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# SOX Section 404 Material Weaknesses Related to Revenue Recognition

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# SOX Section 404 Material Weaknesses Related to Revenue Recognition

By Dana R. Hermanson, Daniel M. Ivancevich, and Susan H. Ivancevich

**P**revious research on restatements and financial statement fraud reveals that revenue recognition is perhaps the single greatest problem area in U.S. financial reporting. In response to a proliferation of revenue recognition problems in the late 1990s, the SEC offered additional guidance to companies on how to properly recognize revenue by issuing Staff Accounting Bulletin 101, *Revenue Recognition in Financial Statements*, in 1999 (revised in SAB 104 in 2003). The Sarbanes-Oxley Act of 2002 (SOX) focused more attention on revenue-related internal controls.

Despite the efforts of regulators to provide guidance on revenue recognition practices and to improve controls in this area, problems with revenue recognition have persisted. A recent survey found that 55% of public companies changed their revenue recognition policies in order to comply with SOX, and that such changes often were considered “moderate” to “significant” (“Sarbanes-Oxley Has Widespread Impact on Revenue Recognition Policies,” *Business Wire*, October 24, 2005). Furthermore, in 2005, nearly one out of every 12 U.S. public companies filed earnings restatements (G. A. Cheney, “Making Sense

of Revenue Recognition,” *Financial Executive*, July/August 2006), and revenue recognition issues were a leading cause of such restatements. Such restatements may be quite large. For instance, Computer Associates had a \$2.2 billion restatement, and Lucent Technologies had a \$1.5 billion problem related to revenue recognition issues (J. Marshall, “The Perils of Revenue Recognition,” *Financial Executive*, July/August 2004). Other high-profile revenue recognition cases include Gateway, Xerox, and Enron.

Revenue recognition problems are further highlighted by the COSO-sponsored study “Fraudulent Financial Reporting: 1987–1997, An Analysis of U.S. Public Companies” ([www.coso.org/publications/FFR\\_1987\\_1997.PDF](http://www.coso.org/publications/FFR_1987_1997.PDF)), and the SEC’s “Report Pursuant to Section 704 of the Sarbanes-Oxley Act of 2002” ([www.sec.gov/news/studies/sox704report.pdf](http://www.sec.gov/news/studies/sox704report.pdf)), both of which found that revenue issues are the most common problem underlying accounting enforcement actions brought by the SEC.

While previous studies have highlighted the role of revenue recognition in restatements and accounting frauds, the implementation of SOX section 404 provides another opportunity to examine revenue recognition issues—this time from the perspective of internal controls and remediation of control weaknesses. A September 2005 *Accounting Horizons* article by Weili Ge and Sarah E. McVay (“The Disclosure of Material Weaknesses in Internal Control After the Sarbanes-Oxley Act”) examined material weakness disclosures under SOX section 302 and found that 55 of the 261 companies with material weakness disclosures under section 302 (from August 2002 to November 2004) had problems related to revenue recognition. The purpose of that study, however, was not to analyze the revenue recognition problems in detail.

This article examines disclosures of material weaknesses in internal control after the implementation of SOX section 404 and summarizes companies’ efforts to remediate these material weaknesses.

### SOX Section 404

SOX section 404 was effective for accelerated filers for fiscal year-ends on or after November 15, 2004. Under section 404, management must issue a report on the

effectiveness of the company’s internal control over financial reporting. The external auditor must also issue a report expressing an opinion on the effectiveness of internal control over financial reporting.

If the auditor and management determine that a material weakness exists as of the end of the fiscal year, then the auditor issues an adverse opinion. In such a case, the management report and the auditor’s opinion must describe the nature of the material weaknesses. The management report also often discusses related remedial efforts to correct the problem.

### Data Collection

The Audit Analytics database was used to identify companies with material weaknesses related to revenue recognition. During the period examined, there were

137 companies that disclosed material weaknesses related to revenue recognition. Those 137 sample companies had fiscal year-ends ranging from January 28, 2005, to January 5, 2006 (2005 year-ends), and the audit report dates ranged from May 12, 2005, to November 22, 2006.

This period represents the first complete year after the effective date of section 404. The 2005 sample period allows for a reasonably large sample of revenue-related material weaknesses. According to Audit Analytics, revenue-related material weaknesses dropped to 105 unique registrants in 2006, and 65 in 2007 (presumably, as large companies improved their controls).

