

THE ACTUARY'S TOOLBOX:

Peer Review

How Can It Help?

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While it is the Code, USQS, and ASOPs that govern the responsibilities of actuaries, the ideas and suggestions offered in this paper are intended to assist actuaries in applying professionalism requirements to their individual situations and to enhance the actuarial profession's consideration of peer review. The committee believes that expanded discussion of the ideas and suggestions offered in this paper will benefit the profession.

Readers are encouraged to share their comments on this paper with the Committee on Professional Responsibility. Comments can be submitted to professionalism@actuary.org.

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Introduction

Actuaries practicing in the United States are required to comply with the Code of Professional Conduct (Code), thereby supporting the profession in fulfilling its responsibility to the public. Professionalism is essential to all actuarial work, and actuaries have many tools and resources available to support and improve their professionalism, including peer review. Issuing actuaries are ultimately responsible for their work, including whether the work product adheres to the Code and the actuarial standards of practice (ASOPs), and whether they are qualified under the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* (USQS).

Although peer review is not required by the Code, many actuaries or employers of actuaries have developed policies and best practices for peer review to support actuarial professionalism in the performance of actuarial services.

This discussion paper provides some ways for actuaries to consider peer review in the context of professionalism, including some case studies. Actuaries are also encouraged to review the 2005 paper titled [*Peer Review: Concepts on Professionalism*](#).

The Purpose and Scope of a Peer Review

According to the 2005 discussion paper, peer review may be defined as an evaluation of a professional work product, in part or in whole, conducted by a second, qualified professional who is considered a peer of the preparing (issuing) actuary.

Ideally, a peer reviewer would have a similar (or possibly higher) level of technical knowledge and experience and not be directly involved in the work product. Peer review strengthens and maintains confidence in actuarial work and the profession and protects the public interest by ensuring that actuarial opinions are objective and of the highest quality.

The scope of the peer review is typically discussed and agreed upon by the issuing actuary and the peer reviewer prior to the peer review. A large multi-phase project or work with significant financial implications may include multiple peer reviewers. A review may be performed on segments of a large project or on the entire project.

The scope of the work product will determine the parameters of a peer review. While the objectives of a peer review may vary, peer review of a work product often focuses on the following items:

- The solution design and analysis, and whether it is appropriate for the project
- The underlying data and calculations
- The underlying assumptions, methods, and models
- The reasonableness of results and trends, especially compared to prior results and trends
- The review of subjective or judgmental elements, their appropriateness given the business context, and whether they are adequately disclosed and properly supported
- The workflow and whether it is logical with tolerable process risks
- Consistency with the Code and ASOPs
- Whether the communication delivered to the principal
 - Appropriately responds to any question(s)
 - Clearly presents the supporting data, methodology, sensitivities, and actuarial findings
 - Includes appropriate disclosures, limitations, and qualifications and identifies any conflicts of interest
 - Considers the background and perspective of the intended user(s)
- Improvements to the robustness of the work

Selecting Peer Reviewers

For actuarial work products, the reviewing professional typically is an actuary who is qualified by education and experience such that they could perform the assignment if engaged to do so. Professionals who are not actuaries may also be well suited as a reviewer if they possess the relevant knowledge or skills. For example, a professional in the medical field with high-level knowledge of certain medical procedures or prescription drugs might review a health-related actuarial analysis to ensure accurate representation of medical concepts within the actuarial work product. Other professionals with specific expertise useful for peer review might include, but are not limited to, lawyers, engineers, economists, meteorologists, and data scientists.

In addition to being a qualified professional, the ideal peer reviewer is independent and does not have any conflicts of interest. Beyond enhancing the work product quality, an objective review would likely be welcomed by the principal to the engagement and may increase the confidence of the principal in the work product.

Actuaries who are sole practitioners, the only actuary employed in their organization, or working in developing areas may have difficulty finding an appropriate peer reviewer within their organization. Such actuaries may find it useful to connect with other actuaries in the same practice area who work for different organizations and might agree to review each other's work, as long as there is no conflict of interest. For developing areas, another alternative is to tailor peer reviews to focus on certain aspects of the project, such as techniques and methodologies. An objective reviewer might challenge the issuing actuary's assumptions or methods in situations where the issuing actuary shares those assumptions or methods or might offer alternative approaches.

