# *Getting More From Your Actuarial Analysis*

*For Companies Retaining Property/Casualty Insurance Risks*

## Introduction

Many companies retain property/casualty insurance (P&C) risks, such as workers' compensation, general liability and medical malpractice, through insurance programs with large deductibles or other loss sensitive features, or through qualified self-insurance programs. These companies typically retain the services of a credentialed actuary to assist with various financial analyses of the retained risk. Typically, these analyses include estimates of a company's retained liabilities for the corporate balance sheet, as well as projections of future annual retained losses. Actuaries also can provide analyses that more broadly support a company's risk management function, assist in the management of costs/risks, and help in other areas such as customer loyalty programs and product warranties.

Company risk managers, controllers, chief financial officers and others who work directly with the actuary generally obtain a reasonable level of value from the actuarial analysis. However, these company managers often miss opportunities to get more value from it.

This paper contains ten questions that a company risk manager (or anyone else working with an actuary) should discuss with their actuary. By asking these questions, the risk manager may uncover opportunities to obtain more value from actuarial analysis, including ways to improve the usefulness and reliability of the company's actuarial reports, as well as opportunities to discover sources of potential self-insurance program cost reduction.

## Ten Questions to Get More from Your Actuarial Analysis

By asking the following ten questions about your company's work with its external actuary, you can benefit more thoroughly from an actuarial analysis.

1. Is your actuary aware of *all* intended uses of the actuarial report?
2. Have you and your actuary collaborated to customize an actuarial report that fully meets your needs?
3. How good is the exposure data the actuary receives?
4. How does your actuary stay informed about changes in your company's business?
5. How does your actuary reflect external information in the actuarial analysis?
6. Is your actuary's quality control process sufficient?
7. How does your actuary assist in translating the results of the actuarial report to your company's financial statement?
8. Is there a better time of the year for your actuary to provide the actuarial report?
9. What is the succession plan for your external actuary?
10. Is your actuary playing a broader role than just providing basic numbers?

## 1. Is your actuary aware of *all* intended uses of the actuarial report?

The "headline" purposes for an actuarial report often include:

- A reserve estimate to support the company's financial statements.
- An estimate of retained losses for the upcoming year to support the company's budgeting process.

The company's insurance risk manager and others may find additional uses for the report. In order to confirm that the estimates are appropriate for intended uses the actuary should understand the various ways a company uses the report. Absent an understanding of the additional uses, the actuary may not devote sufficient attention to the other aspects of the report that support the additional uses.

*Illustrative Example*
XYZ Company has retained a $500,000 per occurrence large deductible for workers' compensation since 1985. The most recent actuarial report estimates the following workers' compensation reserves as of 12/31/11:

| Policy Year | Undiscounted Reserves |
|---|---|
| 1985-1995 | $20 million |
| 1996-2011 | $480 million |
| Total | $500 million |

The XYZ risk manager is planning to negotiate with its insurance company to close out the 1985-1995 policy years. The risk manager plans to use the $20 million estimate in the actuarial report as a starting point for the negotiation.

Unfortunately, the risk manager did not discuss this intended use of the $20 million estimate with the actuary. If a discussion with the actuary had taken place, then the actuarial report may have better supported the risk manager's negotiation process by:

- Including a discounted version of the $20 million reserve estimate to encourage consideration of the time value of money. According to the company's accounting policy, self-insurance reserves accrue on an undiscounted basis on the balance sheet. Even so, the time value of money is still worth considering in a close-out or commutation negotiation, and could be worth millions of dollars.
- Incorporating additional actuarial techniques to generate a more refined reserve estimate for the 1985-1995 policy years. A more refined reserve estimate for the older policy years may not have been necessary in the context of a $500 million total reserve. However, in the context of a $20 million close-out negotiation, the additional refinement could be significant.
- Providing information on the potential variability of the $20 million reserve estimate so that both the expected cost and upside/downside risk can factor into the company's decision making process.

The actuary also could have added value during the negotiation process by reviewing alternative estimates the insurance company prepared and helping the company understand the reasonability / relevance of the assumptions underlying the insurance company's estimates.

## 2. Have you and your actuary collaborated to customize an actuarial report that fully meets your needs?

You should not be expending significant time and effort to pull together information that is scattered throughout an actuarial report or adjusting / combining estimates in the report. This time and effort decreases your efficiency and increases the risk of errors in transferring information from the report to the company's financial statements. Your actuary can customize the report by building exhibits and an executive summary that make readily accessible the information you and other report users need.