The relevant 10-Ks of these 137 companies were examined to determine the exact nature of the material weaknesses and related remediation efforts. The material weak-

EXHIBIT 1 Companies with Material Weaknesses Related to Revenue Recognition	
<b>Panel A: Company Size (in thousands)</b>	
	<b>Median</b>
Market Value	\$ 314,981
Revenues	\$ 327,595
Assets	\$ 457,023
<b>Panel B: SIC Codes</b>	
1000-1999 Mining and Construction	6
2000-3999 Manufacturing	45
4000-4999 Transportation and Communication	11
5000-5999 Wholesale and Retail	11
6000-6999 Financial, Insurance, and Real Estate	13
7000-8999 Services	51
Total	137
<b>Panel C: External Audit Firm</b>	
Big Four	108
Other National Firms	18
Local Firms	11
Total	137
<b>Panel D: Total Number of Material Weaknesses</b>	
Median number of material weaknesses per company	3
Range of material weaknesses per company	1–18

nesses and remediation efforts were also analyzed, categorized, and summarized.

### Company Characteristics

*Exhibit 1* presents information on the characteristics of the 137 companies. The companies are generally mid-sized public companies, with median market values, revenues, and assets under \$500 million. The companies are concentrated in the services and manufacturing industries. Of particular note is that 30 of the companies are in the computer services and software industries, consistent with a previous finding that such companies are primary

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## The most commonly cited remedial step reflected fundamental changes in revenue recognition policies and controls.

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perpetrators of revenue fraud (Mark S. Beasley, Joseph V. Carcello, Dana R. Hermanson, and Paul D. Lapedes, "Fraudulent Financial Reporting: Consideration of Industry Traits and Corporate Governance Mechanisms," *Accounting Horizons*, December 2000). Most of the sample companies have Big Four auditors, and they typically have a total of three material weaknesses (ranging from one to 18).

### Material Weaknesses

*Exhibit 2* summarizes the most commonly identified material weaknesses related to revenue recognition. General weaknesses in revenue-related controls were the most common type of weakness (35 companies). The problems cited typically involved a lack of controls or ineffective controls governing revenue recognition.

The next categories related to the complexities surrounding revenue recognition. For instance, 26 companies cited weaknesses related to recording contractual arrangements with customers or third parties. In these cases, control weaknesses affected the ability of companies to properly consider the provisions, terms, conditions, and costs associated with revenue/sales contracts in determining when to recognize revenue. Similarly, 26 companies reported weaknesses related to recognizing multi-element or nonstandard arrangements. For example, many of these companies lacked controls to ensure that "multiple element software arrangements with nonstandard terms" were recognized in accordance with generally accepted accounting principles (GAAP), or the staff was not able to understand and account for these transactions. Finally, 24 companies had difficulty properly recognizing deferred revenue. It appears that complex sales arrangements—whether due to complex contracts, bundles of goods and services, or payment patterns that create deferred revenues—can create difficulties in revenue recognition. Although SABs 101 and 104 were intended to help clarify revenue recognition in more complex situations, problems persist.

The next two categories related to management—inadequate financial staff expertise (17 companies) and inadequate management review and approval of revenue transactions (13 companies). In these cases, both the quantity and the skill level of personnel in accounting and finance were found to be lacking. Furthermore, the personnel who were employed did not appear to provide sufficient oversight and review. It is critical for the financial staff to be fully knowledgeable about revenue recognition principles and rules, and it is important that such knowledgeable managers review the recording of revenue transactions, as well as the underlying calculations.

The final two categories were more specific. Several companies reported that they had weaknesses in billing and invoicing (10 companies). Such problems typically were associated with control deficiencies in the accounts receivable, credit, and billing functions. Another group of companies reported weaknesses related to ship-

ping terms and the passage of title (10 companies). These difficulties were typically associated with improper cutoff procedures and failing to identify when title passed in a transaction.

### Remediation Efforts

To mitigate the control weaknesses reported in *Exhibit 2*, companies undertook various remedial efforts to strengthen their controls. *Exhibit 3* summarizes the most commonly identified remedial efforts related to material weaknesses in revenue recognition. The most commonly cited remedial step reflected fundamental changes in revenue recognition policies and controls (66 companies). Companies typically developed or redefined their processes, often in writing, regarding specific aspects of revenue recognition.

