporting
- Daily output to the Competitive Suppliers (Successful Enrollments, Usage and Billing, Customer Payments, Errors, Load Settlement, etc.).

Working Group Continuation:

The Working Group's focus to date has been on developing and implementing proposed standards so that the retail market can open on July 1, 1998. However, a number of tasks have yet to be completed, and changes may be required in the future as the market evolves. For example, the business processes for independent metering of large customers and the formats and transfer mechanisms for transporting the metering data are still being developed. While work will continue on these tasks, it may not be possible to complete work on all remaining work by the Retail Access date. Accordingly, the members of the Working Group propose to continue working on these issues and recommend establishment of a standing working group to address the need for modifications and enhancements to the standards and processes contained in this report. See Section III of this report for a description of the proposed process for changes to the standards approved by the Commission.

In addition, standards and technologies are evolving and being adopted in other states within New England and in other regions of the country that merit observation, examination, and possible adoption.

In order to address potential emergency market conditions, the Working Group requests preapproval of changes to data formats and transactions that are consistent with the business rules and relationships approved by the Commission.

The issues that have been deferred for future consideration by the Working Group include:

- Integration of ideas from new members into the standards,
- Coordination of timing for changes in any of the protocols,
- Continuation of training of previously trained Competitive Suppliers when changes to the protocol are made,
- Continuing review of use of the Internet and other media as transmission solutions,
- Revisit authorization for release of Customer historical information, and
- Review and approval of alternative data transfer mechanisms proposed for bilateral use between Distribution Companies and Competitive Suppliers.

The composition of the standing working group should remain open to the Distribution Companies, Competitive Suppliers, and Competitive Service Providers. Consideration should also be given to formation of a regional working group which would address issues of common interest and possible regional standardization.

We recommend that the group meet two times each month prior to the Retail Access Date and at least monthly thereafter for another twelve months. Chairpersons will be chosen and changed periodically, and the group will begin to schedule continuing meetings as described above unless ordered otherwise.

III. Change Control

Introduction:

The Change Control process outlined below accomplishes the Electronic Data Interchange (EDI) Working Group's objective of establishing a formal process to propose and implement changes to New Hampshire's EDI standards.

It is anticipated that the EDI standards will be modified and enhanced as market or regulatory requirements dictate. The Change Control process described here is a necessary component of an efficient electronic commerce process. While each participant will utilize established, documented and tested transactions, there must be a process to modify such transactions in a timely manner, if the market is to function efficiently. This change control document describes the process by which such changes will be discussed, reviewed, accepted and implemented.

In order to accommodate the Change Control Process, the EDI Working Group will post on an agreed website the EDI standards and approved changes. The EDI Working Group will notify the designated technical and business contacts of proposed modifications or enhancements to the EDI standards and invite comments.

A complete update of the EDI standards will be published and electronically posted every six months. The consolidated new release publication will encompass all changes implemented during the previous six month period and be forwarded to the Commission.

The EDI Working Group will meet on a regular basis and will be comprised of Competitive Supplier and Distribution Company representatives

As new modifications and enhancements are proposed to the group, each proponent should strive to build consensus for the proposed changes. In this way we anticipate that New Hampshire's standards will evolve in an orderly and timely manner and reflect developments at the regional and national levels.

Priority Classifications:

Proposed modifications and enhancements will be classified in one of the following three categories:

Emergency Priority: Approved changes must be implemented within 10 working days of Working Group approval, or as otherwise directed by the EDI Working Group.

High Priority: Approved changes/enhancements will be implemented within 30 days of Working Group Approval, the next update, or as otherwise directed by the EDI Working Group.

Low Priority: Approved changes/enhancements will be implemented no earlier than 90 days from Working Group Approval, some future update, or as otherwise directed by the EDI Working Group.

Emergency Priority

For a change to be classified as *Emergency priority*, the initiating party must demonstrate in writing to the EDI Working Group that:

The current EDI standards or EDI transaction sets cannot accommodate basic market requirements, and

If a problem is left unattended it could have a detrimental effect on market participants, or the market in general, and

bilateral agreements between Suppliers and Distribution Companies cannot solve the problem.

In addition the initiating party must:

Document in advance the scope of the modification/enhancement and identify the affected EDI transactions, and

Explain why the modification should not be classified as a High or Low Priority change, and

Provide cost justification if appropriate, and

Document the proposed amendments, provide a test plan, test cases, EDI documentation and EDI transaction sets.

