



**GAS INDUSTRY STANDARDS BOARD  
EXECUTIVE COMMITTEE MEETING  
Meeting Materials  
August 23, 2001**

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**Gas Industry Standards Board  
Executive Committee Meeting  
August 23, 2001**



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**1. Welcome and Opening Remarks**

- The GISB organization thanks Dominion and Iris King and Mike Shahan for coordinating and sponsoring this meeting. The meeting specifics are:  
  
WHERE:                    Dominion Towers  
                              625 Liberty Avenue  
                              Pittsburgh, PA 15222  
  
WHEN:                    Thursday, August 23, 2001  
                              9:00 a.m. to 4:00 p.m. Eastern  
  
CONTACTS:              Phone:            713-356-0060 (Veronica Thomason)  
                              Phone:            304-627-3213 (Iris King)  
                              Phone:            304-627-3523 (Mike Shahan)
- The chairman may elect to extend the hours of the meeting if more time is required to complete the agenda.
- For further assistance please reach:  
  
                              Veronica Thomason at        (713) 356 - 0060
- The officers presiding over the Executive Committee meeting are:  
  
                              Jim Buccigross                - Chairman  
                              Mike Novak                    - Vice Chairman  
                              Rae McQuade                 - Executive Director  
                              Jay Costan                    - General Counsel
- Transcripts will be available and can be ordered either during the meeting, or by contacting the GISB office after the meeting for further information, 713-356-0060.



# Gas Industry Standards Board

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## GAS INDUSTRY STANDARDS BOARD 2001 BOARD TERMS

<b>End User Segment</b>		<b>Term End:</b>
Lee Smith	Vice President Energy Supply and Marketing, Midland Cogeneration Venture	Dec 31, 2001
Paul Karns	Director, Contracts & Regulatory, Energy Marketing and Trading Division, Florida Power and Light	Dec 31, 2001
Vacancy		Dec 31, 2001
Janie Mitcham	Vice President, Fuel and Energy Management, Reliant Energy	Dec 31, 2002
Jim Templeton	Principal, Comprehensive Energy Services	Dec 31, 2002
<b>LDC Segment</b>		<b>Term End:</b>
<b>Bill Boswell</b>	Assistant Secretary, Dominion	Dec 31, 2001
Adrian Chapman	Vice President, Regulatory Affairs & Energy Acquisitions, Washington Gas Light Company	Dec 31, 2001
Reed Horting	Vice President, Gas Supply & Transportation, PECO Energy Co.	Dec 31, 2001
Walt DeForest	Senior Vice President, National Fuel Gas Distribution	Dec 31, 2002
Lee Stewart	President, Energy Transportation Services, Southern California Gas Co	Dec 31, 2002
<b>Pipeline Segment</b>		<b>Term End:</b>
Terry McGill	President, Columbia Gulf Transmission	Dec 31, 2001
John Somerhalder	President, El Paso Energy Pipeline Group	Dec 31, 2001
Stan Horton	Chairman & CEO, Enron Transportation Services Company	Dec 31, 2001
Ron Mucci	Senior Vice President Shared Services, Williams Gas Pipeline	Dec 31, 2002
Richard Kruse	Senior Vice President, Duke Energy Gas Transmission	Dec 31, 2002
<b>Producer Segment</b>		<b>Term End:</b>
William T. Benham	Vice President, Regulatory Affairs, BP Amoco Natural Gas Group	Dec 31, 2001
Allan Knopp	Director, Regulatory Affairs, Conoco	Dec 31, 2001
Nancy Laird	Senior Vice President, Marketing and Midstream, PanCanadian Petroleum Ltd.	Dec 31, 2001
Abigail Bailey	Regulatory Manager, Texaco Natural Gas	Dec 31, 2002
Stan Hemmeline	Manager, North America - West, ExxonMobil Gas Marketing Company	Dec 31, 2002
<b>Services Segment</b>		<b>Term End:</b>
<b>Julie Gomez</b>	Vice President, Enron North America	Dec 31, 2001
Greg Lander	Principal, CapacityCenter.com	Dec 31, 2001
Rick Lentz	Senior Vice President of Business Transformation, TXU Energy Trading	Dec 31, 2002
Lyn Maddox	President & CEO, PG&E Energy Trading	Dec 31, 2002
Marty Patterson	Senior Vice President, IDACORP Energy	Dec 31, 2002

Bill Boswell is 2001 chairman of the Board of Directors, Hugh Roberts was first vice-chair, and Julie Gomez is second vice-chair and treasurer. Rae McQuade as Executive Director serves as secretary.



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### GAS INDUSTRY STANDARDS BOARD 2001 EXECUTIVE COMMITTEE TERMS

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<b>End User Segment</b>		<b>Term Ending:</b>
Diane McVicker	Principal, Fuel Supply Analyst, Salt River Project	Dec 31, 2002
Bill Hebenstreit	Vice President Contract Services, El Paso Merchant Energy	Dec 31, 2002
Kelly Daly	Partner, Morrison & Hecker, rep. Arizona Public Service Co.	Dec 31, 2001
Dona Gussow	Contracts Coordinator, Florida Power and Light	Dec 31, 2003
Tina Patton	Natural Gas Operations Administrator, Boeing	Dec 31, 2003
<b>LDC Segment</b>		<b>Term Ending:</b>
Rodger Schwecke	Senior Pipeline Products Manager, Southern California Gas	Dec 31, 2002
Dolores Chezar	Manager, Federal Regulation, KeySpan Energy	Dec 31, 2002
Chris Maturo	Manager, Energy Access System Project, NIPSCO Industries	Dec 31, 2001
Mike Novak	Assistant General Manager, National Fuel Gas Distribution	Dec 31, 2003
Steve Sullivan	Regulatory Manager of Gas Supply, Consolidated Edison of NY	Dec 31, 2003
<b>Pipeline Segment</b>		<b>Term Ending:</b>
Mark Gracey	Consultant - Business Processes, Tennessee Gas Pipeline Co.	Dec 31, 2002
Bill Griffith	Director, Transmission & Storage, Colorado Interstate Gas Co.	Dec 31, 2002
Dale Davis	Team Leader, Williams Gas Pipelines	Dec 31, 2001
Theresa Hess	Manager, Enron Transportation Services	Dec 31, 2003
Kim Van Pelt	GISB Coordinator, CMS Panhandle Eastern Pipeline	Dec 31, 2003
<b>Producer Segment</b>		<b>Term Ending:</b>
Lauren Kaestner	Regulatory Consultant, BP Amoco	Dec 31, 2002
Paul Keeler	Managing Attorney, Marketing, Burlington Resources	Dec 31, 2002
Scott Brown	Manager, Supply & Transportation Support, Marathon Oil	Dec 31, 2001
Richard Smith	Director, Regulatory Affairs, ExxonMobil	Dec 31, 2003
Michael Johnson	Area Manager-Transportation and Regulatory, Chevron	Dec 31, 2003
<b>Services Segment</b>		<b>Term Ending:</b>
Mark Scheel	Manager Governmental Affairs, Dynegy Inc.	Dec 31, 2002
Carl Caldwell	Director, Consulting Services, CGI	Dec 31, 2002
Sylvia Munson	CIO, PanCanadian Energy Services	Dec 31, 2001
Jim Buccigross	Vice President, Group 8760	Dec 31, 2003
Keith Sappenfield	Director Marketing Support, Reliant Energy	Dec 31, 2003

**Gas Industry Standards Board  
2001 Calendar  
For Board and Executive Committee Meetings  
And GISB Courses and Work Shops**

**EC Meeting Dates**<sup>1</sup>

Thursday, February 22 - Houston, hosted by Reliant Energy  
Thursday, April 19 - Washington DC, hosted by the American Gas Association  
Thursday, June 14 - Seattle, hosted by Boeing  
Thursday, August 23 - Pittsburgh, hosted by Dominion  
Thursday, October 11 - Colorado Springs, hosted by Colorado Interstate Gas  
Thursday, December 13 - New York City, hosted by KeySpan Energy

**Board Meeting Dates**

Thursday, March 1 - Houston  
Thursday, June 28 - Houston  
Wednesday, September 19 - Houston  
Wednesday, December 5 - Houston

**Courses and Work Shops**<sup>2</sup>

Oct 23-26 - Version 1.5 Standards, Houston  
November 1 - Contracts, Houston

**Annual Meeting 2001**

September 20-21 - Houston, Texas

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<sup>1</sup> The Executive Committee may choose to schedule conference calls for the months that do not already have scheduled meetings.

