REPORT OF THE SOCIETY OF ACTUARIES ACCREDITATION IMPLEMENTATION TASK FORCE

OCTOBER 21, 2005

Douglas Borton
James W. Daniel
Victor de la Peña
Mary Rosalyn Hardy
Bryan Hearsey
Curtis Huntington
Michel Jacques
Stuart Klugman
Warren Luckner
Cynthia Miller
Wolfe Snow
Jeyaraj Vadiveloo
Catherine Wallach

SOCIETY OF ACTUARIES

Society of Actuaries
475 North Martingale Road
Suite 600
Schaumburg, Illinois 60173-2226
847-706-3500
847-706-3599 Fax

ACCREDITATION IMPLEMENTATION TASK FORCE MEMBERS

Douglas Borton, FSA, FCA, MAAA, FCIA, EA (Retirement Systems)

James W. Daniel, Ph.D., ASA (Academic, Advanced Undergraduate, Graduate Education and Research, SOA Education and Research Section), Paul V. Montgomery Professor and Director of Actuarial Sciences, University of Texas at Austin

Victor de la Peña, Ph.D. (Academic, Introductory Undergraduate, Fellow of IMS (Institute of Mathematical Statistics)), Columbia University

Mary Rosalyn Hardy, Ph.D., FIA, FSA (Academic, Advanced Undergraduate and Graduate Education and Research, SOA Board, Life Insurance, Finance, E&R), CIBC Professor of Financial Risk Management, University of Waterloo

Bryan Hearsey, Ph.D., ASA (Academic, CAS Academic Correspondent, Advanced Undergraduate, Radcliffe Task Force, small college), Professor of Mathematics, Lebanon Valley College

Curtis Huntington, JD, FSA, FCA, MAAA (Academic, CAS Academic Correspondent, Advanced Undergraduate and Graduate Education and Research, Joint CIA, CAS, SOA Committee on Academic Relations, SOA Education and Research Section Friend, Life Insurance, Reinsurance, NAFTA, IAA Education Committee), Professor, University of Michigan

Michel Jacques, Ph.D., ASA (CIA representative, Advanced Undergraduate and Graduate Education and Research, Life Insurance, Finance, Property & Casualty, Joint CIA, CAS, SOA Committee on Academic Relations), Professor, Laval University

Stuart Klugman, Ph.D., FSA, (Academic, CAS Academic Correspondent, Advanced Undergraduate, SOA Education and Research Section Friend, Education, Radcliffe Task Force, London Task Force), Principal Financial Group, Professor of Actuarial Science, Drake University

Warren Luckner, FSA, CFA, MAAA (Academic, Advanced Undergraduate and Graduate Education, CAS Academic Correspondent, SOA Board, Radcliffe Task Force, London Task Force), David P. Hayes Memorial Chair and Director of Actuarial Science, University of Nebraska-Lincoln

Cynthia Miller, FSA, MAAA (Health, Insurance Company), Vice President, Wellpoint Inc.

Wolfe Snow, Ph.D., ASA (Academic, Introductory Undergraduate), Associate Professor & Deputy Chairman, Brooklyn College, Dept. of Mathematics

Jeyaraj (Jay) Vadiveloo, Ph.D., FSA, MAAA (Life, Consulting), Sr. Manager, Deloitte Consulting LLP

Catherine Wallach, FSA, MAAA (Life, Insurance Company, Joint CIA, CAS, SOA Committee on Academic Relations), Assistant Vice President, Product Development, Pacific Life Insurance Company

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

Background

At its October 2004 meeting, the Society of Actuaries (SOA) Board passed the following motion:

> *"The Board of Governors accepts and approves the Report of the Task Force on Academic Infrastructure. The Board approves, in principle, the undertaking of a process of accreditation for academic actuarial science programs, consistent with the recommendations contained in the Report, and appoints an Implementation Task Force to establish the rules and procedures of such accreditation process. The Implementation Task Force is to report its completed task to the Board at its June 2005 meeting."*

This motion provided the charge to the Accreditation Implementation Task Force (Task Force) to "establish the rules and procedures" of an accreditation system for academic actuarial science programs. The establishment of an accreditation system is consistent with several elements of the 2004-2007 SOA Strategic Plan, including (among others):

a. 1.11 Deliver products and services focused on members, candidates, and customer needs while maintaining value of today's activities;

b. 2.4 Develop alliances and relationships to build systems to deliver knowledge, skills and abilities through education and assessment and research;

c. 2.11 Increase the number of credentialed professionals and certificants within actuarial science; and

d. 3.4 Identify and grow future actuarial practitioners and leaders.

