

BIOGRAPHICAL INFORMATION

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Specific Responsibilities

Mr. White joined James W. Sewall Company (Sewall) in 1989 and now serves as Director for the Energy and Telecommunications practices. As Director he supervises project managers and technical teams in the implementation of GIS systems for utility, pipeline, and telecommunication clients, military, and industrial clients. Mr. White also provides senior-level consulting for Pipeline Integrity and GIS implementations. Currently Mr. White is leading multiple pipeline integrity projects, which involve the integration of Sewall software for class location analysis, HCA calculation, risk analysis, automated alignment sheet and integrity sheet generation.

Educational Information

B.S. – Forestry-Business Administration, University of Maine
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Professional Memberships

GITA
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THE EFFECTS OF SARBANES-OXLEY ON GIS PROJECTS AND PROGRAMS

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ABSTRACT

Originally enacted as a reaction to accounting scandals, the impact of Sarbanes-Oxley is being felt in an array of company functions. With a significant reliance on GIS as the repository for corporate asset data, pipeline GIS programs can expect to be a significant stakeholder in compliance efforts. This paper presents an overview of the Sarbanes-Oxley legislation and provides general experiences of and recommendations from pipeline operators who have already enlisted their GIS programs.

INTRODUCTION

Unlike the Pipeline Safety Improvement Act of 2002, whose impact on GIS projects and programs were readily understood, the effects on GIS projects and programs of another act passed that year by the 107th congress are being felt from the boardroom to the GIS workstation as well. The Sarbanes-Oxley Act of 2002, or “Sarbanes-Oxley,” or more affectionately “SOX,” is intended to restore and improve confidence and trust of a significant piece of our capitalist system – investors in public companies. While Geographic Information Systems (GIS) aren’t specifically mentioned, they are being considered part of the compliance activities of pipeline and utility companies.

Gas Pipeline companies were hit with a double whammy in 2004 as the rules for both Pipeline Integrity and Sarbanes-Oxley set hard deadlines for compliance activities by the end of the year (17 December and 15 November, respectively).

BACKGROUND

Enacted by the 107th Congress in the wake of several now notorious corporate accounting fraud cases including Enron and WorldCom, the drafters of the legislation identified that these cases, and several other large-scale bankruptcies, were primarily the result of the combination of conflicts of interest within the companies that audit public companies, and the lack of accountability of senior corporate management. The audit companies got into trouble as they began to offer consulting services that became more and more intertwined with their audit responsibilities. As the consulting work became more lucrative, it began to taint the “findings” of the audit practices. As the “Dot-Com” boom was occurring, executive suite paychecks began to swell. This influenced some executives to introduce “aggressive” or questionable accounting practices as a means to maintain their company’s stock price, and their sizable compensation packages. The

resulting combination led to massive fraud and bankruptcies on a scale never seen before and which no one wanted repeated. Billions of dollars of stockholder value evaporated.

OVERVIEW OF THE ACT

Put simply, SOX is designed to restore investor confidence by reestablishing the absolute independence and objectivity of firms that audit public companies and mandating corporate responsibility. To accomplish this, in broad terms the act:

- Establishes the Public Company Accounting Oversight Board (BCAOB)
- Requires complete auditor independence
- Prohibits destruction, alteration or falsification of records pertaining to investigations
- Requires management attestation to the accuracy of financial statements
- Mandates the establishment of adequate internal controls for reporting of financial information

EFFECTS ON GIS

While it is not surprising that SOX does not mention Geographic Information Systems (GIS) by name, the legislation doesn't even mention the broader category of Information Technology (IT). However, the requirement to establish adequate internal controls for reporting financial information is how IT, and by association GIS are brought into requiring compliance picture for SOX.

By the very fact that they are public companies, these pipeline companies are required to comply with the requirements of SOX. Section 404 of SOX deals with requirements to maintain adequate internal control structures and procedures, which is where IT and GIS are most affected. How pipeline companies address SOX compliance with respect to compliance depends on how it views the GIS and the data in it.

GIS as an Island

Most companies have built a virtual wall between their financial systems and their GIS. These companies still implement controls over their GIS as an asset in and of itself, but they do not implement the same battery of controls over the data within the GIS as they do for data within their financial management systems. For these companies, all of the financial data (cost, labor, inventory) about their facilities is captured, stored, verified, audited, and reported in their financial management systems. The GIS may hold financial attribute data, but it is treated only as a copy and not as the official corporate record of the value of the facilities.

For these companies, the GIS program or project is affected according to the cost of the implementation and ongoing operations. These areas are, to varying extents, required to comply with reporting and control procedures for tracking and recognizing costs.

GIS as a Peninsula

Companies whose SOX compliance burden falls most heavily on GIS include those that mingle their financial data between their GIS and financial management and some work management systems. This mingling tends to include capture of work order data (capital and operations and maintenance or expense), including inventory, labor, and cost data with their GIS. Once captured, the data is then transferred into the financial management system. The management of company assets that may have or do have a financial component, such as leases, rights of way, and land ownership records are another type of data that may impact the financial picture of a company and also have compliance procedures associated with them.