The second most commonly cited remediation was the enhanced review and monitoring of complex, nonroutine sales transactions (58 companies). In these cases, companies typically expanded monitoring, implemented new review processes, or increased the nature and quality of review procedures.

Better training regarding revenue recognition (54 companies) was the third most common type of remediation. Examples of better training included establishing and maintaining continuing professional education programs and other types of instruction to ensure that senior personnel and other relevant employees were educated in the technical aspects of revenue recognition. Interestingly, one company specifically stated that its CEO would attend the training session.

Another common remedial step was for companies to hire additional personnel to address the problems (36 companies). These new employees were typically in the accounting and finance or information technology areas. The additional personnel should assist in improving supervision, review, approval, and analysis of revenue transactions.

The next two categories of remedial efforts were related to improved documentation of controls (23 companies) and enhanced communication within the organization regarding revenue recognition (16 companies). The documentation efforts often consisted of the creation of formal

*(Continues on page 45)*

**EXHIBIT 2**  
**Material Weaknesses Related to Revenue Recognition: Categories with 10 or More Companies Represented**

No.	Type of Weakness	Selected Examples
35	Generally lacked proper controls over the recognition and recording of revenues	<ul style="list-style-type: none"> <li>■ Company did not establish or maintain adequate policies and procedures over the selection and application of appropriate accounting policies, resulting in the underreporting of revenues and direct costs.</li> <li>■ Deficiencies revealed in revenue recognition process, which constitute a material weakness in the aggregate.</li> <li>■ Did not maintain effective controls over the accuracy and validity of service and revenue.</li> </ul>
26	Failed to properly record the elements of specific contractual arrangements with customers or third parties	<ul style="list-style-type: none"> <li>■ Company did not maintain effective controls to ensure compliance with established policies by personnel entering into contracts and other commitments.</li> <li>■ The controls were not adequate to ensure the capture and analysis of the terms and conditions of contracts, contract changes, reimbursable costs, and payment terms which affect the timing and amount of revenue to be recognized.</li> <li>■ On some contracts, revenues were initially recorded on change orders/claims without proper support or verification.</li> <li>■ Did not ensure that appropriate evidence of sales agreements with customers existed and that all aspects of sales agreements were considered in the determination of the appropriate accounting.</li> </ul>
26	Failed to properly account for revenues in multi-element or nonstandard arrangements	<ul style="list-style-type: none"> <li>■ Company had insufficient controls over the timely identification of all elements of a multiple-element arrangement with a specific customer.</li> <li>■ Did not maintain effective controls over the determination of revenue recognition for a nonroutine, complex revenue transaction.</li> <li>■ Did not have effective secondary review policies and procedures to ensure that multiple-element software arrangements with nonstandard terms were recognized in accordance with U.S. GAAP.</li> <li>■ Revenue should have been deferred and recognized over the period during which certain services within the multiple-element arrangements are expected to be performed.</li> </ul>