<sup>2</sup> The courses and work shops may offer continuing education credits (CLE, CPE).



**GAS INDUSTRY STANDARDS BOARD  
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**1. Antitrust Guidelines**

- The antitrust guidelines will be covered. The points are:  
Antitrust guidelines direct meeting participants to avoid discussion of topics or behavior that would result in anti-competitive behavior including: restraint of trade and conspiracies to monopolize, unfair or deceptive business acts or practices, price discriminations, division of markets, allocation of production, imposition of boycotts, and exclusive dealing arrangements.



**GAS INDUSTRY STANDARDS BOARD  
EXECUTIVE COMMITTEE MEETING  
Meeting Materials  
August 23, 2001**

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**1. Adoption of Agenda**

- The proposed agenda, attached, has been distributed and is available on GISB's home page.
- **The Executive Committee is requested to review the agenda, suggest changes if needed, and vote to adopt the agenda.**



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**TO:** GISB Executive Committee Members & Alternates, Posting for Interested Industry Participants  
**FROM:** Rae McQuade, Executive Director  
**RE:** Draft Agenda for Executive Committee Meeting - August 23, 2001  
**DATE:** August 15, 2001

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

**Hosted by Dominion**

**Pittsburgh, Pennsylvania**

**Thursday, June 14, 2001 - 9:00 a.m. to 4:00 p.m. Pacific Time**

#### **MEETING ANNOUNCEMENT**

The Executive Committee (EC) will meet in Pittsburgh on August 23, 2001. The EC meeting is graciously hosted by Dominion at their offices, coordinated by Ms. Iris King and Mr. Mike Shahan. Below are the meeting arrangements:

**WHERE:** Dominion Towers  
625 Liberty Avenue  
Pittsburgh, PA 15222

**WHEN:** Thursday, August 23, 2001  
9:00 a.m. to 4:00 p.m. Eastern

The materials for the meeting will be emailed to the participants and posted on the web site. The meeting announcement including a list of nearby hotels was forwarded electronically and posted earlier.

**Please notify the GISB office by Tuesday, August 21** of your intent to attend so that appropriate meeting arrangements can be made. As always, the chair reserves the right to extend the time of the meeting to ensure that agenda items are addressed. The times indicated on the agenda will be followed to ensure that agenda items are allotted appropriate time slots. Should an agenda item conclude earlier than its stated time slot, the remaining time can be allotted to other agenda items at the discretion of the chair.

Please feel free to call the GISB office should you have any questions or comments.

Best Regards,

Rae McQuade



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### GAS INDUSTRY STANDARDS BOARD EXECUTIVE COMMITTEE MEETING

Hosted by Dominion

Dominion Towers, 625 Liberty Avenue, Pittsburgh, PA 15222

#### DRAFT AGENDA

Thursday, August 23 - 9:00 a.m. to 4:00 p.m. Eastern

- |            |    |   |
|------------|----|---|
| 9:00 a.m.  | 1. | Welcome <ul style="list-style-type: none"><li>• Antitrust Guidelines</li><li>• Welcome to members and attendees</li><li>• Adoption of Agenda</li><li>• Adoption of Draft Minutes of June 14, 2001</li></ul>   |
| 9:30 a.m.  | 2. | Update on 2001 Annual Plan & Subcommittee Reports <ul style="list-style-type: none"><li>• Business Practices Subcommittee<ul style="list-style-type: none"><li>• Normal Business</li><li>• Order 637 Priority Action Items</li></ul></li><li>• Contracts Subcommittee</li><li>• EDM Subcommittee<ul style="list-style-type: none"><li>• Normal Business</li></ul></li><li>• FTTF Subcommittee<ul style="list-style-type: none"><li>• Normal Business</li></ul></li><li>• Information Requirements Subcommittee<ul style="list-style-type: none"><li>• Normal Business</li><li>• Order 637 Open Issues</li></ul></li><li>• Technical and ANSI Subcommittees<ul style="list-style-type: none"><li>• Normal Business</li><li>• Order 637 Open Issues</li></ul></li><li>• XML Subcommittee<ul style="list-style-type: none"><li>• Review of XML Pilot Project</li></ul></li></ul> |
| 11:00 a.m. | 3. | Discussion and Vote on New Requests   |
| Noon       |    | Lunch   |
| 1:00 p.m.  | 4. | Discussion and Vote on Recommendations for Proposed Standards   |
| 3:00 p.m.  | 5. | Discussion on Process for Publication of Standards Manuals  |
| 3:30 p.m.  | 6. | Other Business  |
| 4:00 p.m.  |    | Adjourn   |



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### LIST OF NEARBY HOTELS

Nearby hotels within walking distance of the Dominion Towers:

- **Omni William Penn**, 530 William Penn Way      Phone:      412-281-7100
- **Westin Convention Center**, 1000 Penn Avenue      Phone:      412-281-3700
- **Renaissance**, 107 6<sup>th</sup> Street      Phone:      412-562-1200
- **Hilton**, 600 Commonwealth Plaza      Phone:      412-391-4600



**GAS INDUSTRY STANDARDS BOARD  
EXECUTIVE COMMITTEE MEETING  
Meeting Materials  
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**1. Adoption of Minutes**

- The draft minutes of June 14 are posted on the home page for review and are included in these materials for vote to adopt.
- The review of the minutes prior to adoption is not intended to provide alternate wording -- rather it is an opportunity to correct grammatical and spelling errors, provide omitted details, provide context for statements and correct misstatements. In this way, the review of the minutes should concentrate on substantive issues and take the minimum of time needed to provide an accurate accounting of the meeting.
- **The Executive Committee is requested to review the draft minutes, suggest additional changes if needed, and vote to adopt as minutes of the meetings.**



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**TO:** Executive Committee (EC) Members  
Posting for Interested Industry Participants

**FROM:** Rae McQuade, Executive Director

**RE:** Draft Minutes<sup>1</sup> from the Executive Committee (EC) Meeting - June 14, 2001

**DATE:** June 16, 2001

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**GAS INDUSTRY STANDARDS BOARD**  
**GISB EXECUTIVE COMMITTEE MEETING**  
**JUNE 14, 2001**  
**DRAFT MINUTES**

### 1. Administrative

Mr. Novak welcomed the Executive Committee (EC) to the meeting, and thanked Boeing and Ms. Patton for sponsoring the meeting. He expressed sadness at the passing of Mr. Keisler, a friend and colleague to many of the GISB members. Mr. Sappenfield provided the antitrust charge. Ms. McQuade read the roll call. The agenda was modified to add a discussion of the annual meeting under the 'other business' topic. Mr. Hebenstreit made the motion to adopt the modified agenda, which was seconded by Mr. Caldwell, and adopted through unanimous endorsement of the EC. Ms. Chezar made the motion seconded by Mr. Ishikawa to adopt the revised redlined May 8, 2001 minutes with no changes made in the meeting. All were in favor. Ms. Davis made the motion seconded by Mr. Spangler to adopt the May 29, 2001 redlined minutes as amended during the review in the meeting. All were in favor.

### 2. Subcommittee Updates

Ms. Van Pelt gave the update for the Business Practices Subcommittee (BPS). The BPS is in the process of responding to one question from Information Requirements Subcommittee (IR), and expects to have one request forwarded to them as a result of the new request and triage recommendation proposed to the EC today. There are no other items on the backlog.

Ms. McQuade updated the EC on the progress of the contracts Subcommittee. All conceptual language issues have been determined and the drafting team of the subcommittee is developing the language changes to correspond to the conceptual agreements. The drafting team is nearing completion - certainly by the end of this month, after which the redlined contract will be reviewed once more by the subcommittee as a whole before it is sent out for industry comment. One issue to be considered by the group is whether there should be a separate document for the long term contract or should options be added that allow the contract to serve both long term and short term requirements depending on the clauses chosen. The subcommittee is meeting on June 25 to consider the issue of one contract or two and to review the changes to the contract. It is expected that the subcommittee will conclude by the end of the year for both the long and short term contract development.

Ms. Van Pelt provided an update to the Future Technology Task Force (FTTF). At its last meeting, the FTTF was focused on the issues assigned to it in the preparation of the response

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<sup>1</sup> The draft minutes include notational votes received by May 10, but are otherwise unchanged from those prepared on May 8.



