

**North American Energy Standards Board**

**Executive Committee Meeting**

**Wholesale Gas Quadrant**

**February 21, 2002**

**NORTH AMERICAN ENERGY STANDARDS BOARD  
EXECUTIVE COMMITTEE MEETING – WHOLESale GAS QUADRANT  
Additional Meeting Materials  
February 21, 2002**

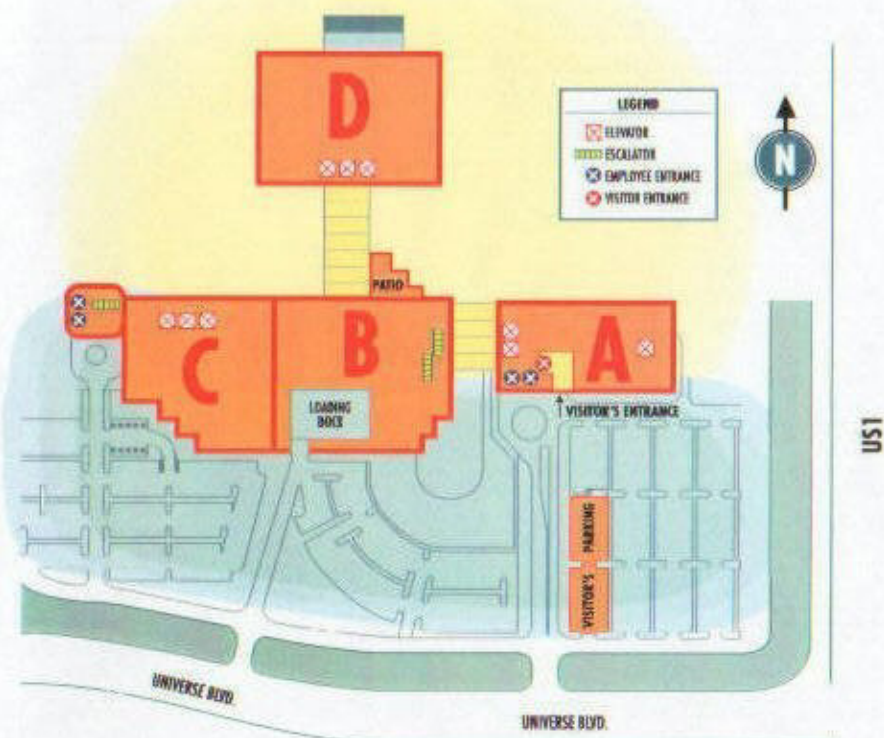
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**Documents Included**

- Parking Directions forwarded from Ms. Gussow
- Redlined Draft Minutes prepared by Ms. Davis and Mr. Novak
- Publication Process Review Task Force Revised Timeline forwarded February 15, 2002
- Sandia Report with modifications reflecting recommendation adopted by the Executive Committee on December 13, 2001
- Triage Report addressing Request No. R02001
- Industry Comments Prepared by February 15, 2002:
  - Arizona Public Service
  - GasEDI
  - Husky Energy
  - National Fuel Gas Distribution
  - PECO Energy



# Visitor's Guide Juno Beach

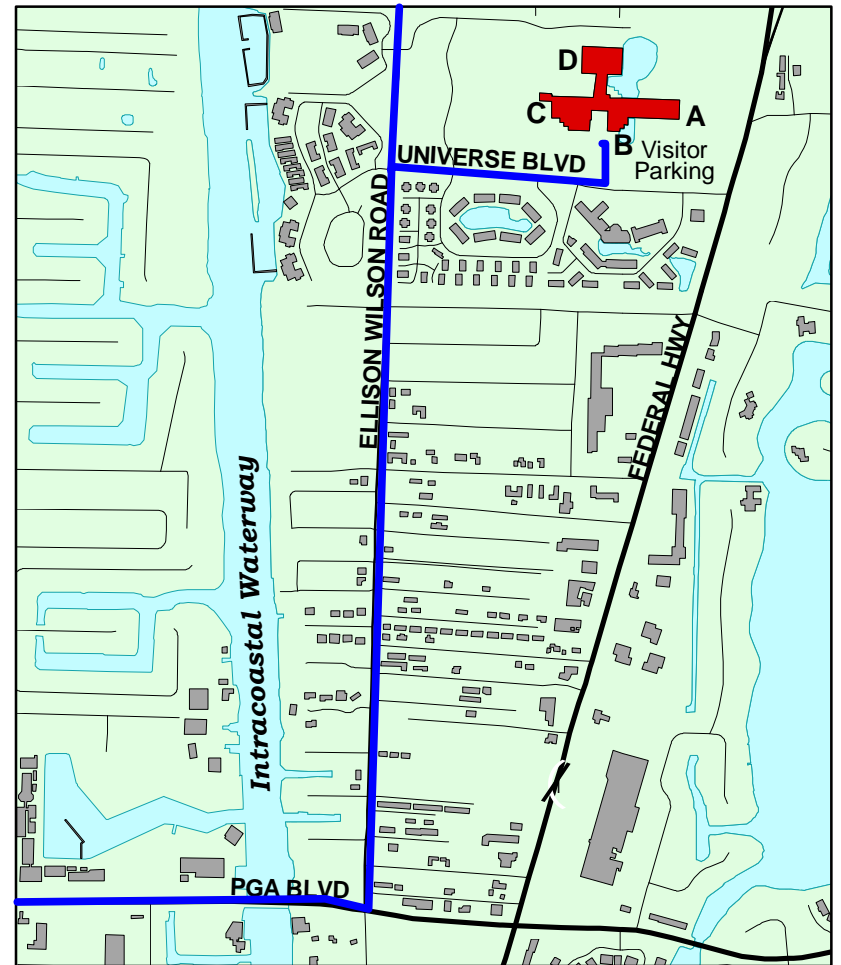
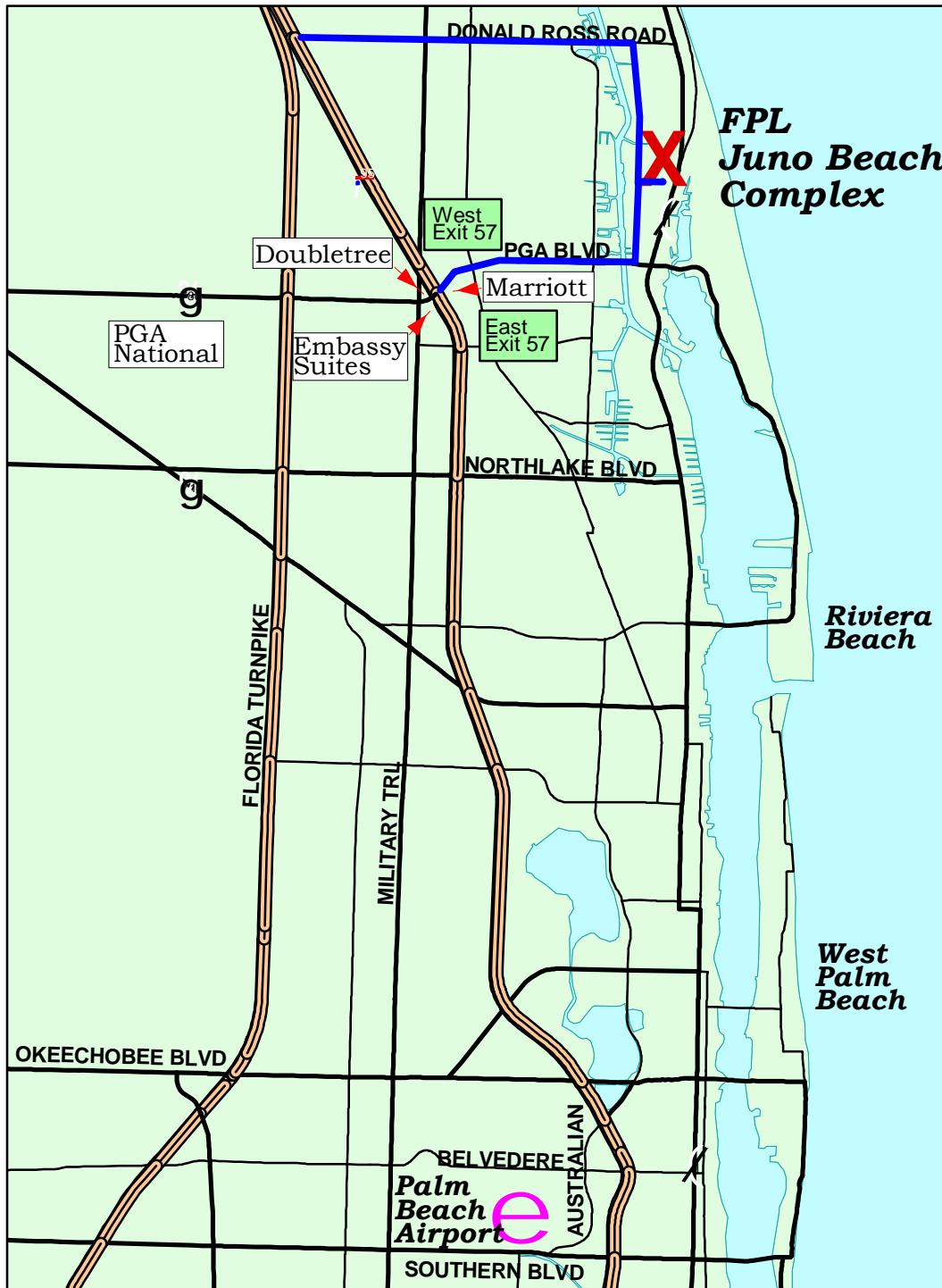


Welcome to FPL's Juno Beach office.

Should you need assistance during your visit,  
please call Security Operations at extension 5000.

Provided as a service of **FPL Corporate Security**.

**Safety  
2000**  
Working toward  
a safer future.



## FPL Juno Beach Complex 700 Universe Blvd

From I-95 northbound take exit 57 east (PGA BLVD)  
Cross Intracoastal Waterway while getting in left lane

Turn left (north) onto Ellison Wilson Rd

Turn right (east) onto Universe Blvd

From I-95 southbound take exit 58 east (DONALD ROSS)

Cross the Intracoastal Waterway

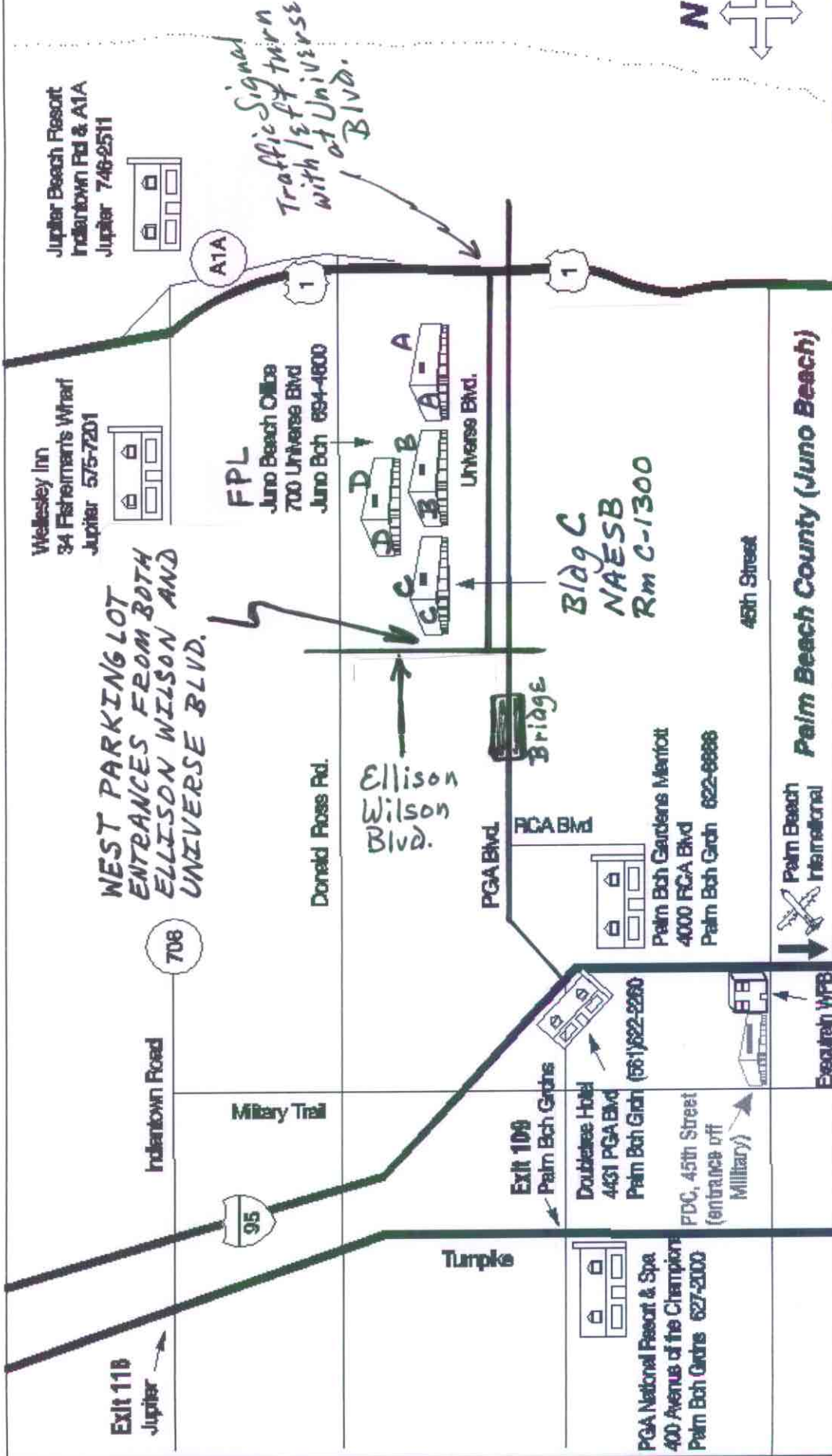
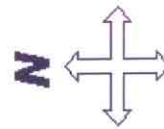
Turn right at first light over bridge onto Ellison Wilson

Drive south approx 1.6 miles to Universe Blvd

Turn left onto Universe Blvd

Parking is on north (left) side of Universe Blvd

Atlantic Ocean



Jupiter Beach Resort  
 Indiantown Rd & A1A  
 Jupiter 746-2511

Wesley Inn  
 34 Fishermen's Wharf  
 Jupiter 575-7201

FPL  
 Juno Beach Office  
 700 Universe Blvd  
 Juno Bch 684-4600



Bl'dg C  
 NAESB  
 Rm C-1300

WEST PARKING LOT  
 ENTRANCES FROM BOTH  
 ELLISON WILSON AND  
 UNIVERSE BLVD.