Timing of Peer Review

Ideally, peer review will be conducted when the work product is in draft form, prior to submission to the principal, and after sufficient self-checks are completed by the issuing actuary. Whether the optimal timing is achievable depends on several factors, including when the issuing actuary receives the data required to perform the work, the issuing actuary's workload, when the draft work product is submitted to the peer reviewer, the peer reviewer's workload, and the deadline(s) for the project. In some instances when time is limited, a post-submission peer review may be possible. The issuing actuary needs to disclose, when delivering the work product, that the work product may change when peer review is completed. If errors are caught after submission to the principal, report revisions should be completed and discussed with the principal.

Other Considerations

Constraints such as time, cost, and inability to find an appropriate peer reviewer may make it impossible to conduct complete peer review on some work products. In such cases, a review less than a full peer review may still be beneficial. Discussions with colleagues may provide relevant insights or reasonableness checks to the issuing actuary. Reviews of key sections by other actuaries may be helpful. Proofreading, editorial, and legal reviews may also improve the work product, particularly the clarity of the communication.

Peer review may not lead to consensus on all aspects of the final work product and recommendations. The issuing actuary and peer reviewer may have different but equally valid approaches or opinions that they should discuss. Such discussions may help improve the quality of the work product, even if the issuing actuary disagrees with the peer reviewer. Ultimately, the issuing actuary is responsible for the work product in accordance with the Code and ASOPs.

It may be valuable to preserve documentation of peer review. Peer reviewers and issuing actuaries may want to document their correspondence resolving peer review inquiries and save the peer-reviewed work product and related communications for future reference.

Several other considerations related to peer review are not discussed in this paper. These include financial arrangements between the issuing actuary and peer reviewer, data security and confidentiality, and non-compete clauses.

Peer Review and the Code

The Code of Professional Conduct underlies all actuarial work, including peer review. Several Precepts of the Code are particularly relevant to peer review.

First, as described in Precept 1, an actuary is required to perform all actuarial services with skill and care. The issuing actuary is ultimately responsible for the final work product and for ensuring that the final work product satisfies the ASOPs (Precept 3) and that the underlying technical analysis was competently executed. Given the importance of ensuring this integrity, it will benefit the issuing actuary to have a peer reviewer examine and comment on the final product prior to releasing it. The same standard of skill and care applies to the reviewing actuary.

Precept 4 requires actuarial communications to be clear and appropriate to the circumstances and the intended audience and to satisfy applicable standards. As noted above, the scope of a peer review often includes the communications related to a work product. A peer reviewer may notice language that is unclear or may be interpreted in a way the issuing actuary did not intend. A review of communications can also help meet Precept 8, which requires the issuing actuary to take reasonable steps to ensure that their services are not used to mislead other parties.

Precepts 10 and 13 may also come into play during a peer review, if a disagreement between the reviewing actuary and issuing actuary arises. Precept 10 addresses discussions concerning differences of opinion, stating that such discussions “should be conducted objectively and with courtesy and respect.” Precept 13 becomes relevant when one actuary believes another has violated the Code. Precept 13 encourages a discussion between the actuaries, but if the discussion does not result in resolution of the problem or is not attempted, the actuary is required to disclose the potential violation to the Actuarial Board for Counseling and Discipline, unless such disclosure would be contrary to law or divulge confidential information.

The remainder of this paper provides case studies to generate discussion about peer review for actuaries, considering the concepts presented above.

Case Study 1:

Delegating Peer Review

Julian is an actuary with the role of certifying bids for Medicare Advantage product pricing that are submitted annually to the Centers for Medicare & Medicaid Services (CMS). Julian's employer, ABC, is a smaller regional managed care organization (MCO) offering Medicare Advantage plans in three cities, with two HMO benefit plans in each city.

Julian has decided to delegate all the technical work to two direct reports, Jane and Jim, including evaluating base-year experience, benefit cost sharing, trend assumptions, and other data and information required in developing the bids. Jane is an ASA with two years of bid work experience, and Jim is an actuarial student working on bids for the first time.