General Objectives

As the Task Force designed the recommended system of accreditation, the following objectives for a partnership between the academic community and the actuarial profession[1] provided a framework against which to test the design:

1. To produce a sufficient number of highly qualified students and employees.
2. To produce a sufficient amount of theoretically sound and practical research.
3. To enhance the reputation of actuarial science within the academic community.
4. To enhance the reputation of the academic community within the actuarial profession, the business community and government.
5. To enhance public recognition of the profession.
6. To optimize the use of the combined resources of both the academic community and the actuarial profession.
7. To maintain a flexible and dynamic basic and continuing education system.
8. To support consistency of the relationship between the actuarial profession and the academic community throughout the world.

[1] As identified by the Joint CIA, CAS, SOA Task Force on Academic Relations

Task Force Members and Interested Parties

The members of the Task Force represent a variety of constituencies, including the various areas of practice and the academic community, both actuarial and non-actuarial. Other individuals volunteered to serve as “Interested Parties”. These “Interested Parties” provided feedback as they desired in response to Task Force communications they received.

Motivation for an Accreditation System

The primary motivation for a system of accrediting academic actuarial science programs is to identify quality academic actuarial science programs and to make meaningful distinctions regarding the nature and quality of the actuarial science education provided at various academic institutions. The report summarizes potential benefits that could result from a well-constructed system of accreditation, including:

1. providing students and employers information regarding accredited actuarial science programs;
2. guidance and standards for academic institutions; and
3. a strengthening of the relationship between the actuarial profession and academic institutions.

Resulting Desired Characteristics

Given the diversity of academic institutions that produce successful members of the actuarial profession, and the large number of schools that offer some level of education and information related to actuarial science and the actuarial profession, the Task Force has identified that the accreditation system should be simple to understand as well as administer, accommodate a diversity of academic institutions through multiple classifications, and be flexible to accommodate a variety of circumstances.

Developing the Rules, Structure And Procedures For An Accreditation System

In developing the rules, structure and procedures for an accreditation system, the Task Force adhered to the desired characteristics as well as the following principles, which are based in large part on suggestions in the report of the Task Force on Academic Infrastructure.

1. The system should identify a set of accreditation criteria, which individual institutions can then meet or not at their choice, rather than set a specific goal for a predetermined number of accredited programs.
2. The total cost to implement and administer the process should be proportionate to the benefit obtained, and should be shared between the SOA and the affected schools.
3. The system should not disenfranchise small schools (or small programs), many of which have for years been producing graduates who pursue a career in actuarial science.
4. The system should build upon the existing “2004 Listing of Colleges with Actuarial Science Programs”.
5. The system should include a criterion for a curriculum that meets specified portions of the learning objectives for the preliminary education portion of the requirements for achieving Canadian and U.S. professional actuarial designations.

During the process of developing the recommended rules, structure and procedures for an accreditation system, the Task Force emphasized obtaining input from many sources including an interested parties list, the Society of Actuaries Board of Governors, attendees at the annual Actuarial Research Conference, and various additional audiences through an online survey posting on the SOA website. In addition, the process included: review of background material; Task Force members providing their top three criteria for an accreditation system as well as completing the SOA Project Evaluation Template; discussion via email, conference calls and an in-person meeting; discussion with accounting professors; and making revisions in response to feedback.

Resulting Rules, Structure, and Procedures

To satisfy the desired characteristic of including a diversity of academic institutions with various levels of commitment to actuarial science, as well as to make meaningful distinctions among such institutions, the structure of the recommended accreditation system has two education levels with the same categories of criteria but different specific requirements within the categories. This is detailed in the Structure section of this report.

The recommended levels are “Accredited Pre-Actuarial Education Institution” and “Accredited Actuarial Education Institution”. The levels are distinguished by different missions related to actuarial science education.