Traffic Signal  
 with left turn  
 at Universe  
 Blvd.

Donald Ross Rd.

Ellison  
 Wilson  
 Blvd.

PGA Blvd.  
 RCA Bldg

Palm Bch Gardens Merritt  
 4000 FGA Blvd  
 Palm Bch Gdn 622-6666

45th Street

Palm Beach County (Juno Beach)

Palm Beach  
 International

708

Indiantown Road

Military Trail

95

Exit 109  
 Palm Bch Gdn  
 Doubletree Hotel  
 4431 PGA Blvd  
 Palm Bch Gdn (561) 622-2260

PDC, 45th Street  
 (entrance off  
 Military)

Escalator W/FB

701 Northpoint Parkway, Suite 207  
 West Palm Beach 667-4440

Turkle

PGA National Resort & Spa  
 400 Avenue of the Champions  
 Palm Bch Gdn 627-2000

Exit 11B  
 Jupiter

THIS IS NOT DRAWN TO SCALE



## Gas Industry Standards Board

1100 Louisiana, Suite 3625, Houston, Texas 77002  
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**TO:** Executive Committee (EC) Members  
Posting for Interested Industry Participants

**FROM:** Rae McQuade, Executive Director

**RE:** Draft Minutes from the Executive Committee (EC) Meeting – December 13, 2001

**DATE:** December 13, 2001

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**GAS INDUSTRY STANDARDS BOARD**  
**GISB EXECUTIVE COMMITTEE MEETING**

**DECEMBER 13, 2001**

**REDLINED DRAFT MINUTES**

### **1. Administrative**

Mr. Buccigross opened the meeting and thanked Ms. Chezar and KeySpan Energy for hosting the meeting. Mr. Costan provided the antitrust charge governing the conduct of the meeting. Ms. McQuade announced the EC members and alternates in attendance. The agenda was adopted with a change provided by Ms. Davis to agenda item no. 4 to correctly reference that three standards are considered for vote. Ms. Van Pelt added a discussion on the errata for version 1.5 of the standards between agenda item nos. 2 and 3. The minutes of October 11 were adopted with changes provided by Ms. Davis and Ms. Hess. Mr. Smith made remarks after the adoption of the minutes regarding the [discussion at the previous EC meeting regarding the](#) Information Requirements Subcommittee and its efforts in the development of the Producer Imbalance Statement. The meeting is transcribed by Ms. Stefanie Gerber of Precise Court Reporting. To order transcripts, please contact the GISB office at 713-356-0060.

### **2. Subcommittee Updates**

Ms. Van Pelt noted that there were questions directed to the Business Practices Subcommittee (BPS) from the Information Requirements Subcommittee (IR) regarding a super nominations request from Columbia Gas, and a meeting should be scheduled shortly. Ms. Van Pelt noted that the BPS has completed all Order 637 items in front of it.

Ms. Metz gave the update from the Contracts Subcommittee, and reviewed the changes to the contract, which is before the EC today for discussion, and with the vote expected to take place at the EC meeting on February 21. Mr. Buccigross explained that the office had received requests to delay the vote on the contract to allow additional time for comment. In response to Mr. Sullivan, Ms. Metz explained how the Canadian Addendum would be used. The Contracts Subcommittee actions on the base contract will be discussed more fully later in the meeting.

Mr. Spangler provided the update for the Electronic Delivery Mechanisms (EDM) Subcommittee. His update was focused on the Sandia Report and the changes requested by the EC to the recommendations. The revised recommendation is in front of the EC today. Mr. Shahan provided the update for the Future Technology Task Force (FTTF). He noted that there are no open issues in front of the FTTF and they have not held a meeting since the last EC meeting.

Ms. Davis provided the update for IR. It is continuing to work on the Producer Imbalance Statement and is beginning to process Request No. R97058B. IR has not yet forwarded the final versions of the data dictionaries and code values [s tables-dictionaries](#) for FERC Order 637 transactional reporting requirements but is expected to vote on those items at its next meeting



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- which would conclude IR's efforts on Order 637. Once concluded, the data dictionaries and code values s tables-dictionaries for FERC Order 637 transactional reporting requirements would be forwarded to the Technical Subcommittee.

Ms. Van Pelt provided the update on the Technical and ANSI Subcommittees. The Technical Subcommittee is currently concluding the efforts on Request Nos. R98040 and R98050 (storage reports), waiting on code value approvals from the DISA X12 committee, possibly to be approved by the X12 Subcommittee in February, and beginning work on transactional reporting. It is not expected that the storage report recommendations will be brought forward until the Data Interchange Standards Association (DISA) organization has acted upon them. The Technical Subcommittee has started work on the transactional data sets.

Ms. Van Pelt provided an update of the ANSI Subcommittee activities, which she acknowledged was a misnomer, as the subcommittee would be more appropriately called the X12 subcommittee or the DISA subcommittee. Ms. Van Pelt noted that it is not easy to track the requests through DISA and GISB has several outstanding. She expects that before the next publication of standards, recommendations will be forthcoming for ANSI ASC X12 compliant data sets for predetermined allocations, allocations and measurement information volume statements. She expects to submit a request to DISA on October 26.

There was no report provided from the XML Subcommittee and no meeting had-has been held since the October 11 EC meeting. He-Mr. Buccigross noted that XML activities are on the 2002 annual plan and he will follow up with Mr. Hunsicker.

Mr. Novak provided an interim report from the Publication Process Review Task Force. Mr. Novak noted that the group has not completed its work and is asking for additional time. He reviewed the document contained in the EC materials. Among the points highlighted during the discussion, it was noted that two years between publications is too long. As such, a publication date should be selected. The logs should be reinstated and redesigned. Resources to support the activities defined by the PPRTF may be an issue, as well as whether Board approval is required. In discussion on what the term 'publication date' meant, there were several dates noted - the date the work is finished, the date the books are prepared and the dates the books are available in all media - web site access, paper and CD. Ms. McQuade and Mr. Costan noted that they would investigate whether there were any legal issues with having the standards documentation available posted prior to having the documentation available in other media - print and CD.

At the end of the discussion, Ms. Patton made a lotion-motion, seconded by Ms. Chezar, to extend the life of the PPRTF, and the PPRTF bring a recommendation to the EC no later than February on associated dates and deadlines for a-the next publication date including a definition of what the publication date means. The procedural vote was passed unanimously in favor.

### 3. Errata

Ms. Van Pelt began the discussion by noting that the pipeline segment of GISB had sent a letter to the GISB office with an errata attached. The letter requested that in which three activities were-described-occur: (1) that the errata to version 1.5 be posted on the web site, (2) that the FERC be notified of the errata, and (3) that the standards manuals be reissued via posting on the web site with the-this errata, as well as the errata dated 10/1/01, being applied. The first two items are completed. The third item has not been completed. Mr. Novak noted that the Editorial Review Board determined it was not cost justified in publishing a new version of the manuals. Several noted the importance of applying the errata to the standards manuals to ensure correct implementation. Ms. Van Pelt offered her assistance in applying the corrections to the EDISM portions of the standards manuals so that all the GISB office had to do was convert them to PDF format, insert the bookmarks and post it. It was also pointed out



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that it would take more time for all the individual companies to manually incorporate the corrections set forth in the errata than it would take the GISB office to do it once and re-post a corrected version. It was not the intent of the pipeline segment to reissue the paper version or the CD of the manuals – only the posting on the web site.

### 3. New Requests

Request No. R01018 was submitted by ANR Pipeline for the addition of transaction type codes to allow ANR Pipeline to identify and more accurately account for the gas storage transactions for its Service Requesters. The codes will also further facilitate its EDI transactions with its trading partners. The triage recommendation was to send the request to IR to be addressed high priority so they can be processed along with the Storage Report that is currently being developed in the Technical Subcommittee. Ms. Davis made the motion seconded by Mr. Gracey that the request was within scope. The motion passed unanimously. Ms. McVicker made the motion seconded by Mr. Young to send the request to IR to be addressed with the storage report, to be considered high priority after the Order 637 items are complete. The motion passed unanimously.

Request No. R01019 was submitted by Systrends to add a new header element, REFNUM, to the EDI/EDM specification. This header element provides trading partners the ability to uniquely identify outbound messages, enabling greater tracking and auditing ability. The triage recommendation was to send the request to the Executive Committee to make a scope determination before a triage recommendation could be made. Ms. Van Pelt suggested that ~~R~~Request ~~n~~No. R01019 be considered in 2002 after the scope of the organization changed. Mr. Novak supported her suggestion. Mr. Sappenfield noted the importance of this request to the EDM standards and Ms. Van Pelt concurred, noting that the delay for consideration to 2002 was intended to include others in the decisions rather than to postpone activity on the request. Upon hearing Mr. Sappenfield's remarks, Mr. Novak determined that the EC could act on the request. Ms. McVicker asked that request nos. R01019 and R01020 be considered jointly. Request No. R01020 was submitted by Systrends to add an identifier for "XML" to the list of possible identifiers within the input-format HTTP request data element of the EDI/EDM specification. The triage recommendation was to send the request to the Executive Committee to make a scope determination before a triage recommendation could be made. Ms. McVicker asked that ~~the r~~Requests Nos. R01019 and R01020 be found in scope. Her motion was seconded by Ms. Patton. The requests were found in scope through a unanimous vote. Mr. Sappenfield made the motion seconded by Ms. McVicker to send ~~the r~~Requests Nos. R01019 and R01020 to the EDM Subcommittee to be addressed in the normal course of business. The motion passed ~~through a~~ unanimously. Mr. Brooks thanked the EC for its actions.

Request No. R01021 was submitted by Questar to add two Transaction Type Code Values to the Nomination (1.4.1), Scheduled Quantity (1.4.5), Pre-determined Allocation (2.4.1), Allocation (2.4.3), Shipper Imbalance (2.4.4) and Transportation/Sales Invoice (3.4.1) data sets. ~~The request was found in scope through a unanimous vote on a motion made by~~ Ms. Davis made the motion, and seconded by Ms. McVicker, to find R01021 in scope. The motion passed unanimously. It was determined to send the request to IR to be addressed in the normal course of business through a unanimous vote on a motion made by Ms. McVicker made a motion, and seconded by Ms. Davis, to send the request to IR to be addressed in the normal course of business. The motion passed unanimously.

### 4. Proposed Standards

The recommendation for EDM Order 637<sup>1</sup>, which is referred to as item AP09 from the 2001

<sup>1</sup> ~~The recommendation summary for item AP09 is: "EDM Order 637, which is referred to as item AP09 from the~~



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Annual Plan<sup>2</sup>, was presented by Mr. Spangler. After the presentation, Ms. McVicker moved that the standard modifications be accepted, seconded by Mr. Hebenstreit. Ms. Davis noted that the recommendation also addresses action item nos. 14 and 16 from the Order 637 Action Plan. These items were EDM priorities 1 and 2, respectively. Ms. Davis asked that the recommendation be revised in the header area to refer to the Order 637 items as well. The motion passed unanimously (for the voting record see section 10 of these minutes~~18 total votes in favor~~).

The recommendation for the modifications to GISB standards as a result of the audit response to Sandia Report was presented by Mr. Spangler. Ms. Hess provided corrections to the recommendation in comments prepared and submitted for this recommendation. Ms. McVicker moved that the recommendation with Ms. Hess's corrections be adopted, which was seconded by Ms. Patton. In discussion on corrections presented by Ms. Hess and the recommendation itself, Mr. Sappenfield asked that in item no. 4, page 6 of the recommendation:

4. It is proposed to add a new Appendix as follows:

"Create a new Appendix: "Appendix [XXX] - Minimum (mm/dd/yyyy) Technical Characteristics for an EDM Server"

be changed to

4. It is proposed to add a new Appendix as follows:

"Create a new Appendix: "Appendix [XXX] - Minimum Technical Characteristics for an EDM Server ~~as of~~dated mm/dd/yyyy"

In further discussion, Mr. Spangler identified a change to be made to item no. 6, page 7 of the recommendation -- the reference to 40-bit should be changed to 128-bit. The motion was modified to adopt the recommendation include Mr. Sappenfield's change and Mr. Spangler's change in addition to the corrections highlighted in Ms. Hess's comments. The motion passed unanimously (~~19 votes~~) (for the voting record see section 10 of these minutes). Mr. Buccigross explained that Tthe report to Sandia, ~~which requires Board approval~~, will be modified as a result of these changes, brought back to the EC in February for approval and then on the Board for final approval. After that it will be sent to the DOE.

Ms. Metz answered questions regarding the recommendation to change standard No. 6.3.1, "The Base Contract for Short-Term Purchases and Sales of Natural Gas." Mr. Sullivan raised several concerns with the recommendation, which address the change in the contract to allow for longer-term deals. Those concerns were related to force majeure and financial responsibilities. Similarly, Mr. Oppenheim also raised concerns on the longer-term nature of the contract, specifically regarding expansion of performance obligation section and the inclusion of a dispute resolution section. Mr. Hebenstreit noted that an addendum for special provisions could address some of the issues being raised. In discussions ~~on~~regarding a request for a straw vote, non-binding but indicating level of support, but it was determined to be premature as not all comments had been received and reviewed. The Contracts Subcommittee will meet to discuss comments and possibly make further changes to the contract after January 15. The contract will be presented at the February 21, 2002 meeting.

### 5. 2002 Annual Plan

Mr. Buccigross reviewed the Board discussion and the endorsement of the 2002 annual plan.

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~~2000 Annual Plan, was presented by Mr. Spangler.~~ The recommendation summary is: "In consideration of FERC Order 637, revise the display of pipeline Informational Postings web sites to provide for placement/navigation of links for Planned Service Outages and Organizational Charts. This affects GISB Standards 4.3.21 and 4.3.23."

<sup>2</sup> In the 2001 GISB Annual Plan, item no. AP09 is "Complete the implementation of FERC Order No. 637 Standards" under the category "Standards Implementation."



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It was noted that the Parliamentary Committee of NAESB would review the annual plan process including coordination across the quadrants.

### **6. Update on NAESB Activities**

Ms. McQuade and Mr. Buccigross updated the committee on activities for the formation of NAESB. .

### **7. Election of Officers**

Mr. Spangler was asked to preside over the meeting while the officers were elected for 2002. Ms. McVicker nominated Mr. Buccigross as chair and Mr. Novak as vice-chair. Ms. Patton seconded. All were in favor of returning Mr. Buccigross and Mr. Novak to their respective positions of chair and vice-chair for 2002.

### **8. Other Business**

No other business.

### **9. Adjourn**

Mr. Young made the motion to adjourn, seconded by Mr. Hebenstreit. The motion passed unanimously. The meeting adjourned at 2:35 p.m.