Julian has certified ABC's bids for six years, with no material errors found by auditors. Julian peer reviewed Jane's work on the bids for the past two years. For the first time, Julian delegated peer review responsibilities to Jane, who only had two days for peer review before the CMS filing deadline. Because Jane was involved in the previous two bids, Julian assumed she knew what to do as a peer reviewer.

ABC's six bids were submitted to CMS on time. As usual, CMS then contracted with an actuarial consulting firm, DEF Consultants, to audit two of the six bids. If DEF finds any material errors in the two bids, ABC must resubmit all bids containing the errors. If the errors are significant, ABC may be fined and, possibly, not allowed to offer its Medicare Advantage plans.

The report from DEF Consultants uncovered the following material errors in the two audited bids:

- Both bids were missing the cost of hearing and vision benefits.
- One bid's two-year trend used the correct first-year trend, but also used the first-year trend for year two.
- The administrative expense percentage assumption of 11.5% was inaccurately entered as 10.5% for both bids.

When Julian reads the report from DEF, with CMS copied on the email, he immediately has a sick feeling in the pit of his stomach. What should Julian and his team consider to improve peer review?

Some areas for improvement might include the following, all of which fall under Precept 1, Annotation 1-1, “An Actuary shall perform Actuarial Services with skill and care”:

▶ **Ensure independence from the work.**

- Because Jane was directly involved in preparing the bids, it was not appropriate for Jane to be considered the peer reviewer.
- Julian could consider hiring an independent peer reviewer if qualified resources were unavailable at ABC.

▶ **Consider the experience of the peer reviewer.**

- It will be valuable for inexperienced peer reviewers, such as Jane, to receive some training or shadow an experienced peer reviewer to gain experience. This training also could include reviewing the Code and ASOPs.
- Julian could retain the role of peer reviewer if Jane and Jim are preparing the work.

▶ **Consider time and resources.**

- Including peer review in the work plan allows sufficient time for peer review and advance consideration of who will perform the peer review.
- Building peer review into the work plan allows the final work product to be delivered on time.

▶ **Develop peer review documentation practices.**

- For example, Julian could have Jane prepare standard work for reviewing bids, listing quality and validation self-checks, prior to the peer review, as part of documentation.

Case Study 2:

Planning Ahead

Roger is an independent consulting actuary specializing in pension and profit-sharing plan design and administration. Roger has an actuarial assistant, John, with two years of pension experience. Roger's client, XYZ Inc., maintains a 401(k) profit-sharing plan and a cash balance pension plan.

Roger is excited about his upcoming ski trip, for which he departs on the last day of February. He has promised XYZ Inc. to have the valuation of its cash balance plan and 401(k) profit-sharing plan ready by March 1. John completes the draft valuation/allocation and dumps it on Roger's desk late on Feb. 27. On Feb. 28, Roger is thinking about black diamond runs while he quickly reviews John's work.

The pension liabilities look reasonable, and no minimum pension contribution is due. Roger approves John's work and asks him to send the report to XYZ Inc. John asks Roger whether to delay sending the report until Anne, their independent peer review actuary, can peer review the report. Roger tells John to send the report to XYZ Inc. anyway and forward a copy to Anne for post-valuation peer review.

After a delay of several months, Anne completes her peer review and agrees that no contribution is currently due. However, she also notes some concerning items, including that the plan is close to being overfunded, the owner is close to retirement, and the owner's benefit is very close to the Internal Revenue Code maximum benefit level. Further, she notes that there is a compliance issue due to some recent hires, which can still be remedied by a plan amendment.

Roger is grateful for Anne's advice and relieved that Anne caught the compliance issue while it can still be corrected by plan amendment. Roger will follow up with XYZ Inc. regarding the compliance issue and will offer advice about the plan's funded status. He also notes that there are changes that should be made at the firm.

What should Roger consider as he develops a comprehensive internal review process for future projects?

Some areas for consideration in developing a review process include the following:

▶ **Create an internal review process.**

- The Code of Professional Conduct, Precept 1, requires actuarial services to be performed with skill and care.
- Roger might review work more carefully prior to peer review. He could suggest his firm establish an internal review process, possibly including a validation checklist, to minimize errors.