Some examples of information that actuarial report users often need to have easily accessible include:

- An executive summary that includes the internal and external reporting information that your company management finds most important.
- One exhibit that summarizes the overall reserve estimates (rolled-forward to the date of your company's fiscal year-end, as needed).
- An exhibit that summarizes the ultimate loss projections for the upcoming year.
- Summary exhibits that show key performance metrics such as loss rates, claim frequency and average claim size.
- Exhibits that compare the ultimate loss and reserve estimates from the current and prior report.
- Exhibits that reconcile the raw data your organization provides the actuary and the data the report displays. This type of reconciliation assists your company's internal and external auditors in testing the actuarial report.

## 3. How good is the exposure data the actuary receives?

The quality of the data the actuary receives affects any actuarial analysis. The two main types of data an actuary receives are claims data and exposure data. Claims data includes items such as paid losses, case reserves and claim counts. Examples of exposure data items are annual payroll, sales, and vehicle counts or mileage.

A self-insured company typically pays close attention to the completeness and accuracy of the claims data its actuary receives. The data generally comes from a well-controlled claims reporting system, such as those large insurance companies or third party administrators maintain. The exposure data an actuary receives often is not at a similar level of quality or control. This lack of quality can lead to exposure data that is inconsistent from year to year, missing significant components, or inclusive of other errors. Companies also should consider the availability of alternative exposure bases that may better match the underlying insurance risk.

One common example of problematic exposure information is the payroll data often used as the exposure base for workers' compensation. The composition of payroll data extracted from a company's systems should be consistent from year to year. Payroll data can include or exclude components such as salaried payroll, hourly payroll, bonus and overtime.

Some actuarial projection methods rely heavily on the accuracy of the exposure data. The consistency of the exposures from year to year is especially important to the integrity of the actuarial estimates.

## 4. How does your actuary stay informed about changes in your company's business?

Claims and exposure data clearly are critical to an actuary's ability to provide high quality loss estimates. However, qualitative information about changes in the company's business also is important. The types of qualitative information that can be important to your company's actuary include:

- *Claims management:* Changes to the company's approach to establishing case reserves on open claims can impact a key actuarial assumption known as "loss development". The company's insurer, third party claims administrator (TPA) or internal staffing changes all can cause these changes. For example, the TPA might implement a more conservative philosophy for setting case reserves than in prior periods.
- *Safety programs:* Employee safety initiatives have the potential to favorably impact a company's claims experience. Knowledge of a company's employee safety initiatives can corroborate early signs of improvement in claims data, and thereby allow actuarial estimates to respond faster to the improvement.
- *Broader business items:* Expansions or contractions of company operations and locations can affect how the actuary uses historical company data to project future losses. For example, the divestiture of a company division may warrant separating the divested portion of the historical data to better analyze the ongoing business. It is important for the actuary to have information on business changes so that the actuarial analysis can better reflect the impact of the changes.

The actuary can stay informed about changes impacting your company's business through periodic discussions about these types of changes.

## 5. How does your actuary reflect external information in the actuarial analysis?

Depending on the size of your company's self-insurance program, it may be appropriate for your company's actuary to consider using external information when preparing the actuarial analysis. Often, even for fairly large companies, consideration of external information can improve the quality of an actuarial estimate. Comparison of relevant external information to a self-insured company's own claims experience also may be useful, even if it is not used directly in the actuarial analysis. Benchmarking can be an important consideration in understanding a company's loss experience and reviewing the reasonability of actuarial estimates.

Two examples of the external information that actuaries often consider are:

- *Loss development.* Loss development factors are often a key actuarial assumption. Typically, an actuary will analyze a company's historical loss development data to derive a set of loss development factors that are appropriate for the company. Consideration of supplemental loss development data from a broader industry source is often useful, especially for older policy years where the company's own loss development experience may be limited or not available.
- *Trends.* Trends in claim frequency, claim severity and loss rates also can be key actuarial assumptions. Trend information from a broader industry source is useful in corroborating the trend information embedded in a company's own loss experience, particularly when it is difficult to discern a consistent trend within the company's data.

The actuary should exercise care to incorporate external information appropriately. Giving too much weight to external information at the expense of a company's own data can yield an actuarial estimate that does not adequately reflect the factors that distinguish a company from the industry overall. Also, lack of access to external information relevant to the company can sometimes limit an actuary's consideration of external information.