High Priority

For a change to be classified as *High Priority*, the initiating party must demonstrate in writing to the EDI Working Group that the suggested modifications/enhancements:

Will better the industry as a whole, and

Bilateral agreements between Suppliers and Distribution Companies cannot solve the problem efficiently, and

Addresses immediate regulatory and competitive market issues and explain why the proposed change must be implemented within 30 days.

In addition the initiating party must:

Document in advance the scope of the modification/enhancement and the affected EDI transaction sets, and

Document why the modification should not be classified as Low Priority, and

Provide cost justification if appropriate, and

Document proposed amendments, provide a test plan, test cases, EDI documentation and EDI transaction sets.

Low Priority

For a change to be classified as future release or *Low Priority*, the initiating party must demonstrate in writing to the EDI Working Group that the suggested modifications/enhancements:

Will better the industry as a whole, and

Bilateral agreements between Suppliers and Distribution Companies cannot solve the problem efficiently, and

Addresses immediate regulatory and competitive market issues

In addition the initiating party must:

Document in advance the scope of the modification/enhancement and the affected EDI transaction sets, and

Provide cost justification if appropriate, and

Document proposed amendments, provide a test plan, test cases, EDI documentation and EDI transaction sets.

Notification Requirements:

Emergency Priority

The party proposing the change/modification will notify the EDI Working Group chairperson(s) who will verify that the change/modification is an Emergency Priority in accordance with

the Change Control Process. The EDI Working Group Chairperson(s) or delegate will notify by phone and/or e-mail all technical and business contacts, both Suppliers and Distribution Companies, in as expeditious a manner as possible and schedule an emergency meeting of the group.

High and Low Priority

The initiating party will notify by phone or e-mail the EDI Working Group chairperson(s) and all technical and business contacts at least 30 days prior to the scheduled EDI meeting. The EDI Chairperson(s) shall add the change/modification request to the meeting agenda.

Appendix A – Glossary of Terms

Glossary of Terms

ACH Transfer Date: The date that the ACH transfer is expected to be deposited to the Competitive Supplier's Bank.

Activity Code: A code that indicates the following:

0 = Normal On Cycle Bill	6 = Estimated On Cycle Bill
1 = Cancellation	7 = Estimated Off Cycle Bill
2 = Manual Bill	8 = Late Read/Late Booked
3 = Final Bill	
4 = Off Cycle Bill	
5 = No Bill	

Arrears Interest: The amount of accrued interest charges on any outstanding debt for the account for the Competitive Supplier portion of the bill.

Bill To Address 1: The first address field of data that relates to the Customer's mailing address. This field may contain delivery information such as the mailing street address or a Post Office Box number.

Bill To Address 2: The second address field of data that relates to the Customer's mailing address. This field may contain any additional mailing address delivery information that exceeds the space provided by Bill To Address 1.

Bill To City: The mailing address city name.

Bill To State: The mailing address state name.

Bill To Postal Code: The mailing address Postal Code. This field would contain the Zip Code, and possibly the Carrier Route, if the mailing address is within the U. S.

Bill To Country Code: The mailing address Country Code if the mailing address is outside of the U. S.

Billing Cycle: Distribution Companies typically process and bill a portion of their Customers each day. This grouping is the billing cycle. This field indicates what billing cycle the Customer is in. A schedule of billing cycles and dates will be made available to all Competitive Suppliers.

Billing Date: Date on which Distribution Company produced the bill.

Billing Option for the Account: This field will indicate the billing method for the Customer. The Competitive Supplier may offer either 'Consolidated' or 'Passthrough' Billing, and the Customer will receive a separate bill from his Competitive Supplier (Passthrough) or one complete bill (Consolidated). Possible values are:

C = Consolidated (Complete)

P= Passthrough

Completion Status Code: After a set of transactions is processed by the Distribution Company, this field will be used to communicate the status of each detail record. See Appendix B for valid codes.

Consolidated Billing Option: A billing option whereby the distribution and generation charges are combined on one statement rendered by the Distribution Company.

Current Amount: The current amount billed for the Competitive Supplier for an individual service when there are multiple services per account, or for a single account when there is a single service for the account.

Current Customer Charge: The current Customer charges applied on the Competitive Supplier portion of the bill.

