

Gas Industry Electronic Business Transactions Report

Massachusetts Gas Unbundling Collaborative
Electronic Business Transactions Working Group
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I. INTRODUCTION

The **Gas Industry Electronic Business Transactions Report** (the “Gas Industry EBT Report”) describes the standards for electronic business transactions (“EBT”) between energy marketers (the “Suppliers”) who provide competitive gas-supply services to Retail Customers and nine of the ten investor-owned natural gas local distribution companies in Massachusetts (the “LDCs”).¹ These EBT standards were developed on a consensus basis by members of the Gas Industry Electronic Business Transactions Working Group (“Gas EBT Working Group”) of the Massachusetts Gas Unbundling Collaborative (the “Collaborative”).

The LDCs initiated the Collaborative in September 1997 in response to the directives of the Massachusetts Department of Telecommunications and Energy (the “Department”) for the purpose of developing a comprehensive state-wide customer-choice program that would be available to all customers. Collaborative participants have addressed numerous issues, including the unbundling of rates and services, the development of standardized terms and conditions, the assignment of capacity to customers migrating from firm sales to transportation service, and other topics pertaining to the further development of a competitive retail market. Participants in the Collaborative have included over 150 representatives from all ten LDCs, several energy marketers, the Office of the Attorney General (the “Attorney General”), the Division of Energy Resources (“DOER”), Associated Industries of Massachusetts (“AIM”) and The Energy Consortium (“TEC”). The Gas EBT Working Group is composed of a sub-set of Collaborative participants who share a more focused interest in developing EBT business rules, policies and supporting technologies.

The standards set forth in the **Gas Industry EBT Report** are intended to allow for the maximum use of electronic communication technologies. The specific EBT requirements described herein are designed to support the business transactions between competitive suppliers and LDCs as defined by the Model Terms and Conditions for Natural Gas Service and the Rules Governing the Restructuring of the Natural Gas Industry, 220 CMR 14.00 et seq.

In addition, several agreed-upon principles guided the Gas EBT Working Group in the development of EBT standards:

- Minimize the number of required transactions
- Minimize the potential for customer confusion
- Protect the customer’s right to choose a new Supplier

¹ The LDCs include: Bay State Gas Company, The Berkshire Gas Company, Boston Gas Company, Colonial Gas Company, Commonwealth Gas Company, Essex Gas Company, Fall River Gas Company, Fitchburg Gas & Electric Light Company, and North Attleboro Gas Company. In light of its small customer base, the tenth investor-owned natural gas distribution company, Blackstone Gas Company, has indicated to the Department that it will not conduct transactions on an electronic basis for the foreseeable future.

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- Use electronic solutions rather than paper-based alternatives
 - Minimize exception and manual processing
 - Control costs
 - Increase efficiency, speed and accuracy

Based on these guiding principles and the Department's gas industry restructuring regulations, the Gas EBT Working Group developed EBT standards for two broad categories of transactions that are required by the Model Terms and Conditions:

- **Customer Transactions** Customer Transactions involve the exchange of customer-related information between LDCs and Suppliers. Customer Transactions include the process by which Customers switch from LDC gas-supply service to Supplier Service. These transactions also handle cases where a customer switches from one Supplier to another, or returns to utility-sponsored gas service. Customer Transactions address billing procedures for competitive services, as well as data transfer procedures for customer gas-usage information. Customer Transactions in the gas industry will be similar to those established for the electric industry in Massachusetts. The differences in gas customer transactions are due to several factors, including:
 - industry-related data requirements that are not present for the electric industry;
 - improvements based on production experience with similar transactions in the electric industry;
 - consideration of emerging regional and national standards;
 - technological developments.
- **Supplier Transactions** Supplier Transactions involve the scheduling, nomination and delivery of gas supplies by Suppliers to the LDCs' city gates for delivery to retail customers. Supplier Transactions are largely governed by Sections 11.0 and 12.0 of the Model Terms and Conditions for Daily-Metered and Non-Daily-Metered Distribution Services, and by the specific operating parameters of interstate pipelines in accordance with FERC-approved tariffs.

The Gas EBT Working group is in the process of reviewing the business procedures underlying the Supplier Transactions. The Supplier Transactions are scheduled to be completed twelve months after the implementation of the customer transactions.

The Gas EBT Working Group developed EBT standard transactions and established technical standards for the associated data formats, communication protocols, and modes of data exchange. In the natural gas industry, the implementation of EBT protocols is complicated by the fact that choice has been available to certain customers in Massachusetts for over ten years. As a result, Suppliers and LDCs have existing infrastructures that must be adapted, reconfigured or replaced in order to implement these proposed EBT standards. The main objective of the implementation schedule for these EBT standards is to provide a seamless transition to any new systems for customers who

are already taking unbundled services, and simultaneously to support choice for all customers at the soonest possible date. Thus, the EBT standards established in this report are intended to be implemented by each individual LDC on a schedule that balances the varying needs of all Collaborative stakeholders.

It must also be noted that the Gas EBT Working Group has established these EBT standards to meet immediate requirements, recognizing a need for flexibility to adapt to emerging national standards and technological developments in the future. The Gas EBT Working Group will continue to meet on a regular basis to consider and deal with evolving EBT standards, as well as other issues relating to electronic commerce between the LDCs and Suppliers serving gas customers in the Commonwealth. Updated versions of the **Gas Industry EBT Report** will be submitted to the Department to reflect any modifications.

II. GLOSSARY OF TERMS

Account: A customer's business relationship with an LDC that, depending on the LDC, may be established at either the premise or meter level.

