# Toward Creating Investor Friendly XBRL: Analysis of 403 SEC XBRL Filings

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## Abstract

In order to better understand XBRL, an analysis of 403 SEC XBRL submissions was undertaken. This document summarizes this analysis and conclusions reached from this analysis in the form of suggestions for creating investor friendly SEC XBRL submissions.

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## Status

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# 1 Introduction

In order to better understand XBRL, an analysis of 403 SEC XBRL submissions was undertaken. This document summarizes this analysis and conclusions reached from this analysis in the form of suggestions for creating investor friendly SEC XBRL submissions.

## 1.1 Overview of Analysis

The following is a summary of the analysis undertaken. The detailed results of this analysis are located here on the web:

> http://www.xbrlsite.com/demos/Analysis/2009-11-15/Viewer/

The SEC XBRL filings for this analysis were 10-K and 10-Q submissions between September 15, 2009 and November 10, 2009 as indicated by the XBRL Cloud EDGAR Dashboard, what amounts to a feed which lists all SEC XBRL Submissions.  See:

> http://edgardashboard.xbrlcloud.com/edgar-all-index.html

(Note that the SEC does not provide a comprehensive list of SEC filings or that list would have been use.  The SEC only provides a list of the last 100 filings.  XBRL Cloud basically consolidates that list, so effectively the two lists should be the same.)

The following is a summary of the analysis performed:

- **Errors**: XBRL Cloud reports a number of errors which are believed to be, by XBRL Cloud, correct implementation of EDGAR Filer Manual rules.  This may, or may not be the case.  However, there is no evidence that XBRL Cloud is incorrect.  As such, that set of validation results was used as a benchmark to examine SEC XBRL Filings.  No other vendors makes their EFM validation pubic.  If this information were public, further investigation would be possible to better identify what amount to interoperability issues between the SEC, other software vendors, and what XBRL Cloud indicates as "valid XBRL" per the SEC EFM.

- **Calculation Inconsistencies**: XBRL Cloud reports calculation inconsistencies which result from validating SEC XBRL Filings.  These inconsistencies are XBRL calculations expressed in the filer's XBRL taxonomy but the XBRL instance as fact value which express numeric relations which are inconsistent with what is expressed by the filers XBRL taxonomy.  It is not a foregone conclusion that calculation inconsistencies are errors. Further analysis would be necessarily to definitely identify why calculations are inconsistent.

- **Test Formula**: XBRL calculations are insufficient to evaluate all computation relations within an XBRL filing. One test XBRL Formula was created in order to gain insight on how one non-XBRL calculation type computation.  The XBRL Formula chosen was the roll forward in cash per the cash flow statement as a high number of SEC XBRL filers had this relation or it was deemed that they should have had this relation within their 10-Q or 10-K.  The purpose of this one test was to determine if the actual results received were consistent with expected results and to then look at the unexpected results to see the reason for the difference.  It is believed that insight gained from looking at this one XBRL Formula could provide insight into how certain things are being constructed within filer taxonomies in general.

- **Test Information Model Relations**: One test of consistency with the US GAAP Taxonomy information model was created.  The test chosen was the relation between [Table], [Axis], and [Line Items] with filer XBRL taxonomies as compared to how those relations are expressed within the US GAAP Taxonomy Architecture document and the US GAAP Taxonomy itself.  Further, as the US GAAP Taxonomy uses [Table]s on each of the primary financial statements and all filers report the primary financial statements then [Table]s should exist in each SEC XBRL filing.  It is believed that insight gained from looking at one information modeling can provide insight into how

other information modeling structures (i.e. such as a [Roll Forward]) are being created within a filer taxonomy in general.

## 1.2 Summary and Analysis of Results

The following is a summary of the analysis which was performed.

- **Errors**:

  o Of 403 filings analyzed, 28 produced XBRL Cloud validation errors and 375 produced zero XBRL Cloud validation errors.

  o These errors were not detected by SEC validation upon submission for a number possible reasons including different interpretations of the EFM by XBRL Cloud and the SEC validator, different interpretations by a software vendor and XBRL Cloud, and other such issues.

  o These issues should eventually be resolved as the SEC validation conformance suite continues to be built out, software vendors resolve these interoperability issues, etc.

  o This list does NOT mean that the filer had an error, but rather it identifies possible software interoperability issues which should be resolved.

- **Calculation Inconsistencies**:

  o Of 403 filings analyzed, 90 produced XBRL calculations inconsistencies, 313 produced no calculation inconsistencies.

  o This does NOT necessarily mean that the calculations of the 90 filers are errors, but rather point to filings which are being investigated further to determine if calculations are valid.

- **Test Formula**:

  o Of 403 filings analyzed, only 55 produced XBRL Formula validation results which were different than the expected results, 348 produced the expected results.

  o This does NOT mean that the filer had an error, but rather it identified where a filer used different concepts then were provided for this roll forward in the US GAAP Taxonomy, or they changed a computation in some manner, or the added additional concepts to the computation for some reason.

- **Test Information Model Relations**:

  o Of 403 filings analyzed, 27 have used the [Table], [Axis], [Line Items] concepts consistently with the way the US GAAP Taxonomy was created and consistent with the US GAAP Taxonomy Architecture (see section 4.5 Implementation of Tables, page 38), 376 do not.

  o This analysis is making no judgment as to what is correct or incorrect, only pointing out the wide variety that [Table]s are being used.

  o There appears to be no guidance coming from the SEC or XBRL US as to how to properly model [Table]s, thus the variability.

  o It is highly likely there are similar issues relating to the [Roll Forward] and other information modeling patterns within the US GAAP Taxonomy and filer extension taxonomies.

Additional details of the results above can be found at the web site previously pointed out.

## *1.3  Top 10 Errors to Avoid in Creating Your SEC XBRL Filings*

Be sure to check out the section later in this document which helps you try and avoid errors such as those detected in this analysis.  See section 3.

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# 2 Analysis and Discussion of Results

The purpose of this section is to provide additional insight and details relating to each analysis area. This information is helpful in interpreting the results.

## 2.1 Errors

Theoretically, and eventually most likely, the validation results of SEC XBRL filings produced by the SEC, by other software vendors, and by XBRL Cloud should be exactly the same. The validation results provided by XBRL Cloud point out interoperability issues between software processing these XBRL filings.

A similar situation was experienced with XBRL itself in versions prior to XBRL 2.1 and in the early stages of XBRL 2.1. When a conformance suite was implemented which each software vendor could use to test their software, the differences in validation results dropped dramatically. Today, XBRL 2.1 can be considered quite interoperable by software applications which pass the XBRL 2.1 conformance suite.

The SEC has endeavored to create their own conformance suite, the SEC Interactive Data Test Suite (see section A References). This test suite is already having a very good impact on interoperability.

The current validation which implements the SEC Interactive Data Test Suite went live on about September 18, 2009. As a result, the errors pointed out by XBRL Cloud dropped significantly. This trend is anticipated to continue to the point where no interoperability issues exist. Issues will likely appear from time-to-time, but the issues will likely be manageable and eventually addressed within the SEC Interactive Data Test Suite.

This is a summary of the errors reported by XBRL Cloud:

| FilerName | CIK | AsseccentionNumber | Errors | Creation Software |
|---|---|---|---|---|
| MICROSOFT CORP | 0000789019 | 0001193125-09-212454 | 38 | EDGAR Online |
| EXELON CORP | 0001109357 | 0001193125-09-212818 | 35 | EDGAR Online |
| WELLPOINT INC | 0001156039 | 0001193125-09-216157 | 30 | EDGAR Online |
| ALTRIA GROUP, INC. | 0000764180 | 0001193125-09-217203 | 28 | EDGAR Online |
| Oracle Corporation | 0001341439 | 0001193125-09-195193 | 28 | UBmatrix |
| Aflac Incorporated | 0000004977 | 0000950123-09-059412 | 18 | Rivet |
| Halliburton Company | 0000045012 | 0000045012-09-000390 | 13 | EDGARFilings |
| PEABODY ENERGY CORP | 0001064728 | 0000950123-09-058979 | 7 | Rivet |
| EL PASO CORP/DE | 0001066107 | 0000950123-09-059588 | 6 | Rivet |
| V F CORP | 0000103379 | 0000950123-09-060619 | 6 | Rivet |
| RRI ENERGY INC | 0001126294 | 0000950123-09-058104 | 5 | Rivet |
| Vulcan Materials CO | 0001396009 | 0000950123-09-058668 | 5 | Rivet |
| WATERS CORP /DE/ | 0001000697 | 0000950123-09-058936 | 5 | Rivet |
| SOUTHERN CO | 0000003153 | 0000092122-09-000089 | 5 | Rivet |
| ARCH COAL INC | 0001037676 | 0000950123-09-060325 | 5 | Rivet |
| CONAGRA FOODS INC /DE/ | 0000023217 | 0000950123-09-048892 | 4 | Bowne |
| YUM BRANDS INC | 0001041061 | 0001041061-09-000240 | 3 | EDGARFilings |
| GRAINGER W W INC, | 0000277135 | 0000277135-09-000043 | 2 | EDGARFilings |
| ADOBE SYSTEMS INC | 0000796343 | 0000796343-09-000032 | 2 | Bowne |
| Public Storage | 0001393311 | 0001393311-09-000035 | 2 | Rivet |
| DIRECTV GROUP INC | 0000944868 | 0001047469-09-009634 | 1 | Rivet |
| FedEx Corporation | 0001048911 | 0000950123-09-044076 | 1 | EDGARFilings |
| AGILENT TECHNOLOGIES INC | 0001090872 | 0001140361-09-022500 | 1 | EDGARFilings |
| PROCTER & GAMBLE CO | 0000080424 | 0001193125-09-217067 | 1 | EDGAR Online |
| Liberty Media Corporation and Subsidiaries | 0001355096 | 0001047469-09-009800 | 1 | Rivet |
| EASTMAN CHEMICAL CO | 0000915389 | 0000915389-09-000070 | 1 | EDGARFilings |
| General Electric Company | 0000040545 | 0000040545-09-000074 | 1 | Clarity |
| ARCHER DANIELS MIDLAND CO | 0000007084 | 0000007084-09-000061 | 1 | Fujitsu |
| | | Total | 255 | |

This is a stratification of the errors reported:

| Strata | Filings | Percent of Total |
|---|---|---|
| Filings with more than 11 errors per filing | 7 | 2% |
| Filings with between 6 and 10 | 3 | 1% |
| Filings with between 4 and 5 | 6 | 1% |
| Filings with between 2 and 3 | 4 | 1% |
| Filings with only 1 error | 8 | 2% |
| Filings with NO ERRORS | 375 | 93% |
| | **403** | **100%** |

## 2.2 Calculation Inconsistencies

The SEC allows XBRL instances with calculation inconsistencies to pass through the SEC XBRL submission validation process. As such, calculation inconsistencies can, and do, exist.

However, of the 403 filings analyzed, 313 had no such inconsistencies. A logical question would be, why can 313 filings be created without calculation inconsistencies and 90 others need to contain such inconsistencies.

Of the 90 filings with calculation inconsistencies, a number were looked at and have what appear to be true calculation errors.