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to the Sandia Surety Assessment Report, and in review and update to the minimum technical characteristics of the web sites.

Mr. Whatley provided the update for the IR. Ms. Calcagno has agreed to serve as co-chair of the subcommittee. Mr. Whatley explained that the group is nearing completion on the Order 637 transactional reporting and is now also working on the producer imbalance statement. He expects that the transaction reporting development should conclude in the next two meetings, and the group is awaiting a response from the BPS. Ms. Hess was thanked by Ms. Davis for her assistance in leading the group in May and June. The group has outstanding Order 637 issues and other requests that were assigned to it.

Ms. Van Pelt reviewed the progress to date in the Technical Subcommittee and the ANSI Subcommittee. The Technical Subcommittee is working on the storage report, and the ANSI Subcommittee has outstanding code value approvals for several documents including Measurement Information, Measurement Audit Statement, and Pre-Determined Allocation.

Ms. Van Pelt also reviewed the progress of the XML subcommittee. It has finished the structure for the short term purchase and sale contract and is waiting for the pilot testers to use the structure. Reliant Energy and PanCanadian have agreed to participate in the pilot. Ms. Garcia asked that others consider participation in the pilot to provide additional information on the use of XML. The subcommittee is also working on the development of the structure for the Scheduled Quantity document as the phase 2 of the pilot testing. Ms. Van Pelt noted that it is unclear how the OASIS effort relates to our XML development activities.

In response to a question from Ms. Chezar on the development of standards for energy day, it is considered a provisional activity and would probably not be addressed until the EISB consideration concludes and a request is prepared.

Each of the annual plan items was reviewed to ensure completeness. The Order 637 development plan was reviewed with the results shown below. Specifically, follow-up actions are needed for items 11a (Ms. Van Pelt), and 14 and 16 (Mr. Caldwell). Ms. Van Pelt and Mr. Caldwell will take follow up actions prior to the next EC meeting. The status follows:

Category/Action Item	Assignment	Priority
<b>Capacity Release:</b>		
1. Review timelines for modifications including accommodation of intraday or partial day capacity releases (Affects GISB Standard No. 5.3.2 and related interpretations). <b>Status:</b> Three standards are outstanding awaiting a FERC response. One item in IR. (BPS 6)	BPS	6
2. Review elimination of the restrictions on partial day recalls (Affects GISB Standard Nos. 5.3.6, 5.3.7). <b>Status:</b> See above.	BPS	6
3. Change data sets to accommodate rates in excess of TSP's max rate. (Affects GISB Standard Nos. 5.4.1, 5.4.2, 5.4.7, 5.4.8, 5.4.9). <b>Status:</b> Complete, and will be present in version 1.5.	BPS	1
<b>Imbalance Netting &amp; Trading</b>		
4. Develop imbalance netting and trading data sets and web site display. <b>Status:</b> The web display is complete, and will be present in version 1.5. The EDI development is assigned to IR and is a lower priority than the other Order 637 development.	EDD	Already underway

### Timely Imbalance Information



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Category/Action Item	Assignment/Priority
5. Review the EC adopted standards (1999AP7, R97117 & R97118) resulting from the imbalance netting and trading standards to identify any potential inconsistencies with Order No. 637, including any additional provisions needed to accommodate Order No. 637 requirements. Also review possible web site display. <b>Status:</b> Complete, and no changes were needed.	IMB 1
<b>Balancing Services</b>	
6. Prepare a list of imbalance related code values. <b>Status:</b> Complete, and the list was used to prepare the technical implementation of business process section of version 1.5 of the standards manual.	IR 1
7. Accommodate 3rd party balancing services interaction with TSPs. <b>Status:</b> Complete, see item 4.	BPS 8
<b>Transactional Reporting</b>	
8. Review award data set codes and structure for firm and interruptible transportation (FT and IT) reporting (Affects GISB Standard No. 5.4.3). <b>Status:</b> Substantially complete. IR is working on the data sets and the web visual display is pending. Once IR is complete, the work will transfer to the Technical Subcommittee before it is considered fully staffed.	BPS 3
9. Accommodate visual display web pages for FT and IT reporting. <b>Status:</b> See item 8 above.	BPS 4
10. Review and establish a timeline for posting. <b>Status:</b> Complete, no activity needed as the FERC established the deadlines.	BPS 9
<b>Data and Visual Display</b>	
11a. Accommodate D-U-N-S® Number and name in Internet postings and their corresponding downloadable files. Add the field for the name in the Internet postings and downloadable files. <b>Status:</b> Incomplete. BPS sent a request to the EDD subcommittee. Ms. Van Pelt will investigate the BPS issue and forward the request to the GISB office for it to send on to the EDD subcommittee for action.	IR 3
11b. Accommodate D-U-N-S® Number and name in Internet postings and their corresponding downloadable files. Determine what information goes into the data element – either D&B name or TSP name. <b>Status:</b> Complete, and changes are present in version 1.5.	COMCD 1
12. Inventory usage or accommodation of agents in existing data sets. <b>Status:</b> Complete, and changes are present in version 1.5.	IR 2
13. Review the method for collecting information on the releasing shipper's relationship to the acquiring shipper. <b>Status:</b> BPS has completed its development work and has forwarded the request to IR for its review.	BPS 5
<b>Organizational Postings</b>	
14. Determine placement/navigation for the organizational postings	EDM 1



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Category/Action Item	Assignment/Priority
within the Informational Postings section of web sites <b>Status:</b> Unclear. EDM Subcommittee has completed the work, but it is unclear if the work was sent out for industry comment and brought before the EC for vote. Mr. Caldwell will investigate the status.	
<b>Operationally Available Capacity</b>	
15. Review the EC adopted standards resulting from request no. R99033 to identify inconsistencies with FERC Order No. 637. <b>Status:</b> Complete, and addressed in changes for R99033. It will be present in version 1.5.	BPS 2
16. Document the extent to which existing informational postings requirements address planned and actual service outages. <b>Status:</b> Unclear. Mr. Caldwell will follow-up and provide an update.	EDM 2
17. Accommodate increased frequency of posting for operationally available capacity. <i>(To be addressed together with item XV).</i> <b>Status:</b> Complete, see item 15.	BPS 2
<b>Index of Customers</b>	
18. Correctly reflect the FERC order reference and section number (GISB Standard No. 4.3.16) and data element ordering (GISB Standard No. 4.3.35). <b>Status:</b> Complete, and will be in version 1.5.	BPS
<b>Operational Flow Orders</b>	
19. Accommodate reporting of the reasons for and the severity of outages. To accommodate the reporting, there are two issues: (1) where the OFO reporting is placed on the web site and (2) whether the report is standardized for reasons of outage and severity or whether the report is textual (i.e. through the existing informational postings). <b>Status:</b> Complete, no activity required.	BPS 7

In the update of the EDM Subcommittee, the subcommittee has been focused exclusively to the response to the Sandia Surety Assessment Report. Mr. Spangler reviewed each item of the draft response to the Sandia surety Assessment Report, and gave a detailed introduction to the recommendation. The document is set up as an audit and audit response. After the review, the recommendation will be altered to include reference to request no. R00001. The recommendation will be sent out for industry comment and discussed and considered at the August EC meeting. The report itself will not be sent to the Department of Energy until after the EC has acted in voting on the standards and standards changes, the membership has ratified the actions of the EC, and the Board and Editorial Review Board has agreed to send the report.

### 3. New Requests

#### R01015 Request:

Submitted by Enron Transportation Services to add two Reduction Reason code values ("allocation reason due to downstream constraint" and "allocation reason due to upstream constraint") to the Confirmation Response (1.4.4), Scheduled Quantity (1.4.5) and Scheduled Quantity for Operator (1.4.6) datasets. The Reduction Reason code values will be used to communicate a reduction in



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nominated quantities resulting from a capacity allocation based on the total quantity at a location received from an upstream or downstream confirming party. These additional code values will allow Enron to provide shippers and operators with a clear explanation of the reason for reduction in nominated quantities.

**Triage Recommendation:**

Send the request to the BPS to be addressed in the normal course of business.

**Discussion:**

Ms. Chezar asked a few questions regarding this request. As the submitter of the request, Ms. Hess responded that she was unaware of the need for other pipelines to use the codes specified in the request. The request was forwarded to provide additional information to Enron's customers. In the past, GISB has passed standards that applied to only one pipeline or to a limited number of pipelines.