Aggregation Pool: One or more customer accounts whose gas usage is served by the same Supplier and is aggregated for operational purposes, including but not limited to nominating, scheduling and balancing gas deliveries.

Business Day: Monday through Friday excluding holidays recognized by the LDC.

Complete Billing Option: A billing option available to customers whereby the Distribution Service and Supplier Service charges are combined on one statement rendered by the LDC.

City Gate: The interconnection between an LDC's distribution system and an interstate pipeline.

Customer or Retail Customer: The recipient of Distribution Service whose gas usage is recorded by a meter or group of meters at a specific location and who is a Customer of record of an LDC.

Day or Gas Day: A period of twenty-four (24) consecutive hours beginning at 10:00 a.m., E.T., and ending at 10:00 a.m., E.T., the next calendar day, or other such hours used by the Delivering Pipeline.

Default Service: Gas commodity service provided by an LDC to a customer who is not receiving Supplier Service, in accordance with the terms and conditions of the LDC.

Delivering Pipeline: The interstate pipeline company that transports and delivers gas to an interconnection with an LDC's distribution facilities.

Department: The Massachusetts Department of Telecommunications and Energy.

Distribution Service: The transportation and delivery by an LDC of customer-purchased gas from the interconnection of the Delivering Pipeline and the LDC's distribution system to the customer's delivery point.

Electronic Business Transactions (EBT): A group of electronic transactions that allows the LDCs and suppliers to communicate in a standard format.

Electronic Data Interchange (EDI): The electronic exchange of business documents in a standard computer-processable data format.

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

Enroll: The process of signing up a customer for Supplier Service. A customer is considered enrolled when a successful enrollment transaction is returned to the Supplier by the LDC.

Gas Industry Restructuring Regulations: 220 CMR 14.00 et seq., entitled “Rules Governing the Restructuring of the Natural Gas Industry,” promulgated by the Department on [insert date].

Gas Service Area: An area within an LDC’s distribution system established for the purpose of administering capacity assignments, nominations, balancing, imbalance trading, and Aggregation Pools.

Implementation Guidelines: Documentation used to map the Massachusetts Gas Industry’s EBTs to standard EDI formats.

Local Distribution Company (LDC): A company engaged in the distribution of natural gas to Retail Customers, or that owns, operates or controls distribution facilities.

Nomination: The notice given by a Supplier to an LDC that specifies an intent to deliver a quantity of gas on behalf of a Customer.

Passthrough Billing Option: A billing option available to Customers and Suppliers whereby the Distribution Service and Supplier Service charges are billed separately.

Rescission Period: A three (3) day window that a Supplier must adhere to before enrolling a residential customer.

Supplier Service Agreement: A lawfully binding contract between an LDC and a Supplier.

Supplier: Any entity certified by the Department to sell Gas to Retail Customers in Massachusetts, that has met the requirements of the LDC’s terms and conditions, and that has been designated by a Customer to provide Supplier Service for the Customer’s account.

Supplier Service: The sale of gas to a Customer by a Supplier.

Terms and Conditions for Natural Gas Service: A set of rules approved by the Department that govern the relationship between LDCs, Suppliers and Customers.

Trading Partners: The parties participating in the electronic exchange of information.

Value Added Network (VAN): A commercial network that enables the electronic exchange of information between Trading Partners.

III. SUMMARY OF REPORT

The following sections of the Gas Industry EBT Report provide: (a) a description of the relationships between customers, Suppliers and the LDCs; (b) transaction sets and business rules; and (c) the testing and training requirements to implement the standards.

Section IV. Business Relationships: Outlines the fundamental business relationships between customers, Suppliers and the LDCs within the restructured natural gas industry. These relationships stem from the rules, policies and procedures described in the Model Terms and Conditions for Natural Gas Service, approved by the Department in Gas Unbundling, D.T.E. 98-32-A (1998) and D.T.E. 98-32-D (2000), and the Rules Governing the Restructuring of the Natural Gas Industry, 220 CMR 14.00 et seq.

Section V. Customer Transactions: Defines a set of electronic business transactions that support the business relationships set forth in Section IV, including the exchange of customer information, customer enrollments, terminations and other changes in retail service and customer billing. This section also presents the standard record formats for Customer Transactions, and the electronic transmission protocols for the exchange of such records between trading partners. Specific computer operational considerations are also described.

Section VI. Supplier Transactions: Ultimately, this section will present a second set of electronic business transactions relating primarily to gas operations, including the scheduling, nomination, and delivery of supplies to the LDCs' city gates. The Gas EBT Working group is in the process of reviewing the business procedures underlying the Supplier Transactions. The Supplier Transactions are scheduled to be completed twelve months after the implementation of the customer transactions.

Section VII. Gas EBT Working Group Continuing Activities: Describes the continuing activities planned for the Gas EBT Working Group to further refine the EBT standards and to complete future drafts of the **Gas Industry EBT Report**.

IV. BUSINESS RELATIONSHIPS

The EBT standards described in this report facilitate the business relationships between customers, Suppliers and LDCs, which are necessary for a functioning competitive market in Massachusetts. The core elements of these business relationships are summarized in the tables below with reference to the policy documents, rules, or regulations that govern these relationships.