The rules recommended by the Task Force include both the criteria to be used to make the desired meaningful distinctions, and the rules for maintaining accreditation. The recommended criteria are intended to demonstrate that an accredited program has an explicit mission related to actuarial education. To satisfy the desired characteristic of simplicity and ease of administration, yet have a credible system, the Task Force believes it is important that the criteria are generally objective and easily verifiable from unbiased sources.

The categories of criteria are Curriculum, Faculty, and Connection to the Profession Each level has the same categories of criteria but different specific requirements within the categories, as summarized in Table I.

As with any formal accreditation system it is important to review accredited programs on a regular basis to ensure that accredited programs continue to satisfy the criteria for accreditation. The Task Force recommends that a scheduled review of accredited programs be completed no less frequently than every five years. The Task Force also recommends that accredited programs be allowed to request an unscheduled review if it believes it can be accredited at a higher level as a result of changes it has made since the previous accreditation decision. In addition, the Task Force recommends that there be an annual report from an accredited program, and a mechanism for the SOA to initiate an accreditation review.

The “2004 Listing of Colleges with Actuarial Science Programs” requires information regarding many of the recommended criteria on a self-reported basis. Thus, the procedures for administering an accreditation system can build on an existing infrastructure. Suggested verification and evaluation procedures are included in Appendix D.

Costs and Fees

The resources necessary for schools to apply include faculty or staff time and possibly an application fee upon re-accreditation. The resources necessary for the SOA to implement and administer an accreditation system are primarily conference calls and an occasional in-person meeting, and volunteer and staff time. The Task Force believes, based in part on the experience of the VEE committee, that the recommended accreditation system would require at most one full-time administrative assistant to facilitate the appropriate initial and subsequent reviews, and to maintain the list of accredited schools. The need would likely be highest during the initial submission of accreditation applications. The current estimated cost of a full-time administrative assistant, including benefits, is $46,000.annually.

In considering the possibility of fees, the Task Force discussed the following factors:

1. the time and effort required of an academic institution to apply for accreditation, provide an annual report, and apply for re-accreditation;
2. the costs associated with implementing and administering an accreditation system;
3. the current financial situation of the SOA;
4. the survey feedback, which indicated an overall preference for no fee, although a significant minority favored a nominal fee; and
5. the principle articulated by the SOA Task Force on Academic Infrastructure that “The total cost to implement and administer the process should be proportionate to the benefit obtained, and should be shared between SOA and the affected schools”; this principle addresses a concern that an accreditation system could be costly to implement and maintain, and that the Board of Governors, recognizing current budget limitations, is reluctant to approve a project unless there is offsetting revenue being generated.

To partially offset the costs of the accreditation system, the Task Force recommends that:

1. there be no fee for the initial accreditation at either level, or for an application to move from the Pre-Actuarial to the Actuarial level of accreditation; and
2. there be a nominal fee for re-accreditation, as determined by the Accreditation Administration Committee.

Implementation

The Task Force recommends the creation of an Accreditation Administration Committee, consisting of both academic and nonacademic SOA members, and including SOA staff, with the authority and responsibility to initiate the procedures necessary to implement and maintain the accreditation system as detailed in this report.

The Task Force recommends that the initial implementation include a pilot test of the procedures. The pilot test should include schools from each of the categories in the current listings of academic actuarial science programs.

The Task Force also recommends that the first listing of accredited programs be published no sooner than nine months after the initial solicitation of applications, so that all schools have a reasonable amount of time to submit an application and to be listed on the first listing if approved.

Conclusions and Summary Of Task Force Recommendations

The Task Force believes that the recommended accreditation system satisfies the desired characteristics for an accreditation system, and is a valuable new initiative that can strengthen the relationship between the academic community and the actuarial profession. The significant majority of the feedback received, especially from the online survey, strengthened that belief.

