



SOCIETY OF ACTUARIES

475 N. Martingale Road
Suite 600
Schaumburg, IL 60173
847.706.3500 tel
847.706.3599 fax
www.soa.org

December 8, 2014

By email c/o Kris DeFrain@naic.org

Mr. Rich Piazza, ACAS, MAAA
Chair, Actuarial and Statistical (C) Task Force
c/o Ms. Kris DeFrain, FCAS, CPCU, MAAA
National Association of Insurance Commissioners

RE: CASTF Plan & Request for Materials pertaining to evaluation of SOA Fellows signing Property/Casualty Statements of Opinion

Attached to this memo are the documents that comprise the Society of Actuaries (SOA) response to the CASTF's request for information that will assist the task force in carrying out its charge to evaluate the SOA's General Insurance (GI) track. The purpose of this cover memo is to help CASTF understand the SOA's approach to creating and executing its GI track so that the various documents can be put into context. This cover memo also explains why the SOA believes that some of the requested items are not relevant for CASTF's work.

The SOA appreciates the work done by the members of CASTF on this topic over the past year and we continue to support the idea of an independent review. Such a review will provide an unbiased evaluation of our GI track. The SOA also continues to be willing to fund the review should other sources not be available. The SOA is confident that CASTF can arrange for a truly independent review that avoids even a perception of bias. As was pointed out by a CASTF member, there are other sources of potential bias that may be more significant than that created by SOA funding.

Also attached to this memo are letters sent to CASTF dated September 15 and October 26, 2014 that represent additional communications from the SOA.

* * * *

The SOA's approach to its GI track:

The SOA in its current form has been educating actuaries since its formation in 1949 (as the merger of two associations, dating back to 1889). There has been continual expansion of its offerings, from its life insurance origins including the additions of specialty tracks in health insurance, finance, investments, enterprise risk management, and now general insurance. Throughout, the SOA has maintained consistency across its tracks, holding all to the same

high standards and ensuring that candidates would not perceive one track as easier than another.

When the SOA board decided to add the GI track, the curriculum and examination committees had the opportunity to benefit from two sources. First, there was already the long-established and recognized SOA blueprint for educating and assessing actuaries. Second, there was the successful curriculum and examination program of the Casualty Actuarial Society (CAS). In designing the GI track, the goal was not to replicate or clone the CAS approach. Doing so would add no value to stakeholders. Thus, there are significant differences between the SOA and CAS. It does provide candidates and employers with alternatives. The differences also provide a competitive environment where innovations by one organization are likely to be adopted by the other for the betterment of candidates and employers.

The following highlights several areas in which the SOA differs from the CAS.

- The SOA constructs its curriculum to satisfy both local and global needs. Locally, it is imperative that each practice-area track meet the U.S. qualification standards. However, about 25% of its candidates work elsewhere (and many who will work in the U.S. will do so for global organizations). Thus, it is appropriate that the curriculum have coverage that extends beyond that needed to complete U.S. financial statements. The attached Appendix contains a list of some ways in which the SOA provides additional attention to global topics.
- The SOA believes all members should be exposed to all areas of actuarial practice. The CAS focuses almost exclusively on one area of practice. So, while SOA GI fellows may not be tested on some aspects of GI practice, they have a broad education that provides other perspectives with regard to actuarial solutions. The SOA's GI curriculum was carefully designed to leave out those topics that are more mechanical and easily picked up as needed in practice.
- The SOA believes that a variety of learning methods should be used to ensure that material is learned in the appropriate manner. For fellowship education, this means that certain subjects are presented through online modules rather than through readings and proctored examinations. The best example of this is the Applications of Statistical Techniques module where candidates use the R package to work with data while learning Generalized Linear Models and methods of measuring reserve variability. Using a closed-book, no computer, written-answer approach only ensures that candidates prepare by memorizing small bits of the subject that are likely to appear as questions rather than doing statistical calculations. Analyzing an actual data set with a computer is the most productive approach for candidates to learn how to use these statistical techniques in practice.