**EC Action:**

The motion to find the request in scope was made by Mr. Hebenstreit and seconded by Ms. Davis. All found the request within scope. Ms. Patton made the motion seconded by Ms. Chezar to send the request to BPS to be addressed in the normal course of business. The motion passed unanimously.

#### 4. New Standards

**R98035A Recommendation:**

Decline the request to modify the confirmation data sets to accommodate sending of pre-limit quantities.

**Discussion:**

Ms. Van pelt described the request.

**EC Action:**

The procedural motion was made by Ms. Davis and seconded by Mr. Griffith to adopt the recommendation. The motion passed, (see the voting record in section 7 of these minutes, under column "M1").

**R98044 Recommendation:**

From the EII Task Force (November 2 - 4, 1998 - noted as IR5). Add the data element 'Estimated BTU' to the Scheduled Quantity for Operator, and revise GISB Standard No. 1.3.63 to include the new data element.

**Discussion:**

Ms. Van pelt described the request.

**EC Action:**

The motion was made by Ms. Davis and seconded by Mr. Hebenstreit to adopt the recommendation. The motion passed, (see the voting record in section 7 of these minutes, under column "M2").

**R98061 Recommendation:**

Decline the request to create new standard nominations related data sets to allow No-Notice Transportation (NNT) shippers to request authorization for



## Gas Industry Standards Board

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overrun deliveries under their NNT contracts, and determine the applicability of such functionality on the Customer Activities Web Page.

**Discussion:**

Ms. Van pelt described the request.

**EC Action:**

The procedural motion was made by Ms. Davis and seconded by Mr. Hebenstreit to adopt the recommendation. The procedural motion passed, (see the voting record in section 7 of these minutes, under column "M3").

**R98062**

**Recommendation:**

Decline the request to create new standard nominations related data sets to allow a Park and Loan shipper to submit a request for a specific Park/Loan deal, and determine the applicability of such functionality on the Customer Activities Web Page.

**Discussion:**

Ms. Van pelt described the request.

**EC Action:**

The procedural motion was made by Ms. Davis and seconded by Mr. Hebenstreit to adopt the recommendation. The motion passed, (see the voting record in section 7 of these minutes, under column "M4").

### 5. Other Business

Ms. Garcia reviewed the speakers to date contacted for our annual meeting, to be held in Houston on September 20 and 21. The process for publishing version 1.5 was reviewed. In response to a question from Ms. Hess, the GISB office should have the results of the ratifications posted by Tuesday, June 19. Ms. King covered details for the August meeting in Pittsburgh, and noted that a block of baseball tickets for Wednesday night are available on a first-come first-serve basis.

### 6. Adjourn

The motion to adjourn was made by Ms. Van Pelt and seconded by Mr. Hebenstreit. All were in favor. The meeting adjourned at 1:45 p.m. central.



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### 7. Executive Committee Attendance & Voting Record

	Present	M 1	M 2	M 3.	M 4
<b>End Users:</b>					
Bill Hebenstreit	Y	Y	Y	Y	Y
Diane McVicker	Ballot	Y	Y	Y	Y
Dona Gussow	Ballot	Y	Y	Y	Y
Kelly Daly	Absent				
Tina Patton	Y	Y	Y	Y	Y
<b>LDCs:</b>					
Dolores Chezar	Y	Y	Y	Y	Y
Mike Novak	Y	Y	Y	Y	Y
Audrey Bragg for Chris Maturo	Phone	Y	Y	Y	Y
Rick Ishikawa for Bob Betonte	Y	Y	Y	Y	Y
Steve Sullivan	Absent				
<b>Pipelines:</b>					
Bill Griffith	Y	Y	Y	Y	Y
Dale Davis	Y	Y	Y	Y	Y
Theresa Hess	Y	Y	Y	Y	Y
Kim Van Pelt	Y	Y	Y	Y	Y
Mark Gracey	Y	Y	Y	Y	Y
<b>Producers:</b>					
Paul Keeler	Ballot	Y	Y	Y	Y
Lauren Kaestner	Y	Y	Y	Y	Y
Richard Smith	Y/Ballot	Y	Y	Y	Y
Mike Johnson	Y	Y	Y	Y	Y
Scott Brown	Ballot	N	Y	Y	N
<b>Services</b>					
Jim Buccigross	Ballot	Y	Y	Y	Y
Leigh Spangler for Sylvia Munson	Y	Y	Y	Y	Y
Keith Sappenfield	Phone	Y	Y	Y	Y
Mark Scheel	Y	Y	Y	Y	Y
Carl Caldwell	Y	Y	Y	Y	Y
Votes in Favor		22	23	23	22
Votes Opposed		1	0	0	1
(P)ass / (F)ail / (I)nconclusive		P	P	P	P
Ratification?		N	Y	N	N





**GAS INDUSTRY STANDARDS BOARD  
EXECUTIVE COMMITTEE MEETING  
Meeting Materials  
August 23, 2001**

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**2. Subcommittee Reports -- 2001 Annual Plan**

- The subcommittee chairs will review the progress towards the 2001 Annual Plan. The plan is attached.
  - Updates will be provided from:
    - Contracts Subcommittee – Cary Metz and Diane McVicker
    - EDM Subcommittee – Dick Brooks, Leigh Spangler, Carl Caldwell
      - Sandia Action Plan Provided
    - Future Technology Task Force – Mike Shahan
    - Business Practices Subcommittee – Kim Van Pelt, Greg Lander, Tina Patton, Producer Vacancy, Mike Novak
    - Information Requirements Subcommittee – Pete Whatley, Suzanne Calcagno
      - Order 637 Plan Provided
    - Technical Subcommittee and ANSI Subcommittee – Kim Van Pelt
    - XML Subcommittee – Donna Greif, Bill Hunsicker and Peter Goldberg
      - XML Action Plan Provided



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### GAS INDUSTRY STANDARDS BOARD

#### 2001 ANNUAL PLAN

##### Mission Statement

The GISB mission statement, as adopted by the Board of Directors, is:

"The Gas Industry Standards Board mission is to develop and promote standards to simplify and expand electronic communications, and to simplify and streamline business practices which will lead to a seamless marketplace for natural gas. These standards will assist the natural gas industry in improving customer service, enhancing the reliability of natural gas service and increasing the competitiveness and efficiency of natural gas markets."

##### Scope Statement

The GISB scope statement, as defined in the Certificate of Incorporation, is:

"The objects and purposes of GISB are to propose and adopt voluntary standards designed to promote more competitive, efficient and reliable gas service, as such standards apply to electronic data interchange ("EDI") record formats, communications protocols and related business practices that streamline the transactional processes of the gas industry."

##### 2001 Plan Description

The 2001 Annual Plan has four categories: (1) Contracts, (2) Electronic Delivery Mechanisms and Related Activities, (3) Standards Implementation, (4) Provisional Activities, and (5) Standards Maintenance & Fully Staffed Standards Work - in no particular order. The completion dates for each item indicate a relative priority. Below is a description of each category of activity.

1. Contracts: Three standards development activities for contracts are defined and underway. All three are related to the purchases and sales of natural gas - completion of the changes to the short-term contract, development of the short-term contract in electronic form and development of the long-term contract. Both the development of the long-term contract and the development of the electronic version of the short-term contract can be done directly following the completion of the changes to the short-term contract. In addition, there should be investigation and determination if a model financial hedging agreement and a transportation agreement can be developed.
2. Electronic Delivery Mechanism and Related Activities: Performance, reliability and security issues were the focus of a report issued from the U.S. Department of Energy's Sandia National Laboratories regarding a GISB standards surety assessment. Several suggestions for enhancing GISB standards were made in the assessment, which GISB will consider for implementation. The review and/or modification of GISB EDM security standards, including the determination of whether to develop a web-based public key repository is an outcome of report.

Interoperability is crucial to the ensuring that an individual on a computer can successfully access and operate multiple web sites. To achieve interoperability, GISB standards should



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not define conflicting specifications so that accessing one web site ensures that other web sites are inoperable. Specifically, a plan should be developed for addressing versioning issues – which may result in new standards or standard modifications.

Extensible Mark-up Language (XML) is a tag-based framework used primarily to exchange data in a universally understood format. It could be used as a vehicle for exchanging information in a batch (similar to EDI) or online (interactive web site) mode. XML is gaining in popularity -- several standards groups have undertaken its review, and some have endorsed its use. GISB would prepare and carry out a plan, the end result of which would be to answer the questions: “Should GISB develop standards using XML, and if so, should GISB proceed in consideration of a pilot transaction?”