Business Relationships		Model Terms & Conditions	Gas Industry Restructuring Regulations	Gas Industry EBT Report
Customer	Provides appropriate authorization to a Supplier for the release of historical gas usage information from LDC	✓	✓	
	Selects one Supplier for enrollment per account	✓		
	Provides the appropriate authorization for the Supplier to enroll the Customer	✓	✓	
	Provides the applicable account information to the Supplier			✓
Supplier	Obtains certification from the Department		✓	
	Obtains appropriate authorization from the Customer for enrollment	✓	✓	
	Obtains the appropriate authorization from the Customer for historical gas usage information	✓	✓	
	Obtains information from the Customer required to enroll the Customer into Supplier Service			✓
	Submits enrollment transactions after the three-day Customer rescission period has passed		✓	✓
	Sends the applicable information electronically to the LDC for changes in Supplier Service	✓	✓	✓
	Provides the LDC with billing rates and pricing information for the Complete Billing option	✓	✓	✓
	Renders its own bills for Supplier Service for the Passthrough Billing option	✓	✓	✓
	Maintains its own set of records to fulfill its responsibility to Customer collections.			✓

Business Relationships		Model Terms & Conditions	Gas Industry Restructuring Regulations	Gas Industry EBT Report
Supplier (Continued)	Participates in training and electronic systems testing of EBT prior to Customer enrollment		✓	✓
	Identifies both a business and a technical contact to facilitate inter-business communications for both Customer and Supplier Transactions			✓
	Enters into a Supplier Service Agreement with each LDC	✓		✓
	Contacts each LDC for company-specific information (e.g., rate structures)			✓
	Responsible for all applicable charges related to Customer transactions	✓		
	Procures and delivers gas supplies on behalf of enrolled Customers	✓		
	Accepts assignments of capacity on behalf of eligible Customers	✓		
	Request for the installation of telemetering equipment at the Customer location for daily metered service	✓		
	Schedules, nominates and delivers gas to the LDC on behalf of Customers	✓		✓
	Settles imbalances with LDC	✓		✓
LDC	Provides Customers with a list of certified Suppliers in accordance with its terms and conditions	✓	✓	
	Provides the Customer's appropriate historical gas usage information to Supplier upon request	✓	✓	✓
	Schedules normal cycle meter-read dates and reads meters	✓		
	Renders bills to the Customer as required by the Customer/Supplier relationship	✓	✓	
	Maintains records of required data related to the current Customer/Supplier services	✓	✓	✓
	Provides the Supplier with billing and usage information required by the agreed upon billing option	✓	✓	✓

Business Relationships		Model Terms & Conditions	Gas Industry Restructuring Regulations	Gas Industry EBT Report
LDC (Continued)	Provides the Supplier with payment information and collected funds under the Complete Billing option	✓		✓
	Provide daily meter reads for Customers taking Daily-Metered Distribution Service	✓		✓
	Provides nomination quantities (ATVs) to Suppliers to support Non-Daily Metered Distribution Service	✓		✓
	Identifies both a business and a technical contact to facilitate inter-business communications for both Customer and Supplier Transactions			✓
	Maintains an Internet World Wide Website containing various standard documents and information for Suppliers	✓		✓
	Terminate gas service to the Customer (i.e., physically disconnect)	✓	✓	

V. CUSTOMER TRANSACTIONS

PROCESS FLOWS

The tables below illustrate the process flows for electronic Customer Transactions derived from the business relationships described in Section IV. The Gas EBT Working Group recognizes that work must continue on these standards as the marketplace evolves and participating Trading Partners gain experience. In order for an LDC to execute any Customer Transaction submitted by a Supplier, the Supplier must have:

1. complied with Department certification requirements;
2. participated in EBT training for Customer Transactions;
3. successfully completed EBT testing for Customer Transactions;
4. obtained authorization from Customers for enrollments and/or the release of historical gas usage information; and,
5. executed a Supplier Service Agreement with the LDC.

EBT	Business Processes	Number	Flow	Response
Account Administration ↔ ↔ ↔	Enroll Customer	814-E	S → LDC	814-SE, 814-ER
	Successful Enrollment	814-SE	LDC → S	
	Error Record	814-ER	LDC S	
	Change Enrollment Detail-Supplier	814-CS	S → LDC	814-CC, 814-ER
	Change Enrollment Detail-LDC	814-CL	LDC → S	814-CC, 814-ER
	Request Customer History	814-H	S → LDC	867-H, 814-ER
	Customer Drops Supplier	814-DC	LDC → S	814-CC, 814-ER
	Supplier Drops Customer	814-DS	S → LDC	814-DR, 814-ER
	Confirm Drop Date	814-DR	LDC S	
Change Confirm	814-CC	LDC S		
Usage	Customer Billing Usage	867-M	LDC → S	824
	Historical Usage	867-H	LDC → S	
Billing & Adjustments	Billing Information	810-B	LDC → S	824
	Supplier Billing Adjustments	810-S	S → LDC	810-B, 824
Payments	Customer Payments	820	LDC → S	824
Write-off	Write Off	248	LDC → S	824
Error Response	Error Response for Usage, Billing & Adjustments, Payments, and Write-Off	824	LDC S	

Functional Acknowledgement	Verify receipt of electronic file	997	LDC S	
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Typical Supplier/LDC Customer Transaction Life-Cycle		
1.	Supplier requests customer historical gas usage	814-H
2.	LDC responds with historical data	867-H
3.	Supplier sends enrollment request for customer	814-E
4.	LDC responds with successful enrollment data	814-SE
5.	LDC sends customer-specific data changes	814-CL
6.	Supplier responds with confirmation of changes	814-CC
7.	Supplier sends customer-specific data changes	814-CS
8.	LDC responds with confirmation of changes	814-CC
9.	LDC sends customer monthly usage	867-M
10.	LDC sends customer billing/adjustments data	810-B
11.	LDC sends customer payments for a given day	820
12.	Supplier sends in customer-drop request	814-DS
13.	LDC responds with drop confirmation	814-DR
14.	LDC sends customer-drop notification	814-DC
15.	Supplier responds with confirmation of drop	814-DR
16.	Supplier sends adjustment of customer balance	810-S
17.	LDC responds with customer billing/adjustment data	810-B
18.	LDC sends write-off notification	248

In the event of an error in a Customer usage, billing, payment or adjustment transaction (867-M, 810-B, 810-S, 820 or 248), the receiving party will reject the transaction and an **824 Error Response** will be returned. This transaction will identify the rejected transaction and specify by code each error.