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## 10. Executive Committee Attendance

	Present	EDM - Order 637 (AP09)	Sandia Recommendation
<b>End Users:</b>			
Bill Hebenstreit	Y	Y	Y
Diane McVicker	Y	Y	Y
John Ebner for Dona Gussow	Y	NP	Y
Kelly Daly	Y	Y	Y
Tina Patton	Y	Y	Y
<b>LDCs:</b>			
Dolores Chezar	Y	Y	Y
Mike Novak	Y	Y	Y
Chris Maturo	Y	Y	NP
Bill Oppenheim for Rodger Schwecke	Y	Y	Y
Steve Sullivan	Y	Y	Y
<b>Pipelines:</b>			
Bill Griffith	Y	Y	Y
Dale Davis	Y	Y	Y
Randy Young for Theresa Hess <sup>3</sup>	Y	Y	Y
Kim Van Pelt	Y	NP	Y
Mark Gracey	Y	Y	Y
<b>Producers:</b>			
Laurie Marlatt for Paul Keeler	Y (phone)	Y	Y
Lauren Kaestner	N		
Richard Smith	Y (phone)	Y	Y
Mike Johnson	N		
Scott Brown	N		
<b>Services</b>			
Jim Buccigross	Y	Y	Y
Carl Caldwell	N	NP	NP
Keith Sappenfield	Y	Y	Y
Mark Scheel	Y	Y (ballot)	Ballot Does Not Count
Leigh Spangler <del>for Sylvia Munson</del>	Y	Y	Y
Affirmative Votes		19	19
Pass?		Y	Y
Ratification Required?		Y	Y

NP - Not present when vote was taken.

<sup>3</sup> Ms. Hess was present at the meeting via conference calling.



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### 11. Other Participation

**Administrative:** Rae McQuade - Executive Director  
JoAnn Garcia - GISB Staff  
Veronica Thomason - GISB Staff  
Jay Costan - General Counsel (by phone)  
Lawrence Paulson - Hoffman Paulson Associates  
Cheryl Hoffman - Hoffman Paulson Associates

#### Observers to the Meeting:

Name	Company	In Person/Phone	GISB Member
Munson, Sylvia	Pan Canadian Energy	In Person	Y
King, Iris	Dominion Gas Transmission	In Person	Y
McMahon, Gina	BTUWatch.com	Phone	Y
Shahan, Mike	Dominion, Peoples Natural Gas	In Person	Y
Duede, Gary	APS/PWCC	In Person	Y
Hamilton, Richard	Williams Gas Pipeline	In Person	Y
Burch, Kathryn	Duke Energy	In Person	Y
Burden, Christopher	Williams Gas Pipeline <del>s</del>	In Person	Y
Gwilliam, Tom	Iroquois Gas Transmission	In Person	Y
Metz, Cary	Midland Cogeneration Ventures	In Person	Y

**TABLE - PROPOSED TIMELINE FOR PUBLICATION OF STANDARDS VERSION 1.6**

Last Modified: 2/14/02

Last Reviewed: 2/14/02

<b>Step</b>	<b>Date All media</b>	<b>Event</b>	<b>Notes</b>
1	4/18/02	Last EC Approved Recommendation Voted	This is the last date an EC meeting can be held during which a vote on fully staffed recommendations (standards and clarifications) that effect Version 1.6 can take place.
2a	No later than 10 days following the EC meeting in Step 1 5/02/02	EC Minutes prepared and adopted	This is the last date an EC meeting can be held to adopt minutes from the EC meeting in Step 1. It may be held by conference call.
2b	Same date as Step 2a	Prior ECA Recommendations prepared and adopted	Catch-up for Version 1.6 Only: This is the last date an EC meeting can be held to adopt the ECA Recommendations resulting from EC meetings held prior to the EC meeting in Step 1.
3	23 days <sup>1</sup> 5/03/02	Member Ratification	Can be shortened by EC if necessary. A 30-calendar day ratification period incorporates 20 working days.
4	30 days 5/08/02	Changes made to baseline <sup>2</sup> documents and proofing	This step can begin after Step 2. If Step 3 (ratification) fails changes are omitted. This is an iterative process which may involve "volunteers" and others knowledgeable about specific content revisions. It includes proofing of content and format.
5	3 days 6/20/02	Prepare Standards Manuals in PDF format containing the documents from Step 4	This includes the compilation and bookmarking of the Standards Manuals.
6	2 days 6/25/02	Prepare Book 1 of 2 and Book 2 of 2 in PDF format containing the documents from Step 4	This includes the compilation and bookmarking of Book 1 of 2 and Book 2 of 2 (Summary Books).
7	3 days 6/27/02	Final Proofing	No content proofing takes place; this is a review of the print layout and is the last review of media preparation input materials.
8	20 days 7/02/02	Media Preparation	The preparation of the printed materials and CDs is an iterative exchange of materials between the NAESB office and the publication vendor(s) for quality control purposes.
9	07/31/2002	Publication Date	Revised Standards Manuals and Summary Books are available to members and non-members in all media (e.g., print, CDs, and PDF files posted on the NAESB web site).

General Notes:

- Date refers to a duration of time with the exception of Step 8, which is a deadline. Each step presumes completion of the previous step, except where noted.
- All days, unless otherwise noted, are business/working days.
- Within each step above, specific timelines may be established for coordination of work.

Footnotes:

1. Assumes 3 days to prepare document for member ratification.
2. Baseline documents consist of the following:
  - Standards Manuals: One file contained in all Books:
    - Related Standards
  - Standards Manuals: One file contained in Nominations, Flowing Gas, Invoicing, and Capacity Release:
    - Introduction
  - Standards Manuals: Nominations, Flowing Gas, Invoicing, and Capacity Release: Each of the listed manuals has its own unique version of the following files:
    - Table of Contents
    - Version Notes
    - Executive Summary
    - Business Process and Practices
  - Standards Manuals: Nominations, Flowing Gas, Invoicing, and Capacity Release: Each data set contained within each of the listed manuals includes its own unique version of the following files:
    - Technical Implementation of the Business Process
    - Sample Paper Transaction
    - Data Dictionary
    - Code Values Dictionary
    - Data Element Cross Reference to ASC X12
    - Sample ASC X12 Transaction
    - EDI Implementation Guide (EDISM)
    - Transaction Set Tables
  - Standards Manual: Electronic Delivery Mechanism (EDM)
    - [note: File names to be verified]*
    - Table of Contents
    - Version Notes
    - Introduction
    - Executive Summary
    - Business Process and Practices
    - Technical Implementation – Internet EDI/EDM and Batch FF/EDM
    - Technical Implementation – Informational Postings Web Site
    - Technical Implementation –EBB/EDM
    - Technical Implementation –FF/EDM

Appendices

Standards Manual: Contracts

- Table of Contents
- Version Notes
- Introduction
- Executive Summary
- Business Process and Practices
- Standard Contracts:
  - Base Contract for Short-Term Sale and Purchase of Natural Gas
  - Day Trade Interruptible
  - Trading Partner Agreement
- Model Contracts:
  - Model Funds Transfer Agreement
  - Model Operational Balancing Agreement
- Sample Contracts

Summary Book 1 of 2 and Book 2 of 2

- Version Cross Reference and Interpretation Cross Reference

Summary Book 1 of 2

- Table of Contents

Summary Book 2 of 2

- Table of Contents

# Draft Prepared 5-17-01

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**GAS INDUSTRY STANDARDS BOARD RESPONSE  
TO THE  
SANDIA NATIONAL LABORATORIES  
SURETY ASSESSMENT REPORT OF THE  
GISB ELECTRONIC DELIVERY MECHANISM RELATED STANDARDS**

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***May 17, 2001***

*Prepared by*

*GISB Electronic Delivery Mechanisms Subcommittee  
GISB Future Technology Subcommittee*

## Acknowledgments:

This document was prepared by the Electronic Delivery Mechanisms Subcommittee and the Future Technology Task Force of the Gas Industry Standards Board in response to the surety assessment prepared by the Sandia National Laboratories.

Many thanks go to the chairs of the above subcommittees and contributors to this report, without whose contributions, this report would not be possible.

- Richard Brooks      Chief Technical Officer, Group 8760  
Co-Chair, GISB EDM Subcommittee
- Richard Hamilton    Technical Consultant, Williams Gas Pipeline  
Contributor, GISB EDM Subcommittee
- Jim Keisler          Systems Analyst Consultant, Williams Gas Pipeline  
Contributor, GISB EDM Subcommittee
- Terry Lehn          Information Technology Consultant, Enron Transportation Services  
Contributor, GISB EDM Subcommittee
- Michael Shahan      Manager Information Technology Services, Dominion  
Chair, GISB Future Technology Task Force
- Leigh Spangler      President, Latitude Technologies  
Co-Chair, GISB EDM Subcommittee
- Kim Van Pelt        GISB Coordinator, CMS Pipe Line Company  
Contributor, GISB EDM Subcommittee

We are saddened to report the passing of Mr. Jim Keisler, a friend and colleague whose contributions to this report were invaluable.

## Executive Summary:

Sandia National Laboratories (Sandia), under a project funded by the U.S. Department of Energy, performed a surety assessment of Gas Industry Standards Board (GISB) Electronic Delivery Mechanism (EDM) standards, version 1.4. This project was an outgrowth of the President's Commission on Critical Infrastructure Protection. The surety assessment was undertaken as an independent analysis of the GISB EDM standards and related documents developed by GISB. The Sandia Information Design Assurance Red Team (IDART) conducted the analysis and assessment of the GISB standards, the intent of which was to provide a surety based analysis of the current and any documented future GISB standards as they relate to electronic commerce. The assessment provided recommendations on the security of the electronic commerce guidelines for conducting business with emphasis on the use of the Internet.

The surety assessment had 35 findings, categorized in the surety assessment as:

- 7.1 Recommendations to address areas of opportunity for an attacker within the guidelines set forth by the security standards (12 findings)
- 7.2 Recommendations for GISB principles (7 findings)
- 7.3 Recommendations for GISB standards (8 findings)
- 7.4 Recommendations for the format and layout of GISB standards (8 findings)

In reading GISB responses, the responses refer to the specific finding as cited in the surety assessment, (for example: Sandia Finding No. 7.1.1, 7.1.2, etc.). For each finding, the description of the finding, the analysis and the recommendation from Sandia are noted prior to the GISB response. The response indicates whether GISB concurs with the finding, the analysis and the recommendation, and how the recommendation is to be implemented. The actions to be taken by GISB in lieu of implementing a recommendation are also described.

Of the 35 findings, GISB agreed with the findings and analysis for 97%, (34 findings<sup>1</sup>). Moreover, GISB supported 20 of the recommendations provided by Sandia in total, and an additional four of the recommendations in part (69%). These recommendations will be implemented either in version 1.5 or the next release of the GISB standards. For those recommendations that GISB is not planning to implement in version 1.5 or the next release, they can be classified either as a formatting recommendation<sup>2</sup>, a recommendation restating

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<sup>1</sup> For finding 7.2.6, GISB did not agree with the finding, the analysis or the recommendation. GISB agreed with all other findings and analysis.

<sup>2</sup> The formatting recommendations for findings 7.4.1, 7.4.2 and 7.4.3 were not supported by GISB.

## Executive Summary:

an existing standard<sup>3</sup>, or a recommendation for which a low cost commercially available solution does not exist<sup>4</sup>.

GISB appreciates the effort that Sandia through its representatives (David Duggan, Tom Cabe) and the Department of Energy (Christopher Freitas) expended to improve the GISB standards used by the natural gas industry to move information across the Internet. As our industry continues to rely on the Internet as a way to improve communication between trading partners, the standards that govern that communication are critical to ensuring security, performance, reliability and interoperability. The public-private partnership forged between GISB and the Department of Energy has provided several benefits to the industry, one of which being this report and the actions that GISB has taken as result.

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<sup>3</sup> The "restatement of a standard" recommendations for findings 7.2.3, 7.2.4, 7.2.7, 7.3.6 and 7.3.7 were not supported by GISB.

<sup>4</sup> The recommendations for which a low cost commercially available solution is unavailable for findings 7.1.4 and 7.3.5 were not supported by GISB.

# GISB Responses to the Sandia Surety Assessment Findings:

## 7.1.1 Trading Partner Agreement (TPA)

**Sandia Finding:** The expectations of who will perform what function and how it will be accomplished in Internet EDM is, at some level, laid out in the Trading Partner Agreement.

**Sandia Analysis:** The TPA is an important document necessary to establish the trading partnership between companies. This document contains information, including usernames and passwords, needed to access each partner's network and should be protected from unauthorized exposure.

**Sandia Recommendation:** Each trading partner should protect the TPA as a proprietary company document.

**GISB Response:** We concur with the finding, analysis and recommendation. To implement the recommendation, the following note will be added to the face of the TPA: "Recognizing that this Trading Partner Agreement (TPA) is a confidential document whose revelation could jeopardize the commerce and communication that is conducted between the parties to this agreement, the parties should take at least the same amount of care to secure this TPA as would be taken with any other proprietary, internal or contractual document."

## 7.1.2 Time Synchronization

**Sandia Finding:** The time-stamp should be included in the HTTP response back to the sender of the original HTTP transaction. It is recommended that the server clock generating the time-stamp be synchronized with the National Institute of Standards and Technology (NIST) time in order to mitigate discrepancies between the clocks of the sender and receiver. (Standard 4.3.10)

**Sandia Analysis:** There is a need for client machines to verify that the time on the server is within a certain "delta" time. By modifying the time on a server, it is possible to "game" the system by either shutting off transactions early, or by giving an insider extra time to examine other's transactions. By having the client check time on the server, it can notify the user of a possible problem with the time on the server.

**Sandia Recommendation:** Define a standard that requires clients to acquire time-of-day from the server and check that time against their own time reference. If the time difference is greater than say, ten seconds notify the user of the discrepancy.

**GISB Response:** We concur with the finding, analysis and recommendation. To implement the recommendation, GISB Standard No. 4.3.10 will be modified:

from:

## GISB Responses to the Sandia Surety Assessment Findings:

4.3.10 The time-stamp should be included in the HTTP response back to the sender of the original HTTP transaction. It is recommended that the server clock generating the time-stamp be synchronized with the National Institute of Standards and Technology (NIST) time in order to mitigate the discrepancies between the clocks of the sender and receiver.

to:

4.3.10 The time-stamp should be included in the HTTP response back to the sender of the original HTTP transaction. The server clock generating the time-stamp should be synchronized with the National Institute of Standards and Technology (NIST) time in order to mitigate the discrepancies between the clocks of the sender and receiver.