Current Demand Charges: The current billed amount for the Competitive Supplier total demand portion of the bill.

Current Off-Peak amount: The current billed amount for usage recorded during the Distribution Company's off-peak hours for the Competitive Supplier portion of the bill.

Current Peak Amount: The current billed amount for usage recorded during the Distribution Company's on-peak hours for the Competitive Supplier portion of the bill.

Current Read Date: The date the meter was read. The format of the date is CCYYMMDD.

Current Sales Tax: The current sales tax amount for the Competitive Supplier portion of the bill.

Current Shoulder Amount: The current billed amount for usage recorded during the Distribution Company's shoulder hours for the Competitive Supplier portion of the bill.

Data Exchange: The process of sending and receiving files over a computer network.

Demand Value Used by Distribution Company for Billing: This field is used for time-of-use accounts. It is the kW or kVa demand that was used by the Distribution Company to calculate the current demand charges. (Since there are 2 or 3 time-of-use periods, each with demand, this field tells the Competitive Supplier which demand was used for billing purposes).

Detail Record Indicator: One character that indicates this is a detail record. There may be many detail records in a single file. Valid values are:

E = ENROLL M = MOVE
D = DROP U = USAGE
C = CHANGE B = BILLING and USAGE
P = PAYMENT A = ADJUSTMENT
S = SETTLEMENT H = USAGE HISTORY REQUEST

Distribution Company Account Number: The identifier used by the Distribution Company to uniquely identify their Customer. The Competitive Supplier must include the Distribution Company account number in all electronic communications with the Distribution Company.

Distribution Company Customer name: For residential Customers, this field will contain the first four characters of the Customer's *last* name as it appears on the bill. For commercial and industrial, this field will contain the *first* four characters of the company's name as it appears on the bill.

Distribution Company Identifier: This is the Distribution Company's DUNS number, issued by Dunn & Bradstreet.

Distribution Company Rate Code: The rate code assigned by the Distribution Company to identify the category of service supplied to the Customer.

EDI: Electronic Data Interchange – a standardized set of business transactions for electronic commerce defined by the ANSI ASC X12 EDI transaction set.

EDI Translator: A computer program that converts electronic transactions to/from EDI format.

Effective Date of Service and Load Requirements - assigned by the Distribution Company: This date will normally be the next scheduled cycle meter-read date. It tells the Competitive Supplier the date that they are responsible for load, or in the case of a drop, the date they end being responsible for load.

File Creation Date: This is the date the file was created.

Header Record Indicator: One character that indicates this is a header record.

Indication of the applicability of Sales Tax: Field to indicate whether sales tax is being applied to the service or not. Possible values are:

Y = Sales Tax Applicable
N = No Sales Tax Applicable
SPACE = No Sales Tax Applicable

Load Date: The day for which the kWh usage has been calculated by the load estimation system. The format of the field is: CCYYMMDD.

New Distribution Company Account Number: In certain circumstances the Distribution Company must change a Customer's account number. This field will be used to identify the new account number.

New Distribution Company Service Identifier: In certain circumstances the Distribution Company must change a Customer's service (i.e. replacement meter). This field will be used to identify the new service identifier.

New Distribution Company Customer Name: In certain circumstances the Distribution Company must change the Customer's name (i.e. marriage). This field will be used to notify the Competitive Supplier of the first four characters of the Customer's new name.

Net Dollars: This field will contain the total of the Payment/Adjustment amount field for the Competitive Supplier.

Number of Non-Metered Units: Number of billable units pertaining to the value listed in the type of service indicator field.

Off-Peak Demand: The highest demand measured in kilowatts during the Distribution Company's off-peak hours.

Off-Peak kVa Demand: The highest kVa demand measured in kilovolt-amperes during the Distribution Company's off-peak hours.

Off-Peak Kilowatt Hour usage: The total kilowatt hour use during the Distribution Company's off-peak hours.

Passthrough Billing Option: A billing option whereby the Customer receives two bills, one for distribution charges from the Distribution Company, and one for generation charges billed separately by the Competitive Supplier.

Payment/Adjustment Amount: The amount that was posted to the Customer's account for the Competitive Supplier portion of the bill.

Payment/Adjustment Code : This field will contain a code that identifies the record's function.