## 6. Is your actuary's quality control process sufficient?

How does your actuary check that the calculations in the actuarial report are technically correct and free of spreadsheet errors? How does the actuary confirm that the selection of methods and assumptions and overall results in the report are reasonable?

The absence of a good quality control process increases the chance that an actuarial report will include material errors. Material errors in the report can adversely impact the accuracy of your company's financial statements and your ability to monitor the cost drivers of the company's self-insurance program.

The quality control process at larger actuarial firms typically involves a quality check performed by actuarial staff who are not centrally involved in preparing the actuarial report. Often there are two separate types of quality reviews. The first quality review checks for basic technical accuracy; the second type, a peer review performed by another credentialed actuary, assesses the reasonability of methods, assumptions and overall results.

Larger actuarial firms also may have additional components of a robust quality control process, which include practice aids that thought leaders in the firm develop, as well as periodic quality reviews by a central quality review team.

Smaller actuarial firms, including one or two-person groups, also may have a quality control process. For example, some smaller actuarial firms routinely subcontract peer reviews to other actuarial firms.

## 7. How does your actuary assist in translating the results of the actuarial report to your company's financial statement?

During the course of a company's external audit, the audit firm's actuary may review the external actuarial report on the company's self-insurance liabilities. This review sometimes finds the estimates in the actuarial report are reasonable, but the company's financial statements are inconsistent with the actuarial report's estimates. This inconsistency often results from the company having difficulty translating the actuarial report to the company's financial statement accruals.

Difficulties in translating the actuarial report to the financial statements can result in material financial statement errors. Sources of translation difficulties can include:

- The financial statement is missing some of the self-insurance reserve components included in the actuarial report.
- The financial statement includes items in the self-insurance reserve that should not be there, such as the actuary's estimate of next year's claims.
- The financial statement incorrectly uses actuarial reserve estimates prepared at a higher confidence level (such as 75%) rather than actuarial estimates at an expected level. Actuarial reports sometime show estimates at higher than expected confidence levels for other purposes, such as the funding (asset) levels of a self-insurance program.
- The financial statement reserve is based on an actuarial report estimate that is as of a date other than the financial statement's accounting date.

Unintentional disconnects between the financial statement and the actuarial report such as these can occur when a report user does not have an adequate understanding of the latter. Actuarial report users may be unsure where to find the relevant numbers in an actuarial report, especially if the report has not been sufficiently customized to meet the company's needs.

If the actuary assists in translating the results of the actuarial report to the company's financial statements, then the risk of unintentional disconnects can be lower. A leading practice includes the actuary working directly with a company's accounting staff to verify use of the correct numbers in the actuarial report. Some consulting actuaries have significant experience working with accounting staff, familiarity with accounting issues, and can provide valuable assistance in this area. These actuaries also can help in discussions with the company's external auditor.

### 8. Is there a better time of the year for your actuary to provide the actuarial report?

Companies with self-insurance programs have varied practices on the timing of actuarial reports that support year-end or quarter-end financial statements. For year-end financial statements, some companies obtain the supporting actuarial report after year-end, but before issuance of the financial statement. Other companies provide claims data to the actuary months before the fiscal year-end so the actuary can complete the actuarial report well in advance of the financial statement date.

Obtaining the supporting actuarial report in advance of year-end (or quarter-end) has several advantages, including:

- An earlier timeframe for the actuarial report minimizes the potential for conflict with the year-end closing process.
- Having the actuarial report prior to year-end allows more time for year-end planning and may allow for the recording of self-insurance reserve adjustments prior to the last quarter.
- Moving the actuarial process forward allows time for the actuarial report to include a more extensive analysis that better identifies the self-insurance program's cost drivers.
- An earlier delivery of the actuarial report may better support the timing of other management objectives such as the annual insurance program renewal, the company's budgeting process and collateral negotiations.
- For companies with a December 31 year-end, obtaining the actuarial report in advance of that date means they can avoid the January and February timeframe that typically is very busy for actuaries.

An actuarial report that arrives in advance of year-end generally should include a "roll-forward" to project the reserve estimate from the date of the claims data to the date of the company's year-end.

An early completion of the actuarial report has one potential disadvantage: the report will not reflect claims information from the date of the claims data to the date of your company's financial statement. The significance level of this disadvantage varies depending on the size of the self-insured program, the coverages included in the program and other factors. Conducting a more abbreviated analysis of the incremental paid and incurred claims activity between the actuarial report and a company's year-end generally can mitigate this disadvantage. Based on the abbreviated analysis, adjustments to the actuary's roll-forward estimates may be appropriate. The actuary can provide the analysis of incremental claims activity and corresponding adjustments to the rolled-forward reserve estimate.