With this change, the language is strengthened and the implementers of GISB standards have the opportunity to propose other mechanisms that would further enhance coordination of server clocks.

### 7.1.3 Management of keys

**Sandia Finding:** How to manage keys is covered in the TPA (exchange, verifying, changing, making keys and replacing keys).

**Sandia Analysis:** We realize that there is overhead involved in the exchange of new keys, but the risk of having a key become compromised is greater the longer the key is in use. Operationally, keys could be set to expire 385 days (365 days plus a cushion) after being created to allow for yearly re-keying on a regularly scheduled basis.

**Sandia Recommendation:** It is recommended that keys expire at least on a yearly basis. By expiring keys yearly, the mechanisms for exchanging keys are exercised on a regular basis and keys do not have an infinite lifetime, thereby reducing the likelihood of a key compromise.

**GISB Response:** We concur with the finding and the analysis. To mitigate the risk, we will change GISB Standard No. 4.3.15 to require that keys should have a limited lifetime, the lifetime to be determined by the key's owner. To implement the recommendation, GISB Standard No. 4.3.15 will be modified:

from:

4.3.15 Trading partners should implement all security features (secure authentication, integrity, privacy, and non-repudiation) using a file-based approach via a commercially available implementation of PGP 2.6 or greater (or compatible with PGP 2.6). Trading partners should also implement basic authentication. This should be regarded as an interim solution since this technology is not an open standard. This technology supports all of the above

## GISB Responses to the Sandia Surety Assessment Findings:

security features while providing independence of choice of Web servers and browsers. Encryption keys should be self-certified and the means of exchange should be specified in the trading partner agreement.

to:

- 4.3.15 Trading partners should implement all security features (secure authentication, integrity, privacy, and non-repudiation) using a file-based approach via a commercially available implementation of PGP 2.6 or greater (or compatible with PGP 2.6). Trading partners should also implement basic authentication. This should be regarded as an interim solution since this technology is not an open standard. This technology supports all of the above security features while providing independence of choice of Web servers and browsers. Encryption keys should be self-certified and the means of exchange should be specified in the trading partner agreement. Encryption keys should have a limited lifetime whose duration is determined by the key's owner. A key's end of life is expressed in the expiration date field contained in each PGP public key. A lifetime of one year or less is recommended.

### 7.1.4 Central Address Repository (CAR)

**Sandia Finding:** Standard 4.3.19 states that the CAR should make available a consolidated repository of the Transportation Service Providers' current URLs listed in Standard 4.3.18 in two ways: 1) a vehicle to link to sites and categories, and 2) a downloadable list.

The CAR is available to any Internet user.

Standard 4.3.20 states that a userID or password should not be required to access the Central Address Repository or the Transportation Service Provider's Informational Postings web site.

**Sandia Analysis:** The CAR can be used as an attack list for a malicious individual. Leaving the CAR unprotected and available to any Internet user can result in attacks being directed at the customers of a specific site. It is tailor made for attacking using a denial-of-service type of attack.

**Sandia Recommendation:** Protect the CAR using SSL and basic authentication. It is recommended that the standard be reworded to state that a userID and password be required to access the CAR for security purposes. The access password can be a single userID/password combination created, and changed yearly, by GISB for the member organizations, but implemented locally by each member. The userID/password can be distributed securely by the GISB office to members.

# GISB Responses to the Sandia Surety Assessment Findings:

**GISB Response:** We concur with the finding and the analysis. However, for the central address repository, the recommendation that GISB use both SSL encryption and a logon authentication would hinder the public from convenient and easy access, and possibly block access for legitimate users, while protecting against an unlikely risk. Several government agencies also make URL listings available for access and download without SSL encryption and logon authentication. Because of the unlikely event of an attack, the cost to implement such security measures, and the barriers to easy access by the public, GISB at this time will not implement the security measures of SSL encryption and logon authentication for the Central Address Repository.

## 7.1.5 Encryption for Batch Processing

**Sandia Finding:** PGP 2.6 (using keys generated with the RSA algorithm) is used for encryption and digital signatures on batch data. The header information in the POST operation is not encrypted.

**Sandia Analysis:** Header information from batch processing can be used to forge packets for use in the interactive type of process. There is also a wealth of information to be gained by an attacker from the responses that are useful in defining attack strategies.

**Sandia Recommendation:** Batch processing of requests should be encrypted using SSL. Response messages to requests should be encrypted also.

**GISB Response:** We concur with the finding, analysis and recommendation. Batch processing of requests should be encrypted using SSL with 128-bit encryption and response messages to requests should also be encrypted using SSL with 128-bit encryption. Programming libraries exist for all platforms to accomplish this in the batch browser software, and all web servers also have this capability. The batch browser and the Web server are the two software components used to exchange X12 and Flat Files in the current GISB standard. To support this recommendation, the following standard will be added:

4.3.z For EDI/EDM, 128-bit Secure Socket Layer (SSL) encryption should be used.

## 7.1.6 Interactive Processing

**Sandia Finding:** Interactive processing does not require strong authentication of the user before processing a transaction.

**Sandia Analysis:** Interactive processing can be spoofed since there is no PGP signature present for the transaction. Without strong authentication of the transaction, the sender can be anyone. By acquiring response messages from some

## GISB Responses to the Sandia Surety Assessment Findings:

client-server communication, an attacker has enough information to create a transaction spoofed as someone else.

**Sandia Recommendation:** Add a standard that requires PGP signatures for interactive processing of transactions under SSL encryption protection. Define responses that are available under the interactive processing. PGP allows for digital signing and encryption of data contained on the clipboard. This method can be used to sign interactive data.

**GISB Response:** We concur with the finding and with the analysis. The implementation of this recommendation is presented in three parts – the response applicable to Informational Postings, the response applicable to Customer Activities Web sites, and the response applicable to Interactive Flat Files.

**For Informational Postings:** Informational Postings have always been considered information available to the public at large. Therefore, GISB standards have intentionally not imposed any security requirements for this data category. Since this information is intended for the public, an authentication mechanism (such as a logon) is not imposed. By not encrypting this data, GISB recognizes that it is vulnerable to an interception of the message with possible alteration of its content prior to it being viewed by the requestor. However the risk of such interception and modification is low compared to the effort required to do so. GISB could apply SSL encryption to this content to prevent this possibility, but it should be noted that this will have a slight adverse affect on response time. Digitally signing this “display only” content, if possible, would have no value, as the Web browser has no mechanism to utilize the attached signature.

GISB appreciates Sandia's recommendation, but does not at this time plan to take any action. As described above, the resources required to implement the recommendation are significant, and the risk assessed is minimal. Because of the unlikely event of an interception and modification of content, the cost to implement security measures to prevent such interception, and the barriers to easy access by the public that the security measures would impose, GISB at this time will not implement the security measures of PGP signatures for interactive processing of transactions under SSL encryption protection for the Informational Posting Web sites.

**For Customer Activities Web sites:** For Customer Activities Web sites, as noted in Sandia's report, GISB standards already call for applying encryption to Customer Activities data, and moreover, the GISB Standard No. 4.3.61 has been changed to refer to 128-bit encryption only (see finding 7.1.7). Sandia also suggests applying a digital signature to this data. A digital signature provides for non-repudiation. This means that the source of the transaction is provable and tamper-proof. Sandia further suggests using PGP with its ability to digitally sign what is on the clipboard. It is acknowledged that Sandia's recommendation suggests the best-known way to deliver non-repudiation. This would require that the browser contain code to write and read

## **GISB Responses to the Sandia Surety Assessment Findings:**

content to and from the clipboard, which appears to be supported with the most recent versions of IE and Navigator. It should be noted, however, that the user could disable pasting via script in IE, and possibly with Navigator. GISB's standard also allows use of the ICA protocol (otherwise known as Windows Terminal Server), which moves screen images to the client, but the data entry form is actually running on the server machine, not the client. In this case, there is no way for the user on the client side to apply a digital signature using its private key.

Using PGP for digital signatures creates a considerable administrative burden as well, since the trading partners would have to maintain, in many cases, a very large number of public keys. PGP keys are often exchanged using diskettes and the US Mail, since use of email can be an insecure key exchange mechanism. There may be performance issues as the size of the PGP key ring grows to be very large. As we support an expiration period for these keys, the administrative task may grow even more. Of course, use of PGP by every on-line user means that they must purchase the PGP software and it must run on their desktop. This may affect sites that attempt to achieve a standard configuration and minimal client-side software for their users. Additionally, it creates a training requirement for the users.

All in all, the recommendation to use digital signatures is not implementable for those companies using the ICA protocol, and is costly for others. As an alternative, the browsers can provide for signing of Web forms using a certificate. A check with Microsoft revealed that IE 5.5 does not have this capability, which disallows this alternative, as the GISB standards are required to work using either IE or Navigator browsers.

As such, GISB will be unable to provide for non-repudiation by applying a digital signature to an interactive transaction. Disallowing the ICA protocol may make this more possible, but it is still burdensome, at best, to implement this feature. It is suggested that we forego this until such time as a more practical approach is possible.

The risk of not implementing digital signatures is offset by the checks and balances that already exist for the natural gas transactions. For example, scheduled quantities transactions are sent after the nominations have been processed, and confirmations, both upstream and downstream are sent, so the use of confirmations from a variety of sources should minimize the risk of foul play as a result of no digital signature. Moreover, with GISB standards, the risk is of a commercial nature instead of physical impairment. If the digital signature technology were readily available, GISB would use it - but the exposure right now is not great enough to warrant the expense and resources to implement digital signatures and remove the ICA protocol as a choice that GISB standards currently allow. GISB will continue to look for ways to implement these security measures when they become more mainstream and cost effective.

As described in the above discussion, GISB appreciates Sandia's recommendation and has taken steps to implement the SSL 128-bit encryption, but does not at this time

## GISB Responses to the Sandia Surety Assessment Findings:

plan to take any action on the recommendation regarding digital signatures. As described above, the resources required to implement the digital signature recommendation are significant, would require companies to relinquish the use the ICA protocol, and the risk assessed is minimal. Because of the checks and balances from a variety of sources to minimize the risk, the cost to implement digital signatures, and the reduction in the protocol choices that a company currently has, GISB at this time will not implement the security measures of PGP digital signatures for interactive processing of transactions for the Customer Activities Web sites.

**For Interactive Flat Files:** The Interactive Flat File mechanism allows the user to construct a comma-separated-value (CSV) file using software such as a spreadsheet and then upload it using a Web browser. GISB supports the use of 128-bit SSL encryption to protect this data from viewing or alteration (see finding 7.1.7, GISB Standard No. 4.3.61).

Because the uploaded transaction is in the form of a file, it is possible for the user to apply a digital signature to the file after its creation. The same administrative issues as described above in the discussion on the Customer Activities Web sites apply also to Interactive Flat Files. That is, there is the potential to have to maintain a large number of PGP public keys. However, as a practical matter, there appear to be very few users of this particular EDM mechanism, which reduces the administrative burden. Of course, the user would still be required to purchase and install the PGP client on the desktop, and there would still be a training requirement. However, there appears to be little to be gained by having this capability for this particular on-line user while most on-line users would not have the capability.

Checks and balances already exist for the natural gas transactions, such as scheduled quantities after the nominations have been processed, and confirmations, both upstream and downstream – so that the risk of foul play as a result of no digital signature is minimized. With GISB standards, the risk is of a commercial nature instead of physical impairment. If the digital signature technology were readily available, GISB would use it – but the exposure right now is not great enough to warrant the expense and resources to implement digital signatures. For the above reasons, GISB appreciates Sandia's recommendation and has taken steps to implement the SSL 128-bit encryption, but does not at this time plan to implement digital signatures for interactive flat files. GISB will continue to look for ways to implement digital signatures as they become more mainstream and cost effective.

### 7.1.7 Secure Socket Layer (SSL)

**Sandia Finding:** 40 bit SSL is the basic standard, while 128 bit SSL is preferred.

**Sandia Analysis:** 40 bit SSL offers some protection. It has been around for a long time (in computer time) and is nearing the end of its useful lifetime. Performance of

## GISB Responses to the Sandia Surety Assessment Findings:

computers is such that 40 bit SSL will be able to be broken in minutes in the near future. 40 bit SSL was broken in 1996 by a student in less than 8 hours of computer processing time. Since GISB only changes standards infrequently and all changes must be approved by the members, it should start acting now to require 128 bit SSL instead of 40 bit.

**Sandia Recommendation:** 40 bit SSL should be changed to 128 bit SSL on standards 4.3.61 and 4.3.83. All basic client authentication should be done under the protection of 128 bit SSL.

**GISB Response:** We concur with the finding, the analysis and the recommendation. To implement the recommendation, GISB Standard Nos. 4.3.61 and 4.3.83 will be modified:

From:

4.3.61 At a minimum, data communications for Customer Activities Web sites should utilize 40-bit encryption. Where possible, 128-bit encryption is recommended.

4.3.83 For Interactive Flat File EDM, 40-bit Secure Sockets Layer (SSL) encryption should be used. Where possible, 128-bit SSL encryption is strongly recommended.

To:

4.3.61 Data communications for Customer Activities Web sites should utilize 128-bit Secure Sockets Layer (SSL) encryption.

4.3.83 For Interactive Flat File EDM, 128-bit Secure Sockets Layer (SSL) encryption should be used.

### 7.1.8 Basic Authentication

**Sandia Finding:** Basic Authentication is in standard 4.3.84 and is outlined in the "Sending Transactions" section and in the "Security" section under Security Requirements. HTTP basic authentication includes a userID and password. Basic authentication is also known as realm one security.

**Sandia Analysis:** GISB standards allow for the use of unsecured transactions between partners not wishing to be secure. Should these transactions be compromised, there will be damage to the credibility of the GISB standards as a secure EDM.

**Sandia Recommendation:** In the "Security" section under Basic Authentication remove the statement "Those companies who wish to conduct business across the Internet in an unsecure fashion may do so by mutual agreement."

# GISB Responses to the Sandia Surety Assessment Findings:

**GISB Response:** We concur with the finding, analysis and recommendation. The sentence “Those companies who wish to conduct business across the Internet in an unsecure fashion may do so by mutual agreement” will be removed from the Security Requirements section of the EDM Implementation Guide.

## 7.1.9 Security Standards

**Sandia Finding:** Currently GISB has a set of minimum security standards, which can be found in the GISB standards and in the TPA. The basic security standards include: functional acknowledgements, basic authentication, PGP, and key management.

**Sandia Analysis:** Utilization of these standards completely and consistently is important. Use of PGP encryption and/or signatures on all transactions, whether batch or interactive, will help the security of the system. As long as the Gas industry is not considered an active target by an individual, or a group, lax use of the standards can be allowed to occur. However, a single individual working alone, with reasonable knowledge of the GISB standards can work to undermine the electronic commerce of the industry.