3. Standards Implementation: Several completed business practice standards for FERC Order No. 637 require technical implementation standards to be developed or modified in order for the activity to be considered fully staffed. In addition, our ANSI ASC X12 EDI standards are being reviewed for the need to migrate to a new version of the ANSI standards.
4. Provisional Activities: The GISB Board of Directors may consider whether it is in the organization's interest to consider evolving from the "Gas" Industry Standards Board to the "Energy" Industry Standards Board, as a carry-over Board activity from 2000. As such, some of the activities denoted under the “Provisional Activities” category will require Board approval and in some cases, Board action.

The activities include the investigation of the development an “energy day” standard and consistent changes to existing GISB standards. For gas retail standards, a development plan should be prepared for review and approval by the Board. For the determination of whether GISB will become part of an energy industry standards board, the Board will continue its review and consideration. If the Board does determine to go forward, a plan should be prepared by the stakeholders of the new organization. All stakeholders including previous GISB members should be asked to draft input for this planning process.

5. Program of Standards Maintenance and Fully Staffed Standards Work: This is an ongoing effort to maintain existing business practice standards, information and technical standards, and implementation guides and standards manuals. Version 1.5 of the standards should be published in the first quarter 2001.



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## GAS INDUSTRY STANDARDS BOARD 2001 ANNUAL PLAN

Item Description	Completion <sup>1</sup>	Assignment <sup>2</sup>
<b>Contracts</b>		
1 Modify the short-term base contract for purchase and sales of natural gas based on several years' use  <b>Status 6/1/01:</b> the conceptual language has been determined and the contract language changes are being included in the document with an expectation that it will conclude this month.	1 <sup>st</sup> Qtr	EC
2 Build an electronic contract from the short-term base contract for purchase and sales of natural gas.  <b>Status 6/1/01:</b> Although this has not started pending item 1, some initial work is being done on the contract to prepare it for a pilot test using XML.	3 <sup>rd</sup> Qtr	EC
3 Contracts Request No. R98019 - Development of a Standard/Model Long Term Base Contract for Purchase and Sales of Natural Gas.  <b>Status 6/1/01:</b> Although this has not started pending item 1, the group is organized as a result of working on the short term contract, and several items have been discussed in that group and put aside for further determination when this item is considered. It is expected that the contracts subcommittee will begin on this item this summer.	4 <sup>th</sup> Qtr	EC
4 Determine if a standard transportation services agreement is needed and if so, develop it.  <b>Status 6/1/01:</b> This item will be considered after the completion of item 3.	4 <sup>th</sup> Qtr	EC
5 Determine if a model financial hedging agreement is feasible and if so develop a model financial hedging agreement.  <b>Status 6/1/01:</b> This item will be considered after the	4 <sup>th</sup> Qtr	EC

<sup>1</sup> Dates in the completion column are by end of the quarter for completion by the assigned committee. The dates do not necessarily mean that the standards are fully staffed so as to be implementable by the industry, and/or ratified by membership. If one item is completed earlier than planned, another item can begin earlier and possibly complete earlier than planned. There are no begin dates on the plan.

<sup>2</sup> <sup>2</sup> The groups indicated in the assignment column can forward the action item to an existing subcommittee or create a subcommittee or task force for completion of the item.



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Item Description	Completion <sup>1</sup>	Assignment <sup>2</sup>
completion of item 3.		
<b>Electronic Delivery Mechanisms and Related Activities</b>		
6 Develop plan to consider surety assessment recommendations based on the Sandia National Laboratories. Implement those that are determined needed, including changes to existing GISB standards.	3 <sup>rd</sup> Qtr	EC
<b>Status 6/1/01:</b> The plan has been developed, including the changes recommended as a result of subcommittee review and consideration. The recommended changes will be reviewed by the Executive Committee and the report will be reviewed by the Editorial Review Board before the recommended standards changes are sent out for industry comment. The effort is on schedule.		
7 Develop plan to address "versioning" and other interoperability issues, and implement action items, including changes to existing GISB standards	3 <sup>rd</sup> Qtr	EC
<b>Status 6/1/01:</b> The versions are addressed in the minimum guidelines under consideration and in the GISB responses and recommended standard changes in response to the Sandia Surety Assessment.		
8 Develop XML plan and complete action items, including consideration of a pilot transaction.	4 <sup>th</sup> Qtr	EC
<b>Status 6/1/01:</b> The plan has been developed, and the pilot test is being designed for the short term base contract and for scheduling transactions.		
<b>Standards Implementation</b>		
9 Complete the implementation of FERC Order No. 637 standards.	2 <sup>nd</sup> Qtr	EC
<b>Status 6/1/01:</b> Work is underway by the Information Requirements Subcommittee and the Technical Subcommittee to complete the FERC Order No. 637 items.		
10 Continue review against plan for migration to ANSI ASC X12 new versions as needed.	4 <sup>th</sup> Qtr	EC
<b>Status 6/1/01:</b> The ANSI Subcommittee considers the ANSI ASC X12 versions as needed.		
<b>Provisional Activities</b>		
11 Examination, report and determination of if an "energy day" standard is needed, including assessment of changes to existing GISB standards.	3 <sup>rd</sup> Qtr	Board/EC



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Item Description	Completion <sup>1</sup>	Assignment <sup>2</sup>
<b>Status 6/1/01:</b> This activity would not begin until the determination of whether an EISB will be created, and if so, how GISB would fit into such an organization.		
12 Prepare development plan for gas retail standards.	2 <sup>nd</sup> Qtr	Board/EC
<b>Status 6/1/01:</b> This activity would not begin until a request has been received to develop retail gas standards.		
13 Consider establishment of an Energy Standards Board, which would encompass GISB, its products and ongoing work.	Ongoing	Board
<b>Status 6/1/01:</b> A board task force has been established and is actively working on this item.		
<b>Program of Standards Maintenance &amp; Fully Staffed Standards Work<sup>3</sup></b>		
Business Practice Requests	Ongoing	EC
Information Requirements and Technical Mapping of Business Practices	Ongoing	EC
Ongoing Interpretations for Clarifying Language Ambiguities	Ongoing	EC
Ongoing Maintenance of Code Values and Other Technical Matters	Ongoing	EC

- Notes: (1) Priority is given to action items that are carry-overs from the 2000 Annual Plan.  
(2) Any new activity should be preceded by a request from the submitter (action items nos. 4 and 5).

<sup>3</sup> This work is considered routine maintenance and thus the items are not separately numbered.



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### **GAS INDUSTRY STANDARDS BOARD OPERATING PRACTICE ANNUAL PLAN PROCESS, CHARACTERISTICS, IMPLEMENTATION AND RESPONSIBILITIES**

#### PLAN CHARACTERISTICS

The Annual Plan has the following characteristics and any changes to the Annual Plan will maintain these characteristics:

1. Focus and prioritization of GISB activities: The annual plan provides a clear focus on specific activities with a prioritization defined. The activities defined should have high expectation of implementation. The annual plan will be focused on the standards development and maintenance, and interpretation development efforts of the organization.
2. Resource application to GISB efforts: The annual plan recognizes that the member company resources to work on GISB efforts are limited. The efforts defined for activity by GISB should not exceed those limits by spreading the resources so thin that the assurance of success is affected.
3. Alignment of efforts to assure coordination of intent: It is the intent of the Board of Directors and the Executive Committee that their objectives coincide. The Board of Directors and the Executive Committee will direct GISB work through the annual plan so that those intents are aligned and the annual plan efforts are realized.
4. Timetable for efforts: The work of GISB is defined with a specific timetable during which consensus can be reached. If consensus is not reached within that timetable, avenues other than GISB can be pursued.

#### IMPLEMENTATION OF THE ANNUAL PLAN

1. Recognition of time constraints of development efforts -- the plan provides focus with no more than 5 to 10 major efforts identified, with deadlines for completion, which serve as prioritization. The development efforts, deadlines, and priorities are identified in the Annual Plan. If one of the approved efforts is completed during a year, a new effort could be added if approved by the Board of Directors in consultation with the officers of the Executive Committee.