BUSINESS RULES

814-H Request Customer History

An existing Supplier, prospective Supplier or Retail Agent may send to the LDC the **814-H Request Customer History** in order to receive up to the most recent twelve (12) months of historic gas-usage information of the Customer. Such information will be provided as 867-H Historical Usage as described below. Prior to submitting the **814-H Request Customer History**, the Supplier must have obtained the appropriate authorization from the Customer. The **814-H Request Customer History** must be submitted to the LDC for each Customer account for which information is desired. The LDC will not provide historical data to a Supplier without first receiving a valid request transaction from the Supplier.

867-H Historical Usage

Upon the validation of the 814-H Request Customer History, the LDC will provide up to the most recent twelve (12) months' of a Customer's historical gas usage information to the Supplier or Retail Agent by sending the **867-H Historical Usage**. The LDC may only submit the **867-H Historical Usage** to a Supplier or Retail Agent that has been certified by the Department. If the LDC has less than twelve (12) month's of gas-usage history available, the LDC will provide to the Supplier/Retail Agent as many months of gas-usage history as available for the Customer. For Customers who have been billed at least in part on a demand basis, the historic gas-usage data shall include the consumption and the billed demand for each month.

In cases where consumption from more than one meter is combined to record gas usage under a single Customer account, a separate historical record will be provided for each meter on the account. Each history provided will indicate the type of reading used to determine the gas usage (actual reading or estimate). Each history provided will reflect the total gas usage after cancellations and adjustments have been applied for a given usage period. Legitimate zero usage will also be reported where incurred.

814-E Enroll Customer Transaction

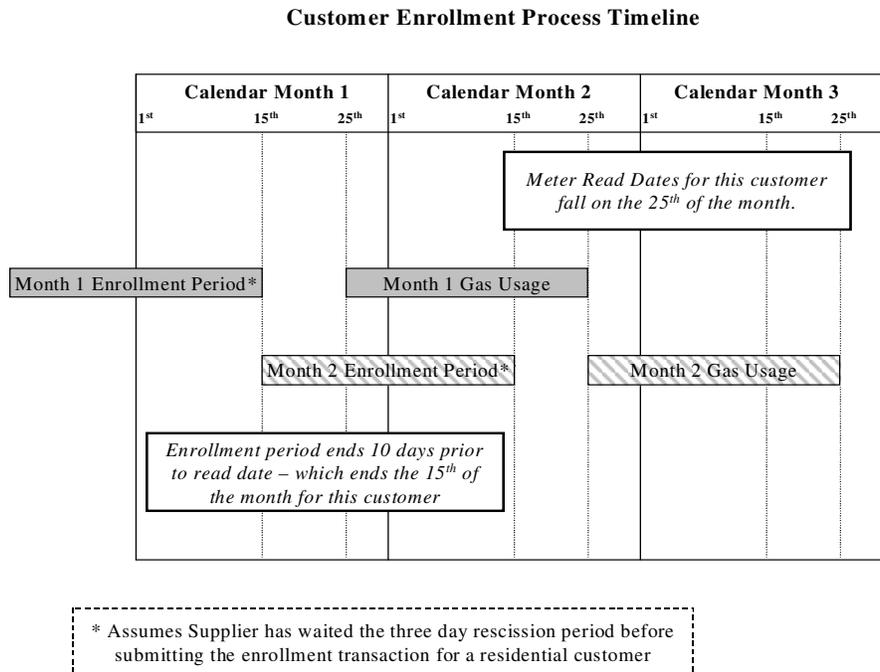
A Supplier shall notify the LDC to enroll a Customer using the **814-E Enroll Customer Transaction**. An enrollment will become effective with the Customer's normal cycle meter-read date. That is, the enrollment period for the initiation of Supplier Service on a given scheduled cycle meter-read date will begin ten (10) Business Days before the Customer's prior scheduled cycle meter-read date, and will end ten (10) Business Days before the scheduled cycle-read date on which Supplier Service is intended to take effect. A Supplier must transmit the **814-E Enroll Customer Transaction** no less than ten (10) Business Days prior to the scheduled cycle meter-read date for the Customer, or the

enrollment will be deferred to the following scheduled cycle meter-read date for the Customer. Note that a Supplier must not submit the **814-E Enroll Customer Transaction** to the LDC until the three (3) day rescission period has lapsed.

In the event that a Customer selects more than one Supplier and more than one of the selected Suppliers submits the **814-E Enroll Customer Transaction** to the LDC for effect on the same scheduled cycle meter-read date, the first enrollment transaction will be accepted by the LDC during the current enrollment period and will preclude the LDC from accepting any other enrollment by other Suppliers during that period. The LDC will validate transactions and will reply to the Supplier with a successful enrollment or rejection transaction.

In cases where consumption from more than one meter is used to record gas usage under a single Customer account, all meters under the account will be enrolled into Supplier Service upon the valid submission of a single **814-E Enroll Customer Transaction**. Figure 1 below illustrates the general timing principles of the enrollment process.

