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III. Transaction Processing Architecture

New York's *Transaction Processing Architecture* document (Attachment B), submitted to the Commission as part of the October 10, 2000 filing, defines specific attributes of New York's EDI transaction processing environment. Attributes addressed are:

- processing flow
- response guidelines
- processing rules (e.g. first-in rule)
- enveloping
- tracking transactions (identifiers)
- archiving & auditing

In this document the Collaborative clarifies the enveloping/transport guidelines first presented in the October 10 filing as follows²:

- One data file will be transmitted in an HTTP session.³
- Only one ISA (envelope) may be transmitted in a data file
- Only one functional group (GS) will be used within an envelope (ISA).
- Multiple transactions (ST) of the same type will be allowed within functional group (GS). For example, multiple 814 transactions can be included in one functional group/envelope.

The intent of these recommendations is to facilitate ease of processing, error identification and correction as well as preserve New York's "First In" rule by easily and unequivocally being able to associate the "server post" time stamp with an ISA (envelope).

² These clarifications have been reflected in the updated *Transaction Processing Architecture* document contained in Attachment B.

³ ~~For the The Gas Industry Standards Board (GISB EDM.)~~ the North American Energy Standard Board (NAESB) recommends that only one file be transmitted per HTTP session. The New York Collaborative adopts this recommendation, however, companies may, by bilateral agreement, agree to send multiple files during a single HTTP session.

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VI. Phase I - Data Transfer Mechanism Test Specifications

A. DTM Protocol Specification

The Internet HTTP mechanism will be used by all parties engaged in EDI commerce in New York. Further, the Internet HTTP mechanism is based on, and aligned with, GISB's Electronic Data Mechanism (EDM), and the Internet Engineering Task Force's (IETF) EDIINT AS2 data exchange specification. The choice of this DTM meets the requirements of the Commission's April 12, 2000 EDI Order, which specified that an interoperable Internet-based protocol be utilized.

The GISB EDM version 1.4~~6~~ (~~November 15~~July 31, 1999~~2002~~)⁹ will provide the baseline detail specification (i.e. 'profile') defining all attributes required for trouble free, interoperable transport of X12 EDI messages between trading partners. New York specific attributes are denoted herein, thus defining the New York specific DTM profile. This profile is designed to achieve interoperability and satisfy the critical success factors defined in the June 30, 1999 Collaborative Report. It provides details of the necessary technical specifications (i.e. encryption standards, security standards), best operational practices (i.e. transmission failure retries, timing) and DTM testing guidelines.

1. Internet EDI data exchanges will follow the rules defined in sections of the GISB EDM Version 1.4~~6~~ standard (outlined in Attachment C) unless explicitly stated in this document. Some key attributes are:
 - Data exchanges will be timestamp anchored on Eastern Prevailing Time (EST, utilizing Daylight Savings Time). All New York utilities operate in EST and neighboring jurisdictions are using EST, thereby providing compelling justification for this practice (GISB specifies the use of Central Time for its time stamp anchors).
 - Encryption depends on the PGP versions used by each trading partner being compatible. The recommendation is to use the most current PGP version, however both parties do not require the same version, as newer versions provide backward-compatibility. Parties should confer and document PGP versions being used in the trading partner agreement.

⁹~~While GISB EDM Version 1.4 is the standard for New York EDI, use of GISB EDM Versions 1.5 and 1.6, where supported by the utility, are permissible.~~

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- Use of the RSA algorithm is required
 - Use of 1024-bit public key is ~~recommended~~required
2. Archiving – Rather than comply with the GISB EDM 2 year archival guideline (Standard 4.3.4), companies must meet all archival and auditing conditions including financial record keeping requirements, PSC requirements, and any other jurisdictional or internal company requirements. The following points should be considered in a company’s archiving plan: archive the data file as received at the GISB server; archive the associated PGP public key used to decrypt the data file; and optionally archive the EDI transaction map used to ‘de-map’ the data file. Utilities, ESCOs, DER Suppliers and Direct Customers are encouraged, although not required, to provide redundant capabilities for the ‘last mile’ of Internet connectivity to ensure a higher level of operability for their trading partners (i.e. backup web servers, alternate pathway(s) from the servers to the Internet via a second ISP connection, etc.).
 3. Each party should maintain one production URL and one test URL, at a minimum, to clearly separate production-destined transactions from test-destined transactions.
 4. Public keys should be changed ~~annually~~periodically. Notice should be given to a trading partner when changing keys. It is recommended that regularly scheduled non-emergency public key changes should include a 30-day notice and that when utilities initiate public key changes, that connectivity testing be scheduled in batches such that all trading partners are not subject to coincident testing.
 5. Utilities have agreed to communicate web server maintenance schedules to their trading partners. This will be done via posting to the utilities’ scheduled web site interruptions section of their retail access web page (this is in accordance with the recommendations of the New York Web Site Design Task Force recommendations filed with the Commission on October 10, 2000). At their option, utilities may additionally email server maintenance schedules to their trading partners. ESCOs may also post on their web page, or email, any scheduled server maintenance schedules to their trading partners.