The recommendations of the Task Force are:

1. the SOA Board authorize the creation of an Accreditation Administration Committee, consisting of both academic and nonacademic SOA members, and including SOA staff, with the authority and responsibility to:
    a. initiate the procedures necessary to implement and maintain an accreditation system using the criteria and structure detailed in this report;
    b. implement a pilot test of the procedures before the initiation of the system;
    c. set an appropriate schedule of reviews for re-accreditation;
    d. set an appropriate fee schedule for re-accreditation; and
    e. recommend or implement, as appropriate, modifications to the accreditation system that are desirable as a result of changes to the SOA's Education and Examination system or as a result of any other changes that impact the nature and quality of actuarial education at academic institutions.
2. the first listing of accredited schools be no sooner than nine months after the initial solicitation of applications for accreditation
3. the SOA Board authorize the expenditure of up to $50,000 annually to provide administrative support for the implementation and maintenance of the accreditation system.

II. INTRODUCTION AND BACKGROUND

A. October 2004 Society of Actuaries Board Action

At its October 2004 meeting, the Society of Actuaries (SOA) Board passed the following motion:

> *"The Board of Governors accepts and approves the Report of the Task Force on Academic Infrastructure. The Board approves, in principle, the undertaking of a process of accreditation for academic actuarial science programs, consistent with the recommendations contained in the Report, and appoints an Implementation Task Force to establish the rules and procedures of such accreditation process. The Implementation Task Force is to report its completed task to the Board at its June 2005 meeting."*

This motion provided the charge to the Accreditation Implementation Task Force (Task Force) to "establish the rules and procedures" of an accreditation system for academic actuarial science programs.

This motion is one of two motions that represent the culmination of the work of the SOA Task Force on Academic Infrastructure, and is a continuation of the work of the Joint CAS, CIA, SOA Task Force on Academic Relations, which in 1999 identified a system of accreditation of academic actuarial science programs as one of the longer-term initiatives that could strengthen the partnership between the academic community and the actuarial profession.

The Board agreed to defer the report's due date to the November 2005 Board meeting in order to allow for the opportunity to obtain feedback from the Board at its June meeting, from attendees at the August 2005 Actuarial Research Conference and from a broad range of potentially interested constituencies through a posting on the SOA website.

B. Relation to 2004-2007 SOA Strategic Plan

The Board's action in passing this motion is consistent with the following elements of the 2004-2007 SOA Strategic Plan:

> ***Membership Value***
> *Members and candidates receive expected benefits from the SOA through credentials, learning, research, services, and professional education, delivered by an effective SOA organization.*
>
> ***1.11*** *Deliver products and services focused on members, candidates, and customer needs while maintaining value of today's activities*
>
> ***Knowledge Management***
> *Opportunities are available for members and candidates to keep current on emerging intelligence in the actuarial profession and its business application through professional development.*
>
> ***2.4*** *Develop alliances and relationships to build systems to deliver knowledge, skills and abilities through education and assessment and research*
>
> ***2.9*** *Advance actuarial knowledge and education through research with practical, relevant applications*

2.10 *Become a premier provider of actuarial knowledge and education*

2.11 *Increase the number of credentialed professionals and certificants within actuarial science*

Marketplace Relevance
The SOA has a strong potential candidate supply, employers value the SOA credentials and actuaries have expanded opportunities to apply skills in new and traditional markets.

3.4 *Identify and grow future actuarial practitioners and leaders*

Professional Community Advancement
Through external relationships and professional collaboration, the entire profession is stronger, broader, and widely recognized in North America and globally.

4.6 *Engage the next generation in the value of actuarial science and its credential*

4.7 *Explore, develop and implement strategy for key areas: International and Academic*

C. General Objectives

As the Task Force designed the recommended system of accreditation, the following objectives for a partnership between the academic community and the actuarial profession[2] provided a general set of objectives against which to test the design:

1. To produce a sufficient number of highly qualified students and employees.
2. To produce a sufficient amount of theoretically sound and practical research.
3. To enhance the reputation of actuarial science within the academic community.
4. To enhance the reputation of the academic community within the actuarial profession, the business community and government.
5. To enhance public recognition of the profession.
6. To optimize the use of the combined resources of both the academic community and the actuarial profession.
7. To maintain a flexible and dynamic basic and continuing education system.
8. To support consistency of the relationship between the actuarial profession and the academic community throughout the world.

These objectives are detailed in Appendix A.

In addition, the long-term viability of the actuarial academic community depends on attracting individuals with the ability and interest to serve as actuarial faculty. Thus, another objective against which to test the design of an accreditation system is to produce a sufficient number of academic actuaries.