Figure 1



814-SE Successful Enrollment

The LDC will notify the Supplier of a successful enrollment by returning the **814-SE Successful Enrollment**. This notification will include the projected effective date on which the Supplier shall become responsible for providing Supplier Service to the Customer. In addition, the LDC will provide the Supplier with the Customer's billing address.

814-CS Change Enrollment Detail – Supplier Data

A Supplier shall notify the LDC of any desired change to information about a previously enrolled Customer by submitting the **814-CS Change Enrollment Detail – Supplier Data**. Example changes include: a change in the billing option for the Customer; a change in the Supplier's rate code for the Customer if under the Complete Billing option; a change in the Supplier's account number; or, a change in the applicability of sales tax. A change will be posted by the LDC within twenty-four (24) hours of receipt and shall take effect on the Customer's next scheduled cycle meter-read date, provided that the transaction is sent twenty-four (24) hours prior to that meter-read date; otherwise, the change will take effect on the following scheduled cycle meter-read date for the Customer.

814-CL Change Enrollment Detail – LDC Data

The LDC shall notify the Supplier of any change to information about a previously enrolled Customer by submitting the **814-CL Change Enrollment Detail – LDC Data** to the Supplier. Example changes include: a change in the Customer's meter number; a change in the LDC's rate code for the Customer; a change in the Customer's billing cycle; a change in the LDC's account number for the Customer, or; a change in the Customer's Designated Receipt Point.

814-CC Confirm Change

The Supplier or LDC, respectively, would return the **814-CC Confirm Change** to the successfully processed 814-CS Change Enrollment Detail - Supplier Data and 814-CL Change Enrollment Detail – LDC, confirming that the change transaction was successfully processed.

814-DS Supplier Drops Customer

The Supplier shall notify the LDC to discontinue Supplier Service to a Customer by submitting the **814-DS Supplier Drops Customer**. The termination of Supplier Service will coincide with the Customer's next cycle meter-read date, provided that the Supplier

successfully completes this transaction at least ten (10) Business Day prior to that date; otherwise, Supplier Service shall be discontinued on the following cycle meter-read date for the Customer. Upon this change in Supplier Service, the Customer will receive Default Service until the Customer is again enrolled in Supplier Service. The LDC will send the 814-DR Confirmation of Customer Drop Date. At the time of the final bill, the LDC sends an 810-B and/or 867-M.

814-DR Confirmation of Customer Drop Date

In response to the 814-DS Supplier Drops Customer, the LDC shall return to the Supplier the **814-DR Confirmation of Customer Drop Date** to inform the Supplier of the projected effective date of termination.

814-DC Customer Drops Supplier

When a Customer changes from its current Supplier to a new Supplier, it is only necessary for the new Supplier to send an 814-E Enroll Customer Transaction to the LDC. The LDC will then automatically send to the Customer's current Supplier the **814-DC Customer Drops Supplier**. This transaction will identify the projected effective date for the Customer's change in Suppliers. The LDC will also send the current Supplier a final 867-M Customer Billing Usage Transaction. If complete billing, the LDC will send a final 810-B as well. The Customer will not be required to take any further action.

If the Customer contacts the LDC directly to drop a Supplier, Supplier Service shall be terminated within two (2) Business Days for residential Customers, or for non-residential Customers, on the next scheduled cycle-meter read date. The LDC will send the **814-DC Customer Drops Supplier** to the affected Supplier as notice of this change in Supplier Service. The LDC will provide the Customer with Default Service until the Customer is again enrolled into Supplier Service.

Off-Cycle Changes. Off-cycle changes in Supplier Service may result in two situations: first, when a residential Customer contacts the LDC directly to terminate Supplier Service and such service is ended within two (2) Business Days; and second, in the event that a Supplier loses eligibility to serve Customers on the LDC's system and said Supplier's eligible Customers are placed on Default Service.

814-ER Error Record

In the event of an error in a Customer transaction (i.e., Customer Transactions 814-E, 814-CS, 814-CL, 814-DS, and 814-H), the receiving party will reject the transaction and

return the **814-ER Error Record**. This transaction will identify the rejected transaction, specify each error by code, support up to six (6) errors, and return each data item in error.

867-M Customer Billing Usage

After the LDC processes a scheduled cycle meter-read, it will submit to the Customer's Supplier the **867-M Customer Billing Usage** transaction. Validated usage information will be transmitted to Supplier within three (3) Business Days following the LDC's billing cycle processing. An **867-M Customer Billing Usage** transaction can continue to be sent to a former Supplier after a Customer/Supplier relationship has ended to reflect any Customer changes where applicable.

- Bill Usage Cancellation. Whenever the LDC determines that a usage-based adjustment to a Customer bill is necessary, the LDC will notify the Supplier of the LDC bill cancellation by sending the **867-M Customer Billing Usage**. These transactions will typically occur off-cycle and will be identified with the appropriate billing activity code. Numeric fields will be sent as originally billed—values will not be negated, since the activity code field determines the purpose of the transaction (*i.e.*, a bill cancellation). The Supplier can then apply the amount to their accounts receivable as necessary.
- Rebilling of Cancelled Amounts. If the rebilling of a cancelled bill is appropriate, the LDC will notify the Supplier about the LDC rebill by sending the **867-M Customer Billing Usage**. This transaction will typically occur off-cycle and will be identified with the appropriate billing activity code. Under the Complete Billing option, the Supplier portion of the Customer's bill will be recalculated based on the corrected gas usage and/or corrected dollar amounts. In the event that a bill cancellation or rebill occurs after a **248 Write-Off** has been sent to the Supplier, the LDC will not send the **810-B Complete Billing Information** transaction.