Summary of Failures and Fail-over Standards

1. A **protocol failure** occurs any time a sending party’s web server cannot connect to the receiving party’s web server. For example, if a server fails to connect, or tries to post a file and fails, this is a protocol failure.

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2. An **exchange failure** is when a sending party's server has had continual protocol failures over a two-hour period. Each party is required to try at least 3 times over the two-hour period before flagging an exchange failure.
3. Email will be used to notify partners of protocol failures. The email should be initiated as close to the time of failure as reasonably possible (i.e. within 5 minutes). This will assist in rectifying and documenting problems.
4. When a protocol failure occurs, it is recommended that the sending party wait 60 minutes, then retry the transfer. If a second protocol failure occurs, the sending party should wait another 60 minutes, then retry the transfer. For example, the first protocol failure happens at 1:00am, the second happens at 2:00am, and the third happens at 3:00am.
5. Email will be used to notify partners of exchange failures. This notification may occur on the next business day should the exchange failure occur during non-business hours. The exchange failure notification alerts partners that repeated attempts to connect to a partner's web server failed. The intended receiving party, upon receipt of an email message notifying it of an exchange failure, is responsible for requesting a retry of the connection.
6. When a trading partner's Internet EDI solution is not functioning for 5 consecutive business days, an alternative secure electronic medium ~~will~~ should be utilized. This could be the equivalent of posting unencrypted EDI data to a portable storage device, e.g. diskette, tape, a removable drive/device that is or CD-ROM and having that medium overnight delivered to the recipient trading partner or secured access to cloud services. The utility should describe its alternative secure electronic medium in a posting to its web site. Additionally, trading partners may, by mutual agreement, provide for their own ~~The specifics of the alternate mechanism, the specifics of which~~ will be defined in the trading partner agreement. Automatic failover systems are not required by this plan.

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Attachment C: Relevant Sections of GISB EDM V. 1.46

Based on review of the GISB EDM Version 1.46 contained in the NAESB Standards Document: NAESB WGQ Electronic Delivery Mechanism Related Standards (“NAESB EDM Standards Document”), the following sections pertaining to EDI/EDM were determined to be relevant and controlling for implementation of New York’s DTM:

1. In the Section entitled BUSINESS PROCESS AND PRACTICES, Subsection C. Electronic Delivery Mechanism Related Standards, the Sub-Subsection entitled Standards: Standards 4.3.1, 4.3.7 through 4.3.15 inclusive and 4.3.88.
2. The Section entitled TECHNICAL IMPLEMENTATION - INTERNET EDI/EDM & BATCH FF/EDM, subject to the following modifications and clarifications:
 - 2.1 - Ignore all references to "BATCH FF/EDM", "FF/EDM", "deadlines", "pipelines", and "nominations".
 - 2.2 - In the *Data Dictionary For Internet EDI*, the Format of the Business Name transaction-set refers to specific 8-character codes which are not relevant for our purposes
 - 2.3 - Under the Subsection entitled SENDING TRANSACTIONS, Sub-Subsection entitled Client Specifications, the reference to Central Time (Central Standard / Central Daylight) should be changed to Eastern Time (Eastern Standard / Eastern Daylight).
 - 2.4 - Under the Subsection entitled RECEIVING TRANSACTIONS, the Sub-Subsection entitled URL/CGI Implementation Guidelines is informational in nature only and has no force and effect. This Sub-Subsection shall not be construed as to impose any requirements on any UTILITY, DER SUPPLIER or ESCO.
 - 2.5 - Under the Subsection entitled RECEIVING TRANSACTIONS, Sub-Subsection entitled Server Specifications, the reference to Central Time (Central Standard / Central Daylight) should be changed to Eastern Time (Eastern Standard / Eastern Daylight).
3. Appendix A
4. Appendix B

BUSINESS PROCESS AND PRACTICES, Subsection C. Electronic Delivery Mechanism Related Standards, the Sub-Subsections entitled Principals and Definitions, as well as other sections of NAESB EDM Standards Document provide supporting context to the relevant and controlling standards described above.

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The NAESB standards and other work products, including but not limited to the GISB EDM, are protected by federal copyright law. They are~~Version 1.4 is~~ available at <http://www.naeb.org>. Since the initial release of GISB EDM 1.6, the EDI/EDM standards have been relocated to NAESB Standards Document: NAESB WGQ / REQ / RGQ Internet Electronic Transport (“NAESB IET”). Appendix C of the NAESB IET provides a cross reference to the standards numbers for GISB EDM 1.6.