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2. Empowerment of the chairs at subcommittee and task force meetings -- chairs are empowered to limit discussions when necessary, call items out of order when applicable, follow agendas closely, and in general exert more control so that the time participants spend in meetings is more effective.
3. Efforts are "implementable" -- each effort should have a reasonable expectation that consensus can be reached, with clear deadlines established for completion. The deadlines provide an incentive to all industry participants to reach closure. For each Board meeting, these deadlines will be reviewed with the progress made to date by the subcommittees. The deadlines, as with any other parameter established in the Annual Plan, cannot be changed without Board approval. If a deadline is missed, the Board, in consultation with the officers of the Executive Committee, will determine whether the work should be continued, put on hold or transferred to another venue.
4. Modifications to existing standards and new standards that are requested which come through the request process should reflect a broad industry need. As prioritization occurs, a primary parameter should be how many companies or segments need this standard or standard change. Industry efforts to implement standards that affect only a few companies should be severely limited.

### BOARD OF DIRECTORS RESPONSIBILITIES TO THE PLAN

1. Progress toward completion of the plan will be reviewed by the Board quarterly with the officers of the Executive Committee.
2. The deadlines in the Annual Plan, as with any other parameter established in the Annual Plan, cannot be changed without Board approval. When a deadline is reached before the item is completed, the Board, in consultation with the officers of the Executive Committee, will determine whether the work should continue, be postponed or transferred to another venue.
3. Any changes or additions to the annual plan items, including those requested by government agencies or commissions, must first be presented to the Board for its consideration, prioritization and approval.
4. The Board will review monthly progress reports on the Annual Plan to determine if any changes are necessary.



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5. The Chairman of the Board of Directors will request that each segment by September name one Board member and one EC member to a task force to develop the subsequent year's annual plan.

### EXECUTIVE COMMITTEE RESPONSIBILITIES TO THE PLAN

1. The Executive Committee should strive to complete the items set forth in the Annual Plan in the times specified. When a deadline is reached before the item has completed, the Executive Committee will recommend to the Board for the Board's determination of whether the work should continue, be postponed or transferred to another venue.
2. The officers of the Executive Committee will brief the Board at each Board meeting on the progress made towards completing each item on the Annual Plan.
3. There will be boundaries on the time spent in modifying standards, which will be controlled by the Executive Committee through its setting of meeting dates for the subcommittees addressing maintenance issues.
4. A key element in determining priority for maintenance issues is the number of companies or segments needing the modifications requested. The Triage Group recommendations to the Executive Committee will include priorities/dates and possible changes to other priorities such that the workload in maintenance is reasonable considering the other items included in the plan.

### GISB OFFICE RESPONSIBILITIES TO THE PLAN

1. The GISB office will prepare the progress report to the Board of Directors for each Board meeting in consultation with the officers of the Executive Committee and other subcommittee chairs as appropriate.
2. The Executive Director will be an active participant in subcommittee and task force meetings that he or she attends, acting as a liaison to the Board of Directors.



## **GAS INDUSTRY STANDARDS BOARD OPERATING PRACTICE**

### **POWERS AND DUTIES OF SUBCOMMITTEE AND TASK FORCE CHAIRS**

Chairs of committees, subcommittees and task forces undertake responsibilities in assuming their roles as presiding officers. The GISB organization is appreciative of the significant leadership efforts that are assumed when individuals agree to serve as chairs.

Chairs act as representatives of the Executive Committee in discharging its responsibilities with respect to the organization's purposes. The annual plan adopted by the Board of Directors sets forth GISB's priorities for the year in question, and the chairs are strictly charged by the Board and the Executive Committee to ensure that the subcommittees and task forces are directed to the end of accomplishing the annual plan. As such, chairs are empowered to take any actions necessary to ensure that the discussion is timely, effective, and focused on matters consistent with the plan, including, but not limited to setting and enforcing deadlines for debate, ruling items out of order, and otherwise supervising the progress of the meetings for which they are responsible.

The principles below are in full accordance with normal rules of order for groups following the democratic principles of parliamentary procedure.

1. The chair's role is that of serving the assembly, striving for fair play among the participants, trying to ascertain the participants' and the organization's intent, and providing guidance for the fulfillment of the intent of the organization as a whole. The organization's intent is reflected in the annual plan.
2. Presiding officers of a meeting should remain impartial and objective. If a motion is made, and the chair wishes to advocate a particular position, he or she should ask another officer to act as chair during the discussion. After the discussion, the chair should resume his or her role as the presiding officer.
3. The chair should not permit participants to speak at will, offer alternative main motions when a main motion is already under consideration, interrupt speakers or claim the floor without first being recognized by the chair.



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4. The chair should refuse to allow participants to claim the floor several times before others have had their first opportunity to speak.
  5. The chair is empowered to limit discussions when necessary and call items out of order if not on the agenda of the meeting.
  6. The chair is to guide the participants to follow the agenda and to meet the goals established for that agenda and to realize the organization's intent. The organization's intent is reflected in the annual plan.
  7. It is the responsibility of the chair to guide the participants so that the time spent in the meeting is effective, meets the goals of the organization, and addresses the items on the agenda.
  8. The chair should ensure that the agenda for the meeting is in agreement with the intent of the organization as a whole.
  9. The chairs are empowered to limit discussion to the named members of the committee, task force or group. They are also empowered to name members of subgroups to act on specific issues. While all GISB meetings are open, chairs can restrict discussion in the meetings to the named members of the groups.
  10. The chairs should ensure that draft minutes of the meetings and any exhibits (including any work papers and alternative proposals) are prepared as soon as reasonably possible as provided in the GISB Operating Practices.



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### **GAS INDUSTRY STANDARDS BOARD**

#### **SANDIA PLAN**

**AS OF FEBRUARY 9, 2001**

#### **Directive**

The Board of Directors approved the GISB 2001 Annual Plan to address the Sandia National Laboratories Report. The GISB Annual Plan identifies the following directive:

6. Develop plan to consider surety assessment recommendations based on the Sandia National Laboratories. Implement those that are determined needed, including changes to existing GISB standards.

#### **Plan Description**

Sandia National Laboratories, under the guidance of the Department of Energy prepared an assessment report of the GISB EDM standards. The report drew the conclusions 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.

The Internet can provide industry with better communication than ever before, but also has additional opportunity for problems when security is not the foremost premise for this communication. Potential attackers on the Internet have improved their skills and tools and have shown their willingness to use both to cause problems for an industry. Keeping ahead of them will be important to GISB, as it moves to operate over the Internet.”

The report also specified several enhancements to GISB standards to provide additional protection. The plan should address these recommended enhancements and prepare a recommendation for industry comment, and for the consideration of the Executive Committee.



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### GAS INDUSTRY STANDARDS BOARD SANDIA ACTION PLAN PREPARED ON FEBRUARY 9, 2001

Item Description	Assignment/ priority or Completion Date
<i>Review each recommendation in the Sandia Report, and determine responses and/or recommendation for:</i>	
1 Collect metrics for analysis of security and reliability measures.	EDM/Low
2 Sandia Recommendations for Security Issues, and addressing Request no. R00001:	
7.1.1 Trading Partners should protect the TPA as a proprietary document.	EDM/Low Contracts/Low
7.1.2 Require clients to acquire time-of-day from the server and check that time against their own reference, with notification to the user of discrepancies higher than a specified threshold.	EDM/Med
7.1.3 Manage keys with a set expiration date.	EDM/Med
7.1.4 Protect the Central Address Repository (CAR) using SSL and basic authentication.	EDM/Low
7.1.5 Encrypt batch processing of request and response messages with SSL.	EDM/High
7.1.6 PGP signatures should be required for interactive processing of transactions under SSL encryption protection.	EDM/Med
7.1.7 128 bit SSL should be cited on GISB Standard Nos. 4.3.61 and 4.3.83, and all client authentication should be done under the protection of 128 bit SSL.	EDM/Med
7.1.8 Remove the statement "Those companies who wish to conduct business across the Internet in an unsecure fashion may do so by mutual agreement."	EDM/Low
7.1.9 Require the use of strong encryption and strong authentication on all transactions.	EDM/High
7.1.10 Establish SSL session prior to the HTTP Post process to protect the user ID, password and any header information.	EDM/High
7.1.11 Use standard TCP ports for web servers.	FTTF/Low
7.1.12 Address message replay in the standard to disallow replay attacks.	EDM/High
3 Sandia Recommendations for GISB Standards in the EDM Manuals:	
7.2.1 Change the grouping of principles from chronologically in tab 4 to categories.	EDM/Low