810-B Complete Billing Information

After the LDC processes a scheduled cycle meter-read, if the customer option is complete billing, the LDC will submit to the Customer's Supplier the **810-B Complete Billing Information**. Billing information will be transmitted to the Supplier within three (3) business days of the LDC's cycle processing. If a Customer moves, is no longer a Customer of record at a meter location, or discontinues receiving service from the LDC, the LDC will render a final bill to the Customer. The LDC will also send to the Customer's Supplier final **810-B Complete Billing Information**. The LDC will not send any further **810-B Complete Billing Information** after two (2) billing periods following the final billing for the Supplier.

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- Arrears. When the Customer is billed under the Complete Billing option, then the Supplier's arrears will be calculated using the same rules that apply to the LDC. Outstanding arrears for a former Supplier could arise whenever a Customer switches Suppliers. The LDC will carry the former Supplier's arrears on the bill for two (2) billing cycles. The **248 Write-Off** transaction will be used to settle the account with the former Supplier (See **248 Write-Off**).
 - Bill Cancellation. Whenever the LDC determines that a usage-based adjustment to a Customer bill is necessary, the LDC will notify the Supplier of the LDC bill cancellation by sending the **810-B Complete Billing Information**. This transaction will typically occur off-cycle and will be identified with the appropriate billing activity code. Numeric fields will be sent as originally billed—values will not be negated, since the activity code field determines the purpose of the transaction (i.e., a bill cancellation). The Supplier can then apply the amount to their accounts receivable as necessary. Under the Complete Billing option, the LDC will cancel the bill in question and send the **810-B Complete Billing Information** indicating the amount cancelled.
 - Rebilling of Cancelled Amounts. If the rebilling of a cancelled bill is appropriate, the LDC will notify the Supplier about the LDC rebill by sending the **810-B Complete Billing Information** to the Supplier. This transaction will typically occur off-cycle and will be identified with the appropriate billing activity code. Under the Complete Billing option, the Supplier portion of the Customer's bill will be recalculated based on the corrected gas usage and/or corrected dollar amounts. In the event that a bill cancellation or rebill occurs after a **248 Write-Off** has been sent to the Supplier, the LDC will not send the **810-B Complete Billing Information**, but instead will send the **867-M Customer Billing Usage**.
 - Non-payment Adjustments. Under the complete billing option, for all non-payment adjustments that affect the customer's balance with the Supplier (e.g. sales tax, late payment charge, miscellaneous adjustments), the LDC will submit an **810-B Complete Billing Information**. This transaction may be initiated at time of adjustment or within three (3) Business Days after the next billing cycle.

810-S Supplier Billing Information

Under the complete billing option, the Supplier will send the **810-S Supplier Billing Information** transaction to the LDC to reflect a monetary adjustment (credit or debit) to the Customer's account. The LDC will send the **810-B Complete Billing Information** transaction to the Supplier to confirm application of the adjustment either at the time of adjustment or within three (3) Business Days after the next billing cycle.

824 Error Response

In the event of an error in a Customer usage, billing, payment or adjustment transaction (867-M, 810-B, 810-S, 820 or 248), the receiving party will reject the transaction and an **824 Error Response** will be returned. This transaction will identify the rejected transaction and specify by code each error.

820 Customer Payments

Each Business Day, the LDC shall send **820 Customer Payments** for customers with payment activity to Suppliers whose Customers are billed under the Complete Billing option. These transactions will inform the Supplier about recorded Customer payments and payment-related adjustments (e.g., returned checks, misapplied payments). Recorded payments trigger the release of funds to Suppliers. Credits are monies due to the Supplier from the LDC. Debits are monies due to the LDC from the Supplier.

It is the former Supplier's responsibility to pursue credit and collection activity on the outstanding arrears after the Customer has changed Suppliers, even if the Complete Billing option had been in effect when the Customer was current. As the LDC collects money from the Customer, and it is determined that such money is to be applied to the Supplier portion of the bill, it will be applied against the former-most Supplier's outstanding arrears first.

248 Write-Off

The LDC will carry the former Supplier's arrears on the bill for two (2) billing cycles. A **248 Write-Off** transaction will be used to settle the account with the former Supplier. It is the former Supplier's responsibility to pursue credit and collection activity on the outstanding arrears after the Customer has changed Suppliers, even if the Complete Billing option had been in effect when the Customer was current.

997 Functional Acknowledgement

Each trading partner, upon receipt of each electronic file, will respond to the sender verifying its receipt by returning the **997 - Functional Acknowledgement** transaction within one (1) Business Day. The 997 transaction is a function built into EDI translation software; usually more than one level of detail is available. Use of the file level acknowledgement is the minimum requirement.

Extraordinary Circumstances. The business rules for Customer Transactions described above are intended to resolve most issues that might arise in the course of business between Suppliers and LDCs. However, irregular and unanticipated situations may arise, which maybe the exception, but could raise potentially significant problems. The Gas EBT Working Group urges the LDCs to employ all necessary communication channels to inform Customers and Suppliers operating on their systems of the appropriate actions to be taken in such a situation. The Gas EBT Working Group believes that the Customer Transactions described above will be sufficient, in the short-run, to accommodate any such anomalies.