- The SOA has formal requirements that exam questions be at a high cognitive level and often be integrated across learning objectives. All item writers go through a 2.5 day training seminar to learn the SOA's standards in item writing and how to raise and maintain the cognitive level of questions being asked. The SOA constructs its exams using smaller committees (with significant expertise) with support from staff. This ensures that a strong control over the questions is maintained from start to finish. For the grading process, the SOA ensures that at least one highly experienced grader is one of the two graders assigned to each question. As the number of candidates continues to grow, the SOA will increase its number of writers and graders as warranted; however, it is important to note that with fewer steps in the process and fewer individuals involved, it is much less likely that mishaps will occur. Indeed, the sheer number of question writers and graders is not a guaranty that errors will not happen. The CAS has stated to CASTF that their system with a larger quantity of writers and graders is superior, yet the CAS itself has officially and publically acknowledged problems with their exams on three separate occasions: fall 2008, fall 2011, and fall 2014. In the first instance, the concerns were addressed on the CAS webpage. In the second instance, the concerns were addressed in the CAS blog. The most recent instance, regarding Fall 2014 Exam 8 held on October 28, 2014, resulted in Steven D. Armstrong, Chair of the CAS Examination Committee, providing a 4 page explanation in an on-line actuarial blog outpost admitting to a number of mishaps including: using a wrong formula in a question; not deleting a writer's study note in exam material; wrongly numbering questions; and using a wrong, and therefore illogical, heading to a table.
- It is not unusual (even within the SOA) for committees to continue using a given reading while planning to update it "next year." With a new track, the SOA is able to critically review each component and ensure that the selected materials are up to date. As examples:

 - CAS Exam 9 has the reading "Asset Liability Matching for Property/Casualty Insurers" written in 1989. Many of the observations in that paper have been proven false (though were likely believed to be true at the time). The SOA coverage of this topic in the Financial Economics Module uses more current readings.
 - The CAS study note "Basics of Reinsurance Pricing" was written in 1996. When the SOA began selecting material for its GI exams, the CAS placed all its exam readings behind a password wall. The SOA contacted the author of this note and now both organizations are using the 2014 revision.
 - The Exam 8 paper "An Example of Credibility and Shifting Risk Parameters" was written in 1990. Since then, it has been noted the model in that paper is a special case of the linear mixed model and an improved method of parameter estimation (REML) has been discovered. The SOA covers this with a paper written specifically for its Advanced Topics exam.
- Despite the fact that CAS Exam 6U includes the learning objective "Describe the U.S. litigation environment as applied to insurance", the readings in the syllabus are limited

to two short articles (one on asbestos claims and another on a court ruling on expert evidence). The SOA coverage of this learning objective is more comprehensive including the topics covered by the CAS plus numerous articles on other important legal cases and issues. See the syllabus for the Financial and Regulatory Environment exam for details.

* * * *

The scope of the CASTF review should be limited to basic education and the U.S. Qualification Standards.

The charge to CASTF specifically refers to "... the ability of SOA members who obtain the SOA fellowship in general insurance and meet U.S. qualification standards to sign actuarial opinions ...". Thus, when the CASTF evaluates the SOA's GI track, the key question should not be "Is it equal to the CAS?" but rather "Does it provide education and assessment that assures all stakeholders that FSAs have the basic education required to sign actuarial opinions?" The use of basic education is important. To be qualified, an actuary needs basic education (usually provided through an examination system), relevant work experience, and professional development. Qualification standards and instructions for signing statements may indicate requirements for work experience and professional development, but never state how they should be acquired or single out specific organizations or employers that are approved providers. However, the basic education requirement is normally the purview of select organizations. In this instance, the SOA is asking the NAIC (and thus the CASTF) to approve its basic education pathway and nothing more. This is consistent in that the while CAS exams are presently required, expectations for work experience and professional development do not reference the CAS.

With that in mind, we do not believe the following elements of the CASTF evaluation plan are relevant for determining the quality of the SOA's GI track.

- Item 6 (part) – copies of papers scoring 5, 6, and 10. While there is specific commentary on this issue in our supporting documents, we point out here that this was brought up to CASTF with a statement that the CAS does this. The CAS made such papers publically available in 2009 in response to candidate complaints about an exam with a low pass rate. It is our understanding that this has only been done once by the CAS. The challenge in interpreting these papers is that the difference between a score of 5 and 6 is small and reasonable people could conclude that a 5 should have passed and a paper with a 6 should have failed. Committees set the pass mark based on overall observations of papers near that mark. An individual paper's status may not be easily assessed by reading it. Refer to the SOA response to Item 11 for a description of the SOA grading process.
- *Item 7* – All of the requested statistics have been provided except candidates by their employer or type of employment. This information is not required of candidates as the SOA's relationship is with the candidate and not the candidate's employer.