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Item Description	Assignment/ priority or Completion Date
7.2.2 Enhance the Future Technology Model diagram, (GISB Standard No. 4.1.1).	FTTF/Med
7.2.3 Reword GISB Standard No. 4.1.2 to clarify its meaning.	EDM/Low
7.2.4 Reword GISB Standard No. 4.1.6 to clarify its meaning.	EDM/Low
7.2.5 Move GISB Standard No. 4.1.8 within the governance principles.	EDM/Low
7.2.6 Revise GISB Standard No. 4.1.15 to include concepts in GISB Standard No. 4.3.15.	EDM/Low
7.2.7 Consolidate GISB Standard Nos. 4.1.16, 4.1.17 and 4.1.19 with clarifying language.	EDM/Low
4 Sandia Recommendations for GISB Standards in the EDM Manuals:	
7.3.1 Change the grouping of standards from chronologically in tab 4 to categories.	EDM/Low
7.3.2 Provide more information on GISB Standard No. 4.3.4 – specifically who should retain information, the volume of the information, security concerns were noted among others.	EDM/Low
7.3.3 GISB Standard 4.3.6 should be more specific – particularly the phrase “within a reasonable amount of time.”	EDM/Low
7.3.4 State which version of HTTP should be used in GISB Standard No. 4.3.8.	EDM/Low
7.3.5 Reliance on IP addresses in GISB Standard No. 4.3.11 allows for “spoofing.” A mechanism should be put in place to “close the loop.”	FTTF/Med
7.3.6 Break GISB Standard No. 4.3.15 into parts addressing server authentication, SSL encryption and PGP 2.6 or compatible.	EDM/Low
7.3.7 Consolidate GISB Standard Nos. 4.3.36, 4.3.37 and 4.3.38 as they all address similar internet concerns.	EDM/Low
7.3.8 Correct the reference of GISB Standard No. 4.3.70 from appendix to tab 4.	EDM/Low
5 Sandia recommendations for format and layout of the EDM standards manual:	
7.4.1 Change the page numbering scheme used in the manual, referencing the tab number in the page number -- for example, “Page 2-1” would be page 1 of tab 2.	EDM/Low
7.4.2 Reorder the materials in the EDM manual so that the definitions are presented first.	EDM/Low
7.4.3 Develop a sample or model web site including the layouts and concepts presented in Tab 8 of the EDM manual.	EDM/Low



## Gas Industry Standards Board

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Item Description	Assignment/ priority or Completion Date
7.4.4 Add Guideline Adoption Procedure and X12.58 encryption standard to the Reference Guide section (Appendix A, Tab 10) of the manual.	EDM/Low
7.4.5 Both trading partners should support the same GISB EDM version for GISB EDM document compatibility.	EDM/Med
7.4.6 Modify the EDM Manual to provide consistency of terms - for example, "standard client configuration" versus "client configuration standard."	EDM/Low
7.4.7 Clarify where and how it is expected that the encryption take place in the process. Provide additional details on the encryption.	FTTF/Med
7.4.8 Absence of a compliance statement	EDM/Low
6 Prepare Recommendation Report and send out for industry comment.	Sept 4, 2001
7 Present recommendation to the Executive Committee for consideration.	Oct 11, 2001



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## GAS INDUSTRY STANDARDS BOARD 2000 ANNUAL PLAN – FERC Order No. 637

Category/Action Item	Assignment	Priority <sup>1</sup>
<b>Capacity Release:</b>		
1. Review timelines for modifications including accommodation of intraday or partial day capacity releases (Affects GISB Standard No. 5.3.2 and related interpretations).	BPS	6
2. Review elimination of the restrictions on partial day recalls (Affects GISB Standard Nos. 5.3.6, 5.3.7).	BPS	6
3. Change data sets to accommodate rates in excess of TSP's max rate. (Affects GISB Standard Nos. 5.4.1, 5.4.2, 5.4.7, 5.4.8, 5.4.9).	BPS	1
<b>Imbalance Netting &amp; Trading</b>		
4. Develop imbalance netting and trading data sets and web site display.	EDD	Already underway
<b>Timely Imbalance Information</b>		
5. Review the EC adopted standards (1999AP7, R97117 & R97118) resulting from the imbalance netting and trading standards to identify any potential inconsistencies with Order No. 637, including any additional provisions needed to accommodate Order No. 637 requirements. Also review possible web site display.	IMB	1
<b>Balancing Services</b>		
6. Prepare a list of imbalance related code values.	IR	1
7. Accommodate 3rd party balancing services interaction with TSPs.	BPS	8
<b>Transactional Reporting</b>		
8. Review award data set codes and structure for firm and interruptible transportation (FT and IT) reporting (Affects GISB Standard No. 5.4.3).	BPS	3
9. Accommodate visual display web pages for FT and IT reporting.	BPS	4
10. Review and establish a timeline for posting.	BPS	9
<b>Data and Visual Display</b>		
11a. Accommodate D-U-N-S® Number and name in Internet postings and their corresponding downloadable files. Add the field for the name in the Internet postings and downloadable files.	IR	3
11b. Accommodate D-U-N-S® Number and name in Internet postings and their corresponding downloadable files. Determine what information goes into the data element – either D&B name or TSP name.	COMCD	1
12. Inventory usage or accommodation of agents in existing data sets.	IR	2
13. Review the method for collecting information on the releasing shipper's relationship to the acquiring shipper.	BPS	5

<sup>1</sup> Priority is a relative priority for the given assigned subcommittee.



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<b>Category/Action Item</b>	<b>Assignment/Priority<sup>1</sup></b>	
<b>Organizational Postings</b>		
14. Determine placement/navigation for the organizational postings within the Informational Postings section of web sites	EDM	1
<b>Operationally Available Capacity</b>		
15. Review the EC adopted standards resulting from request no. R99033 to identify inconsistencies with FERC Order No. 637.	BPS	2
16. Document the extent to which existing informational postings requirements address planned and actual service outages.	EDM	2
17. Accommodate increased frequency of posting for operationally available capacity. <i>(To be addressed together with item XV).</i>	BPS	2
<b>Index of Customers</b>		
18. Correctly reflect the FERC order reference and section number (GISB Standard No. 4.3.16) and data element ordering (GISB Standard No. 4.3.35).	BPS	See note <sup>2</sup>
<b>Operational Flow Orders</b>		
19. Accommodate reporting of the reasons for and the severity of outages. To accommodate the reporting, there are two issues: (1) where the OFO reporting is placed on the web site and (2) whether the report is standardized for reasons of outage and severity or whether the report is textual (i.e. through the existing informational postings).	BPS	7

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<sup>2</sup> Begin once the FERC issues the revised report format.



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### GAS INDUSTRY STANDARDS BOARD

#### XML SUBCOMMITTEE PLAN

#### Directive

On October 12, 2000, the GISB Executive Committee endorsed the following actions, which comprise the recommendation from the XML Subcommittee on August 24, 2000:

GISB should:

- continue to explore the incorporation of XML into EDM,
- consider working with other industry XML work groups, like UIG XML, to see if any synergies could exist for the development of XML standards, and
- provide a plan to the Executive Committee on how XML could work within the existing GISB standards framework.

The EC also provided the following guidance:

“The plan that the GISB XML Subcommittee would devise as part of the endorsed recommendation should provide for an orderly transition, should the determination be made at a later date by the EC that XML should be offered as an electronic communication choice. The effort will benefit from the work that has been directed toward development of EDI transactions. Mr. Spangler noted that this pilot effort could be included on the plan.”

#### Plan Description

Extensible Mark-up Language (XML) is a tag-based framework used primarily to exchange data in a universally understood format. It could be used as a vehicle for exchanging information in a batch (similar to EDI) or online (interactive web site) mode. XML is gaining in popularity -- several standards groups have undertaken its review, and some have endorsed its use. GISB has determined to prepare and carry out a plan, the end result of which would be to answer the questions: “Should GISB develop standards using XML, and if so, should GISB proceed in consideration of a pilot transaction?” Below is the description of the plan.

The XML Plan has 3 areas of development: (1) investigation of other related groups’ activities, (2) planning and execution of a pilot test, and (3) preparation of an action plan. Target dates are set along with checkpoints with the Executive Committee to review results and gain endorsement to go forward with the plan. Below is a description of each area of development.