**Sandia Recommendation:** Require the use of strong encryption and strong authentication on all transactions.

**GISB Response:** GISB concurs with the finding and the analysis, and applies the recommendation differently to the different types of transactions: Informational Postings, Customer Activities Web sites, Interactive Flat Files, and ANSI ASC X12 EDI. Please refer to the response for finding 7.1.6 for GISB’s response regarding Informational Postings, Customer Activities Web sites, and Interactive Flat Files. Please refer to the response for finding 7.1.5 for GISB’s response regarding ANSI ASC X12 EDI.

## 7.1.10 Using a Web Server

**Sandia Finding:** In Tab 6 section “Receiving Transactions”, GISB does not currently require either a Secure Sockets Layer (SSL) or Secure Hyper Text Transfer Protocol (S-HTTP). This forces the sending of userIDs and passwords in the CLEAR. GISB does recommend SSL for flat file EDM in standard 4.3.83.

**Sandia Analysis:** Establishing an SSL session prior to the HTTP POST process (whether it is batch or interactive) protects the userID, password and any header information. This information can be used to create spoofed transactions by an attacker.

## GISB Responses to the Sandia Surety Assessment Findings:

**Sandia Recommendation:** Require the use of strong encryption and strong authentication on all transactions.

**GISB Response:** GISB concurs with the finding and the analysis, and the recommendation. To implement the recommendation, the response to finding no. 7.1.7 addresses this item.

### 7.1.11 Web Access Ports

**Sandia Finding:** GISB is using non-standard ports (5713, 6112, 6304, 6874, and 7403) for access to web servers. GISB limits the TCP ports used as a standard for EDM communications standards 4.1.37 and 4.3.70. GISB states that non-standard ports in a non-privileged range add another level of security.

**Sandia Analysis:** Port numbers can be scanned in a matter of minutes; therefore using non-standard ports doesn't afford any protection. Using ports that are allocated to another service can give opportunity for conflict at a user site. Additional ports in the list should be taken from an unallocated portion of the port space.

**Sandia Recommendation:** Use standard TCP ports for web servers. If that option is not viable, use ports that are not already allocated to other services.

**GISB Response:** We concur with the finding and the analysis that GISB is using non-standard ports and that there are no security benefits gained by using the specified ports. GISB appreciates Sandia's recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are significant, and the risk assessed is minimal. GISB will investigate registering all of the specified ports with the Internet Assigned Numbers Authority, which would eliminate the concern of potential conflicts with other services.

### 7.1.12 Message replay attacks

**Sandia Finding:** Message replay is not addressed in the standards.

**Sandia Analysis:** Currently there is no mechanism in place that will disallow replay attacks. Both client and server mechanisms need to be in place to keep this from being a viable attack.

**Sandia Recommendation:** By having the client check time on the server before sending any transactions, it is possible to include a time field in the header information. A server then should not be allowed to process two orders from the same requester using the same time stamp. This method will only work if the transaction is digitally signed using an accepted cryptographic checksum. An example of such an

# GISB Responses to the Sandia Surety Assessment Findings:

algorithm is the Secure Hash Algorithm defined in FIPS Pub 180-1. PGP uses an accepted cryptographic checksum algorithm.

**GISB Response:** We concur with the finding and the analysis that GISB EDM may be susceptible to replay attacks. However, the adoption by GISB of SSL encryption for EDM messages (see item 7.1.5) precludes the interception of the message by a third party and replaying it repeatedly to a destination server – a “deep denial of service” attack. While this technique does not preclude the possibility of a replay attack from a “man-in-the-middle” (DNS spoofing), it does mitigate the most likely causes of replay attacks. Furthermore, the “man-in-the-middle” attack is unlikely and would take significant resources to prevent.

GISB appreciates Sandia’s recommendation, but does not at this time plan to take action other than the SSL encryption. The resources required to implement the recommendation are significant, and the risk assessed is minimal. As more cost effective solutions become commercially available, this response will be revisited.

## 7.2 Recommendations for GISB Principles

### 7.2.1 Grouping of Principles

**Sandia Finding:** The principles outlined in Tab 4 pages 8-11 appear in chronological order according to GISB correspondence.

**Sandia Analysis:** The principles are a key component of the standards document and are important guidelines for trading partners. The principles cover topics that can be grouped together in similar categories. Some principles lend themselves to consolidation.

**Sandia Recommendation:** Consider grouping similar principles into like categories such as:

- Common Governance Guidelines and Principles → 4.1.x
- Web site or Web Page Principles → 4.2.x
- Data Formatting Principles → 4.3.x

Consider consolidating the number of principles when two or more principles appear similar. For example 4.1.17, 4.1.18 and 4.4.19 could be consolidated into one principle.

**GISB Response:** We concur with the finding and analysis, and the recommendation will be implemented by providing a cross reference in the EDM standards manual that groups the principles functionally. For example, the standards can be categorized to areas of application – batch processing, customer activities web site standards, informational posting standards, and general application to all areas. The standards categorization does not imply a renumbering, but rather a cross-reference that could

## GISB Responses to the Sandia Surety Assessment Findings:

apply to both the standards manuals and the little standards books. The numbers would be preserved and the standards would not be combined.

### 7.2.2 Future Technology Model

**Sandia Finding:** In version 1.4 of the EDM Standards the Future Technology Model diagram on page 8 Tab 4 appears unchanged from version 1.3. The model includes numbering 1 through 6 and depicts the electronic interchange of data.

**Sandia Analysis:** The model is an important diagram that outlines the EDM flow. There are two sentences that describe the technology and mechanisms in terms of the customer and provider.

**Sandia Recommendation:** Clarify the Future Technology Model to describe what each of the six numbers refers to. Also consider moving the model to its own page as is done with the Batch Flow Diagram later in the document. If the third party system participation is optional show it as such. Describe the sequence of events that the diagram is trying to illustrate. Also it can stand alone as a diagram and does not need to be numbered as a principle.

**GISB Response:** We concur with the finding and the analysis that the model is an important diagram – but we specify that the diagram was important and applicable to prior versions of the standards. For version 1.4, the diagram is not important to the understanding of the standards. The diagram’s benefits were focused on the industry transition from value added networks to the Internet. At this point, the diagram [and related standard 4.1.11](#) provides more confusion than clarification, and there are other diagrams in the implementation guide that provide a better depiction of the Electronic Delivery Mechanism (EDM) technology model used. Specifically there is a ‘Batch Flow Diagram’; ‘Informational Postings EDM Flow Diagram’; flow diagram for EBB EDM, and flow diagram for IFF (Interactive Flat File). Rather than follow the Sandia recommendation to update GISB Standard No. 4.1.1, ~~the standards 4.1.1 and 4.1.11~~ will be removed from future releases of the GISB standards and the existing diagrams noted will suffice to explain the technology model. [Additionally, the following changes will be made to the EDM Manual:](#)

[On page 6 of Tab 4, the title will be changed](#)

[From:](#)

[“Major functions of the Internet EDM Model covered by the Standards”](#)

[To:](#)

[“Major functions of Internet EDM covered by the Standards”](#)

# GISB Responses to the Sandia Surety Assessment Findings:

And the text in Tab 3, Executive Summary, p. 1, Open Standards will be changed

From:

“A brief delineation of these components and their relationship to the model are covered at a high level in the Business Process and Practices (Business Process Description) section and in more detail in later sections of this manual.”

To:

“A brief delineation of these components is covered at a high level in the Business Process and Practices (Major functions of Internet EDM covered by the Standards) section and in more detail in later sections.”

## 7.2.3 Principle 4.1.2

**Sandia Finding:** This recommendation references Principle 4.1.2 and provides suggested rewording of this principle.

**Sandia Analysis:** Principle 4.1.2 states: “The Electronic Delivery Mechanism does not pick winners, rather it should create an environment where the marketplace can dictate a winner or winners.” This principle is not clear.

**Sandia Recommendation:** This principle is not clear and should be reworded. Consider rewording as follows: “The EDM process and related principles will evolve over time into a market directed set of standards to govern EDI.”

**GISB Response:** We concur with the finding and the analysis. ~~GISB appreciates Sandia’s recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal.~~ GISB appreciates Sandia’s recommendation, but the language recommended by Sandia changes GISB’s original intent and GISB does not, at this time plan to take any action.”

## 7.2.4 Principle 4.1.6

**Sandia Finding:** This recommendation references Principle 4.1.6 and provides suggested rewording of this principle

**Sandia Analysis:** Principle 4.1.6 states: “Data providers (transportation service providers) should interface with third party vendors according to GISB standards.” This principle is not clear.

## GISB Responses to the Sandia Surety Assessment Findings:

**Sandia Recommendation:** Consider rewording as follows: “Data providers (transportation service providers) should interface with 3<sup>rd</sup> party vendors, when required, and follow GISB standards for EDM.”

**GISB Response:** We concur with the finding and the analysis. ~~GISB appreciates Sandia’s recommendation but does not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal.~~ GISB appreciates Sandia’s recommendation, but the language recommended by Sandia changes GISB’s original intent and GISB does not, at this time plan to take any action.”

### 7.2.5 Principle 4.1.8

**Sandia Finding:** This recommendation references Principle 4.1.8 and provides suggested rewording of this principle.

**Sandia Analysis:** Principle 4.1.8 states: “The same business result should occur regardless of the electronic delivery mechanism: this principle should guide the definition of the business process, data content of the transaction, and the timing of the transaction.” The Sandia Team feels that this is a key principle that is well written. This principle sets the foundation for many of the other principles.

**Sandia Recommendation:** As recommended earlier, like principles should be grouped together. It is recommended that this principle be grouped within the governance principles. It is also recommended that it be moved to the first or second principle within this group.

**GISB Response:** We concur with the finding, the analysis and the recommendation will be implemented by providing a cross reference in the EDM standards manual as described in the response to finding 7.2.1. .

### 7.2.6 Principle 4.1.15

**Sandia Finding:** This recommendation references Principle 4.1.15 and provides suggested rewording of this principle.

**Sandia Analysis:** Principle 4.1.15 states: “The GISB should not set standards for site-level security. Individual organization security standards should be relied upon.” This principle seems to contradict standard 4.3.15. Standard 4.3.15 seems to recommend that a basic level of security features be implemented.

**Sandia Recommendation:** Consider revising principle 4.1.15 to include concepts stated in standard 4.3.15. Possible wording of Principle 4.1.15 is the following: “The GISB will

## GISB Responses to the Sandia Surety Assessment Findings:

recommend a minimum level of standards for site level security. Individual organization security standards should be integrated with the recommended GISB minimum standards.”

**GISB Response:** We do not concur with the finding, the analysis or the recommendation. GISB Standard No. 4.1.15 addresses site level security and states that it is beyond the scope of GISB standards and therefore should not be changed. GISB Standard No. 4.3.15 addresses messaging level security. Recommended modifications for this standard are reflected in finding 7.1.3.

### 7.2.7 Principle 4.1.16, Principle 4.1.17 and Principle 4.1.19.

**Sandia Finding:** This recommendation references Principle 4.1.16, Principle 4.1.17 and Principle 4.1.19 and provides suggested rewording of these principles.

**Sandia Analysis:** The statements "easy to locate" and "easy to download" can be interpreted in many ways. These statements leave the meanings open to individual interpretations of the trading partners and therefore individual implementations.

**Sandia Recommendation:** Consider consolidating these principles into one and consider rewording such as: “Informational Postings Web sites should be accessible by all members, and the information contained on these web sites should be downloadable.”

**GISB Response:** We concur with the finding and the analysis. ~~GISB appreciates Sandia’s recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal. GISB appreciates Sandia’s recommendation, but the language recommended by Sandia changes GISB’s original intent and GISB does not, at this time plan to take any action.”~~

## 7.3 Recommendations for GISB Standards

### 7.3.1 Grouping of Standards

**Sandia Finding:** The standards outlined in Tab 4 pages 12-24 appear in chronological order according to GISB correspondence.

**Sandia Analysis:** The standards are a key component of this document and provide valuable information to the member trading partners. These standards cover topics that can be grouped together into similar categories. Some standards may also lend themselves to consolidation.

# GISB Responses to the Sandia Surety Assessment Findings:

**Sandia Recommendation:** Consider grouping similar standards into like categories rather than chronologically. Such grouping may include:

- Data Transmission Standards
- Data Formatting Standards
- Browser and Time stamping Standards
- Informational Posting Standards
- Customer Activities Web sites Standards

Also consider consolidating the number of standards when two or more appear very similar.

**GISB Response:** We concur with the finding and analysis, and the recommendation will be implemented by providing a cross reference in the EDM standards manual that groups the standards functionally. For example, the standards can be categorized to areas of application – batch processing, customer activities web site standards, informational posting standards, and general application to all areas. The standards categorization does not imply a renumbering, but rather a cross-reference that could apply to both the standards manuals and the little standards books. The numbers would be preserved and the standards would not be combined.

## 7.3.2 Standard 4.3.4

**Sandia Finding:** This recommendation references Standard 4.3.4, which states: “Transactional data should be retained for at least 24 months for audit purposes.”

**Sandia Analysis:** This standard involves a critical distinction for member partners. The ability to track transactional data is certainly a desirable goal for any system.

**Sandia Recommendation:** This standard needs some clarification before it can be implemented, specifically, who should retain this data. Party A? Party B? Both? Also the volume of data generated should be a consideration. Will there be additional storage expense and/or security concerns raised with the implementation of this standard?

**GISB Response:** We concur with the finding, the analysis and the recommendation. As such, GISB Standard No. 4.3.4 will be changed. Moreover, trading partners are responsible for the storage expense associated with the retention of the data as well as the security needed for the retained data. To implement the recommendation, GISB Standard 4.3.4 will be modified:

from:

4.3.4 Transactional data should be retained for at least 24 months for audit purposes.

## GISB Responses to the Sandia Surety Assessment Findings:

This data retention requirement only applies to the ability to recover or regenerate electronic records for a period of two years and does not otherwise modify statutory, regulatory, or contractual-record retention requirements.

to:

- 4.3.4 Trading partners should retain transactional data for at least 24 months for audit purposes.

This data retention requirement only applies to the ability to recover or regenerate electronic records for a period of two years and does not otherwise modify statutory, regulatory, or contractual record retention requirements.

### 7.3.3 Standard 4.3.6

**Sandia Finding:** This recommendation involves Standard 4.3.6 which states: "Transportation Service Providers should make all pertinent EBB functions and information available via the Internet or via the technology recommended by GISB within a reasonable amount of time after each such function or information has become standardized as appropriate by GISB."