▶ **Communicate more clearly.**

- Roger could have communicated his expectations more clearly to John so that Roger had more time to review John's work before sending it to XYZ Inc.
- Roger could also have consulted Anne on scheduling.
- The Code of Professional Conduct, Precept 1: "An Actuary shall act honestly, with integrity and competence..." Roger could have told XYZ Inc. that the peer review on the report was pending and corrections may be needed.

▶ **Consider time and resources.**

- It is up to the issuing actuary to negotiate reasonable client deadlines considering staffing and overall workload, especially if prerelease peer review is expected or required. Roger could have consulted with Anne to make sure there was time for her to perform the review and resolve any issues before submitting the work to the principal.

Conclusion

Peer review is a useful tool in the actuary's professionalism toolbox. Inclusion of a qualified peer reviewer, either an actuary or other professional, may improve the quality of the work product and the communication to the principal. Peer review can give the issuing actuary and the principal confidence that the work product is of high quality and meets the standards set by the actuarial profession.

Appendix: Resources for Actuarial Professionalism

Underlying the discussions in this paper is the professionalism infrastructure of the U.S. actuarial profession. The foundation of actuarial professionalism is the Code of Professional Conduct, which sets standards of professional behavior and applies to members of any of the five actuarial organizations that have adopted it. The Code requires actuaries to follow qualification and practice standards for the jurisdictions in which they provide actuarial services. For U.S. work, those are the *Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States* (USQS) and the actuarial standards of practice (ASOPs) issued by the Actuarial Standards Board (ASB). The Actuarial Board for Counseling and Discipline (ABCD) investigates potential violations of the Code (and by extension the ASOPs and USQS) and recommends discipline to the actuarial organizations of which the subject actuary is a member.

The Code and the ASOPs set the standards for professional behavior and actuarial practice. These standards are purposely and appropriately principle-based and are intended to address all the situations an actuary may encounter. All actuaries should stay current on, and regularly consider, professionalism principles as they undertake their work.

To help actuaries keep their professionalism knowledge up to date, the Academy has developed a wealth of professionalism resources. Most of these materials may be found on the Academy's [professionalism webpage](#).

First and foremost, the Academy is home to the actuarial profession's fundamental professionalism documents:

- [Code of Professional Conduct](#)
 - Members may request a handy pocket-sized hard copy.
- [USQS](#), amended effective Jan. 1, 2022.
- [ASOPs](#) are found on the ASB website.
 - The ASB's newsletter, [Boxscore](#), announces ASB news, including exposure drafts and new and revised ASOPs.

The Academy has produced several resources to help you use these foundational documents:

- [TRACE](#), a free online tool for tracking CE
- [USQS Attestation Form](#), which actuaries can use to demonstrate how they meet the USQS
- [FAQs on the U.S. Qualification Standards](#)
- [Which CE Requirements Apply to Me?](#) (infographic)
- [Applicability Guidelines](#), which can help an actuary determine which ASOPs apply to a given assignment

Two regular columns focus on professionalism:

- “[Up to Code](#),” written by a member of the ABCD, appears in *Contingencies*.
- “Professionalism Counts” appears in *Actuarial Update* and on the professionalism [webpage](#) each month

Other popular and useful resources include webinars and discussion papers.

- [Professionalism webinars](#) feature actuaries with a deep knowledge of professionalism discussing a wide variety of professionalism topics—from the basics, such as the Code and ASOPs, to more specific topics such as reliance, ethics, and uncertainty. Recorded webinars are available free of charge to Academy members.
- [Discussion papers](#) cover topics such as [Professionalism Considerations for Working in Developing Areas of Actuarial Practice](#), [Conflicts of Interest When Doing Volunteer Work](#), [Explaining Professionalism to Principals](#), and [Professionalism for the Solo Actuary](#).
- Papers providing a deep dive into actuarial professionalism include [The Academy and the Web of Professionalism](#) and [Structural Framework of U.S. Actuarial Professionalism](#).

If you have questions after consulting these resources, you can ask for assistance.

- For questions on qualifications, [contact the Committee on Qualifications](#).
- If you find yourself in a professionalism-related quandary, contact the ABCD with a [request for guidance](#).
- To reach the Academy’s professionalism department, email professionalism@actuary.org.

The Academy encourages actuaries to use these resources and has provided them so actuaries can fulfill their responsibility to their principals—and to the public—with the highest standards of professionalism.



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