This is a stratification of the calculation inconsistencies found reported:

| Strata | Filings | Percent of Total |
|---|---|---|
| Filings with more than 30 calculation inconsistencies per filing | 3 | 1% |
| Filings with between 20 and 29 | 5 | 1% |
| Filings with between 10 and 19 | 12 | 3% |
| Filings with between 2 and 9 | 65 | 16% |
| Filings with only 1 error | 5 | 1% |
| Filings with NO ERRORS | 313 | 78% |
| | **403** | **100%** |

Here are two examples to show why these can be seen as errors:

**Nobel Corporation:**
- 10-Q: http://www.sec.gov/Archives/edgar/data/1169055/000095012309058947/c91841e10vq.htm
- XBRL Instance: http://www.sec.gov/Archives/edgar/data/1169055/000095012309058947/ne-20090930.xml
- Calculation report: http://www.xbrlsite.com/demos/Analysis/2009-11-15/Viewer/Calculations/0000950123-09-058947_Calctrace.html

This is a fragment of the balance sheet within the Nobel Corporation 10-Q. It shows the shareholder's equity section of the balance sheet. All these columns of numbers add up, as would be expected:

| Shareholders' equity | | | | |
|---|---:|---:|---:|---:|
| Shares — par value 4.90 Swiss francs per share; 414,399 shares authorized; 138,133 shares conditionally authorized, 276,266 shares issued and 261,825 shares outstanding as of September 30, 2009 | 1,141,611 | — | — | — |
| Ordinary shares — par value $.10 per share; 400,000 shares authorized; 261,246 shares and 261,899 shares issued and outstanding at September 30, 2009 and December 31, 2008, respectively | — | 26,190 | 26,125 | 26,190 |
| Capital in excess of par value | — | 402,115 | 368,374 | 402,115 |
| Treasury Stock; 2,000 shares | (69,430) | — | — | — |
| Retained earnings | 5,398,530 | 4,919,667 | 6,141,393 | 4,919,667 |
| Accumulated other comprehensive loss | (53,771) | (57,257) | (53,771) | (57,257) |
| **Total shareholders' equity** | 6,416,940 | 5,290,715 | 6,482,121 | 5,290,715 |
| **Total liabilities and shareholders' equity** | $ 8,089,375 | $ 7,106,799 | $ 8,148,674 | $ 7,106,799 |

This is a fragment of the calculation report from above which is a result of validating the XBRL instance also linked to above. If you run the XBRL instance through any XBRL validator, you should get similar results. This portion of the validation report relates to the left most column in the screen shot above.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| us-gaap:LiabilitiesAndStockholdersEquity | | NA | -3 | [7] | 8089375000 | 8,089,375,000 | Instance | OK |
| us-gaap:StockholdersEquityIncludingPortionAttributableToNoncontrollingInterest | 1.0 | NA | -3 | [7] | 6416940000 | 5,414,189,000 | Instance | Inconsistency found, calculated value is 5,414,189,000 |
| us-gaap:CommonStockValue | 1.0 | credit | -3 | [0] | 0 | 0 | Instance | |
| us-gaap:AdditionalPaidInCapital | 1.0 | credit | -3 | [0] | 0 | 0 | Instance | |
| us-gaap:RetainedEarningsAccumulatedDeficit | 1.0 | credit | -3 | [7] | 5398530000 | 5,398,530,000 | Instance | |
| us-gaap:TreasuryStockValue | -1.0 | debit | -3 | [5] | -69430000 | -69,430,000 | Instance | |
| us-gaap:AccumulatedOtherComprehensiveIncomeLossNetOfTax | 1.0 | credit | -3 | [5] | -53771000 | -53,771,000 | Instance | |

The validator reports an inconsistency between what it calculated as the value and the value shown in the XBRL instance for the second concept on the calculation report, basically total stockholder's equity. There appear to be two errors which create a total net difference of 1,002,751,000. First, the value 1,141,611 is NOT in the calculation report, second, the value 69,430 is entered as a negative number in the XBRL instance, it SHOULD have been entered as positive.

## CENTERPOINT ENERGY INC

- 10-Q: http://www.sec.gov/Archives/edgar/data/1130310/000113031009000049/form10-q.htm
- XBRL Instance: http://www.sec.gov/Archives/edgar/data/1130310/000113031009000049/cnp-20090930.xml
- Calculation report: http://www.xbrlsite.com/demos/Analysis/2009-11-15/Viewer/Calculations/0001130310-09-000049_Calctrace.html

This shows a fragment of the 10 Q, the current assets portion of the balance sheet:

**ASSETS**

| | December 31, 2008 | September 30, 2009 |
|---|---:|---:|
| **Current Assets:** | | |
| Cash and cash equivalents | $ 167 | $ 61 |
| Investment in marketable securities | 218 | 286 |
| Accounts receivable, net | 1,009 | 609 |
| Accrued unbilled revenues | 541 | 161 |
| Natural gas inventory | 441 | 225 |
| Materials and supplies | 128 | 148 |
| Non-trading derivative assets | 118 | 50 |
| Taxes receivable | - | 108 |
| Prepaid expenses and other current assets | 413 | 347 |
| Total current assets | 3,035 | 1,995 |

This shows the calculation validation report:

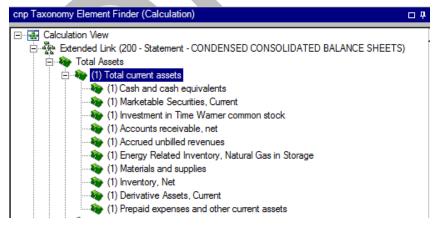| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| us-gaap:Assets | | NA | -6 | [5] | 18653000000 | 18,653,000,000 | Instance | OK |
| us-gaap:AssetsCurrent | 1.0 | NA | -6 | [4] | 1995000000 | 1,887,000,000 | Instance | Inconsistency found, calculated value is 1,887,000,000 |
| us-gaap:CashAndCashEquivalentsAtCarryingValue | 1.0 | debit | -6 | [2] | 61000000 | 61,000,000 | Instance | |
| us-gaap:MarketableSecuritiesCurrent | 1.0 | debit | -6 | [3] | 286000000 | 286,000,000 | Instance | |
| us-gaap:AccountsReceivableNetCurrent | 1.0 | debit | -6 | [3] | 609000000 | 609,000,000 | Instance | |
| cnp:AccruedUnbilledRevenues | 1.0 | | -6 | [3] | 161000000 | 161,000,000 | Instance | |
| us-gaap:EnergyRelatedInventoryNaturalGasInStorage | 1.0 | debit | -6 | [3] | 225000000 | 225,000,000 | Instance | |
| cnp:MaterialsAndSupplies | 1.0 | | -6 | [3] | 148000000 | 148,000,000 | Instance | |
| us-gaap:DerivativeAssetsCurrent | 1.0 | debit | -6 | [2] | 50000000 | 50,000,000 | Instance | |
| us-gaap:OtherAssetsCurrent | 1.0 | debit | -6 | [3] | 347000000 | 347,000,000 | Instance | |

A second, a little easier to read, validator shows the same calculation inconsistency:

| 54 | Context c00005[at 2009-09-30 for 0001130310] | | | | | | |
|---|---|---|---|---|---|---|---|
| 55 | u000 | | | | | | |
| 56 | us-gaap:Assets | | D | D -6 | 18,653,000,000 | both | OK |
| 57 | us-gaap:AssetsCurrent | 1 | D | D -6 | 1,995,000,000 | inst | Inconsistency |
| | | | | D -6 | 1,887,000,000 | comp | |
| 58 | us-gaap:CashAndCashEquivalentsAtCarryingValue | 1 | D | D -6 | 61,000,000 | inst | |
| 59 | us-gaap:MarketableSecuritiesCurrent | 1 | D | D -6 | 286,000,000 | inst | |
| 60 | us-gaap:AccountsReceivableNetCurrent | 1 | D | D -6 | 609,000,000 | inst | |
| 61 | cnp:AccruedUnbilledRevenues | 1 | | D -6 | 161,000,000 | inst | |
| 62 | us-gaap:EnergyRelatedInventoryNaturalGasInStorage | 1 | D | D -6 | 225,000,000 | inst | |
| 63 | cnp:MaterialsAndSupplies | 1 | | D -6 | 148,000,000 | inst | |
| 64 | us-gaap:DerivativeAssetsCurrent | 1 | D | D -6 | 50,000,000 | inst | |
| 65 | us-gaap:OtherAssetsCurrent | 1 | D | D -6 | 347,000,000 | inst | |

The difference between what the XBRL validator calculated and what is in the XBRL instance for current assets is 108,000,000.

The line item which shows up on the balance sheet TAXES RECEIVABLE of 108,000,000 does NOT show up in the calculation report. Therefore there is a calculation inconsistency on the 2009 consolidated balance sheet. The concept us-gaap:IncomeTaxesReceivable in the XBRL instance does, in fact, contain the value 108,000,000 and does exist in the XBRL instance.

This is a screen shot of the calculation relations in the filer taxonomy:



(Further, not related to the calculation issue but it does reflect on the care in creating the XBRL filing, there are two concepts which were created by the filer which obviously should have balance attribute values of either debit or credit (debit most likely in this case): cnp:AccruedUnbilledRevenues and cnp:MaterialsAndSupplies.)

A complete analysis of all 90 calculation inconsistencies was not undertaken. However, many of the 90 are believe to be true errors which could have been avoided by removing errors from the taxonomy or from the instance.

There is another class of calculation inconsistencies which may result. These are calculation inconsistencies which cannot be made to disappear from the calculation validation report. The following are known reasons which such calculation inconsistencies exist:

- The filer chooses not to report certain fact values which, if reported, would make the calculation inconsistencies disappear.

- The filer has what amounts to "stray" values being reported which cause calculations to fire where they should not fire.

At this point further analysis and experience is deemed necessary to determine if all calculation inconsistencies can be made to disappear, yielding no calculation inconsistencies.

Data quality is enhanced by using calculations validation to make sure data quality is what it needs to be. Allowing calculation inconsistencies to exist yields this validation mostly impotent in helping to achieve the quality levels desired. On the other hand, if it is truly not possible to make all calculation inconsistencies to disappear from a validation report and requiring clean calculation validation reports; a filer may not be able to submit a valid filing.

## 2.3  Test XBRL Formula

XBRL calculations are insufficient for testing all computations which exist within an XBRL instance. This is because XBRL calculations only work for fact value within the same context. There are computation relations, such as a roll forward and a dimensional aggregation, which has fact values across contexts. As such, XBRL Formulas are needed to express computation relations not covered by XBRL calculations.

To test how one of these [Roll Forward] relations was working and what impacted XBRL Formula validation results, an XBRL Formula was created for one common [Roll Forward] relation. (There are hundreds of these relations, doing all would be too time consuming.)

The [Roll Forward] selected was the reconciliation of the balance of cash on the cash flow statement. In summary form, the XBRL Formula is this:

Beginning Balance of Cash + Changes in Cash = Ending Balance of Cash

There are more subtleties to this XBRL Formula, I will get into these as the detailed results are analyzed.