We recommend that the company discuss any changes in the timing of the company's actuarial report with its external auditors prior to making a change in timing. This discussion will help ensure the potential raising and addressing of objections without causing a delay in the release of financial statements or public reporting.

### 9. What is the succession plan for your external actuary?

Most self-insured companies eventually will need to replace the person serving as its external actuary. The need for a replacement may arise due to the actuary retiring, changing employers or the decision

of the self-insured company's management. The need for a change may arise suddenly and leave little or no time for an orderly transition to a new actuary.

A company can take several actions today to smooth such a transition, including:

1) *Retaining prior years' actuarial reports and the data it provided to the actuary.*

   The new actuary may need access to the actuarial reports from prior years and the data the company provided to the current actuary to generate those reports.

2) *Developing a relationship with another external actuary, and considering engaging him to perform a second external review.*

   a. Transitioning to a new actuary may be easier if a company already has developed a professional relationship with another actuary. The other actuary could be a co-worker of your primary actuary who provides backup support when the primary actuary is not immediately available. Alternatively, the other actuary could be from a different professional services firm and provide occasional feedback on issues impacting your company's self-insurance program.

   b. Some companies with significant self-insurance exposure periodically engage another external actuary to provide a second opinion on the company's self-insurance loss reserves. The second opinion mainly serves as check on the primary actuary's estimates and helps to ensure proper documentation exists in the primary actuarial report. An additional benefit of engaging a second actuary is having an obvious successor to the primary actuary, should one become necessary.

3) *Ensure that actuarial reports contain complete documentation.*

   A transition to a new actuary will be easier if the current actuary's reports contain the information the new actuary will need to replicate the actuarial analysis. A transition will be more difficult if information is elsewhere, such as in the current actuary's internal files.

   The types of information that may be useful in facilitating an actuarial transition include:

   - Exhibits that summarize the data used in the actuarial report, including details regarding adjustments to the source data.
   - Exhibits that detail the application of various actuarial methods to obtain the report's estimates.
   - The key features of the current and historical self-insurance program, such as per occurrence deductibles/retentions, annual aggregate retentions, parameters of retrospective rating plans, treatment of expenses, and coverage form, e.g. occurrence versus claims-made.
   - Support for key assumptions, such as the loss development triangles that support the actuary's loss development factors.
   - A text description of the methods, assumptions, background and anything else necessary for another actuary to follow the report.

   If the succession plan contemplates transitioning to a different actuary within the same professional services firm, then complete documentation within the actuarial report is less critical for actuarial succession planning. However, complete documentation often is necessary for other purposes, such as facilitating external audit review of the actuarial report.

### 10. Is your actuary playing a broader role than just providing basic numbers?

If your company's actuary is providing just the basic "headline" estimates of reserves and future loss projections, you may be missing out on significant value. Actuaries can help the management of your company's self-insurance program in many ways, including:

- Conducting "drilldown" analysis to identify items driving up self-insurance costs. For example, separate analyses for states with large self-insurance exposures can identify cost drivers and often improves the quality of the overall analysis.
- Analyzing self-insured retention options by comparing expected overall costs and considering risk and variability trade-offs.
- Assisting in collateral negotiations with your company's insurer (for large deductible insurance programs).
- Allocating self-insurance program costs to business unit.
- Providing actuarial support for loss portfolio transfers of older self-insured policy years.
- Making more effective use of captive insurance companies.
- Providing industry perspective on trends and best practices, including comparisons to relevant industry benchmarking information.
- Presenting results to senior company management.
- Measuring improvements in results and cost savings resulting from programs or changes implemented by the company.

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## *Make the most of your actuarial analysis*

A company that retains property/casualty insurance risk likely has opportunities to increase the benefits it receives from its actuarial analysis. The key to maximizing these benefits is regular and open communication between the company and actuary on, among other topics, uses of the actuarial report and changes taking place within the company. A company can further benefit by receiving input from the actuary on relevant trends and how to manage a retained risk program. Actuarial value is maximized when the actuary's role goes beyond providing just "the number" to becoming an important member of the company's risk management and risk finance team.

***To have a deeper conversation about how to get more from your actuarial analysis, please contact:***

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