**Sandia Analysis:** While the intention of this standard is well received, the actual implementation of it as written is unclear. A standard that states "within a reasonable amount of time" is open to interpretation by members.

**Sandia Recommendation:** Make this standard more specific. State exactly what GISB thinks is a reasonable amount of time. The Sandia Team believes that one month is a reasonable amount of time to incorporate the new standard to their processes, given that members have been afforded the opportunity to participate in the definition of any standards changes. GISB should include a specific time frame into the wording of this standard.

**GISB Response:** We concur with the finding the analysis and the recommendation. As such, GISB Standard No. 4.3.6 will be changed. The modified standard does not include a specific time frame for implementation. With the rewording, there is no longer any uncertainty on its implementation timing. To implement the recommendation, GISB Standard No. 4.3.6 will be modified:

from:

- 4.3.6 By August 1, 1997, Transportation Service Providers should establish a HTML page(s) accessible via the Internet's World Wide Web. The information that is currently provided should be posted as follows:

- 1) Notices (critical notices, operation notices, system wide notices, etc.)

## GISB Responses to the Sandia Surety Assessment Findings:

- 2) FERC Order No. 566 affiliated marketer information. (affiliate allocation log, 24 hr. discount posting, etc.)
- 3) Operationally available and unsubscribed capacity
- 4) Index of customers
- 5) Transportation Service Provider's tariff (Terms, conditions and rates), or general terms and conditions.

and

Transportation Service Providers should make all pertinent EBB functions and information available via the Internet or via the technology recommended by GISB within a reasonable amount of time after each such function or information has become standardized as appropriate by GISB.

and

Within a reasonable amount of time, all EBB information, functions and transactions should be achieved via one mode of communications. Information and functions should remain available through existing systems until one mode of communication is available. Implementation time lines for this activity would be determined during the 1997 annual planning activities held in 1996.

to

4.3.6 Transportation Service Providers should establish a HTML page(s) accessible via the Internet. The following information should be posted:

- 1) Notices (critical notices, operation notices, system wide notices, etc.)
- 2) FERC Order No. 566 affiliated marketer information. (affiliate allocation log, 24 hr. discount posting, etc.)
- 3) Operationally available and unsubscribed capacity
- 4) Index of customers
- 5) Transportation Service Provider's tariff (Terms, conditions and rates), or general terms and conditions.

### 7.3.4 Standard 4.3.8

**Sandia Finding:** This recommendation refers to Standard 4.3.8, which states: "The minimum acceptable protocol standard should be HTTP. All sending and receiving parties should be capable of sending and receiving using HTTP."

**Sandia Analysis:** This is an important standard for all EDM transactions. This standard should be clearly defined for all member trading partners.

# GISB Responses to the Sandia Surety Assessment Findings:

**Sandia Recommendation:** Clearly state which version of HTTP should be used in this standard. On page 7 under Security it mentions the HTTP 1.0 specification. GISB should state which version of HTTP and HTTPS are to be used for EDM transactions. It is also important to update these standards at least yearly as technology changes dictate.

**GISB Response:** We concur with the finding, the analysis and the recommendation. To implement the recommendation the following changes to the EDM Standard Manual and the EDM standards will be made:

In the section titled "Related Standards", sub-section Hypertext Transfer Protocol (HTTP)" (page 44 of the PDF file),

replace:

"HTTP has been in use by the World-Wide Web global information initiative since 1990. This specification reflects common usage of the protocol referred to as HTTP/1.0".

with:

"HTTP has been in use by the World-Wide Web global information initiative since 1990. Appendix A of the Electronic Delivery Mechanism Related Standards manual contains a listing of the HTTP version(s) supported by GISB."

And modify GISB Standard No. 4.3.8 from:

4.3.8 The minimum acceptable protocol should be HTTP. All sending and receiving parties should be capable of sending and receiving using HTTP.

to:

4.3.8 The minimum acceptable protocol should be HTTP. All sending and receiving parties should be capable of sending and receiving the HTTP versions supported by GISB.

## 7.3.5 Standard 4.3.11

**Sandia Finding:** This recommendation refers to Standard 4.3.11, which states: "The HTTP response should be sent to the sending IP address. Other response documents should be returned to the official designated site defined in the TPA."

**Sandia Analysis:** This allows the initial message response to be sent to the IP address of the incoming message, whereas further traffic is sent to the IP address in the TPA, possibly a different address. This arrangement appears to offer an excellent

## GISB Responses to the Sandia Surety Assessment Findings:

opportunity to spoof the system. Reliance on IP addresses also allows an adversary to use IP spoofing to attack the system.

**Sandia Recommendation:** Sandia recommends a mechanism be put in place to “close the loop” between the possibly two different IP addresses to prevent this from being a problem. This could be done by either changing the standard to allow only one address to be used for all responses, or defining a mechanism to be used to reconcile responses sent to different addresses.

**GISB Response:** We concur with the finding and the analysis that reliance on IP addresses in GISB Standard No. 4.3.11 allows for “spoofing,” and that a mechanism should be put in place to “close the loop.” The analysis however, is incomplete. Only synchronous responses are sent back to the sending address. These responses do not contain any proprietary or ‘business’ information. Basically, these responses contain a time-stamp as an acknowledgement of receipt of the transaction. Spoofing of this transaction creates no business risk. Moreover, basic authentication (userID and password) is utilized for these transactions. The use of SSL, as described in the response to finding 7.1.5 makes this transaction even more secure and more difficult to spoof.

For these cases, GISB appreciates Sandia's recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are significant, and the risk assessed is minimal. Spoofing as described in the finding would create no business risk since the transactions employ basic authentication and PGP encryption. Any material responses are sent to the registered URL, not the address of the requesting transaction. SSL will be required to protect the userID and password as noted in the response to finding 7.1.5.

### 7.3.6 Standard 4.3.15

**Sandia Finding:** This recommendation refers to Standard 4.3.15, which states: “Trading partners should implement all security features using a file based approach via a commercially available implementation of PGP 2.6 or greater. Trading partners should also implement basic authentication. This should be regarded as an interim solution since this technology is not an open standard. This technology supports all of the above security features while providing independence of choice of Web servers and browsers. Encryption keys should be self-certified and the means of exchange should be specified in the Trading Partner Agreement.”

**Sandia Analysis:** The Sandia Team feels this standard as written is too lengthy and combines many important standards.

# GISB Responses to the Sandia Surety Assessment Findings:

**Sandia Recommendation:** This standard contains several important aspects of GISB security. It is recommended that this standard be clarified and broken down into three separate security standards. For example:

- Server Authentication
- SSL encryption
- PGP 2.6 or compatible

**GISB Response:** We concur with the finding and the analysis. GISB appreciates Sandia's recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal.

## 7.3.7 Consolidating like Standards

**Sandia Finding:** Standards 4.3.36, 4.3.37 and 4.3.38 all address similar Internet concerns.

**Sandia Analysis:** These three standards all address similar Internet concerns and provide an opportunity to combine like standards.

**Sandia Recommendation:** Consider combining these three standards into one standard with wording such as: "Industry web sites should be accessible via the public Internet using TCP/IP and Internet Compatible browser software."

**GISB Response:** We concur with the finding and the analysis. GISB appreciates Sandia's recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal.

## 7.3.8 Standard 4.3.70

**Sandia Finding:** This recommendation refers to Standard 4.3.70 which states: "Transportation Service Providers should be limited to the GISB approved list of available TCP ports and UDP ports of EDM implementation included in the Appendix of the EDM standards manual under Client Firewall Requirements for Service Provider EDM Implementation."

**Sandia Analysis:** This is actually included in Tab 4 under the TCP Communications section.

**Sandia Recommendation:** Change the reference from 'Appendix' to 'Tab 4 Business Process and Practices under TCP communications section'.

## GISB Responses to the Sandia Surety Assessment Findings:

**GISB Response:** We concur with the finding and analysis, and the recommendation. The recommendation will be implemented as follows: by creating a new Appendix ("Appendix XXX - Minimum Technical Characteristics for an EDM Server (mm/dd/yyyy)") that will contain all relevant TCP and UDP information. The following changes will be made to the GISB EDM Manual:

- Move the portion of pdf page 20 starting at "Allowable TCP ports" through the end of the following paragraph, ending with "Plugins and modules", including the trademark references at the bottom to Appendix XXX. Also, insert "See Appendix XXX for a list of allowable TCP ports." To the last sentence of the first paragraph of the section titled "TCP Communications".

- Move the text on pdf page 21 starting with "\*\*\*The reservation of 20" and ending with "usage of these ports" to Appendix XXX.

- On PDF page 37, the creation of the new Appendix effectively changes GISB Standard 4.3.70:

**from:**

"Transportation Service Providers should be limited to the GISB approved list of available TCP ports and UDP ports for EDM implementations included in the Appendix of the Electronic Delivery Mechanism Related Standards Manual under Client Firewall Requirements for Service Provider EDM Implementations."

**to:**

"Transportation Service Providers should be limited to the GISB approved list of available TCP ports and UDP ports for EDM implementations included in Appendix [XXX] of the Electronic Delivery Mechanism Related Standards Manual."

As such, the text on page 37 should be revised to conform to the revised 4.3.70 language.

- Page 63, replace:

"The HTTP Server should be configured as port 80. If port 80 is not available, use one of the five recommended alternate ports: 5713, 6112, 6304, 6874, 7403."

with:

"Servers should be configured to use one of the allowable TCP ports listed in Appendix [XXX]."

- On page 89, replace:

"The HTTP Server or the server side application should be configured as port 80. If port 80 is not available, use one of the following recommended alternate TCP ports:

- HTTP 80, 5713, 6112, 6304, 6874, 7403

## GISB Responses to the Sandia Surety Assessment Findings:

- [SSL 443](#)
- [ICA 1494](#)
- [RMI \(JAVA\) 1099-1100](#)
- [JAVA Telnet 31415](#)
- [TCP Optional 8001-8020](#)

[Allowable UDP Ports \(not TCP ports\)](#)

- [Secure ICA 1604](#)

[With:](#)

["Servers should be configured to use one of the allowable TCP ports listed in Appendix \[XXX\]."](#)

The following wording will be inserted into Appendix A of the EDM manual immediately following the section titled "HTTP":

~~Allowable TCP Ports (not UDP ports)~~

~~HTTP 80, 5713, 6112, 6304, 6874, 7403~~

~~SSL 443~~

~~ICA® 1494~~

~~RMI (Java®) 1099-1100~~

~~Java® Telnet 31415~~

~~TCP Optional 8001-8020\*\*~~

~~Allowable UDP Ports (not TCP ports)~~

~~Secure ICA 1604~~

~~\*\*The reservation of 20 optional ports was to provide room for implementations such as DCE, IOP, and load balancing implementations. TSPs should endeavor to minimize the usage of these ports."~~

~~ICA ® is a registered trademark of Citrix Systems Inc.~~

~~JAVA ® is a registered trademark of Sun Microsystems, Inc.~~

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~~NOTE: All page number references relate to the PDF page number of the EDM document.~~

~~Subsequent to the change above, the following changes to the EDM document will also be required:~~

# GISB Responses to the Sandia Surety Assessment Findings:

Page 20:

- ~~– Remove the text starting with "Allowable" and ending with "1604"~~
- ~~– Insert "See Appendix A for a list of allowable TCP ports." as the last sentence of the first paragraph of the section titled "TCP Communications".~~

Page 21 (at top):

- ~~– Remove the text associated with the "\*\*\*" footnote~~

Page 37, within the text for standard 4.3.70:

- ~~– Replace "in the Appendix" with "in Appendix A"~~
- ~~– Insert a "." after the word Manual and remove all the text after "Manual."~~

Page 63(at bottom):

~~– Replace:~~

~~"The HTTP Server should be configured as port 80. If port 80 is not available, use one of the five recommended alternate ports: 5713, 6112, 6304, 6874, 7403."~~

~~With:~~

~~"Servers should be configured to use one of the allowable TCP ports listed in Appendix A."~~

Page 89:

~~– Replace:~~

~~"The HTTP Server or the server side application should be configured as port 80. If port 80 is not available, use one of the following recommended alternate TCP ports:~~

~~– HTTP 80, 5713, 6112, 6304, 6874, 7403~~

~~– SSL 443~~

~~– ICA 1494~~

~~– RMI (JAVA) 1099-1100~~

~~– JAVA Telnet 31415~~

~~– TCP Optional 8001-8020~~

~~Allowable UDP Ports (not TCP ports)~~

~~– Secure ICA 1604"~~

~~With:~~

~~"Servers should be configured to use one of the allowable TCP ports listed in Appendix A."~~

## 7.4 Other Areas for Improvement

The following recommendations are submitted for consideration in the format and layout of the standards document:

# GISB Responses to the Sandia Surety Assessment Findings:

## 7.4.1 Document Tabs

**Sandia Finding:** The current EDM Related Standards document, Version 1.4, contains Tabs 1-10 and each tab starts with page 1.

**Sandia Analysis:** The renumbering of each tab in this important document could lead to confusion if readers are looking to quickly locate a specific page or section. The idea of 10 different page number 1's in the same document may confuse some readers. There also appears to be a Tab missing between Tab 6 and Tab 7.

**Sandia Recommendation:** Consider the notion of numbering the pages of each Tab sequentially, starting at 1, continuing to the end of the Tab. In the Table of Contents the Tabs will remain the same and the beginning page numbers can be added to the right. Example Tab 1 ... Page 1-1

Tab 2 ... Page 2-1

Tab 3 ... Page 3-1

There appears to be an entire Tab section missing from the Table of Contents in version 1.4. In the document between Tab 6 and Tab 7 there is a 28-page section that appears to be a separate section. It begins with a Batch Flow Diagram. Either renumber this as a part of Tab 6 or Tab 7 or create a new Tab 7 and renumber the remaining Tabs.

- **GISB Response:** We concur with the finding and the analysis. ~~GISB appreciates Sandia's recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal.~~ GISB appreciates Sandia recommendations and will forward the recommendations to the appropriate sub committee to consider renumbering as it applies to all GISB publications. "

"Also, GISB agrees with Sandia's recommendation regarding Tab 6 and 7. The pages between tab 6 and tab 7 currently numbered 1-28 will be renumbered 4-31 as part of Tab 6."

## 7.4.2 Definitions and Acronyms

**Sandia Finding:** In the current version 1.4, Tab 4 contains the following sections in order starting with Principles on page 8, Definitions on page 11, and Standards on page 12.

## GISB Responses to the Sandia Surety Assessment Findings:

**Sandia Analysis:** The definitions section does not seem to belong in the middle of principles and standards sections. It affects the flow and readability of the document. Also it is noted that some key acronyms are used in the document before they are defined.