Here is a summary of the results that I found for these 403 filings relating to this one XBRL Formula:

- 348 filings showed two satisfied formulas, which is what I would have expected

- 15 filings used some other concept than the concept provided by the US GAAP Taxonomy cash flow statement (us-gaap:CashAndCashEquivalentsAtCarryingValue). These included: us-gaap:CashAndDueFromBanks, us-gaap:Cash, us-gaap:CashCashEquivalentsAndShortTermInvestments

- 9 filings put the concept us-gaap:EffectOfExchangeRateOnCashAndCashEquivalents in a different place than the US GAAP Taxonomy in the calcuation (for more information see: http://xbrl.squarespace.com/journal/2009/11/24/issue-relating-to-effect-of-exchange-rate-on-cash-and-cash-e.html)

- 8 filings did something really nasty, a bad practice in my book, but creating distinct concepts for the beginning and ending cash balances, rather than following what the US GAAP Taxonomy does literally hundreds of times which is creating one concept and using context to differentiate the balances at different periods

- 4 filings created custom concept for net changes in cash, replacing the US GAAP Taxonomy concept

- 4 filings changed the computation relating to cash flows relating to discontinued operations

- 3 filings added a concept for cash flows relating to assets held for sale (which probably should be a taxonomy fix)

- 2 filings had tagging errors

- 2 filings added VIE related cash flows (again, this probably should be an adjustment to the US GAAP Taxonomy

- 2 filings created custom concept for cash balance concept

- 1 filing had a zero balance for cash and did not put in a concept that cash balance

- 1 filing had a funky presentation of cash which I would have never anticipated and is different than all other filers

- 1 filing had a rounding error in both their human readable version and their XBRL

- 1 filing had cash classified as a liability because they had a bank overdraft, which was done correctly but I did not anticipate

- 1 filing did not disclose the balances of cash on their cash flow statement; they did have balances on the balance sheet, but a beginning balance which was needed to get two roll forwards was nowhere to be found

- 1 filing needs additional work, I cannot figure out what is going on, but something is causing the formula to not work correctly

## 2.4  Test Information Model Relations

The information model test takes a look at how [Table]s are structured within the filer XBRL extension taxonomies. Per the US GAAP Taxonomy Architecture (see section 4.5 Implementation of Tables, page 38 of the PDF: http://xbrl.us/Documents/SECOFM-USGAAPT-Architecture-20080428.pdf).

There are rules for creating a [Table].  These rules are consistently followed by the US GAAP Taxonomy.  These rules are referred to by the US GAAP Taxonomy as styles.  There are other styles such as the [Roll Forward] which are likewise modeled consistently.

Two rules for tables are the following:

- All [Table]s MUST have at least one [Axis].

- All [Table]s MUST have exactly one [Line Items].

- A [Table] was expected for each primary financial statement at a minimum

The test of the information model looked at the 403 filer taxonomies to see if they were following these two specific rules.

Here is an example of three filers who's XBRL extension taxonomies had results which were expected:

Citigroup (results where as expected):

**Information Model Validation for Citigroup Inc. 0001047469-09-009754**

Go to Presentation Network

| Network | Table | Has [Axis] | Has [Line Items] |
|---|---|---|---|
| 0010 - Statement - CONSOLIDATED STATEMENT OF INCOME (CITIGROUP INC. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0015 - Statement - CONSOLIDATED STATEMENT OF INCOME PARENTHETICAL (CITIGROUP INC. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0020 - Statement - CONSOLIDATED BALANCE SHEET (CITIGROUP INC. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0025 - Statement - CONSOLIDATED BALANCE SHEET PARENTHETICAL (CITIGROUP INC. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0030 - Statement - CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CITIGROUP INC. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0035 - Statement - CONSOLIDATED STATEMENT OF CHANGES IN EQUITY PARENTHETICAL (CITIGROUP INC. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0040 - Statement - CONSOLIDATED STATEMENT OF CASH FLOWS (CITIGROUP INC. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0050 - Statement - CONSOLIDATED BALANCE SHEET (CITIBANK, N.A. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 0055 - Statement - CONSOLIDATED BALANCE SHEET PARENTHETICAL (CITIBANK, N.A. AND SUBSIDIARIES) | Statement [Table] | Yes | Yes |
| 1010 - Disclosure - BASIS OF PRESENTATION | Statement [Table] | Yes | Yes |
| 1020 - Disclosure - DISCONTINUED OPERATIONS | Statement [Table] | Yes | Yes |
| 1030 - Disclosure - BUSINESS SEGMENTS | Statement [Table] | Yes | Yes |
| 1040 - Disclosure - INTEREST REVENUE AND EXPENSE | Statement [Table] | Yes | Yes |
| 1050 - Disclosure - COMMISSIONS AND FEES | Statement [Table] | Yes | Yes |
| 1060 - Disclosure - RETIREMENT BENEFITS | Statement [Table] | Yes | Yes |
| 1070 - Disclosure - RESTRUCTURING | Statement [Table] | Yes | Yes |

Note that this filer made particularly good use of [Table]s modeling every concept reported within a [Table] and therefore within an XBRL Dimensions hypercube. What this means is that every dimension (called an [Axis] in the US GAAP Taxonomy) is explicitly indicated within the XBRL instance. There were about 10 filers who created [Table]s in which every fact value reported were placed.

IBM (results where as expected):

**Information Model Validation for International Business Machines Corporation 0001104659-09-060554**

Go to Presentation Network

| Network | Table | Has [Axis] | Has [Line Items] |
|---|---|---|---|
| 0010 - Statement - Consolidated Statement of Earnings | Statement [Table] | Yes | Yes |
| 0020 - Statement - Consolidated Statement of Financial Position | Statement [Table] | Yes | Yes |
| 0030 - Statement - Consolidated Statement of Cash Flows | Statement [Table] | Yes | Yes |

TEXTRON INC (results where as expected):

## Information Model Validation for TEXTRON INC 0000217346-09-000156

Go to Presentation Network

| Network | Table | Has [Axis] | Has [Line Items] |
|---|---|---|---|
| 01 - Statement - Consolidated Statements of Operations (Unaudited) | Statement [Table] | Yes | Yes |
| 02 - Statement - Consolidated Balance Sheets (Unaudited) | Statement [Table] | Yes | Yes |
| 021 - Statement - Consolidated Balance Sheets (Parenthetical) (Unaudited) | Statement [Table] | Yes | Yes |
| 03 - Statement - Consolidated Statements of Cash Flows (Unaudited) | Statement [Table] | Yes | Yes |

Now, in contrast, here are several which have test results which were not as expected meaning that the XBRL extension taxonomies are not consistent with the US GAAP Taxonomy because they do now follow the rules for [Table]s which were tested.

Google Inc. (has information modeling errors)

## Information Model Validation for Google Inc. 0001193125-09-222384

Go to Presentation Network

| Network | Table | Has [Axis] | Has [Line Items] |
|---|---|---|---|
| 101 - Statement - Consolidated Balance Sheets | Statement [Table] | Yes | Yes |
| 102 - Statement - Consolidated Balance Sheets (Parenthetical) | Statement [Table] | Yes | Yes |
| 103 - Statement - Consolidated Statements Of Income | Statement [Table] | No | Yes |
| 104 - Statement - Consolidated Statements Of Income (Parenthetical) | Statement [Table] | No | Yes |
| 105 - Statement - Consolidated Statements Of Cash Flows | Statement [Table] | No | Yes |
| 122 - Disclosure - Common Domain Members | Statement [Table] | Yes | No |

KEYCORP (has information modeling errors)

## Information Model Validation for KEYCORP /NEW/ 0000950123-09-059334

Go to Presentation Network

| Network | Table | Has [Axis] | Has [Line Items] |
|---|---|---|---|
| 01 - Statement - Consolidated Balance Sheets | Statement [Table] | Yes | Yes |
| 011 - Statement - Consolidated Balance Sheets (Parenthetical) | Statement [Table] | Yes | Yes |
| 02 - Statement - Consolidated Statements of Income (Unaudited) | Statement [Table] | No | Yes |
| 021 - Statement - Consolidated Statements of Income (Parenthetical) (Unaudited) | Statement [Table] | No | Yes |
| 03 - Statement - Consolidated Statements of Changes in Equity (Unaudited) | Statement [Table] | Yes | Yes |
| 031 - Statement - Consolidated Statements of Changes in Equity (Parenthetical) (Unaudited) | Statement [Table] | Yes | Yes |
| 04 - Statement - Consolidated Statements of Cash Flows (Unaudited) | Statement [Table] | No | Yes |

Western Union CO (has information modeling errors)

## Information Model Validation for Western Union CO 0001193125-09-219024

Go to Presentation Network

| Network | Table | Has [Axis] | Has [Line Items] |
|---|---|---|---|
| 101 - Statement - Condensed Consolidated Statements of Income (Unaudited) | Statement [Table] | No | Yes |
| 102 - Statement - Condensed Consolidated Statements of Income (Unaudited) (Parenthetical) | Statement [Table] | No | Yes |
| 103 - Statement - Condensed Consolidated Balance Sheets (Unaudited) | Statement [Table] | No | Yes |
| 104 - Statement - Condensed Consolidated Balance Sheets (Unaudited) (Parenthetical) | Statement [Table] | No | Yes |
| 105 - Statement - Condensed Consolidated Statements of Cash Flows (Unaudited) | Statement [Table] | No | Yes |

Western Union CO (has information modeling errors)

A summary of all the results can be seen here where the information model for each filer can be viewed:

http://www.xbrlsite.com/demos/Analysis/2009-11-15/Viewer/Other/InformationModelIssues.html

From the above link you can navigate to a human readable version of the filer's presentation relations from their XBRL taxonomy.

Of the 403 filings analyzed, for this one information model test, these were the results:

- 27 had no information modeling issues for this test
- 376 had information modeling issues for this test

# 3   Top 10 Errors to Avoid in Creating Your SEC XBRL Filings

As a result of this analysis, I have published a set of recommendations to avoid the types of errors detected in my analysis. You can see those recommendations on my blog here:

http://xbrl.squarespace.com/journal/2009/11/26/top-10-errors-to-avoid-in-creating-your-sec-xbrl-filings.html

This is a summary of those recommendations:

1. **Don't use concepts when you should be using contexts to differentiate fact values**: Specifically, you don't want to do something like creating the following two concepts: *my:CashBeginningBalance* and *my:CashEndingBalance*. Bad, bad, bad. You never see this in the US GAAP Taxonomy. Of 403 filers, about 9 made this mistake.

2. **Don't use concepts to differentiate where a concept is used**: Specifically, don't create concepts like this: my:Cash and then my:CashCF (meaning one cash concept for the balance sheet and another concept which represents the same thing for the cash flow statement).

3. **Stick with US GAAP Taxonomy concepts where appropriate**: There are some filers defining their own terms for things like "cash" and "net change in cash". See this blog post for more information. Only 4 of 403 filers defined a concept to replace the US GAAP Taxonomy cash flow statement which is supposed to contain the value for the net change to cash. That is a pretty good clue (4 of 403 creating a custom concept) that the US GAAP Taxonomy is most likely the way to go. This may not be true in 100% of situations, but from what I saw from those filings, I cannot see why they had to create a new concept. If you do not follow the pack and you create a new concept, a good idea would be to make it clear in the documentation for that concept why you felt that was necessary.

4. **Check your calculations**: When you create your XBRL filing, be sure to run the filing through an XBRL processor which checks the calculations. You can see what the results of these checks looks liike here. This is an example of a clean filing with no calculation inconsistencies. This is an example of a calculation inconsistency which indicates which, if compared to the HTML filing, is really an error.