- 001 = Payment received from the Customer
- 002 = Transfer
- 003 = Bad Check
- 004 = Arrears Interest
- 005 = Sales Tax
- 006 = Adjustment
- 007 = Supplier Write-Off

Payment/Adjustment Posting Date: The date the transaction amount was posted to the Customer's account for the Competitive Supplier portion of the bill.

Peak or Highest kW demand: For non-time-of-use meters, this will contain the actual highest demand measured in kilowatts. For time-of-use meters, it is the highest demand measured in kilowatts during the Distribution Company's on-peak hours.

Peak kVa Demand: The actual peak demand measured in kilovolt-amperes during the Distribution Company's on-peak hours.

Peak or Total Kilowatt Hour Usage: For non-time-of-use meters, this is the total kilowatt hour usage for the billing period. For time-of-use, it contains the total kilowatt hour use during the Distribution Company's on-peak hours.

Previous Read Date: The date the meter was last read and used for billing. The format of the date is CCYYMMDD.

Primary Metering Indicator: The indicator telling the Competitive Supplier that the Distribution Company has metered Customer's service at primary voltage.

N = No Primary Metering

Y = Primary Metering

SPACE = No Primary Metering

Record Count: The number of detail records contained in this transmission.

Service Identifier: Some systems offer multiple types of services to a particular account. A Competitive Supplier may wish to offer different prices for the different service types. This field will be used in conjunction with the Type of Service Indicator to identify the specific service referenced by the transaction (it typically contains a meter number or an unmetered rate depending on the type of service).

Settlement Function: Single character on settlement record indicating the type of supply service included in the record. The values for the field are:

C = Competitive Supply

D = Transition Service

Shoulder kW Demand: The shoulder demand measured in kilowatts.

Shoulder kVa Demand: The total shoulder demand measured in kilovolt-amperes.

Shoulder Kilowatt Hour Usage: The total shoulder kilowatt hour usage.

Special Identifier: A four character field that will be used to identify *special conditions* such as customers of private or public aggregators.

Supplier Account Number: The identifier assigned by the Competitive Supplier to identify their account. Competitive Suppliers should use this field to *uniquely* identify their Customers.

Supplier Arrears: The amount of outstanding debt due the Competitive Supplier for this account.

Supplier Hourly Loads (Total): The total hourly loads for which a Competitive Supplier has supply responsibility as reported to ISO New England by the Distribution Company. This field will contain kW load for each of the 24 daily hours. The aggregate hourly loads will be reported separately for Competitive Supplier-enrolled Customers and for Customers who have not chosen a Competitive Supplier and whose electricity supply is provided via the Transition Service. The Distribution Company will contract for Transition power supply with one or more Competitive Suppliers to meet those supply requirements.

Supplier Identifier: This is the Competitive Supplier's D.U.N.S. number, issued by Dunn & Bradstreet.

Supplier Pricing Structure Maintained by the Distribution Company: A code for the price point that the Customer will be charged for electric service within a particular rate class. Each Competitive Supplier rate class can support a large number of price points.

Supplier Rate Code: The rate code assigned by the Competitive Supplier to identify the category of service supplied to the Customer. Calculation methods must be consistent with a Distribution Company's existing tariffs.

Total ACH transfer: Dollars that are being transferred to a Competitive Supplier via Automated Clearing House (ACH) transfer. If the total Competitive Supplier credits is greater than the total Competitive Supplier debits, this field will contain the net total dollars that are being transferred to the Competitive Supplier. Otherwise, this field will contain zeros.

Total Amount Due: The total amount that is owed to the Distribution Company if the total Competitive Supplier debits is greater than the total Competitive Supplier credits. This field will contain zeros if Competitive Supplier credits are greater than Competitive Supplier debits.

Total Amount Due Supplier: This is a summation of all current charges, arrears interest and arrears and cash adjustments for this account within the Usage/Billing Record.

Total Supplier Credits: This field will contain the total of all the cash payments, and cash Competitive Supplier credit transactions.

Total Supplier Debits: This field will contain the total of all the cash Competitive Supplier debit transactions.

Tracking Number: A transaction record identifier generated by the originator of the transaction for unique identification of that transaction record.

Trailer Record Indicator: One character to indicate that this is a trailer record.