CUSTOMER TRANSACTIONS ELECTRONIC TRANSMISSION GUIDELINES

Data Formats

The Gas EBT Working Group has adopted **Electronic Data Interchange (EDI)** implementation guidelines for all customer transactions. Specifically, the group has tailored existing ANSI ASC X.12 version 4010 transactions to match the specific requirements of each Customer Transaction.² The Gas EBT Working Group has “mapped” the fields listed within the Customer Transactions to existing segments of the similar standard EDI transaction sets as presented in Appendix A. To electronically transmit the Customer Transactions, all trading partners must translate the customer transactions into EDI formats as described in the Customer Transaction EDI implementation guide.

As the marketplace develops for customer choice and as national standards emerge for natural gas Customer Transactions, the Gas EBT Working Group recognizes the need to review and modify the electronic transmission guidelines as needed. The Gas EBT Working Group will continue to meet on a regular basis and will submit updated versions of the Gas Industry EBT Report to the Department to reflect any modifications.

Electronic Transmission

The data transport mechanism for Customer Transactions will be EDI through a Value-Added Network (“VAN”)³ and/or the Internet.

² The EDI-formatted transactions will also conform to the Utility Industry Group (UIG) 4010 guidelines wherever possible. UIG is an industry action group dedicated to the advancement of electronic data interchange within the electric, gas and combination utility industry. The UIG encourages, promotes and establishes implementation conventions for the use of ASC X 12 standards as the recommended method of EDI, in order to promote the growth and timely implementation of electronic commerce, and specifically EDI, within the utility industry. The UIG operates under the American National Standards Institute’s (ANSI) ASC X 12 committee.

³ VANs are currently being utilized for the transmission of Customer Transactions in the Massachusetts electric industry.

Criteria for Data Transmission

The Gas EBT Working Group considered the following criteria that must be met by any data transfer system adopted to support Customer Transactions:

- Security/encryption of transactions and customer information
- Proof of transmission and receipt (non-repudiation)
- Reliability
- Data and file integrity
- Network performance and availability
- Recoverability and archiving of data
- Minimized Cost

(1) Bilateral Agreements

Other methods for data transmission will also be permitted through bilateral agreement between individual Suppliers and individual LDCs to implement and support such alternative means, provided that such modes meet the criteria for data transmission listed above.

(2) Implementation Timeline

Each market participant should be ready to process all electronic Customer Transactions via the agreed upon transport mechanism no later than six months of the date of submission of the **Gas Industry EBT Report** to the Department. For the period between the implementation of customer choice and the implementation date of the transport mechanism, market participants will use existing transport mechanisms.

(3) Testing and Implementation

Each market participant will complete a test of all customer transactions prior to initiating production transactions with trading partners as outlined in the TESTING AND SUPPLIER IMPLEMENTATION section of the **Gas Industry EBT Report**.

ELECTRONIC TRANSMISSION -- FUTURE DIRECTION

Internet Clearinghouse

The EBT Working Group believes that, as the business marketplace matures for utility deregulation, service providers will emerge that will offer internet-based transaction clearing houses. An "internet clearinghouse" is a service provider with the infrastructure in place to provide a wide range of services that assist with internet communications and the conduct of electronic business transactions. Features of this service include security, encryption, audit trail, and data integrity criteria. As the marketplace develops, the Gas

EBT Working Group envisions these service providers offering clearinghouse services for data transactions between the market participants in the Massachusetts natural gas industry. Assuming that most or all market participants subscribe to the internet clearinghouse and sufficient transaction volumes are realized, an internet clearinghouse service provider would charge an annual subscription fee and could offer a relatively low cost per-transaction.

An important aspect of this approach is the menu of services available, which allows each market participant to select services according to its specific needs, *i.e.*, ranging from secured transmission to full data translation and exchange, and therefore, the participating company would incur costs only for the services made available to that company. Companies that cannot afford or do not wish to setup and maintain their own infrastructure can participate in the market as actively and easily as those who do. For companies who already have an investment in a data transmission method, they can continue to leverage those investments with the clearinghouse providing the necessary mechanisms to communicate with all trading partners. Both batch and on-line options for data would be available. Significantly, future developments in rapidly developing technology could be implemented more quickly and in a more cost-effective manner, since transmission-related development would be done once by the service provider rather than by multiple companies.

The Gas EBT Working Group will continue to explore both the approach and the available providers to determine whether this approach can be implemented on a cost-effective basis for both Customer and Supplier Transactions.

COMPUTER OPERATIONS CONSIDERATIONS

The Gas EBT Working Group adopted the following principles in developing standards for computer operational issues:

- Data processing must be reliable, predictable, accurate and efficient
- Transaction processing must be equitable and verifiable
- LDC and Supplier operational schedules should accommodate normal daily processing
- Computer processing must detect and report errors
- Responsibilities must be clearly assigned

- **Scheduling.** The Gas EBT Working Group evaluated the daily computer operation schedules of the LDCs in order to develop a baseline schedule for processing Customer Transaction data. The group considered transaction volumes, required response times, processing techniques and available technologies.

Please note that NOON is defined as Eastern Standard Time (EST) or Eastern Daylight Time (EDT), whichever is in effect on a given date.

Customer Transactions: Common Schedule for a Normal Business Day	
▪	Original Customer Transactions submitted by LDCs and Suppliers must be available for processing <u>by noon each business day</u>
▪	Responses to Customer Transactions received by Suppliers or LDCs must be available <u>by noon the following business day</u>
▪	Validated billing and usage transactions will be transmitted to Suppliers <u>within three business days following the corresponding LDC processing cycle</u>

Each LDC will publish its daily operation schedule on its Website. This schedule should include a list of business days (i.e. processing days), cycle meter read dates, and billing dates.