5. **Prove all your computations**: Prove to yourself that all the computations add up correctly. This means not just the XBRL calculations, but also the [Roll Forward]s which cannot be validated by XBRL calculations. Another category of computations which XBRL calculations cannot validate relate to aggregations across dimensions. You need XBRL Formulas in these cases. Use both of these, XBRL calculations and XBRL Formula, to prove that 100% of your computations are correct.

6. **Follow the US GAAP Taxonomy**: If you look at the US GAAP Taxonomy you will notice that it is constructed quite consistently and a in very specific ways. You should follow that guidance within your filer extension taxonomy. The SEC or XBRL US do not provide rules to enforce this currently, but they will eventually. An example of what I am talking about here can be seen in this analysis. What this analysis did was to look at one specific area of the US GAAP Taxonomy information model: the [Table]. Per the US GAAP Taxonomy Architecture(see section 4.5 Implementation of Tables on page 38 of that PDF), a [Table] must always have at least one [Axis] and it must have exactly one [Line Items] concept. Further, since the US GAAP Taxonomy uses [Table]s to express every primary financial statement, you would expect that there would be a [Table] for each of those. This is what the test results would look like for a well prepared filing. This is what the test results would look like if you you are not following the US GAAP Taxonomy structure for a [Table]. If you want extra credit, model EVERYTHING within a [Table]. There are about 10 filers who already do this. In my view, that is where the US GAAP Taxonomy will be moving to in the future. I

will stop with that recommendation for now, if you want further information on this send me an email or read my blog.

7. **Avoid rounding within the XBRL instance, take care of this when creating the filing**: Of 403 filings that I looked at, only one showed a computation error as a result of rounding.  It is far better for filings to add up correctly within the filing than to force investors and analysis to deal with these rounding issues.

8. **Don't stand out in the wrong areas**:  Sure, if you have a great financial statement you obviously do want to stand out to analysts.  But you don't want to be a stand out for the wrong reasons. For example, of 403 SEC XBRL filers all but 8 followed the US GAAP Taxonomy computation of net change in cash.  These 8 seem to be making a mistake from what information I have accumulated.  You can decide if this is, or is not, an error for yourself, see this blog post. Far be it from me to say whether the 8 are correct, or the other 395 are correct.  Whether this is truly an error or not is not my point.  The point is, if you are not following the pack, you really should be able to explain and justify why.  If you are comfortable with that explaination you are OK.

9. **Push for software interoperability**: So XBRL Cloud says that 28 filers have errors, per the Edgar Filer Manual, in their filings.  Yet, the SEC accepted the filings.  How is that possible?  XBRL Cloud is confident enough about their validation results that they publish the results on the web for all to see.  The SEC publishes a test suite. Other vendors have software and they test their software against the SEC's test suite.  Other vendors may disagree with the SEC test suite, I cannot tell for sure because they don't publish results on the web.  It will take type for all the software vendors and the SEC to get on the same page in this regard. Eventually, XBRL Cloud, the SEC, and all the other software vendors will have the same validation results.  For now, just go for the lest common denominator.  Take a look at your filing via the XBRL Cloud validation results.  Check out the errors which are being reported.  If you can make them go away by fixing something, then fix them.  Talk to your software vendor and ask them if they feel the errors are valid.  I predict that these differences will get resolved over the next six months or so.

10. **Help investors use your information**: In general, do things which make it easier for investors, analysts, and others to use your information.  Not quite sure what those things are?  Well, this list is a good starting point.  Asking analysts is another idea, help them automate their analysis models rather than throw things in that make it harder to automate their analysis.  Clearly you don't want to change the meaning of what you are reporting, you still need to properly reflect your financial information, don't change that.

# 4   Tables of Information

The following are various tables of information accumulated from this analysis.  Not all tables from the analysis were included due to the size of the information tables.  All data can be found here on the web: http://www.xbrlsite.com/demos/Analysis/2009-11-15/Viewer/

## 4.1.1  Total Errors, Filings and Errors Per Filing by Creation Software

This table shows the total number of errors, number of filings, and the errors per filing by creation software application.

| SoftwareName | Errors | Filings | ErrorsPerFiling |
|---|---|---|---|
| Unknown | 0 | 1 | 0.0 |
| UBmatrix | 28 | 1 | 28.0 |
| Rivet | 66 | 41 | 1.6 |
| Fujitsu | 1 | 57 | 0.0 |
| EDGARFilings | 21 | 58 | 0.4 |
| EDGAR Online | 132 | 143 | 0.9 |
| CompSci | 0 | 1 | 0.0 |
| Clarity | 1 | 13 | 0.1 |
| Business Wire | 0 | 4 | 0.0 |
| Bowne | 6 | 84 | 0.1 |
| **Total/Average** | **255** | **403** | **0.6** |

## 4.1.2  Errors by FilerName

This is a list of filings with 1 or more errors reported.  If filers did NOT have errors, they were not listed.  Of 403 filings, 375 had zero errors and are therefore not on this list and 28 had 1 or more errors reported, and are therefore listed.

| FilerName | CIK | AssecentionNumber | Errors | Creation Software |
|---|---|---|---|---|
| MICROSOFT CORP | 0000789019 | 0001193125-09-212454 | 38 | EDGAR Online |
| EXELON CORP | 0001109357 | 0001193125-09-212818 | 35 | EDGAR Online |
| WELLPOINT INC | 0001156039 | 0001193125-09-216157 | 30 | EDGAR Online |
| ALTRIA GROUP, INC. | 0000764180 | 0001193125-09-217203 | 28 | EDGAR Online |
| Oracle Corporation | 0001341439 | 0001193125-09-195193 | 28 | UBmatrix |
| Aflac Incorporated | 0000004977 | 0000950123-09-059412 | 18 | Rivet |
| Halliburton Company | 0000045012 | 0000045012-09-000390 | 13 | EDGARFilings |
| PEABODY ENERGY CORP | 0001064728 | 0000950123-09-058979 | 7 | Rivet |
| EL PASO CORP/DE | 0001066107 | 0000950123-09-059588 | 6 | Rivet |
| V F CORP | 0000103379 | 0000950123-09-060619 | 6 | Rivet |
| RRI ENERGY INC | 0001126294 | 0000950123-09-058104 | 5 | Rivet |
| Vulcan Materials CO | 0001396009 | 0000950123-09-058668 | 5 | Rivet |
| WATERS CORP /DE/ | 0001000697 | 0000950123-09-058936 | 5 | Rivet |
| SOUTHERN CO | 0000003153 | 0000092122-09-000089 | 5 | Rivet |
| ARCH COAL INC | 0001037676 | 0000950123-09-060325 | 5 | Rivet |
| CONAGRA FOODS INC /DE/ | 0000023217 | 0000950123-09-048892 | 4 | Bowne |
| YUM BRANDS INC | 0001041061 | 0001041061-09-000240 | 3 | EDGARFilings |
| GRAINGER W W INC, | 0000277135 | 0000277135-09-000043 | 2 | EDGARFilings |
| ADOBE SYSTEMS INC | 0000796343 | 0000796343-09-000032 | 2 | Bowne |
| Public Storage | 0001393311 | 0001393311-09-000035 | 2 | Rivet |
| DIRECTV GROUP INC | 0000944868 | 0001047469-09-009634 | 1 | Rivet |
| FedEx Corporation | 0001048911 | 0000950123-09-044076 | 1 | EDGARFilings |
| AGILENT TECHNOLOGIES INC | 0001090872 | 0001140361-09-022500 | 1 | EDGARFilings |
| PROCTER & GAMBLE CO | 0000080424 | 0001193125-09-217067 | 1 | EDGAR Online |
| Liberty Media Corporation and Subsidiaries | 0001355096 | 0001047469-09-009800 | 1 | Rivet |
| EASTMAN CHEMICAL CO | 0000915389 | 0000915389-09-000070 | 1 | EDGARFilings |
| General Electric Company | 0000040545 | 0000040545-09-000074 | 1 | Clarity |
| ARCHER DANIELS MIDLAND CO | 0000007084 | 0000007084-09-000061 | 1 | Fujitsu |
|  |  | Total | 255 |  |

## 4.1.3 Errors by Strata

This table lists a stratification of errors by the number of errors within each filing.

| Strata | Filings | Percent of Total |
|---|---|---|
| Filings with more than 11 errors per filing | 7 | 2% |
| Filings with between 6 and 10 | 3 | 1% |
| Filings with between 4 and 5 | 6 | 1% |
| Filings with between 2 and 3 | 4 | 1% |
| Filings with only 1 error | 8 | 2% |
| Filings with NO ERRORS | 375 | 93% |
| | **403** | **100%** |

## 4.1.4 Errors by Error Type

This table lists errors reported by type of error and a count of each. The table is sorted by error count in descending order.

| SoftwareName | MessageName | ErrorDescription | Count |
|---|---|---|---|
| EDGAR Online | edgar-e:InvalidLabelContentWhitespace | This label MUST NOT have a) leading or trailing whitespace; b) sequential embedded whitespace (for example two spaces in a row) or c) whitespace that is not a SPACE character (such as a TAB) | 67 |
| EDGAR Online | edgar-e:LinkRoleTypeDefinitionContainsExtraneousWhitespace | The link:definition MUST NOT have leading or trailing XML whitespace or newlines. | 65 |
| Rivet | edgar-e:InvalidDomainMemberCycles | The xlink:arcrole attribute 'http://xbrl.org/int/dim/arcrole/domain-member' must have no undirected cycles in any Dimensional Relationship Set as defined in XBRL Dimensions 1.0 | 65 |
| EDGARFilings | edgar-e:InvalidLabelContentWhitespace | This label MUST NOT have a) leading or trailing whitespace; b) sequential embedded whitespace (for example two spaces in a row) or c) whitespace that is not a SPACE character (such as a TAB) | 14 |
| UBmatrix | edgarv11-e:TextBlockInvalidXml | If the text content of a fact with base type types:textBlockItemType contains the "<" character followed by an NCName and whitespace, then after un-escaping the text, the content must contain only well-formed XML. | 13 |
| Bowne | edgar-e:InvalidLabelContentWhitespace | This label MUST NOT have a) leading or trailing whitespace; b) sequential embedded whitespace (for example two spaces in a row) or c) whitespace that is not a SPACE character (such as a TAB) | 6 |
| EDGARFilings | edgar-e:LinkRoleTypeDefinitionContainsExtraneousWhitespace | The link:definition MUST NOT have leading or trailing XML whitespace or newlines. | 3 |
| EDGARFilings | edgar-e:NonAsciiContent | All content MUST be ASCII | 2 |
| Clarity | edgar-e:InvalidDomainMemberCycles | The xlink:arcrole attribute 'http://xbrl.org/int/dim/arcrole/domain-member' must have no undirected cycles in any Dimensional Relationship Set as defined in XBRL Dimensions 1.0 | 1 |
| EDGARFilings | edgar-dei-e:InvalidEntityCentralIndexKeyContent | The contents of the dei:EntityCentralIndexKey fact in the Required Context must equal the content of the xbrli:identifier element in that context. | 1 |
| EDGARFilings | edgarv11-e:TextBlockInvalidXml | | 1 |
| Fujitsu | edgar-e:InvalidDomainMemberCycles | The xlink:arcrole attribute 'http://xbrl.org/int/dim/arcrole/domain-member' must have no undirected cycles in any Dimensional Relationship Set as defined in XBRL Dimensions 1.0 | 1 |