Type of Service Indicator: Used to identify the type of service. Possible options are:

C = Combined Service (multiple meters)

D = Metered Service Demand & kWh

E = Metered Service kWh

H = Controlled Hot Water

L = Lighting Service

N = Non-Metered Service

T = Metered Service TOU

A = Apply to All Services

S = Electric Space Heating

U = Uncontrolled Hot Water

blank or space = Apply to All Services

Appendix B – Completion Status Codes

Field	Value	Definition
Completion Status Code (C.S.C.)		
1st character of C.S.C.	1	Administrative Format
	2	Usage & Billing Format *
	3	Payments & Adjustments Format *
	4	Load Settlement Format *
	5	Header Format
	6	Trailer Format
2nd & 3rd character of C.S.C.	00	Successful Transaction
	01	Invalid Detail Record Indicator
	02	Invalid Supplier Account Number
	03	Invalid Distribution Company Account Number
	04	Invalid Distribution Company Name
	05	Invalid Code Identifying Function of Record
	06	Invalid Effective Date of Service & Load Request
	07	Invalid Billing Option
	08	Invalid Distribution Company Rate Code
	09	Invalid Supplier Rate Code
	10	Invalid Supplier Pricing Structure
	11	Invalid Type of Service Indicator
	12	Invalid Service Identifier
	13	Invalid Billing Cycle
	14	Invalid Sales Tax Indicator
	15	Invalid Off Cycle Reading Indicator
	16	Invalid Off Cycle Reading Date
	17	Invalid New Distribution Company Account Number
	18	Invalid New Service Identifier
	19	Invalid Activity Code
	20	Invalid Current Read Date
	21	Invalid Previous Read Date
	22	Invalid Primary Metering Indicator
	23	Invalid Peak or Total kWh Usage
	24	Invalid Peak or Total KW Demand
	25	Invalid Peak KVA
	26	Invalid Off-Peak kWh
	27	Invalid Off-Peak Demand
	28	Invalid Off-Peak KVA
	29	Invalid Shoulder kWh Usage
	30	Invalid Shoulder Demand
	31	Invalid Shoulder KVA
	32	Invalid Demand Used by Distribution Company for Billing
	33	Invalid Number of Non-Metered Units
	34	Invalid Billing Date
	35	Invalid Current Amount
36	Invalid Current Peak Amount	

- 37 Invalid Current Off-Peak Amount
- 38 Invalid Current Shoulder Amount
- 39 Invalid Current Demand Charges
- 40 Invalid Current Customer Charge
- 41 Invalid Current Sales Tax Amount
- 42 Invalid Arrears Interest
- 43 Invalid Supplier Arrears
- 44 Invalid Total Amount Due Supplier
- 45 Invalid Payment/Adjustment Posting Date
- 46 Invalid Payment/Adjustment Amount
- 47 Invalid Load Date
- 48 Invalid Supplier Hourly Loads (Total)
- 49 Invalid Supplier Hourly Loads (Estimated)
- 50 Invalid Supplier Hourly Loads (Telemetered)
- 51 Invalid Supplier Hourly Loads (Standard Offer)
- 52 Invalid Supplier Hourly Loads (Transition Service)
- 53 Invalid Supplier ID
- 54 Invalid Distribution Company ID
- 55 Invalid Transmission Date
- 56 Invalid Bill Cycle Date
- 57 Invalid ACH Transfer Date
- 58 Invalid Record Count
- 59 Invalid Net Dollars
- 60 Invalid Total Supplier Credits
- 61 Invalid Total Supplier Debits
- 62 Invalid Total ACH Transfer
- 63 Invalid Total Amount Due
- 64 Customer Already Enrolled
- 65 Supplier on Probation

* Denotes values not currently being used

Appendix C
Electronic Data Exchange Testing Standards

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Introduction

The purpose of the EDI Test Plan is to provide a standardized set of test conditions that Competitive Suppliers and Distribution Companies will use to verify their customer transactions and EDI interface. Each Competitive Supplier and Distribution Company must successfully execute the test plan before the Competitive Supplier will be allowed to enroll customers with the Distribution Company.

The test plan is not intended to exercise every conceivable transaction condition, but it will cover the most common scenarios and enough error conditions to demonstrate basic error handling. Trading partners may agree to perform additional testing or to add transactions to their specific test scenarios in order to cover special conditions. The test plan is not a substitute for internal testing of trading partners' systems. Each trading partner should conduct thorough testing of their internal systems to ensure that all transaction processing is accurate.