**Sandia Recommendation:** Consider moving the Definitions section to the front of Tab 4 before the principles and standards section. This will help the reader understand key terms and provide a quick reference point. Define key acronyms the first time they are used in the document. Define "Internet Compatible" and "Upstream/Downstream Identifier".

**GISB Response:** We concur with the finding and the analysis. ~~GISB appreciates Sandia's recommendation, but does not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal.~~ GISB appreciates Sandia's recommendations and will forward the recommendations to the appropriate sub committee to consider organizing as it applies to all GISB publications

### 7.4.3 Web Pages

**Sandia Finding:** Tab 8 describes the Technical Implementation of the EBB/EDM functionality. This section covers important aspects of web sites including page layout, navigation, forms, matrix and lookups.

**Sandia Analysis:** The Sandia Team feels this is an important section and conveys many key concepts to members. The page layout section is well written and the print screen examples are very helpful.

**Sandia Recommendation:** GISB may consider taking this section one step further and developing a sample or model web site, which includes these layouts and concepts. The web site could then be referenced as a URL within Tab 8 and allow the Trading Partners the ability to link to actual examples. This may help the partners actually view the examples and gain a better understanding of the formatting, layout, and common look and feel.

**GISB Response:** We concur with the finding and analysis, and we appreciate Sandia's recommendation, but do not at this time plan to take any action. The resources required to implement the recommendation are not insignificant and exceed the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal. Printed examples of formatting, layout and common look and feel are provided within the EDM standards manual.

# GISB Responses to the Sandia Surety Assessment Findings:

## 7.4.4 Reference Guide Section

**Sandia Finding:** In Tab 10 Appendix A the Reference Guide section defines reference information for some key concepts.

**Sandia Analysis:** This is an important reference section for Trading Partners and GISB members.

**Sandia Recommendation:** Consider adding two additional items and related references to this section. We recommend that the Guideline Adoption Procedure and X12.58 encryption standard entries be added. The Sandia Team also recommends that this section be reviewed and updated periodically as needed.

**GISB Response:** We concur with the finding and the analysis, and will implement the recommendation by changing the wording under the Frequently Asked Questions. Many of the ANSI X12 standards are not specified or recommended by GISB including X12.58. It would be inconsistent for GISB to document a standard that it does not specify or recommend. Because X12.58 is not a GISB recommendation, no additional information is needed in Appendix A, Tab 10. To emphasize this fact, the following changes should eliminate any ambiguity on how X12.58 relates to any GISB standard or recommendation. The Frequently Asked Questions ([see pdf page 74](#)) will be modified in the last paragraph on page 26:

from:

Both encryption methods are supported and do not conflict with each other. The use of PGP and X12.58 encryption must be specified in the Trading Partner Agreement.

to:

The use of internal encryption such as X12.58 is outside the scope of the GISB encryption standards.

## 7.4.5 GISB EDM document compatibility

**Sandia Finding:** The GISB EDM version compatibility is not discussed in the standards document or the Trading Partner Agreement.

**Sandia Analysis:** It is noted that both parties need to support the same GISB EDM version. If the parties do not support the same version there should be an error message of notification to state there is a mismatch of the EDM version number.

**Sandia Recommendation:** It is recommended that both parties (trading partners) should support the same GISB EDM version. This should probably be stated in the Trading Partner Agreement. New standards should also include a statement about the compatibility with previous versions of the standard.

# GISB Responses to the Sandia Surety Assessment Findings:

**GISB Response:** We concur with the finding, the analysis and the recommendation. To implement the recommendation, we are creating a new principle:

- 4.1.X Trading Partners should mutually select and utilize a version of the GISB EDM standards under which to operate, unless specified otherwise by government agencies. Trading Partners should also mutually agree to adopt later versions of the GISB EDM standards, as needed, again unless specified otherwise by government agencies.

## 7.4.6 Consistency of Terms

**Sandia Finding:** In Tab 4 page 10 item 4.1.23 mentions the Standard Client Configuration and in Tab 9 page 7 the encryption section mentions the Client Configuration Standard.

**Sandia Analysis:** Important terms and concepts should be referred to in a consistent manner throughout the document.

**Sandia Recommendation:** Change Tab 9 page 7 wording to "Standard Client Configuration". Look for other key concepts in terms of consistent wording and usage.

**GISB Response:** We concur with the finding and analysis, and the recommendation. A search identified only one instance of the use of the term "client configuration standard" in the EDM Manual, in the section titled "Technical Implementation - Interactive FF/EDM" under the sub-title "Security" and heading "Encryption." The phrase will be changed as shown below.

The recommendation will be implemented with the modification to the EDM manual:  
from:

Encryption

"Standard 4.3.83 calls for the use of 40-bit encryption using Secure Socket Layer (SSL) technology. SSL is accomplished by obtaining a certificate from providers and using Web servers capable of using these certificates. The browsers specified in the client configuration standard are known to be able to handle SSL mechanisms. Any pages to be protected with SSL need to be invoked with the HTTPS protocol by using "https" versus "http" as part of the hyperlink (HREF) name. Note that this means using a Fully Qualified versus Relative link name. This, in turn, causes a new DNS lookup from the browser. When the hostname is provided by more than one machine, this may result in the request being sent to a different machine. This would only cause problems where necessary state information is being maintained in the memory of the Web server's machine."

# GISB Responses to the Sandia Surety Assessment Findings:

to:

Encryption

“Standard 4.3.83 calls for the use of 40-bit encryption using Secure Socket Layer (SSL) technology. SSL is accomplished by obtaining a certificate from providers and using Web servers capable of using these certificates. The browsers specified in the Standard Client Configuration are known to be able to handle SSL mechanisms. Any pages to be protected with SSL need to be invoked with the HTTPS protocol by using “https” versus “http” as part of the hyperlink (HREF) name. Note that this means using a Fully Qualified versus Relative link name. This, in turn, causes a new DNS lookup from the browser. When the hostname is provided by more than one machine, this may result in the request being sent to a different machine. This would only cause problems where necessary state information is being maintained in the memory of the Web server’s machine.”

## 7.4.7 Clarify Encryption

**Sandia Finding:** The document references encryption of batch data on page 19 between Tabs 6 and 7. This section also addresses decryption and signature verification.

**Sandia Analysis:** The document specifies very clearly when and how the transactions should be decrypted, but provides only general references to the fact that the transactions are encrypted.

**Sandia Recommendation:** Clarify where and how it is expected that the encryption take place in the process. Provide additional details on the encryption.

**GISB Response:** We concur with the finding, the analysis and the recommendation. To implement the recommendation, GISB will make the following [changes addition](#) to the EDM manual – “Encryption/Digital Signature” within the “SECURITY” section:

From:

Encryption and signatures are applied to files already translated to a GISB standard data format. (Use of internal encryption such as X12.58 encryption is outside the scope of GISB encryption standards but does not conflict with PGP.).

To:

“Encryption and signatures are applied to files already translated to a GISB standard data format, and before the data is sent to the batch browser.” (Use of internal encryption such as X12.58 encryption is outside the scope of GISB encryption standards but does not conflict with PGP.).

# GISB Responses to the Sandia Surety Assessment Findings:

## 7.4.8 Compliance Statement

**Sandia Finding:** There is no definition statement of compliance to the GISB standards.

**Sandia Analysis:** In the standards document, there are several places where the member is given a choice between different levels of security. These options have some significance on security of the EDM. If these choices are still to be contained in the document, then there should be several levels of compliance defined for the standards. For example, compliance with all the standards and using 40 bit SSL encryption could be defined as being "Compliant to GISB version 1.4, weak encryption", while the same situation using 128 bit SSL instead could be defined as "Compliant to GISB version 1.4".

**Sandia Recommendation:** If there are security choices allowed in the standards, define specific titles for the compliance level to the standard.

**GISB Response:** We concur with the finding, the analysis and the recommendation. Specifically, GISB Standard No. 4.3.61 references a requirement to use 40-bit encryption for Customer Activities Web Sites with a strong recommendation to use 128-bit encryption where possible. To implement the recommendation, GISB Standard No. 4.3.61 will be modified to refer to 128-bit encryption only (see response to finding 7.1.7). As such, there is no longer a security choice present in any of the standards that would necessitate specific titles for compliance levels.

## **Conclusion:**

GISB appreciates the time, resources and expertise provided by the U.S. Department of Energy and through its project, Sandia National Laboratories. We believe that this surety assessment and GISB's resulting actions have made our standards stronger and have focused our efforts on security, performance, interoperability and ease of use.

The Sandia National Laboratories report noted that:

“The Assessment Team believes that the GISB EDM Standards provide a valid base mechanism for the use of electronic commerce. The mechanisms provided by the standards, when used in accordance with the standards, afford reasonable protection to the partners. However, we believe there is opportunity for an adversary to affect the system in a negative way, even to the point of forging transactions. With the addition of some incremental security measures, these standards can become more resistant to malicious activity than they currently are today.”

We support the assessment and have made changes in our standards to strengthen them so that electronic transactions using GISB standards are less likely to be vulnerable to electronic attacks. The changes in the standards are accompanied by transactional checks and balances, such as acknowledgements and confirmations, which afford further verification of information traded electronically.



# North American Energy Standards Board

1100 Louisiana, Suite 3625, Houston, Texas 77002

Phone: (713) 356-0060, Fax: (713) 356-0067, E-mail: [naesb@aol.com](mailto:naesb@aol.com)

Home Page: [www.naesb.org](http://www.naesb.org)

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**TO:** Triage Group: Greg Lander, Mike Novak, Tina Patton, Kim Van Pelt, Producer Vacancy  
Posting for Interested Industry Participants  
**FROM:** Rae McQuade, Executive Director  
**RE:** Triage Group Results – Friday, February 15, 2002  
**DATE:** February 15, 2002

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**GAS INDUSTRY STANDARDS BOARD  
TRIAGE GROUP RESULTS  
Friday, February 15, 2002 – 9:00 a.m.**

**1. Administrative**

Mr. Buccigross welcomed attendees and gave antitrust advice. Ms. McQuade and Mr. Johnson described request R02001, the subject of the conference call.

**2. New Requests**

**R02001**

**Request:** Submitted by the Department of Energy and Visage Corporation. Strengthen the FTA Agreement to eliminate some weak points and maintain the record that all properly executed FTA Agreements have resulted in payment. The changes are specified in the request including a redlined agreement and a listing of the market participant.

**Discussion:** This is a provisional item on the 2002 Annual Plan. The request is fully developed including a redlined agreement. It was determined to poll the Board members to determine if this request could be started prior to the March 7 meeting in order to make the cutoff for the next version of standards.

**Triage Recommendation:** Send to the Contracts Subcommittee pending Board approval. All were in support of the motion.

**3. Meeting attendees:**

<b>Triage Members:</b>	Mike Novak	National Fuel Gas Distribution
	Kim Van Pelt	CMS Panhandle Eastern Pipe Line
	Tina Patton	Boeing
	Jim Buccigross	8760, Inc.
<b>Requestor:</b>	Will Johnson	Visage Corporation
<b>Administrative:</b>	Rae McQuade	North American Energy Standards Board

**APS Comments  
February 15, 2002**

Subj: APS Proposed Revisions to the Base Contract  
Date: 2/15/02 1:47:25 PM Central Standard Time  
From: Kelly Daly  
To: GISB Office

I reviewed the proposed changes to the Base Contract. I am providing you with APS's comments to those revisions. Other than the items listed below, APS accepts the document as revised and I've attached the GISB with all of the proposed revisions accepted and the items below highlighted within the document. Can you ask GISB to please make these changes?

1. Section 8.2: The proposed addition references Section 15.8. It should actually refer to Section 14.8 (there is no 15.8).
2. Section 10.1: When "Adequate Assurance of Performance" is defined, the proposed addition of "(including the issuer thereof)" does not make sense in that sentence.
3. Section 10.2: The sentence that reads, "shall have the right, at its sole election, to immediately withhold and/or suspend deliveries or payments upon notice and or terminate . . ." APS would like to propose that it say "upon receipt of notice" -- to clarify how much notice.

Thank you,  
Lisa  
Lisa J. Williams  
Pinnacle West Marketing & Trading  
Contract Development Analyst  
Telephone: (602) 250-3532  
Fax: (602) 371-5253

**GAS EDI COMMENTS  
PROVIDED FEBRUARY 15, 2002**

Subj: NAESB Contract for Industry Comment  
Date: 2/15/02 4:13:25 PM Central Standard Time  
From: Ian Anderson  
To: NAESB Office

Hi, Everyone

After a very extensive review of the New NAESB Contract, I wish to offer the following:

1. Page 1: Need to add "Page 1 of 10" as part of the footer – because Section 2.2 includes the words "page one".
2. Page 1: The sentence just above the box reads "In the event the parties fail to check a box, the default provision for each section shall apply." But - there is no default for Section 14.5. Don't know what to suggest.
3. Clean up the Page # of 10 in the footers.
4. The Canadian Addendum needs the following added to Page 1:  
Delete Section 2.1 and replace it with the following:  
2.1. "Alternative Damages" shall mean such damages, expressed in United States dollars or United States dollars per MMBtu, or Canadian dollars or Canadian dollars per GJ, as the parties shall agree upon in the Transaction Confirmation, in the event either Seller or Buyer fails to perform a Firm obligation to deliver Gas in the case of Seller or to receive Gas in the case of Buyer.

I am attaching a revised Canadian Addendum. Otherwise, I think it looks fantastic!

Have a great day ... Ian

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Ian Anderson, PEng, MBA | I. S. Anderson & Associates Limited  
Business Reengineering | e-Business | e-Commerce  
100 - 1039 - 17 Avenue SW, Calgary, Alberta, Canada T2T 0B2  
Tel: 403-243-1079 | Fax: 403-243-0546 | <http://www.isanderson.com>  
Cell: 403-860-5941 | <mailto:ian@isanderson.com>

# Base Contract for Sale and Purchase of Natural Gas

## Canadian Addendum

This Canadian Addendum ("Canadian Addendum") is entered into as of the following date: \_\_\_\_\_.

The parties to this Canadian Addendum are the following:

\_\_\_\_\_ and \_\_\_\_\_  
\_\_\_\_\_  
Duns Number \_\_\_\_\_ Duns Number \_\_\_\_\_  
Base Contract Number \_\_\_\_\_ Base Contract Number \_\_\_\_\_  
Base Contract Date \_\_\_\_\_ Base Contract Date \_\_\_\_\_  
U.S. Federal Tax ID Number \_\_\_\_\_ U.S. Federal Tax ID Number \_\_\_\_\_  
Canadian GST Number \_\_\_\_\_ Canadian GST Number \_\_\_\_\_

IN WITNESS WHEREOF, the parties hereto agree to the terms and conditions set forth herein and have executed this Canadian Addendum in duplicate.