| Rivet | edgar-e:InvalidXhtmlBodyContent | Facts of type "text block" whose un-escaped content contains markup must satisfy the content model of the BODY tag as defined in 5.2.2 [2:1:Attribute name "s" associated with an element type "div" must be followed by the ' = ' character.] | 1 |
|---|---|---|---|
| UBmatrix | edgarv11-dei-e:DocumentPeriodEndDate | Filers MUST use the DEI DocumentPeriodEndDate element to tag the document's end date of report or period of filing. | 1 |
| UBmatrix | edgarv11-dei-e:CurrentFiscalYearEndDate | Filers MUST use the DEI CurrentFiscalYearEndDate element to identify the company's fiscal year end date. | 1 |
| UBmatrix | edgarv11-dei-e:DocumentType | Filers MUST use the DEI DocumentType element to identify the document (form) type that is represented by this document. | 1 |
| UBmatrix | edgarv11-dei-e:EntityCentralIndexKey | Filers MUST use the DEI EntityCentralIndexKey element to identify the company's CIK (central index key) code. | 1 |
| UBmatrix | edgarv11-dei-e:EntityCommonStockSharesOutstanding | Filers MUST use the DEI EntityCommonStockSharesOutstanding element to disclose the number of shares outstanding for each of the registrant's classes of common stock. | 1 |
| UBmatrix | edgarv11-dei-e:EntityCurrentReportingStatus | | 1 |
| UBmatrix | edgarv11-dei-e:EntityFilerCategory | Filers MUST use the DEI EntityFilerCategory element to identify whether the filer is a large accelerated filer, accelerated filer, non-accelerated filer, or a smaller reporting company. | 1 |
| UBmatrix | edgarv11-dei-e:EntityPublicFloat | Filers MUST use the DEI EntityPublicFloat element to disclose the company's public float amount. The value of an EntityPublicFloat fact in an instance will be 0 for an entity that has only public debt. | 1 |
| UBmatrix | edgarv11-dei-e:EntityRegistrantName | Filers MUST use the DEI EntityRegistrantName element to enter the company's name. | 1 |
| UBmatrix | edgarv11-dei-e:EntityVoluntaryFilers | Filers MUST use the DEI EntityVoluntaryFilers element to indicate whether the company is not required to file reports pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934. | 1 |
| UBmatrix | edgarv11-dei-e:EntityWellKnownSeasonedIssuer | Filers MUST use the DEI EntityWellKnownSeasonedIssuer element to indicate whether the company meets the well-known seasoned issuer criteria noted in Rule 405 of Regulation C under the Securities Act of 1933 [17 CFR 230.405]. | 1 |
| UBmatrix | edgarv11-e:InvalidPreferredPrefix | Element xsd:schema must bind a Recommended Namespace Prefix for the targetNamespace attribute that does not contain the underscore character. | 1 |
| UBmatrix | edgarv11-e:InvalidSchemaFileNameFormat | Each XML schema document MUST have a document file name formatted like: <Ticker Symbol><more letters>-CCYYMMDD.xsd.  Invalid Document Name: http://www.w3.org/2001/xml.xsd | 1 |
| UBmatrix | edgarv11-e:InvalidTargetNamespaceVersionDate | The targetNamespace attribute must be a valid URI with a <versionDate> in ISO 8601 format that identifies the release date of the schema. | 1 |
| UBmatrix | edgarv11-dei-e:AmendmentFlag | Filers MUST use the DEI AmendmentFlag element to indicate the whether the document is an amendment. | 1 |
| | | **Total** | **255** |

## 4.1.5 Errors by Error Type, Summary

This is the same as the previous table without the description which makes the table easier to read.

| SoftwareName | MessageName | Count |
|---|---|---|
| EDGAR Online | edgar-e:InvalidLabelContentWhitespace | 67 |
| EDGAR Online | edgar-e:LinkRoleTypeDefinitionContainsExtraneousWhitespace | 65 |

| Rivet | edgar-e:InvalidDomainMemberCycles | 65 |
|---|---|---|
| EDGARFilings | edgar-e:InvalidLabelContentWhitespace | 14 |
| UBmatrix | edgarv11-e:TextBlockInvalidXml | 13 |
| Bowne | edgar-e:InvalidLabelContentWhitespace | 6 |
| EDGARFilings | edgar-e:LinkRoleTypeDefinitionContainsExtraneousWhitespace | 3 |
| EDGARFilings | edgar-e:NonAsciiContent | 2 |
| Clarity | edgar-e:InvalidDomainMemberCycles | 1 |
| EDGARFilings | edgar-dei-e:InvalidEntityCentralIndexKeyContent | 1 |
| EDGARFilings | edgarv11-e:TextBlockInvalidXml | 1 |
| Fujitsu | edgar-e:InvalidDomainMemberCycles | 1 |
| Rivet | edgar-e:InvalidXhtmlBodyContent | 1 |
| UBmatrix | edgarv11-dei-e:AmendmentFlag | 1 |
| UBmatrix | edgarv11-dei-e:CurrentFiscalYearEndDate | 1 |
| UBmatrix | edgarv11-dei-e:DocumentPeriodEndDate | 1 |
| UBmatrix | edgarv11-dei-e:DocumentType | 1 |
| UBmatrix | edgarv11-dei-e:EntityCentralIndexKey | 1 |
| UBmatrix | edgarv11-dei-e:EntityCommonStockSharesOutstanding | 1 |
| UBmatrix | edgarv11-dei-e:EntityCurrentReportingStatus | 1 |
| UBmatrix | edgarv11-dei-e:EntityFilerCategory | 1 |
| UBmatrix | edgarv11-dei-e:EntityPublicFloat | 1 |
| UBmatrix | edgarv11-dei-e:EntityRegistrantName | 1 |
| UBmatrix | edgarv11-dei-e:EntityVoluntaryFilers | 1 |
| UBmatrix | edgarv11-dei-e:EntityWellKnownSeasonedIssuer | 1 |
| UBmatrix | edgarv11-e:InvalidPreferredPrefix | 1 |
| UBmatrix | edgarv11-e:InvalidSchemaFileNameFormat | 1 |
| UBmatrix | edgarv11-e:InvalidTargetNamespaceVersionDate | 1 |
| | | 255 |

## 4.1.6 No Errors, Calculation Inconsistencies or Formula Errors

This table lists all filings with zero errors, zero calculation inconsistencies, and zero test formula errors. There were 283 such SEC XBRL filings of the 403 analyzed.

| FilerName | Submission Errors | Calculation Inconsistencies | Formula Errors | SoftwareName |
|---|---|---|---|---|
| Viacom Inc. | 0 | 0 | 0 | Unknown |
| ASSURANT INC, | 0 | 0 | 0 | Rivet |
| AUTOMATIC DATA PROCESSING INC | 0 | 0 | 0 | Rivet |
| Clorox Co /DE/ | 0 | 0 | 0 | Rivet |
| COACH INC | 0 | 0 | 0 | Rivet |
| CORNING INC /NY | 0 | 0 | 0 | Rivet |
| CROWN CASTLE INTERNATIONAL CORP | 0 | 0 | 0 | Rivet |
| DIRECTV HOLDINGS LLC | 0 | 0 | 0 | Rivet |
| Dupont E I De Nemours & Co | 0 | 0 | 0 | Rivet |
| ENSCO International Incorporated | 0 | 0 | 0 | Rivet |
| FMC Corporation | 0 | 0 | 0 | Rivet |
| Foster Wheeler AG | 0 | 0 | 0 | Rivet |
| Garmin Ltd. | 0 | 0 | 0 | Rivet |
| HONEYWELL INTERNATIONAL INC. | 0 | 0 | 0 | Rivet |
| MEDCO HEALTH SOLUTIONS INC | 0 | 0 | 0 | Rivet |
| MOTOROLA INC | 0 | 0 | 0 | Rivet |
| NII HOLDINGS INC | 0 | 0 | 0 | Rivet |
| Starwood Hotel & Resorts Worldwide Inc | 0 | 0 | 0 | Rivet |

| | | | | |
|---|---|---|---|---|
| SYMANTEC CORP | 0 | 0 | 0 | Rivet |
| Sysco Corporation | 0 | 0 | 0 | Rivet |
| VORNADO REALTY TRUST | 0 | 0 | 0 | Rivet |
| 3M Company | 0 | 0 | 0 | Fujitsu |
| ABBOTT LABORATORIES | 0 | 0 | 0 | Fujitsu |
| Activision Blizzard, Inc. | 0 | 0 | 0 | Fujitsu |
| ALLSTATE CORP | 0 | 0 | 0 | Fujitsu |
| AMERIPRISE FINANCIAL INC | 0 | 0 | 0 | Fujitsu |
| AMPHENOL CORP /DE/ | 0 | 0 | 0 | Fujitsu |
| Aon Corp | 0 | 0 | 0 | Fujitsu |
| BED BATH & BEYOND INC. | 0 | 0 | 0 | Fujitsu |
| Best Buy Co Inc | 0 | 0 | 0 | Fujitsu |
| CF Industries Holdings, Inc. | 0 | 0 | 0 | Fujitsu |
| CIMAREX ENERGY CO. | 0 | 0 | 0 | Fujitsu |
| Citigroup Inc. | 0 | 0 | 0 | Fujitsu |
| COCA COLA CO | 0 | 0 | 0 | Fujitsu |
| CONSTELLATION ENERGY GROUP INC | 0 | 0 | 0 | Fujitsu |
| Covance Inc. | 0 | 0 | 0 | Fujitsu |
| CUMMINS INC | 0 | 0 | 0 | Fujitsu |
| ECOLAB INC | 0 | 0 | 0 | Fujitsu |
| EDISON INTERNATIONAL | 0 | 0 | 0 | Fujitsu |
| EDISON MISSION ENERGY | 0 | 0 | 0 | Fujitsu |
| EME HOMER CITY GENERATION LP | 0 | 0 | 0 | Fujitsu |
| EQT Corp | 0 | 0 | 0 | Fujitsu |
| FLUOR CORP | 0 | 0 | 0 | Fujitsu |
| FOREST OIL CORP | 0 | 0 | 0 | Fujitsu |
| GENERAL GROWTH PROPERTIES INC | 0 | 0 | 0 | Fujitsu |
| GENZYME CORPORATION | 0 | 0 | 0 | Fujitsu |
| HCP, INC. | 0 | 0 | 0 | Fujitsu |
| HOSPIRA INC | 0 | 0 | 0 | Fujitsu |
| ICU MEDICAL INC/DE | 0 | 0 | 0 | Fujitsu |
| LEGG MASON INC | 0 | 0 | 0 | Fujitsu |
| MIDWEST GENERATION LLC | 0 | 0 | 0 | Fujitsu |
| NORTHROP GRUMMAN CORP /DE/ | 0 | 0 | 0 | Fujitsu |
| OCCIDENTAL PETROLEUM CORP /DE/ | 0 | 0 | 0 | Fujitsu |
| OWENS ILLINOIS INC /DE/ | 0 | 0 | 0 | Fujitsu |
| PLAINS ALL AMERICAN PIPELINE LP | 0 | 0 | 0 | Fujitsu |
| Qwest Communications International Inc. | 0 | 0 | 0 | Fujitsu |
| Sempra Energy | 0 | 0 | 0 | Fujitsu |
| Shire plc | 0 | 0 | 0 | Fujitsu |
| SOUTHERN CALIFORNIA EDISON CO | 0 | 0 | 0 | Fujitsu |
| SOUTHERN COPPER CORP/ | 0 | 0 | 0 | Fujitsu |
| SPX CORPORATION | 0 | 0 | 0 | Fujitsu |
| Steel Dynamics Inc | 0 | 0 | 0 | Fujitsu |
| TEREX CORP | 0 | 0 | 0 | Fujitsu |
| Travelers Companies, Inc. | 0 | 0 | 0 | Fujitsu |
| UNION PACIFIC CORPORATION | 0 | 0 | 0 | Fujitsu |
| AGL RESOURCES INC | 0 | 0 | 0 | EDGARFilings |
| AK Steel Holding Corporation | 0 | 0 | 0 | EDGARFilings |
| Alpha Natural Resources, Inc. | 0 | 0 | 0 | EDGARFilings |
| AT&T INC. | 0 | 0 | 0 | EDGARFilings |
| CAMERON INTERNATIONAL CORP | 0 | 0 | 0 | EDGARFilings |
| COLGATE PALMOLIVE CO | 0 | 0 | 0 | EDGARFilings |
| CSX CORP | 0 | 0 | 0 | EDGARFilings |
| DENTSPLY INTERNATIONAL INC /DE/ | 0 | 0 | 0 | EDGARFilings |
| DOW CHEMICAL CO /DE/ | 0 | 0 | 0 | EDGARFilings |
| ENTERGY CORP /DE/ | 0 | 0 | 0 | EDGARFilings |
| FirstEnergy Corp. | 0 | 0 | 0 | EDGARFilings |
| FOREST LABORATORIES INC | 0 | 0 | 0 | EDGARFilings |
| FREEPORT MCMORAN COPPER & GOLD INC | 0 | 0 | 0 | EDGARFilings |
| KINDER MORGAN ENERGY PARTNERS L P | 0 | 0 | 0 | EDGARFilings |