Test Constraints

There are certain transactions that cannot be fully tested in the context of this plan because they require special handling and/or the involvement of a third party. These transactions can be generated by the test, but they can only be verified by manual inspection and should not be transmitted. Specifically, these transactions are:

Settlement (there is no standard transmission mechanism at this time)

EDI 820 (transfer of funds)

Successful Enrollment (notification of switch sent to current supplier)

Successful Enrollment (notification of switch sent to default provider; does not apply to all companies)

Test Condition Descriptions

This worksheet describes each test condition and assigns it a reference number. The reference number is in the format X-999 where 'X' indicates the transaction category and '999' is a unique reference number within the transaction category.

Transaction Categories are:

A (Account Administration - Format I)

B (Usage and Billing - Format II)

C (Payments and Adjustments - Format III)

D (Settlement - Format IV)

The test simulates processing dates of 07/02/98 - 08/25/98. Test enrollment transactions are intended to take effect after the simulated July 1998 scheduled reading (the workbook includes a cycle calendar). The dates used for the test have no relationship to the actual date of customer choice, and the cycle schedule does not necessarily correspond with any Disco cycle numbers or schedules.

Presentation of Test Transactions

The test transactions are documented in an Excel workbook. There are two presentation layouts: one with descriptive information and one that represents the actual transaction file contents.

Descriptive Layout

Transactions are grouped by Transaction Category (Format I, Format II, etc.). The Transaction Type indicates the specific action to be taken for those Transaction Categories that have multiple transactions. Each transaction has a reference to one Test Condition and a Sequence Number (in case there are multiple transactions required to set up or fulfill a Test Condition).

The Sequence Number must be used in context with the Transaction Type and File ID to determine both the order of transactions in a file, the direction of the transaction (ES > DS, DS > ES), and the timing of transactions (day one, day two).

Shaded fields within a transaction indicate that these elements are not filled in for this transaction.

File Layout

There are six of these worksheets (one for each test file - see next section).

Transactions are grouped and ordered according to test condition requirements. Headers and trailers are included. There is no descriptive information, just the transaction data. **Test File Processing**

A total of six transaction sets (files) are needed to complete the test:

File ID	Simulated Date	Description
1A	7/2/98	1 st file from supplier to Disco. Contains Enrollments.
1B	7/3/98	Disco's response to file 1A.
2A	7/3/98	2 nd file from supplier to Disco. Contains Changes, Drops and more Enrollments.
2B	7/6/98	Disco's response to file 2A plus Changes, Moves and Drops.
3B	8/10/98	From Disco to supplier. Usage and Billing records for August cycle 6.
4B	8/25/98	From Disco to supplier. Payments and Adjustments.

The supplier may transmit files 1A and 2A without waiting to receive the first file from the Disco. The Disco will process File 1A and 2A as if they were actually transmitted on two separate days. A complete test cycle can typically be completed in two days, assuming no problems.

Account Number Tables

Each transaction contains the Distribution Company Account Number and the Supplier Account Number. Since the actual account numbers are not known at this time, the test transaction account numbers have been arbitrarily assigned. A translation table for each company will have to be developed to replace the test script account numbers with "real" account numbers. The Account Number Tables have been provided as a template for this. Note that a given account may be used in more than one test condition.

Service Identifier Table

Where the Service Identifier (i.e., meter number) is used, a translation table for each company will have to be developed to replace the test script Service Identifier with "real" ids (meter number, rate code, etc.). The Service Identifier Table is provided as a template for this.

Optional Fields

The Distribution Companies have documented their unique requirements as optional fields. This information is included in Appendix D of the EDI Working Group Report. Trading partners will have to work together to ensure that adequate testing of optional fields is performed.

File Headers and Trailers

Specific test conditions covering File Headers and Trailers are not necessary. Refer to EDI Implementation Guidelines for specific information about mapping Header and Trailer data to EDI segments.