- *Item 8* – coefficient of variation (cv). A well-constructed test will provide an opportunity for a wide spread in scores. This makes it easier to discriminate among candidates. However, if all candidates are roughly equal in knowledge and ability, the cv will be small, regardless of the test questions. Also, the cv requires an estimate of the standard deviation. This statistic is fairly volatile and for a small sample is an unreliable estimate of the true variance. Thus, for the SOA exams, it is unlikely to be an accurate or useful estimate of test quality. Further, while this is somewhat speculation, we note that only one SOA candidate has received a score of 0 on an examination. This is highly unusual. The SOA’s experience from other tracks (and we expect the CAS experience is similar) is that employers expect candidates to write an exam every session. Some candidates are unable to fully prepare, but must write the exam anyway. We suspect that most, if not all, SOA GI candidates have made a commitment to our exam process and thus are likely to spend time preparing. Having few such candidates reduces the cv, but this has nothing to do with the quality of the test.
- *Item 10* – views of employers. We do not believe this item provides objective or useful information. It is unlikely that these employers have thoroughly evaluated the SOA’s GI track (e.g., reading the over 2000 pages of original material, comparing the currency and relevance of syllabus items, and examining the Applications of Statistical Techniques module). Rather, they are likely to base a decision on personal biases, company tradition, or innuendo they have heard about our track. As noted at the beginning of this section, the SOA is providing basic education for GI actuaries and that education is either of acceptable quality or it is not. We are also concerned about a potential negative effect on the GI track simply due to the NAIC making inquiries (as noted in our October 26, 2014 letter).
- *Item 11* – As indicated previously, while it is important that qualified and experienced individuals be involved, the number of volunteers is not relevant provided they are sufficient to do a proper job of syllabus and exam construction and exam grading. The SOA has a cadre of highly qualified individuals who are involved at every step of the process. In the document supporting this item we also provide insight into the processes used as they are equally important.

As noted earlier, there is additional commentary regarding the individual items in the materials we have provided for each one.

* * * *

Conclusion: The SOA GI Track meets US Qualifications, provides benefits of competition, and positions the US positively in a framework of increased globalization of the insurance industry and actuarial profession.

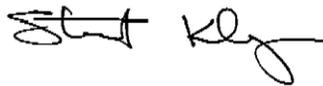
In close, the SOA is proud of the high quality of all our education tracks, including our GI program. We are confident that an unbiased reviewer of our submitted materials will

conclude that our program meets the US Qualification standards and provides an excellent alternative pathway for candidates seeking fellowship.

Additionally, it is important to point out that the inclusion of a GI Track into the SOA's already existing programs positively positions the U.S. in respect to increasing global regulatory discussions. There is no question that internationally there is a growing recognition that risk is connected across different lines. Related to this perspective many international jurisdictions and international companies do not have distinct separation between actuarial practices. With the increasing globalization of the market and regulatory processes it is valuable for the US to have an organization that provides an educational offering of all actuarial specialties. The SOA's comprehensive approach maintains the traditionally high standard of actuarial credentialing in the U.S. and adjusts for an increasing shared economy.

Lastly, of note is that fact that SOA's offering of a GI Track introduces competition into the market place. Competition benefits actuarial candidates, businesses and regulators by providing an incentive for all credentialing organizations to continuously improve and stay abreast of significant market and regulatory developments.

Sincerely,

A handwritten signature in black ink, appearing to read "Stuart Klugman". The signature is written in a cursive style with a long horizontal stroke at the end.

Stuart Klugman, FSA, CERA, PhD
Society of Actuaries Staff Fellow, Education

Appendix

International Aspects of SOA GI exams

Introduction to Ratemaking and Reserving: Exam

The SOA's text has extensive references to the standards of practice in India, South Africa, Australia, UK, Ireland, and also those of the International Actuarial Association (all in addition to the U.S. and Canada).

Financial and Regulatory Environment Exam - US

Many of the differences are in depth of coverage:

- Coverage of IFRS 4 accounting framework (more coverage than is in CAS 6U)
- Coverage of international solvency standards - including Solvency II & Canadian DCAT/MCT (more coverage than is in CAS 6U)
- Coverage of IAA view of responsibilities of the actuary - Standards of Practice, Function of the actuary in prudential supervision (not in CAS syllabus)
- Coverage of Government Provision of GI is on an international basis covering North America, Asia and Europe for a number of lines of business (CAS syllabus is limited to US programs/issues only)
- Coverage of the EU Court of Justice ruling banning the use of gender in insurance rating/underwriting (not in CAS syllabus)
- Coverage of the use of credit scoring is on a more general basis covering more than just the US (CAS only covers US)
- Coverage of the international legal environment (not in CAS syllabus)
- Coverage of effect of US Tort law on other jurisdictions (not in CAS syllabus)
- Coverage of international trends in tort law (not in CAS syllabus)