| | | | | |
|---|---|---|---|---|
| MANNATECH INC | 0 | 0 | 0 | EDGARFilings |
| MCDERMOTT INTERNATIONAL INC | 0 | 0 | 0 | EDGARFilings |
| MDU RESOURCES GROUP INC | 0 | 0 | 0 | EDGARFilings |
| MICROCHIP TECHNOLOGY INC | 0 | 0 | 0 | EDGARFilings |
| ONEOK INC /NEW/ | 0 | 0 | 0 | EDGARFilings |
| ONEOK Partners LP | 0 | 0 | 0 | EDGARFilings |
| PRIDE INTERNATIONAL INC | 0 | 0 | 0 | EDGARFilings |
| PROGRESS ENERGY INC | 0 | 0 | 0 | EDGARFilings |
| QUALCOMM INC/DE | 0 | 0 | 0 | EDGARFilings |
| Questar Corporation | 0 | 0 | 0 | EDGARFilings |
| ROWAN COMPANIES INC | 0 | 0 | 0 | EDGARFilings |
| Transocean Ltd. | 0 | 0 | 0 | EDGARFilings |
| XEROX CORP | 0 | 0 | 0 | EDGARFilings |
| AES CORP | 0 | 0 | 0 | EDGAR Online |
| AKAMAI TECHNOLOGIES INC | 0 | 0 | 0 | EDGAR Online |
| ALCOA INC | 0 | 0 | 0 | EDGAR Online |
| ALLEGHENY ENERGY, INC | 0 | 0 | 0 | EDGAR Online |
| ALLERGAN INC | 0 | 0 | 0 | EDGAR Online |
| ALTERA CORP | 0 | 0 | 0 | EDGAR Online |
| AMAZON COM INC | 0 | 0 | 0 | EDGAR Online |
| AMEDISYS INC | 0 | 0 | 0 | EDGAR Online |
| AMEREN CORP | 0 | 0 | 0 | EDGAR Online |
| AMERICAN EXPRESS CO | 0 | 0 | 0 | EDGAR Online |
| AMERICAN TOWER CORP /MA/ | 0 | 0 | 0 | EDGAR Online |
| AMGEN INC | 0 | 0 | 0 | EDGAR Online |
| ANADARKO PETROLEUM CORP | 0 | 0 | 0 | EDGAR Online |
| APPLE INC | 0 | 0 | 0 | EDGAR Online |
| AVON PRODUCTS INC | 0 | 0 | 0 | EDGAR Online |
| BANK OF AMERICA CORP /DE/ | 0 | 0 | 0 | EDGAR Online |
| BARD C R INC /NJ/ | 0 | 0 | 0 | EDGAR Online |
| BB&T CORP | 0 | 0 | 0 | EDGAR Online |
| BLACKROCK INC. | 0 | 0 | 0 | EDGAR Online |
| BMC SOFTWARE INC | 0 | 0 | 0 | EDGAR Online |
| BOEING CO | 0 | 0 | 0 | EDGAR Online |
| BOSTON PROPERTIES INC | 0 | 0 | 0 | EDGAR Online |
| BOSTON PROPERTIES LTD PARTNERSHIP | 0 | 0 | 0 | EDGAR Online |
| BRISTOL MYERS SQUIBB CO | 0 | 0 | 0 | EDGAR Online |
| BUCYRUS INTERNATIONAL INC | 0 | 0 | 0 | EDGAR Online |
| C H ROBINSON WORLDWIDE INC | 0 | 0 | 0 | EDGAR Online |
| CAPITAL ONE FINANCIAL CORP | 0 | 0 | 0 | EDGAR Online |
| CARDINAL HEALTH INC | 0 | 0 | 0 | EDGAR Online |
| CARNIVAL CORP | 0 | 0 | 0 | EDGAR Online |
| CITRIX SYSTEMS INC | 0 | 0 | 0 | EDGAR Online |
| CLIFFS NATURAL RESOURCES INC. | 0 | 0 | 0 | EDGAR Online |
| CNX Gas Corp | 0 | 0 | 0 | EDGAR Online |
| COCA COLA ENTERPRISES INC | 0 | 0 | 0 | EDGAR Online |
| COGNIZANT TECHNOLOGY SOLUTIONS CORP | 0 | 0 | 0 | EDGAR Online |
| CONSOL Energy Inc | 0 | 0 | 0 | EDGAR Online |
| CVS CAREMARK CORP | 0 | 0 | 0 | EDGAR Online |
| DANAHER CORP /DE/ | 0 | 0 | 0 | EDGAR Online |
| DAVITA INC | 0 | 0 | 0 | EDGAR Online |
| Discover Financial Services | 0 | 0 | 0 | EDGAR Online |
| Duke Energy CORP | 0 | 0 | 0 | EDGAR Online |
| EBAY INC | 0 | 0 | 0 | EDGAR Online |
| EMC CORP | 0 | 0 | 0 | EDGAR Online |
| ENERGEN CORP | 0 | 0 | 0 | EDGAR Online |
| EQUITY RESIDENTIAL | 0 | 0 | 0 | EDGAR Online |
| ERP OPERATING LTD PARTNERSHIP | 0 | 0 | 0 | EDGAR Online |
| EXPEDITORS INTERNATIONAL OF WASHINGTON INC | 0 | 0 | 0 | EDGAR Online |
| EXXON MOBIL CORP | 0 | 0 | 0 | EDGAR Online |
| FASTENAL CO | 0 | 0 | 0 | EDGAR Online |

| | | | | |
|---|---|---|---|---|
| FIFTH THIRD BANCORP | 0 | 0 | 0 | EDGAR Online |
| FLIR SYSTEMS INC | 0 | 0 | 0 | EDGAR Online |
| FMC TECHNOLOGIES INC | 0 | 0 | 0 | EDGAR Online |
| FORTUNE BRANDS INC | 0 | 0 | 0 | EDGAR Online |
| GENERAL DYNAMICS CORP | 0 | 0 | 0 | EDGAR Online |
| GENWORTH FINANCIAL INC | 0 | 0 | 0 | EDGAR Online |
| GILEAD SCIENCES INC | 0 | 0 | 0 | EDGAR Online |
| Google Inc. | 0 | 0 | 0 | EDGAR Online |
| HARLEY DAVIDSON INC | 0 | 0 | 0 | EDGAR Online |
| HOST HOTELS & RESORTS, INC. | 0 | 0 | 0 | EDGAR Online |
| HUMANA INC | 0 | 0 | 0 | EDGAR Online |
| IMPERIAL OIL LTD | 0 | 0 | 0 | EDGAR Online |
| Ingersoll-Rand plc | 0 | 0 | 0 | EDGAR Online |
| INTERCONTINENTALEXCHANGE INC | 0 | 0 | 0 | EDGAR Online |
| INTUITIVE SURGICAL INC | 0 | 0 | 0 | EDGAR Online |
| KELLOGG CO | 0 | 0 | 0 | EDGAR Online |
| KRAFT FOODS INC | 0 | 0 | 0 | EDGAR Online |
| LOCKHEED MARTIN CORP | 0 | 0 | 0 | EDGAR Online |
| LOEWS CORP | 0 | 0 | 0 | EDGAR Online |
| MARRIOTT INTERNATIONAL INC /MD/ | 0 | 0 | 0 | EDGAR Online |
| MARSH & MCLENNAN COMPANIES, INC. | 0 | 0 | 0 | EDGAR Online |
| MATTEL INC /DE/ | 0 | 0 | 0 | EDGAR Online |
| MCDONALDS CORP | 0 | 0 | 0 | EDGAR Online |
| MEMC ELECTRONIC MATERIALS INC | 0 | 0 | 0 | EDGAR Online |
| MIRANT CORP | 0 | 0 | 0 | EDGAR Online |
| MORGAN STANLEY | 0 | 0 | 0 | EDGAR Online |
| MURPHY OIL CORP /DE | 0 | 0 | 0 | EDGAR Online |
| NETFLIX INC | 0 | 0 | 0 | EDGAR Online |
| NEW YORK COMMUNITY BANCORP INC | 0 | 0 | 0 | EDGAR Online |
| NORTHERN TRUST CORP | 0 | 0 | 0 | EDGAR Online |
| NUCOR CORP | 0 | 0 | 0 | EDGAR Online |
| NYSE EURONEXT | 0 | 0 | 0 | EDGAR Online |
| PARKER HANNIFIN CORP | 0 | 0 | 0 | EDGAR Online |
| People's United Financial, Inc. | 0 | 0 | 0 | EDGAR Online |
| PEPSICO INC | 0 | 0 | 0 | EDGAR Online |
| PETROHAWK ENERGY CORP | 0 | 0 | 0 | EDGAR Online |
| Philip Morris International Inc. | 0 | 0 | 0 | EDGAR Online |
| PIONEER NATURAL RESOURCES CO | 0 | 0 | 0 | EDGAR Online |
| PLAINS EXPLORATION & PRODUCTION CO | 0 | 0 | 0 | EDGAR Online |
| PNC FINANCIAL SERVICES GROUP INC | 0 | 0 | 0 | EDGAR Online |
| PPG INDUSTRIES INC | 0 | 0 | 0 | EDGAR Online |
| PRAXAIR INC | 0 | 0 | 0 | EDGAR Online |
| PRECISION CASTPARTS CORP | 0 | 0 | 0 | EDGAR Online |
| PROGRESSIVE CORP/OH/ | 0 | 0 | 0 | EDGAR Online |
| PUBLIX SUPER MARKETS INC | 0 | 0 | 0 | EDGAR Online |
| REGIONS FINANCIAL CORP | 0 | 0 | 0 | EDGAR Online |
| RR Donnelley & Sons Co | 0 | 0 | 0 | EDGAR Online |
| SAFEWAY INC | 0 | 0 | 0 | EDGAR Online |
| SANDRIDGE ENERGY INC | 0 | 0 | 0 | EDGAR Online |
| SARA LEE CORP | 0 | 0 | 0 | EDGAR Online |
| SCHWAB CHARLES CORP | 0 | 0 | 0 | EDGAR Online |
| SIGMA ALDRICH CORP | 0 | 0 | 0 | EDGAR Online |
| SPECTRA ENERGY CORP. | 0 | 0 | 0 | EDGAR Online |
| SPRINT NEXTEL CORP | 0 | 0 | 0 | EDGAR Online |
| STATE STREET Corp | 0 | 0 | 0 | EDGAR Online |
| STRYKER CORP | 0 | 0 | 0 | EDGAR Online |
| SUNTRUST BANKS INC | 0 | 0 | 0 | EDGAR Online |
| Tim Hortons Inc. | 0 | 0 | 0 | EDGAR Online |
| TORCHMARK CORP | 0 | 0 | 0 | EDGAR Online |
| UNITED STATES STEEL CORP | 0 | 0 | 0 | EDGAR Online |
| UNITEDHEALTH GROUP INC | 0 | 0 | 0 | EDGAR Online |
| Unum Group | 0 | 0 | 0 | EDGAR Online |