Test Systems

Each Distribution Company and Competitive Supplier must develop a test environment to comply with this test plan. These test systems will likely evolve as time goes on (more automation, enhanced features, etc). Data used for testing (customer names, rates, etc.) should match that presented in the enclosed worksheets, or necessarily be coordinated between trading partners. The initial versions of the test systems must meet these minimum requirements (follow the sequence numbers):

Supplier Test System	Disco Test System
1. Generate test transactions (File 1A and 2A) from pre-established test database	4. Receive suppliers' test files
2. Translate test transactions into EDI format (814)	5. Convert from EDI to internal format
3. Transmit files to Discos	6. Validate transactions against a pre-established test customer database; generate appropriate internal results
10. Receive Disco test files 2A and 2B	7. Generate test transactions (File 1B and 2B)
11. Convert from EDI to internal format	8. Translate test transactions into EDI format (814,

	810, 820)
12. Process transactions and/or resolve errors for appropriate internal results	9. Transmit files to supplier
14. Receive Disco test files 3B and 4B	13. Transmit files 3B and 4B to supplier
15. Convert from EDI to internal format	
16. Process transactions and/or resolve errors for appropriate internal results	

EDI Testing Procedure

This procedure provides Competitive Suppliers and Distribution Companies with a guide to initiating and successfully completing the EDI Test Plan. This procedure is to be followed for each Distribution Company with which the Competitive Supplier wants to test and/or enroll customers.

Successful completion of the Test Plan is required before the Distribution Company will accept enrollment transactions from the Competitive Supplier.

Step by Step

The Competitive Supplier representative (either the Business Contact or Technical Contact) must contact the person identified as the Business Contact for the Distribution Company with which testing is to be conducted. This contact must be made at least two weeks before test files are transmitted to the Distribution Company. The two week lead time is so the Competitive Supplier has time to work with the Distribution Company Business Contact to establish the following:

- 1) A mutual understanding of the Test Plan conditions and requirements (refer to EDI Test Plan)
- 2) Test rates and pricing structures in the Distribution Company test system
- 3) Test mailboxes and passwords or alternate method of file exchange
- 4) Specific test data (customer account numbers, Distribution Company-specific conditions and options, dates, etc.)
- 5) Schedule for transmitting test data and conducting the test(s) – see Attachment 1

Competitive Supplier transmits test files in EDI format (see EDI EDI Implementation Guide) according to the schedule. Competitive Supplier notifies the Distribution Company Business Contact when files have been transmitted. The Distribution Company Business Contact or Technical Contact will provide prompt notification of any problems encountered with the input files.

The Distribution Company will process Competitive Supplier input files and send result files according to the schedule. Competitive Supplier should process each file through its test record keeping system according to the test schedule. Promptly notify the Distribution Company Business Contact of any problems.

The Business Contact and Technical Contact for each party will review the results of their individual test system processing cycles. This review will ensure 1) that test results are consistent with internal requirements, 2) that the intent of the EDI Test Plan is fulfilled, and 3) that any deviations from the expected results are legitimate and do not jeopardize the quality of the test.

The test is considered to be completed successfully when the Business and Technical Contacts for both the Competitive Supplier and Distribution Company sign off on the test results. The test can be rescheduled and rerun as many times as necessary to provide the reviewers with the confidence to sign off. The Business Contact for each party should keep a record of the test acceptance (paper/fax or electronic) – see Attachment 2.

EDI Test Procedure Attachment 1: Sample Testing Schedule

The following schedule assumes that all preliminary tasks identified in Step 1 of the EDI Testing Procedure have been completed. The duration of the test can be adjusted to suit the needs of trading partners, but the test should be contiguous (start to finish) with successful completion of all intermediate steps. Unsuccessful completion of an intermediate step should generally result in the entire test being rescheduled and rerun.

Day 1: Competitive Supplier transmits Files 1A and 2A to Distribution Company.
Distribution Company receives Files 1A and 2A.

Day 2: Distribution Company processes File 1A.
Distribution Company reviews results of File 1A processing.
Distribution Company sends File 1B.
Competitive Supplier receives File 1B.

Day 3: Competitive Supplier processes File 1B.
Competitive Supplier reviews results of File 1B processing.
Distribution Company processes File 2A.
Distribution Company reviews results of File 2A processing.
Distribution Company sends File 2B.
Competitive Supplier receives File 2B.

Day 4: Competitive Supplier processes File 2B.
Competitive Supplier reviews results of File 2B processing.
Distribution Company sends Files 3B and 4B.
Competitive Supplier receives Files 3B and 4B.