24	Did not properly account for deferred revenues	<ul style="list-style-type: none"> <li>■ Company did not monitor in a timely fashion nor properly analyze some previously deferred transactions. This resulted in revenue accounting errors, including previously deferred revenue being recognized improperly.</li> <li>■ Incorrectly recorded license revenue related to one customer arrangement with nonstandard terms and did not identify improperly deferred revenue balances for the maintenance portion of two customer arrangements with nonstandard terms.</li> <li>■ Failed to effectively perform and document a periodic evaluation of the reasonableness of assumptions, with respect to the deferral of revenue associated with personal training services.</li> <li>■ Control deficiencies and restatements related to the company's deferral of revenue associated with extended service contracts purchased by certain customers at the time of equipment sale.</li> </ul>
17	Lacked sufficient finance and accounting staff with appropriate skills to deal with revenue recognition problems	<ul style="list-style-type: none"> <li>■ Company lacked sufficient finance and accounting staff with adequate depth and skill in the application of GAAP with respect to revenue recognition, specifically regarding the review of evidence of an arrangement and the transfer of title.</li> <li>■ Did not have personnel with adequate technical expertise to effectively carry out the company's policies and procedures related to the review of technical accounting matters and to ensure adequate management review of information supporting the financial statements, resulting in the underreporting of revenues and direct costs.</li> <li>■ Did not employ personnel with the appropriate level of technical knowledge and experience to prepare, document, and review its accounting for revenue to ensure that such accounting complied with U.S. GAAP.</li> </ul>
13	Failed to provide documented controls and consistent management review and approval of transactions involving revenue recognition	<ul style="list-style-type: none"> <li>■ Company policies and procedures did not provide for adequate management oversight and review of the accounting implications of the terms and conditions of certain third-party agreements.</li> <li>■ Calculations were not being reviewed by appropriate accounting personnel to determine that revenue was recognized in accordance with company policy and U.S. GAAP.</li> <li>■ Detailed review of key financial spreadsheets found to be lacking, including spreadsheets supporting journal entries affecting revenue, such as unbilled revenue and deferred revenue.</li> </ul>
10	Failed to properly account for billing disputes, inaccuracies, and other billing problems	<ul style="list-style-type: none"> <li>■ Company demonstrated deficient controls over the timely issuance of invoice adjustments, the initiation of customer master records and contracts to ensure consistent billing of periodic chargers, the collection of accurate meter readings from equipment to ensure the accurate generation of customer invoices, and the segregation of incompatible duties within the billing function.</li> <li>■ Controls that reasonably assure the accurate and timely capture of customer contract billing information and billing of customers in accordance with contract terms were not designed or operating effectively.</li> <li>■ Did not maintain effective controls related to the invoicing of customers with credit terms and the collection and application of payments and credits to accounts receivable.</li> </ul>
10	Failed to properly account for passing of title, given certain shipping terms and shipping dates	<ul style="list-style-type: none"> <li>■ Company did not maintain sufficient controls over existence, completeness, and accuracy in the invoicing process regarding shipment information received from third parties upon which the company relied to record revenue within certain classes of customers.</li> <li>■ Failed to ensure the correct application of SEC SAB 104, when certain sale transactions were entered into with international customers with shipping terms of delivered duty paid.</li> <li>■ Recognized revenue on shipments that were made available to the buyer but not picked up by the buyer or the buyer's carrier at the specified location.</li> </ul>