| | | | | |
|---|---|---|---|---|
| VERISIGN INC/CA | 0 | 0 | 0 | EDGAR Online |
| VERIZON COMMUNICATIONS INC | 0 | 0 | 0 | EDGAR Online |
| Western Union CO | 0 | 0 | 0 | EDGAR Online |
| WINDSTREAM CORP | 0 | 0 | 0 | EDGAR Online |
| XTO ENERGY INC | 0 | 0 | 0 | EDGAR Online |
| YAHOO INC | 0 | 0 | 0 | EDGAR Online |
| ACE LTD | 0 | 0 | 0 | Clarity |
| ALLEGHENY TECHNOLOGIES INCORPORATED | 0 | 0 | 0 | Clarity |
| CIGNA Corporation | 0 | 0 | 0 | Clarity |
| FEDERAL NATIONAL MORTGAGE ASSOCIATION FANNIE MAE | 0 | 0 | 0 | Clarity |
| General Mills, Inc. | 0 | 0 | 0 | Clarity |
| Marathon Oil Corporation | 0 | 0 | 0 | Clarity |
| PITNEY BOWES INC /DE/ | 0 | 0 | 0 | Clarity |
| Thermo Fisher Scientific Inc. | 0 | 0 | 0 | Clarity |
| Time Warner Inc. | 0 | 0 | 0 | Clarity |
| Ultra Petroleum Corp. | 0 | 0 | 0 | Clarity |
| UNITED TECHNOLOGIES CORP /DE/ | 0 | 0 | 0 | Clarity |
| AMERICAN PUBLIC EDUCATION INC | 0 | 0 | 0 | Business Wire |
| ANNALY CAPITAL MANAGEMENT INC | 0 | 0 | 0 | Business Wire |
| PFIZER INC | 0 | 0 | 0 | Business Wire |
| AMETEK INC/ | 0 | 0 | 0 | Bowne |
| APACHE CORP | 0 | 0 | 0 | Bowne |
| ART TECHNOLOGY GROUP INC | 0 | 0 | 0 | Bowne |
| BAKER HUGHES INC | 0 | 0 | 0 | Bowne |
| BAXTER INTERNATIONAL INC | 0 | 0 | 0 | Bowne |
| BOSTON SCIENTIFIC CORP | 0 | 0 | 0 | Bowne |
| BOTTLING GROUP LLC | 0 | 0 | 0 | Bowne |
| BOWNE & CO INC | 0 | 0 | 0 | Bowne |
| BROADCOM CORP | 0 | 0 | 0 | Bowne |
| BURLINGTON NORTHERN SANTA FE CORP | 0 | 0 | 0 | Bowne |
| CA, INC. | 0 | 0 | 0 | Bowne |
| CABOT OIL & GAS CORP | 0 | 0 | 0 | Bowne |
| CELGENE CORP /DE/ | 0 | 0 | 0 | Bowne |
| CHEVRON CORP | 0 | 0 | 0 | Bowne |
| CHUBB CORP | 0 | 0 | 0 | Bowne |
| DENBURY RESOURCES INC | 0 | 0 | 0 | Bowne |
| DIAMOND OFFSHORE DRILLING INC | 0 | 0 | 0 | Bowne |
| EATON CORP | 0 | 0 | 0 | Bowne |
| Fidelity National Information Services, Inc. | 0 | 0 | 0 | Bowne |
| FIRST SOLAR, INC. | 0 | 0 | 0 | Bowne |
| FLEXTRONICS INTERNATIONAL LTD. | 0 | 0 | 0 | Bowne |
| FLOWSERVE CORP | 0 | 0 | 0 | Bowne |
| GANNETT CO INC /DE/ | 0 | 0 | 0 | Bowne |
| GENUINE PARTS CO | 0 | 0 | 0 | Bowne |
| GOLDMAN SACHS GROUP INC | 0 | 0 | 0 | Bowne |
| GOODRICH CORPORATION | 0 | 0 | 0 | Bowne |
| HARRIS CORP /DE/ | 0 | 0 | 0 | Bowne |
| HESS CORP | 0 | 0 | 0 | Bowne |
| HUDSON CITY BANCORP INC | 0 | 0 | 0 | Bowne |
| Intel Corporation | 0 | 0 | 0 | Bowne |
| J P MORGAN CHASE & CO | 0 | 0 | 0 | Bowne |
| JOHNSON & JOHNSON | 0 | 0 | 0 | Bowne |
| JUNIPER NETWORKS INC | 0 | 0 | 0 | Bowne |
| LEUCADIA NATIONAL CORP | 0 | 0 | 0 | Bowne |
| LORILLARD, INC. | 0 | 0 | 0 | Bowne |
| M&T BANK CORP | 0 | 0 | 0 | Bowne |
| McAfee, Inc. | 0 | 0 | 0 | Bowne |
| MCGRAW-HILL COMPANIES INC | 0 | 0 | 0 | Bowne |
| MCKESSON CORP | 0 | 0 | 0 | Bowne |

| | | | | |
|---|---|---|---|---|
| MERCK & CO INC | 0 | 0 | 0 | Bowne |
| MERRILL LYNCH & CO., INC. | 0 | 0 | 0 | Bowne |
| NABORS INDUSTRIES LTD | 0 | 0 | 0 | Bowne |
| NATIONAL OILWELL VARCO INC | 0 | 0 | 0 | Bowne |
| NEWMONT MINING CORP /DE/ | 0 | 0 | 0 | Bowne |
| NRG ENERGY, INC. | 0 | 0 | 0 | Bowne |
| PATTERSON UTI ENERGY INC | 0 | 0 | 0 | Bowne |
| PAYCHEX, INC. | 0 | 0 | 0 | Bowne |
| PEPSI BOTTLING GROUP INC | 0 | 0 | 0 | Bowne |
| RANGE RESOURCES CORP | 0 | 0 | 0 | Bowne |
| REPUBLIC SERVICES, INC. | 0 | 0 | 0 | Bowne |
| REYNOLDS AMERICAN INC | 0 | 0 | 0 | Bowne |
| SCHERING PLOUGH CORP | 0 | 0 | 0 | Bowne |
| SMITH INTERNATIONAL INC | 0 | 0 | 0 | Bowne |
| SUPERVALU INC | 0 | 0 | 0 | Bowne |
| US BANCORP \DE\ | 0 | 0 | 0 | Bowne |
| VALERO ENERGY CORP/TX | 0 | 0 | 0 | Bowne |
| WASTE MANAGEMENT INC | 0 | 0 | 0 | Bowne |
| Weatherford International Ltd./Switzerland | 0 | 0 | 0 | Bowne |
| WESTERN DIGITAL CORP | 0 | 0 | 0 | Bowne |
| WISCONSIN ENERGY CORP | 0 | 0 | 0 | Bowne |
| ZIMMER HOLDINGS INC | 0 | 0 | 0 | Bowne |

## 4.1.7 Table of Calculation Inconsistencies

This table lists all filings with 1 or more calculation inconsistencies reported.  Of 403 filings, 90 had 1 or more such calculation inconsistencies.

| FilerName | AsseccentionNumber | Inconsistencies | SoftwareName |
|---|---|---|---|
| FORD MOTOR CO | 0001140361-09-025042 | 38 | EDGARFilings |
| ADOBE SYSTEMS INC | 0000796343-09-000032 | 37 | Bowne |
| WILLIAMS COMPANIES INC | 0000950123-09-054484 | 31 | Rivet |
| International Business Machines Corporation | 0001104659-09-060554 | 23 | Fujitsu |
| KBR, Inc. | 0001140361-09-024015 | 23 | EDGARFilings |
| ProLogis | 0000950123-09-057647 | 23 | Rivet |
| JONES APPAREL GROUP INC | 0000874016-09-000059 | 21 | EDGARFilings |
| MASSEY ENERGY CO | 0000037748-09-000051 | 21 | EDGARFilings |
| TEXTRON INC | 0000217346-09-000156 | 19 | Bowne |
| Noble Energy Inc | 0000072207-09-000038 | 17 | EDGARFilings |
| WATERS CORP /DE/ | 0000950123-09-058936 | 16 | Rivet |
| Southwest Airlines Co. | 0000092380-09-000048 | 14 | EDGARFilings |
| AETNA INC /PA/ | 0001122304-09-000105 | 14 | EDGARFilings |
| Southwest Airlines Co. | 0000092380-09-000045 | 14 | EDGARFilings |
| EL PASO CORP/DE | 0000950123-09-059588 | 13 | Rivet |
| EXELON CORP | 0001193125-09-212818 | 12 | EDGAR Online |
| Liberty Media Corporation and Subsidiaries | 0001047469-09-009800 | 12 | Rivet |
| Boardwalk Pipeline Partners, LP | 0001336047-09-000053 | 10 | EDGARFilings |
| PACCAR INC | 0001193125-09-225269 | 10 | EDGAR Online |
| Illinois Tool Works Inc | 0000049826-09-000091 | 10 | Rivet |
| ROPER INDUSTRIES INC | 0000882835-09-000045 | 9 | EDGARFilings |
| FPL GROUP INC | 0000753308-09-000122 | 9 | EDGARFilings |
| PEPCO HOLDINGS INC | 0001193125-09-217423 | 6 | EDGAR Online |
| MASCO CORP /DE/ | 0000950123-09-054773 | 6 | Bowne |
| CONSOLIDATED EDISON INC | 0001193125-09-219909 | 6 | EDGAR Online |
| OPEN TEXT CORP | 0001193125-09-216185 | 6 | EDGARFilings |
| INTERNATIONAL PAPER CO /NEW/ | 0001193125-09-227000 | 6 | EDGARFilings |
| PLUM CREEK TIMBER CO INC | 0001193125-09-223862 | 6 | EDGAR Online |