Day 5: Competitive Supplier processes File 3B.
Competitive Supplier reviews results of File 3B processing.
Competitive Supplier processes File 4B.
Competitive Supplier reviews results of File 4B processing

Day 6: Sign-off

EDI Test Procedure Attachment 2: Test Acceptance Form

The undersigned agree that [Competitive Supplier company] and [Distribution Company] have successfully completed electronic interchange testing on [date].

Subject to finalization of bilateral agreements between [Competitive Supplier] and [Distribution Company] and fulfillment of all other registration requirements as directed by the New Hampshire Public Utility Commission, [Competitive Supplier] may submit customer enrollment transactions electronically to [Distribution Company] beginning on [date].

Competitive Supplier Company: _____

Competitive Supplier Business Contact Signature: _____

Date of Test Acceptance: _____

Competitive Supplier Technical Contact Signature: _____

Date of Test Acceptance: _____

Distribution Company: _____

Distribution Company Business Contact Signature: _____

Date of Test Acceptance: _____

Distribution Company Technical Contact Signature: _____

Date of Test Acceptance: _____

Test Plan Worksheets (Excel)

- A Test Conditions: File Layout
- B Customer Information
- C Generic Bill Cycle Calendar
- D Test Competitive Supplier Rate Tables

- E Transaction Detail: Descriptive Layout
 - E1 Format I Transaction Detail
 - E2 Format II Transaction Detail
 - E3 Format III Transaction Detail
 - E4 Format IV Transaction (No Test Data: Layout Only)

- F Transaction Detail: File Layout
 - F1 File 1A (From Competitive Supplier)
 - F2 File 2A (From Disco)
 - F3 File 1B (From Competitive Supplier)
 - F4 File 2B (From Disco)
 - F5 File 3B (From Disco)
 - F6 File 4B (From Disco)

- G Disco Account Number Table
- H Competitive Supplier Account Number Table
- I Service Identifier Table

Appendix D
Electronic Business Transaction Formats

See Attachment

Appendix E
EDI X12 Implementation Guidelines

See Attachment

Appendix F Training Materials Outline

New Hampshire Retail Access Implementation Training Framework and Requirements

Statement of Purpose

To facilitate a smooth transition into full retail access of the electric utility industry in the State of New Hampshire, a Supplier Training Taskforce was developed as an off-shoot of the Electronic Data Interchange (EDI) Working Group. During the development of the EDI standards and their associated business rules, it became apparent that it would be in the best interest of all involved in this process if training sessions were held on a regular basis. The taskforce was charged with determining what information needed to be conveyed to Competitive Suppliers and other Competitive Service Providers prior to their receiving final approval to conduct business in the New Hampshire market. Further, the taskforce was asked to develop a timeline of events and an implementation strategy for providing training on a regular basis, and in a forum that allowed for open discussion of relevant issues and concerns.

Training Requirements

Successful completion of a Supplier Training Workshop is a requirement for doing business in the New Hampshire retail energy market. Any entity that has registered with the State as a Competitive Supplier or Competitive Service Provider must attend a Supplier Training Workshop in order to complete the registration process. Additionally, successful testing of one's ability to send and receive valid electronic data with each Distribution Company according to the rules set forth in the EDI Working Group Report is required prior to being allowed to enroll Customers or request and receive customer usage history in that Distribution Company's service territory. Attendance at a Supplier Training Workshop is a mandatory prerequisite to EDI testing.

Training Schedule

The first training workshop will be held on May 7, 1998. Subsequent workshops will be held on the first Thursday of every month, provided there are suppliers registered to attend one week prior to the scheduled training date. A complete schedule of training dates will be posted on each Distribution Company's web site and on the NHPUC web site. Training is scheduled to last

for a full day. Upon completion of the session, each Competitive Supplier will receive one Supplier Guidebook with copies of all relevant materials and a certificate verifying completion of the workshop. Periodic notification of updates of the guidebook materials will be sent to each participant's official contact person as registered with the PUC, and current versions of guidebook materials will be available on the PUC web site. It shall be each Competitive Supplier's responsibility to maintain their copy of the guidebook and ensure they have the most up to date documents included therein.

The location of the Supplier Training Workshops has not been determined at this writing. Information on the location of each session will be available on each Distribution Company's web site and on the NHPUC web site. Dates, times and locations are subject to change without written notification. Attendees should check the aforementioned web sites within 48 hours of the scheduled workshop to confirm details.

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