Hybrid Approaches

Some companies have a dual approach where their GIS is treated as an island, but is used as part of internal audit of the facility information in the financial management system. This hybrid approach tends to draw GIS deeper into the SOX compliance realm requiring compliance activities at a level between the “island” and “peninsula” approaches.

Another type of hybrid approach involves the GIS providing documentation to the SOX compliance committee within the company. This is typical during the development and implementation of the GIS. Conversion and migration projects, whose costs typically can be described as “significant” may have additional control and reporting requirements, including some that are extended to suppliers. Once in place, the GIS then typically falls to the “island” approach where the compliance tasks are somewhat less burdensome.

Basic Test

As the sage informant in the Watergate scandal, “Deep Throat” encouraged “follow the money.” The level of compliance activities associated with the GIS should be proportional to the financial impact that the system has on the company. A higher level of controls and compliance tasks are dictated if the financial impact of the system “materially” impacts the company financial statements. The definition of “materially” is left to the company and its (independent) auditors.

Initial system implementation and ongoing costs that are typically considered in the determination include, but are not limited to:

- Cost of the project or program
 - Conversion
 - Migration
 - Purchased or Licensed Data
 - Hardware
 - Software
- Internal Costs
 - GIS Manager
 - GIS Staff
 - Internal labor expended on the system
- External Costs

- Hardware maintenance
- Software maintenance
- Data Licenses
- Consulting

A Third Angle

Another perspective that some pipeline and utility companies have adopted is to require “full” compliance, meaning detailed process development and documentation, along with reporting for any system that “significant” decisions are made from. The logic used is that if someone is going to rely on the data in a system, and the results of relying on the data results in significant risk exposure that could result in a significant financial event, then the system will be made fully compliant with the company’s SOX implementation. For the GIS in a pipeline company this could look like an engineer making a decision on what valve to close in an emergency response situation and the results of closing the valve could result in a significant liability for the company, then the GIS will be fully compliant with their SOX implementation.

Record Retention

SOX extends the statute of limitations associated with fraudulent reporting of financial data to five years to match other corporate crime standards. While this is less restrictive than the typical standard of maintaining most pipe records “from foundry to scrap yard,” this requirement should be considered when record retention policies and practices are established. Scanning and hot linking of work order records in their GIS is one method that pipeline companies have used to address this requirement.

Hidden Costs

Often there are hidden costs associated with SOX compliance for GIS projects. Mandatory training, participation on committees, the development of additional documentation and the implementation of resulting control, audit, and reporting processes require not only additional time, but also corresponding project or program budget. In addition the preparation for, participation in, and remediation after a SOX audit – either internal or external can be a significant burden for a GIS. Often the auditors do not understand GIS technology or spatial data. This results in the need to provide education for the auditors, as well as additional time to develop additional documentation to satisfy the company’s SOX compliance framework.

WHAT TO EXPECT

As with any new rule, the hype is typically worse than the bite. In the case of SOX, it too will probably fit this pattern. This doesn’t mean that stiff penalties, including jail time, will not be levied against those who violate the public’s trust. It does mean that companies and the marketplace will adjust, and SOX will blend into the blur of regulations associated with doing business. Like pipeline companies that integrate their

Pipeline Integrity programs with their other operating and regulatory compliance requirements, those who are integrating their SOX compliance with their other operating and compliance requirements are expecting to reduce the overall burden the act will have on their GIS project or program.

One focus of current industry discussion about SOX compliance is the cost of compliance for small to medium businesses. Modifications to control and reporting requirements may be implemented to reduce the burden for these firms, but as of the writing of this paper, there aren't firm plans to do so.

Potential future changes to the rule are expected to also include miscellaneous adjustments to the Public Company Accounting Oversight Board and portions of the rules that deal with auditing firms. System integration may also be expected to be more tightly integrated as the act and systems developed to address it mature. As loopholes are identified and closed, system integration expectations may strengthen the requirement for require additional certifications from suppliers, business partners, consultants, and sister companies.

There are discussions about extending SOX into private companies, and in some cases private companies have been drawn into compliance activities either voluntarily or through their work for public companies. Private companies who are adopting SOX compliance measures voluntarily are doing so to either get ahead of the anticipated private-company wave or ride the wave of public acceptance for achieving SOX compliance.

CONCLUSION

With the Pipeline Safety Improvement Act of 2002, GIS was the natural tool of choice for pipeline companies to meet compliance requirements. With the Sarbanes-Oxley Act of 2002, GIS is again being called into play as a compliance tool. However, with that added responsibility comes additional control, audit, and reporting requirements. Early, often, and continued interaction between the GIS personnel and the SOX committee can help to minimize the potential negative impacts associated with the additional compliance tasks while helping the company to gain the benefit of one of the primary goals of the act – improved investor trust.

Pipeline companies, operators, and utilities have established their first round of both Pipeline Integrity programs and SOX compliance programs. As with Pipeline Integrity, continuous improvement will help companies improve not only their SOX compliance programs, but also enhance the value of their company in the marketplace. Automation and integration of systems will also help minimize manual efforts and duplicated work and data and will be a key factor in regulatory compliance and market success.

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