- **File Handling.** The Gas EBT Working Group developed file-handling guidelines to support the business relationships described in Section IV and the technology recommendations presented above. Any subsequent change made to the business rules for Customer Transactions could require changes to the following file handling process flow.

Customer Transactions: File Handling Guidelines	
▪	A recipient will attempt to process all Customer Transactions submitted by a trading partner unless specific action is taken by the sender to avert such processing (e.g., delete or replace files). See the sub-section on error handling below.
▪	The recipient of a Customer Transaction file is responsible for validating its contents to prevent any adverse impact on the recipient's operations or systems (e.g., data errors, duplicate files, illogical conditions). The recipient of a Customer Transaction file reserves the right to reject a file of Customer Transactions in whole or in part due to errors in content or protocols in any associated Customer Transactions. In the event that an entire file is rejected prior to detail transaction validation, detail transactions will not be processed for any individual Customer Transaction.
▪	The creator of a Customer Transaction is solely responsible for the accuracy, authenticity, and timeliness of its content.
▪	All Customer Transaction data exchanges between a Supplier and an LDC will be executed in accordance with the standards for data formats and electronic transmission in this Gas Industry EBT Report , consistent with the LDC's terms and conditions and its service agreement with the trading partner.
▪	Each file of Customer Transactions will have one recipient and should contain Customer Transactions intended for only that recipient. A file may contain multiple Customer Transactions.
▪	A file of Customer Transactions will be processed by the recipient in accordance with the common schedule outlined above. Each trading partner will retrieve transmissions 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 retrieval.
▪ Files will be processed in chronological order. To ensure accurate and consistent posting of individual Customer Transactions, the recipient will validate each one in the physical sequence of the file as sent. Errors and confirmations will be returned to the sender no later than the first business day following the processing of the transactions by the recipient.
▪ The daily exchange of Customer Transactions between Suppliers and LDCs will generally be unlimited in terms of the total number of files or individual transactions that may be processed.
▪ The receiving trading partner should affirm, or acknowledge, the receipt of each Customer Transaction electronic file by returning to the sending trading partner a standard EDI 997 Functional Acknowledgement transaction.

- **Error Handling.** The creator of a Customer Transaction, or a file of Customer Transactions, will be solely responsible for correcting any errors contained in the data. A recipient of a Customer Transaction is not obligated to accept a Customer Transaction that contains an error.

Each Supplier and LDC must identify two employees (or designated representatives) as points of contact for Customer Transaction related issues: one to address technical and/or operational problems, and the other to address business issues. Suppliers and LDCs will be held individually responsible for developing the necessary procedures for resolving issues in a timely manner in accordance with this report, the Model Terms and Conditions for Natural Gas Service, and the Department's regulations in 220 CMR 14.00 *et seq.* Problems addressed by points of contact must be identified, documented, and properly classified as part of the resolution process.

- **Recovery.** Data recovery considerations have been considered in the design of the Customer Transactions, the associated data formats, and transmission mechanisms. Unexpected situations may require that a transaction be recreated or retransmitted, and the originator of a transaction must protect itself from damages that could result from the loss of data. Suppliers and LDCs must therefore coordinate with each other in the event of problems in a timely manner, and within the stated minimum recovery guidelines below.

The originator of a Customer Transaction, or a file of Customer Transactions, is responsible for maintaining its ability to recover and retransmit the associated data. The development of specific data recovery guidelines is also the responsibility of the originator, however minimum recovery guidelines are as follows:

- If files are created daily, be able to recover or recreate up to 30 files, or approximately 6 weeks worth of files.
-

VI. Supplier Transactions

Supplier Transactions involve the scheduling, nomination and delivery of gas supplies by Suppliers to the Massachusetts LDCs' city gates for delivery and retail customers. Supplier Transactions are largely governed by Section 11.0 and 12.0 of the Model Terms and Conditions for Distribution Services, and by the specific operating parameters of interstate pipelines in accordance with FERC-approved tariffs.

The Gas EBT Working group is in the process of reviewing the business procedures regarding the Supplier Transactions. The Supplier Transactions are scheduled to be completed twelve months after the implementation of the Customer Transactions.

SUPPLIER TRANSACTIONS ELECTRONIC TRANSMISSION GUIDELINES

The Gas EBT Working group is in the process of reviewing the business procedures underlying the Supplier Transactions. The Supplier Transactions are scheduled to be completed twelve months after the implementation of the Customer Transactions.

Interim Data Transport Mechanism for Supplier Transactions: Until such time as the long-term transport mechanism is defined, market participants will utilize existing methods for handling Supplier Transactions. These methods may be modified as necessary to accommodate implementation of the Model Terms and Conditions.

VII. Gas EBT Working Group Continuing Activities

The Gas EBT Working Group has completed its initial goals of publishing this first edition of the **Gas Industry EBT Report**. However, several implementation issues must yet be addressed by the group:

- Supplier Transactions
- Training - Appendix C
- Testing and Supplier Implementation – Appendix D
- Transition Planning – Appendix E

EBT standards and technologies are also being adopted in both the electric and gas industries in other states and within the region. The Gas EBT Working Group will strive to adhere to national and regional standards to the extent possible. In addition, convergence in the electric and gas industries may warrant some level of integration of EBT standards in the future.

It has also been recognized that new Suppliers will be entering the marketplace. Many may have new ideas that should be incorporated into these standards. However, any change made to the standards established in the **Gas Industry EBT Report** would

require coordination of the timing for implementing these changes and the training of Suppliers with regard to such changes.

For all of these reasons, the Gas EBT Working Group will continue to meet to address necessary changes to these EBT standards and emerging technology issues.