Party \_\_\_\_\_ Party \_\_\_\_\_  
By \_\_\_\_\_ By \_\_\_\_\_  
Name \_\_\_\_\_ Name \_\_\_\_\_  
Title \_\_\_\_\_ Title \_\_\_\_\_

**Addendum:** This Canadian Addendum constitutes an Addendum to that certain Base Contract for Sale and Purchase of Natural Gas, as identified above, between the parties ("Base Contract"), and supplements and amends the Base Contract affecting transactions thereunder. Unless amended herein, the Base Contract continues to apply. Capitalized terms used in this Canadian Addendum which are not herein defined will have the meanings ascribed to them in the Base Contract. In the event of a conflict between the terms of this Canadian Addendum and the Base Contract, the terms of this Canadian Addendum shall apply.

**Term:** This Canadian Addendum shall be effective from and after the date on which it is entered into and continue in effect until terminated by either party upon 30 Days' written Notice to the other party; provided, however, that this Canadian Addendum may not be terminated prior to the expiration of the latest Delivery Period of any transactions previously agreed to by the parties which are subject to this Canadian Addendum. The obligation to make payment hereunder, including any related adjustments, shall survive the termination of this Canadian Addendum.

The parties hereby agree to the following provisions. In the event the parties fail to check a box, the default provision for each section shall apply. **Select only 1 box from each section:**

**Section 2.26: Spot Price Publication: Delete the selection made on the cover page of the Base Contract and replace it with the following:**

- Canadian Gas Price Reporter (default if the Delivery Point is in Canada)
- Gas Daily Midpoint (default if the Delivery Point is in the United States)
- \_\_\_\_\_

**Section 10.4: Termination Currency**

- U. S. Dollars (default)
- Canadian Dollars
- \_\_\_\_\_

**Section 14.5: Choice of Law: If a selection is made herein, delete the selection made on the cover page of the Base Contract and replace it with the following:**

- \_\_\_\_\_

**Delete Section 2.1 and replace it with the following:**

2.1 "Alternative Damages" shall mean such damages, expressed in United States dollars or United States dollars per MMBtu, or Canadian dollars or Canadian dollars per GJ, as the parties shall agree upon in the Transaction Confirmation, in the event either Seller or Buyer fails to perform a Firm obligation to deliver Gas in the case of Seller or to receive Gas in the case of Buyer.

**Delete Section 2.4 and replace it with the following:**

2.4 "Business Day" shall mean any day except Saturday, Sunday, or a statutory or banking holiday observed in the jurisdiction specified pursuant to Section 14.5. A Business Day shall open at 8:00 a.m. and close at 5:00 p.m. local time for the relevant party's principal place of business. The relevant party, in each instance unless otherwise specified, shall be the party to whom the Notice is being sent and by whom the Notice is to be received.

**Delete Section 2.8 and replace it with the following:**

2.8 "Contract Price" shall mean, if the Delivery Point is in the United States, the amount expressed in U.S. Dollars per MMBtu or, if the Delivery Point is in Canada, the amount expressed in Canadian Dollars per GJ, unless specified otherwise in a transaction, to be paid by Buyer to Seller for the purchase of Gas as agreed to by the parties in a transaction.

**Add the following as Section 2.30:**

2.30 "GJ" shall mean 1 gigajoule; 1 gigajoule = 1,000,000,000 Joules. The standard conversion factor between Dekatherms and GJ's is 1.055056 GJ's per Dekatherm.

**Add the following as Section 2.31:**

2.31 "Joule" shall mean the joule specified in the SI system of units.

**Add the following as Section 2.32:**

2.32 "Termination Currency Equivalent" shall mean, in respect of any amount denominated in a currency other than the Termination Currency (the "Other Currency"), the amount in the Termination Currency that the Non-Defaulting Party would be required to pay, on the Early Termination Date, to purchase such amount of Other Currency for spot delivery, as determined by the Non-Defaulting Party in a commercially reasonable manner.

**Delete Section 5 and replace it with the following:**

All Gas delivered by Seller shall meet the pressure, quality and heat content requirements of the Receiving Transporter. The unit of quantity measurement for purposes of this Contract shall be one MMBtu dry or one GJ, as agreed to by the parties in a transaction. Measurement of Gas quantities hereunder shall be in accordance with the established procedures of the Receiving Transporter.

**Add the following to Section 6:**

**Sections 6.2, 6.3 and 6.4 apply if the Delivery Point is in Canada.**

6.2 The Contract Price does not include any amounts payable by Buyer for the goods and services tax ("GST") imposed pursuant to the Excise Tax Act (Canada) ("ETA") or any similar or replacement value added or sales or use tax enacted under successor legislation. Notwithstanding whether the parties have selected "Buyer Pays At and After Delivery Point" or "Seller Pays Before and At Delivery Point" as indicated on the Base Contract, Buyer will pay to Seller the amount of GST payable for the purchase of Gas in addition to all other amounts payable under the Contract. Seller will hold the GST paid by Buyer and will remit such GST as required by law. Buyer and Seller will provide each other with the information required to make such GST remittance or claim any corresponding input tax credits, including GST registration numbers.

6.3 Where Buyer indicates to Seller that Gas will be exported from Canada, the following shall apply:

6.3.1 Where Buyer is not registered for GST under the ETA and Buyer indicates to Seller that Gas will be exported from Canada, Buyer may request Seller treat such Gas as "zero-rated" Gas for export within the meaning of the ETA for billing purposes. If Seller, in its sole discretion, agrees to so treat such Gas, then Buyer hereby declares, represents and warrants to Seller that Buyer will: (i) export such Gas as soon as is reasonably possible after Seller delivers such Gas to Buyer (or after such Gas is delivered to Buyer after a zero-rated storage service under the ETA) having regard to the circumstances surrounding the export and, where applicable, normal business practice; (ii) not acquire such Gas for consumption or use in Canada (other than as fuel or compressor gas to transport such Gas by pipeline) or for supply in Canada (other than to supply natural gas liquids or ethane the consideration for which is deemed by the ETA to be nil) before export of such Gas; (iii) ensure that, after such Gas is delivered and before export, such Gas is not further processed, transformed or altered in Canada (except to the extent reasonably necessary or incidental to its transportation and other than to recover natural gas liquids or ethane from such Gas at a straddle plant); (iv) maintain on file, and provide to Seller, if required, or to the Canada Customs and Revenue Agency, evidence satisfactory to the Minister of National Revenue of the export of such Gas by Buyer; and/or (v) comply with all other requirements prescribed by the ETA for a zero-rated export of such Gas.

6.3.2 Where Buyer is registered for GST under the ETA and Buyer indicates to Seller that Gas will be exported from Canada, Buyer may request Seller treat such Gas as "zero-rated" Gas for export within the meaning of the ETA for billing purposes, and Buyer hereby declares, represents and warrants to Seller that Buyer intends to export such Gas by means of pipeline or other conduit in circumstances described in Section 6.3.1 (i) to (iii).

6.3.3 Without limiting the generality of Section 8.3, Buyer indemnifies Seller for any GST, penalties and interest and all other damages and costs of any nature arising from breach of the declarations, representations and warranties contained in Section 6.3.1 or 6.3.2, or otherwise from application of GST to Gas declared, represented and warranted by Buyer to be acquired for export from Canada.

6.4 In the event that any amount becomes payable pursuant to the Contract as a result of a breach, modification or termination of the Contract, the amount payable shall be increased by any applicable Taxes or GST remittable by the recipient in respect of that amount.

**Delete Section 7.5 and replace it with the following:**

7.5 If the invoiced party fails to remit the full amount payable when due, interest on the unpaid portion shall accrue from the date due until the date of payment at a rate equal to the lower of: (i) if the amount payable is in United States currency, the then-effective prime rate of interest published under "Money Rates" by The Wall Street Journal, plus two percent per annum; or, if the amount payable is in Canadian currency, the per annum rate of interest identified from time to time as the prime lending rate charged to its most credit worthy customers for Canadian currency commercial loans by The Toronto Dominion Bank, Main Branch, Calgary, Alberta, Canada, plus two percent per annum; or (ii) the maximum applicable lawful interest rate.

**Delete Section 7.7 and replace it with the following:**

7.7 Unless the parties have elected on the Base Contract not to make this Section 7.7 applicable to this Contract, the parties shall net all undisputed amounts due and owing, and/or past due, in the same currency, arising under the Contract such that the party owing the greater amount shall make a single payment of the net amount to the other party in accordance with Section 7; provided that no payment required to be made pursuant to the terms of any Credit Support Obligation or pursuant to Section 7.3 shall be subject to netting under this Section. If the parties have executed a separate netting agreement, the terms and conditions therein shall prevail to the extent inconsistent herewith.

**Add the following as Section 7.8:**

7.8 For each transaction, all associated payments shall be made in the currency of the Contract Price for such transaction.

**Add the following as Section 10.3.4:**

10.3.4 The Non-Defaulting Party shall use the Termination Currency Equivalent of any amount denominated in a currency other than the Termination Currency in performing any netting, aggregation or setoff required or permitted by Section 10.3.1 or 10.3.2.

**Delete Section 10.4 and replace it with the following:**

10.4. As soon as practicable after a liquidation, Notice shall be given by the Non-Defaulting Party to the Defaulting Party of the Net Settlement Amount, and whether the Net Settlement Amount is due to or due from the Non-Defaulting Party. The Notice shall include a written statement explaining in reasonable detail the calculation of such amount, provided that failure to give such Notice shall not affect the validity or enforceability of the liquidation or give rise to any claim by the Defaulting Party against the Non-Defaulting Party. The Net Settlement Amount shall be paid, in the Termination Currency, by the close of business on the second Business Day following such Notice, which date shall not be earlier than the Early Termination Date. Interest on any unpaid portion of the Net Settlement Amount shall accrue from the date due until the date of payment at a rate equal to the lower of: (i) if the amount payable is in United States currency, the then-effective prime rate of interest published under "Money Rates" by The Wall Street Journal, plus two percent per annum; or, if the amount payable is in Canadian currency, the per annum rate of interest identified from time to time as the prime lending rate charged to its most credit worthy customers for Canadian currency commercial loans by The Toronto Dominion Bank, Main Branch, Calgary, Alberta, Canada, plus two percent per annum; or (ii) the maximum applicable lawful interest rate.

**Delete Section 10.5 and replace it with the following:**

10.5 The parties agree that the transactions hereunder constitute a "forward contract" within the meaning of the United States Bankruptcy Code and that Buyer and Seller are each "forward contract merchants" within the meaning of the United States Bankruptcy Code. The parties also agree that the transactions hereunder constitute an "eligible financial contract" within the meaning of the Bankruptcy and Insolvency Act (Canada) and the Companies Creditors Arrangements Act (Canada), and similar Canadian legislation.

**Delete Exhibit A ("Transaction Confirmation") and replace it with the following:**



**Husky Energy Comments**  
**February 11, 2002**

Subj: GISB Contract  
Date: 2/11/02 2:39:02 PM Central Standard Time  
From: Pat Cradock  
To: Naesb Office

I wish to make a suggested change to the current version of the GISB Contract, now under renegotiation. Section 11.5 states that in an event of force majeure the affected party may give notice to the other party orally, followed by written notification. However, it goes on to state that upon receipt of the written notification, the obligations of the parties are suspended.

This is not correct, in that as soon as oral notification has been given, obligations are suspended. There is still the requirement to submit written notice. This is the way it works in practice, and everyone I deal with acknowledges that the wording is incorrect, so we all have to deal with it in Special Provisions. It would be much appreciated if this change could be made to the revised version.

Thank you,  
Pat Cradock

## **COMMENTS OF NATIONAL FUEL GAS DISTRIBUTION (NFGD)**

NFGD cannot support use of the proposed Modified Base Contract for its long-term purchase transactions. There are many LDCs with the same position as evidenced by the comments received to date. NFGD does recognize that there are many parties that wish to use the Base Agreement for periods longer than 30 days and does not object to the contracting preferences of those parties.

NFGD is extremely troubled by those in the industry referring to the modified contract as the “new GISB Long-Term Contract”. The Modified Base Contract was developed under an Annual Plan Line Item “Contracts Request No. R98019 – Development of a Standard/Model Long Term Base Contract for Purchase and Sales of Natural Gas.” Based up discussions with several proponents of the Modified Base Contract, most parties did understand the concerns raised by LDCs and other concerning long-term contracting issues. Those parties pointed out that by not specifying whether the contract was short-term or long-term, that such a label was a matter between the contracting parties. They further suggest that the Modified Base Contract is permissive of amendments and/or special terms and provisions to remedy Delivery Period concerns.

So long as some parties refer to the Base Contract as the “GISB Long-Term Contract”, there will be a perception that those parties desiring to continue use of their Master Gas Purchase and Sales agreements for long-term transactions are somewhat outside the industry norm. NFGD believes that the proper intent of the Base Contract is reflected by adding the following to the “Frequently Asked Questions” document associated with the Base Contract:

### **Is the contract a short-term or long-term agreement?**

Neither. This contract is clearly identified as a “Base Contract” which is intended to carry no presumption with respect to its appropriate uses. While the predecessor to the Base Contract, which was identified as “Short Term Base Contract,” was intended for use as a short-term (one month or less) agreement, this current contract is specifically vague to indicate that it may be used for short or longer Delivery Period. Due to the fact that there is no industry standard definition for “long-term” or “short-term”, there is considerable divergence of opinion as to terms & conditions suitable for that length of Delivery Period. A contract term that is longer than 30 days does not necessarily imply that the agreement is a long-term contract. It is therefore envisioned that the Buyer and Seller will negotiate amendments and/or special terms and provisions to the Base agreement to meet their mutual needs for the contracted Delivery Period.

**PECO/Exelon Comments**  
**February 4, 2002**

From: Bill Oppenheim  
Sent: Monday, February 04, 2002 3:13 PM  
To: Cary Metz, Contracts Subcommittee Chair  
Subject: Base Contract Addendums

I want to let you know what I am working on regarding the Base Contract. I am putting together for your and the subcommittee's review an addendum addressing the Termination Rights of the buyer and seller as it relates to non-performance and regulatory agency disallowance of the pass through of gas costs. I am also working on a Force Majeure Addendum, which takes what the subcommittee has proposed and tightens it up for use by the LDCs in this contract.

Two specific comments on the proposed Force Majeure section (Section 11):

1. 11.2, 5th line - "entire geographic region" needs to be defined as we would all have a different interpretation as to what this means. We should define this term.
2. 11.2, (v) - we added, "policy having the effect of law". We are not sure what this means (having the effect of law) and want just the word "policy" added here.