| | | | |
|---|---|---|---|
| GRAINGER W W INC, | 0000277135-09-000043 | 5 | EDGARFilings |
| KEYCORP /NEW/ | 0000950123-09-059334 | 5 | Bowne |
| ARCH COAL INC | 0000950123-09-060325 | 4 | Rivet |
| Southwestern Energy Co | 0000007332-09-000034 | 4 | Rivet |
| Kimco Realty Corporation | 0001398432-09-000470 | 4 | CompSci |
| KIMBERLY CLARK CORP | 0000055785-09-000039 | 4 | EDGARFilings |
| Caterpillar Inc. | 0000018230-09-000466 | 4 | EDGARFilings |
| PG&E CORP | 0001004980-09-000102 | 4 | EDGARFilings |
| Cooper Industries plc | 0000950123-09-058426 | 4 | Bowne |
| WEYERHAEUSER CO | 0001193125-09-225868 | 4 | EDGAR Online |
| DOVER CORP | 0000950123-09-052556 | 4 | Bowne |
| CENTERPOINT ENERGY INC | 0001130310-09-000049 | 3 | EDGARFilings |
| WELLS FARGO & CO/MN | 0000950123-09-059235 | 3 | Bowne |
| RAYTHEON CO/ | 0001193125-09-212087 | 3 | EDGAR Online |
| LINCOLN NATIONAL CORP | 0000059558-09-000148 | 3 | EDGARFilings |
| HARTFORD FINANCIAL SERVICES GROUP INC/DE | 0000950123-09-056913 | 3 | Bowne |
| FISERV INC | 0001193125-09-227470 | 3 | EDGAR Online |
| AGILENT TECHNOLOGIES INC | 0001140361-09-022500 | 3 | EDGARFilings |
| MOODYS CORP /DE/ | 0001193125-09-224228 | 2 | EDGAR Online |
| NIKE INC | 0001193125-09-205690 | 2 | EDGAR Online |
| PEABODY ENERGY CORP | 0000950123-09-058979 | 2 | Rivet |
| ALTRIA GROUP, INC. | 0001193125-09-217203 | 2 | EDGAR Online |
| AMERICAN INTERNATIONAL GROUP INC | 0001047469-09-009659 | 2 | Fujitsu |
| OMNICOM GROUP INC. | 0000891092-09-003997 | 2 | Rivet |
| AVALONBAY COMMUNITIES INC | 0000950123-09-059493 | 2 | EDGARFilings |
| BERKSHIRE HATHAWAY INC | 0001157523-09-007839 | 2 | Business Wire |
| EASTMAN CHEMICAL CO | 0000915389-09-000070 | 2 | EDGARFilings |
| SIMON PROPERTY GROUP INC /DE/ | 0001047469-09-009591 | 2 | Fujitsu |
| AMERICAN ELECTRIC POWER CO INC | 0000004904-09-000174 | 2 | EDGARFilings |
| Discovery Communications, Inc. | 0000950123-09-056946 | 2 | Bowne |
| BioScrip, Inc. | 0001014739-09-000045 | 2 | EDGARFilings |
| DIRECTV GROUP INC | 0001047469-09-009634 | 2 | Rivet |
| Lilly Eli & Co | 0000950123-09-055409 | 2 | Rivet |
| PRINCIPAL FINANCIAL GROUP INC | 0001104659-09-062402 | 2 | Fujitsu |
| MOLSON COORS BREWING CO | 0001047469-09-009543 | 2 | Fujitsu |
| Bunge LTD | 0001104659-09-063755 | 2 | Fujitsu |
| Norfolk Southern Corporation | 0000702165-09-000170 | 2 | Rivet |
| LABORATORY CORP OF AMERICA HOLDINGS | 0000920148-09-000075 | 2 | EDGARFilings |
| NEWFIELD EXPLORATION CO /DE/ | 0000912750-09-000076 | 2 | EDGARFilings |
| KANSAS CITY SOUTHERN | 0000950123-09-054928 | 2 | Bowne |
| BORGWARNER INC. | 0000950123-09-053981 | 2 | Bowne |
| COMCAST CORP | 0001193125-09-223314 | 2 | EDGAR Online |
| SLM CORP | 0000950123-09-057759 | 2 | Bowne |
| Halliburton Company | 0000045012-09-000390 | 2 | EDGARFilings |
| EXPRESS SCRIPTS INC | 0000950123-09-054167 | 2 | Bowne |
| L 3 COMMUNICATIONS HOLDINGS INC | 0000950123-09-057422 | 2 | Bowne |
| MASTERCARD INC | 0001193125-09-222058 | 2 | EDGAR Online |
| Liberty Global, Inc. | 0001193125-09-223922 | 2 | EDGAR Online |
| CRAWFORD & CO | 0000950123-09-059975 | 2 | Bowne |
| UNITED PARCEL SERVICE INC | 0001193125-09-227554 | 2 | EDGAR Online |
| CME GROUP INC. | 0001193125-09-227674 | 2 | EDGAR Online |
| CBS CORP | 0001047469-09-009610 | 2 | Fujitsu |
| NEWS CORP | 0001193125-09-224062 | 2 | EDGAR Online |
| Bank of New York Mellon CORP | 0001193125-09-227567 | 2 | EDGAR Online |
| CHESAPEAKE ENERGY CORP | 0001193125-09-229377 | 2 | EDGAR Online |
| PRUDENTIAL FINANCIAL INC | 0001193125-09-227557 | 2 | EDGAR Online |
| DISH Network CORP | 0000950123-09-059772 | 2 | Bowne |
| Noble Corporation | 0000950123-09-058947 | 1 | Bowne |
| SCHLUMBERGER LTD /NV/ | 0001193125-09-215771 | 1 | EDGAR Online |
| CABLEVISION SYSTEMS CORP /NY | 0001104659-09-062216 | 1 | Fujitsu |
| PRICE T ROWE GROUP INC | 0000950123-09-052559 | 1 | Rivet |

| CONOCOPHILLIPS | 0000950123-09-056991 | 1 | Rivet |

## 4.1.8 Table of Calculation Inconsistencies by Creation Software

This table lists a summary of reported calculation inconsistencies by filing creation software.

| SoftwareName | CountOfInconsistencies |
|---|---|
| EDGARFilings | 27 |
| EDGAR Online | 21 |
| Bowne | 17 |
| Rivet | 15 |
| Fujitsu | 8 |
| CompSci | 1 |
| Business Wire | 1 |
| | 90 |

## 4.1.9 Table of Test Formula Results

This table lists a summary of results from testing a filing against one test XBRL Formula. The test formula was the roll forward of the cash flow statement: Beginning cash + changes in cash for period = ending cash. The expected results were to have at least two XBRL Formulas fire and the results of each firing to be "satisfied". This is a list of the unexpected results, these are NOT necessarily errors, but rather items which would point out a need for further investigation.

The point is, however, that of 403 filings, 345 did provide the expected results and only 58 provided some other result of this one test XBRL Formula.

| FilerName | FormulaResult | Resolution |
|---|---|---|
| VENTAS INC | Has unsatisfied formula | |
| Biogen Idec Inc. | Has unsatisfied formula | |
| XCEL ENERGY INC | Has unsatisfied formula | |
| FISERV INC | Has unsatisfied formula | |
| NEWS CORP | Has unsatisfied formula | |
| Walter Energy, Inc. | Has unsatisfied formula | |
| Invesco Ltd. | Has unsatisfied formula | |
| RRI ENERGY INC | Has unsatisfied formula | |
| GRAFTECH INTERNATIONAL LTD | Has unsatisfied formula | |
| MOLSON COORS BREWING CO | Has unsatisfied formula | |
| QUANTA SERVICES INC | Has unsatisfied formula | |
| Public Storage | Has unsatisfied formula | |
| YUM BRANDS INC | Has unsatisfied formula | |
| METLIFE INC | Has unsatisfied formula | |
| Questar Corporation | No formula fired | |
| KEYCORP /NEW/ | No formula fired | |
| FIFTH THIRD BANCORP | No formula fired | |
| CAPITAL ONE FINANCIAL CORP | No formula fired | |
| INTERNATIONAL PAPER CO /NEW/ | No formula fired | |
| Citigroup Inc. | No formula fired | Filer added custom concept for changes in cash. |

| | | |
|---|---|---|
| STATE STREET Corp | No formula fired | |
| Travelers Companies, Inc. | No formula fired | |
| CABOT OIL & GAS CORP | No formula fired | |
| PROGRESSIVE CORP/OH/ | No formula fired | |
| UNITED TECHNOLOGIES CORP /DE/ | No formula fired | |
| AMERICAN INTERNATIONAL GROUP INC | No formula fired | Filer added custom concept for changes in cash. |
| NORTHERN TRUST CORP | No formula fired | |
| ALLSTATE CORP | No formula fired | Filer added custom concept for changes in cash. |
| Southwest Airlines Co. | No formula fired | |
| PNC FINANCIAL SERVICES GROUP INC | No formula fired | |
| HARTFORD FINANCIAL SERVICES GROUP INC/DE | No formula fired | |
| CHUBB CORP | No formula fired | |
| GOLDMAN SACHS GROUP INC | No formula fired | |
| LOEWS CORP | No formula fired | |
| Unum Group | No formula fired | |
| CABLEVISION SYSTEMS CORP /NY | No formula fired | |
| WELLS FARGO & CO/MN | No formula fired | |
| TEREX CORP | No formula fired | |
| PETROHAWK ENERGY CORP | No formula fired | |
| J P MORGAN CHASE & CO | No formula fired | |
| LINCOLN NATIONAL CORP | Only 1 formula fired | |
| DOMINION RESOURCES INC /VA/ | Only 1 formula fired | |
| General Electric Company | Only 1 formula satisfied | |
| General Electric Company | Only 1 formula satisfied | |
| International Business Machines Corporation | Only 1 formula satisfied | |
| THE KROGER CO. | Only 1 formula satisfied | |
| FedEx Corporation | Only 1 formula satisfied | |
| CONAGRA FOODS INC /DE/ | Only 1 formula satisfied | |
| ROPER INDUSTRIES INC | Only 1 formula satisfied | |
| STRYKER CORP | Only 1 formula satisfied | |
| EQT Corp | Only 1 formula satisfied | |
| ENTERPRISE PRODUCTS PARTNERS L P | Only 1 formula satisfied | |
| PPL CORP | Only 1 formula satisfied | |
| DTE ENERGY CO | Only 1 formula satisfied | |
| PAPA JOHNS INTERNATIONAL INC | Only 1 formula satisfied | |

# A  References

[ANALYSIS]  Analysis of 403 SEC XBRL Filings:
http://www.xbrlsite.com/demos/Analysis/2009-11-15/Viewer/

[US GAAP Taxonomy Architecture]  http://xbrl.us/Documents/SECOFM-USGAAPT-Architecture-20080428.pdf

[SEC Interactive Data Test Suite]  SEC Interactive Data Test Suite,
http://www.sec.gov/spotlight/xbrl/interactive_data_test_suite.shtml

# B  Document History

| Date | Editor | Summary |
|------|--------|---------|
| 2009-11-27 | Hoffman | Initial draft of document. |
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