**Note:** The wording above is quoted or adapted from various companies' public filings.

**EXHIBIT 3**  
Remedial Efforts to Address Revenue Recognition Weaknesses: Categories with 10 or More Companies Represented

No.	Type of Remediation	Selected Examples
66	Revised current policies or implemented new general policies, procedures, processes, or controls regarding revenue recognition	<ul style="list-style-type: none"> <li>■ Company is redefining its processes to ensure that all significant revenue transactions are processed through its computerized information systems, ensuring that they are properly reflected in the company's consolidated financial statements.</li> <li>■ Amended existing indirect channel revenue recognition policy and related written confirmation process to require additional information regarding terms and conditions between the indirect channel partner and the related end user.</li> <li>■ Developing standard reporting for each business unit, including exception reports to assist in error detection.</li> <li>■ Directing internal resource attention, including internal audit efforts, to sales order processing and revenue accounting activities.</li> </ul>
58	Instituted reviews and monitoring of complex, nonroutine, or significant revenue transactions, such as those involving contracts	<ul style="list-style-type: none"> <li>■ Company is increasing review of maintenance and professional services contracts at the time of order entry.</li> <li>■ Adopted a more thorough review process with the management of the division in evaluating transactions with multiple elements in any given period.</li> <li>■ Began processes to independently review all sponsorship and "nonstandard" impression contracts to make sure they are captured and accounted for correctly.</li> <li>■ Improving the monitoring of deferred contracts where recognition is dependent on the occurrence of one or more events.</li> </ul>
54	Conducted additional training regarding revenue recognition	<ul style="list-style-type: none"> <li>■ Company has provided training and instruction to accounting staff to enhance their understanding of relevant U.S. accounting principles.</li> <li>■ Expecting to implement new training courses for senior personnel throughout the company, attended by chief executive officer.</li> <li>■ Maintaining an ongoing program of continuing professional education for financial employees in various areas and disciplines, including revenue recognition.</li> </ul>
38	Hired additional accounting or finance personnel	<ul style="list-style-type: none"> <li>■ Company hired a number of skilled and experienced employees in the accounting and finance section of the organization, including various people in the revenue and project accounting area.</li> <li>■ Continued to add and retain technical accounting personnel and enhance supervision with regard to, among other things, timely account analysis and review and approval of significant revenue transactions.</li> <li>■ Hiring an experienced chief information officer to help oversee the system enhancements required to remediate the control weaknesses.</li> </ul>
23	Improved documentation of policies, procedures, and controls regarding revenue recognition	<ul style="list-style-type: none"> <li>■ Company improved documentation of reconciliations of invoicing.</li> <li>■ Formulated checklists to define revenue recognition criteria and to document related transactional information.</li> <li>■ Established standard global manual documentation requirements at the local reporting levels for the assessment of processing and monitoring of intercompany transactions and appropriate revenue recognition.</li> </ul>
16	Communicated policies, procedures, and controls regarding revenue recognition	<ul style="list-style-type: none"> <li>■ Company modified alignment of the billing function within the organization so that the finance organization has better insight into these types of revenue transactions and so that the appropriate information is available for accounting at period end.</li> <li>■ Reiterate to all financial controllers the requirements of AICPA Statement of Position (SOP) 81-1, "Accounting for Performance of Construction-Type and Certain Production-Type Contracts."</li> <li>■ Advise senior management and division personnel on the various business models for pricing before new products and new bundles are brought to market, in an effort to clarify revenue recognition.</li> </ul>
13	Introduced and monitored new software to automate the recording of certain revenue transactions	<ul style="list-style-type: none"> <li>■ Student information system has been updated to reflect the change in the revenue recognition policy, with regard to diploma programs with externships.</li> <li>■ Company converted three of the remaining six stand-alone revenue systems over to the corporate revenue platform in fiscal year 2005. The company intended to convert the remaining three stand-alone revenue systems to the corporate platform by the end of fiscal year 2006.</li> <li>■ Entered into an agreement with a software vendor to configure and implement revenue recognition software.</li> </ul>
12	Used third-party consultants	<ul style="list-style-type: none"> <li>■ Company is entering into arrangements with third-party accounting and reporting experts to consult with and train management in these areas and to provide additional U.S. GAAP resources for nonroutine or complex accounting matters that may arise in the future.</li> <li>■ Used legal counsel specializing in pharmaceutical matters to provide interpretations of all customer contracts.</li> <li>■ With assistance of outside expert consultants, developed accounting models to recognize sales of domestic products under the sell-through revenue recognition method in accordance with U.S. GAAP.</li> </ul>

**Note:** The wording above is quoted or adapted from various companies' public filings.

(Continued from page 42)

manuals or checklists regarding revenue recognition, while the communication efforts could be directed toward financial personnel or operating personnel.

Finally, two additional tools were used to improve companies' internal controls: software (13 companies) and outside consultants (12 companies). New software can automate new revenue recognition policies, and outside consultants can provide additional expertise and new perspectives.

### Improving Revenue Recognition

This analysis provides insight into the types of material weaknesses that accelerated filers have faced with respect to revenue recognition, as well as the remedial efforts companies have adopted to address such problems. Despite the efforts by the SEC to clarify the rules for revenue recognition in SABs 101 and 104, this study shows that revenue recognition problems continued to trouble public companies even after the implementation of SOX section 404.

Given the findings of this study, it is clear that many companies had not yet developed strong enough control systems to ensure that revenue is only recognized when the following criteria have been met (SABs 101 and 104):

- Persuasive evidence of a sales arrangement exists.
- The price is fixed or determinable.
- Collectibility is reasonably assured.
- Delivery has occurred or services have been rendered.

While now on the decline for larger companies, internal control weaknesses related to revenue recognition are not likely to disappear anytime soon. Nonaccelerated filers are soon to adopt the provisions of section 404, most likely in 2009, and such smaller companies have traditionally been involved in the majority of public company accounting frauds (see "Fraudulent Financial Reporting: 1987-1997"), including those involving revenue recognition. Financial managers and auditors of smaller public companies, as well as to those working with accelerated filers, should consider this analysis when developing controls and strategies designed to appropriately manage risks related to revenue recognition. □

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