1. Investigation of Other Groups’ Related Activities: Several related groups (ERCOT, OASIS, and CUBR/EEI/NEM) have already endorsed the use of XML. They may have work products that could aid GISB in its plan for a pilot test and its continued evaluation of XML.
2. Planning and Execution of a Pilot Test: The transaction for a pilot test should be chosen and the step in the pilot test outlined with companies identified to perform the test. Criteria that should be met for the test to be considered successful should also be prepared. The EC should endorse the pilot test plan prior to its execution.



## **Gas Industry Standards Board**

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3. Preparation of an Action Plan: Based on the results of the Pilot Test, a report should be prepared explaining the results of the test and proposing an Action Plan for going forward. If the Action Plan indicates that the XML standards should be developed by GISB, it should include an orderly transition plan for EC review and approval.



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### GAS INDUSTRY STANDARDS BOARD DRAFT XML PLAN PREPARED ON DECEMBER 11, 2000

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<b>Item Description</b>	<b>Completion</b>
1 Investigate how other related groups are incorporating XML into their bodies of work – UIG, ERCOT, and CUBR/EEI/NEM.	1 <sup>st</sup> Qtr 2001
2 Determine how to benefit from their activities and results.	1 <sup>st</sup> Qtr 2001
3 Review GISB transactions and planned development to identify a pilot transaction(s) and its usage(s).	1 <sup>st</sup> Qtr 2001
4 Identify possible testers for the pilot(s) and application(s) or usage(s) of XML.	1 <sup>st</sup> Qtr 2001
5a Review plan to date with the EC, including pilot test plan(s) and how GISB has benefited and will benefit from the work done by other groups.	1 <sup>st</sup> Qtr 2001
5b Endorsement of the EC to go forward will be requested.	2 <sup>nd</sup> Qtr 2001
<b>Assuming EC endorsement of the pilot project:</b>	
6 Develop transaction(s), prepare for and schedule the pilot test(s).	2 <sup>nd</sup> Qtr 2001
7 Conduct the pilot test(s).	3 <sup>rd</sup> Qtr 2001
8 Report on the results of the pilot test(s).	4 <sup>th</sup> Qtr 2001
9 Prepare a plan for next steps, including how XML could be incorporated into the existing body of GISB standards, should the recommendation from the XML Subcommittee be to go forward.	4 <sup>th</sup> Qtr 2001
10 Present findings of the benefits received from other groups, the results of pilot project, and recommendations for next steps including how XML could be incorporated into GISB standards should the determination be to do so.	4 <sup>th</sup> Qtr 2001

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**GAS INDUSTRY STANDARDS BOARD  
EXECUTIVE COMMITTEE MEETING  
Meeting Materials  
August 23, 2001**

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**3. Recommended Standards & Standard Modifications**

- There were no comments filed for the recommendation regarding the Sandia report.
- The following attached request for comment including the recommendation has been provided, and was sent out for industry comment.



## Gas Industry Standards Board

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**via email & posting**

**TO:** GISB Members, Posting on the GISB Home Page for Interested Industry Participants  
**FROM:** Rae McQuade, Executive Director  
**RE:** Request For Comments  
**DATE:** July 20, 2001

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An industry comment period begins today and ends on August 17 for the recommendation attached regarding the Sandia National Laboratories Report. The recommendation was presented to the Executive Committee and provided in meeting materials for the June 14 meeting, and will be discussed at the August 23 meeting. The Executive Committee will meet in Pittsburgh on August 23 to review this recommendation and consider it for vote as GISB standards or revisions to standards. The recommendation can be accessed from the GISB Web site, but is also attached to this request for comment<sup>1</sup>. All comments received by the GISB office by end of August 17 will be posted on the Home Page and forwarded to the EC members for their consideration. If you have difficulty retrieving this document, please call the GISB office at (713) 356-0060.

Best Regards,

**Rae McQuade**

cc: Jay Costan

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<sup>1</sup> All recommendations other than clarifications/interpretations can be found on the "Request For Standards" page (<http://www.gisb.org/req.htm>), which is accessible from the GISB main page. Clarifications/Interpretations (Cxxxxx) can be found on the "Clarification Requests" page (<http://www.gisb.org/clar.htm>).

**RECOMMENDATION TO GISB EXECUTIVE COMMITTEE**

**Requester: Sandia National Laboratories**

**Request No.: R00001 -- AP01**

**1. Recommended Action:**

- Accept as requested
- Accept as modified below
- Decline

**Effect of EC Vote to Accept Recommended Action:**

- Change to Existing Practice
- Status Quo

**2. TYPE OF MAINTENANCE**

**Per Request:**

- Initiation
- Modification
- Interpretation
- Withdrawal

**Per Recommendation:**

- Initiation
- Modification
- Interpretation
- Withdrawal

- Principle (x.1.z)
- Definition (x.2.z)
- Business Practice Standard (x.3.z)
- Document (x.4.z)
- Data Element (x.4.z)
- Code Value (x.4.z)
- X12 Implementation Guide
- Business Process Documentation

- Principle (x.1.z)
- Definition (x.2.z)
- Business Practice Standard (x.3.z)
- Document (x.4.z)
- Data Element (x.4.z)
- Code Value (x.4.z)
- X12 Implementation Guide
- Business Process Documentation

**3. RECOMMENDATION**

**SUMMARY:** Change several EDM standards and add new standards and modify the EDM standards manual as a result of the surety assessment prepared by Sandia National Laboratories under the guidance of the U.S. Department of Energy.

**STANDARDS LANGUAGE:**

Please see attached document.

**4. SUPPORTING DOCUMENTATION**

**a. Description of Request:**



**RECOMMENDATION TO GISB EXECUTIVE COMMITTEE**

**Requester: Sandia National Laboratories**

**Request No.: R00001 -- AP01**

Access the Sandia National Labs Surety Assessment Report.

**b. Description of Recommendation:**

Access the GISB Response to the Sandia National Labs Surety Assessment Report.

**c. Business Purpose:**

Access the Sandia National Labs Surety Assessment Report.

**d. Commentary/Rationale of Subcommittee(s)/Task Force(s):**

Access the GISB Response to the Sandia National Labs Surety Assessment Report.  
Also access the minutes of the EDM Subcommittee and FTTF Subcommittee:

# 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 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 standard will be removed from future releases of the GISB standards and the existing diagrams noted will suffice to explain the technology model.

## 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.

## GISB Responses to the Sandia Surety Assessment Findings:

**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.

### 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.

**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.

### 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 Responses to the Sandia Surety Assessment Findings:

**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 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

# GISB Responses to the Sandia Surety Assessment Findings:

the benefits that would be achieved from implementing such change. Moreover, the risk assessed is minimal.

## 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.

**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.”

## GISB Responses to the Sandia Surety Assessment Findings:

**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.

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

## GISB Responses to the Sandia Surety Assessment Findings:

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.)
- 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.)

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- 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.

**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:

## GISB Responses to the Sandia Surety Assessment Findings:

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 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

## GISB Responses to the Sandia Surety Assessment Findings:

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.

**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

# GISB Responses to the Sandia Surety Assessment Findings:

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 Response:** We concur with the finding and analysis, and the recommendation. The recommendation will be implemented as follows:

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, IIOP, 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.

# GISB Responses to the Sandia Surety Assessment Findings:

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

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."

# GISB Responses to the Sandia Surety Assessment Findings:

## 7.4 Other Areas for Improvement

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

### 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.

### 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.

**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.

## GISB Responses to the Sandia Surety Assessment Findings:

**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.

### 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.

### 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.

## GISB Responses to the Sandia Surety Assessment Findings:

**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 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 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

## GISB Responses to the Sandia Surety Assessment Findings:

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."

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

## GISB Responses to the Sandia Surety Assessment Findings:

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 addition to the EDM manual – “Encryption/Digital Signature” within the “SECURITY” section:

“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.”

### 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".

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

**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.



**GAS INDUSTRY STANDARDS BOARD  
EXECUTIVE COMMITTEE MEETING  
Meeting Materials  
AUGUST 23, 2001**

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**Executive Committee Ballot for August 23, 2001 Meeting  
Please return this ballot to the GISB Office (713) 356-0067  
by August 21, 2001**

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Vote	Recommendation
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<input type="checkbox"/>	Sandia Recommendations R00001 - AP01
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**Executive Committee Member Signature:**

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**Date:**

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