[2] As identified by the Joint CAS, CIA, SOA Task Force on Academic Relations

D. Task Force Members and Interested Parties

The process used to recruit Task Force members and interested parties is documented in Appendix B.

The members of the Task Force represent a variety of constituencies, including the various areas of practice and the academic community, both actuarial and non-actuarial, as well as a variety of points of view.

Tom Myers, FCAS, ASA, Vice President for Admissions of the Casualty Actuarial Society (CAS), agreed to serve as an "Interested Party". Other individuals also volunteered to serve as Interested Parties. These individuals, who provided feedback as they desired in response to Task Force communications they received, are:

Sam Broverman, Ph.D., ASA, Professor, University of Toronto, Department of Statistics

Cecil Bykerk, FSA, MAAA, President, C D Bykerk Consulting LLC

Hans Buehlmann (international)

Peter Diethelm (Swiss actuarial association)

James Hickman, FSA, ACAS, Emeritus Professor and Dean, University of Wisconsin

Stephen Kellison, FSA, Consultant

R. Stephen Radcliffe, FSA, OneAmerica Financial Partners

Elias Shiu, Ph.D., ASA, Professor, University of Iowa, Dept. of Statistics and Actuarial Science

Aaron Tenenbein, Ph.D., ASA, MAAA, Professor, New York University

E. Remainder of the Report

The remainder of the report is organized as follows:

III. MOTIVATION FOR, AND DESIRED CHARACTERISTICS OF, AN ACCREDITATION SYSTEM

IV. DEVELOPING THE RULES, STRUCTURE AND PROCEDURES FOR AN ACCREDITATION SYSTEM

V. SIGNIFICANT ISSUES RAISED

VI. SOA PROJECT EVALUATION: VALUE AND NECESSARY RESOURCES – PEOPLE AND FUNDING

VII. EFFECTIVE DATE AND PILOT TEST

VIII. CONCLUSIONS AND SUMMARY OF TASK FORCE RECOMMENDATIONS

IX. APPENDICES

III. MOTIVATION FOR, AND DESIRED CHARACTERISTICS OF, AN ACCREDITATION SYSTEM

A. Motivation for an Accreditation System

The primary motivation for a system of accrediting academic actuarial science programs is to identify quality academic actuarial science programs and to make meaningful distinctions regarding the nature and quality of the actuarial science education provided at various academic institutions.

A well-constructed system of accreditation:

1. provides prospective students a better understanding of the nature and quality of the education available;
2. provides prospective employers a better understanding of the nature of graduates of accredited actuarial science programs;
3. provides recognition to institutions that have high quality academic education;
4. provides guidance and standards for institutions aspiring to develop and improve actuarial education;
5. encourages academic institutions to allocate resources to actuarial science programs;
6. encourages a stronger relationship between the academic institution and the actuarial profession;
7. gives the academic institutions the opportunity to provide input that could enhance professional actuarial education;
8. gives the actuarial profession the opportunity to provide input that can enhance the nature and quality of actuarial education provided at academic institutions; and
9. provides a list of schools that can be targeted by the actuarial profession and employers for additional support, such as an expansion of Validation by Educational Experience, scholarships, internships for students or faculty, or endowed faculty positions.

B. Resulting Desired Characteristics

Given the diversity of academic institutions that produce successful members of the actuarial profession, and the large number of schools that offer some level of education related to actuarial science and information regarding the actuarial profession, the Task Force has identified the following desired characteristics of an accreditation system:

1. accommodates a diversity of academic institutions with various levels of commitment to actuarial science;
2. simplicity and ease of administration;
3. easily understood;
4. multiple classifications with meaningful distinctions; and
5. flexibility to accommodate special circumstances.

IV. DEVELOPING THE RULES, STRUCTURE AND PROCEDURES FOR AN ACCREDITATION SYSTEM

A. Principles and Process

In developing the rules, structure and procedures for an accreditation system, the Task Force adhered to the desired characteristics as well as the following principles, which are based in large part on the suggestions in the report of the Task Force on Academic Infrastructure.

1. The system should identify a set of accreditation criteria, which individual institutions can then meet or not at their choice, rather than set a specific goal for a predetermined number of accredited programs.
2. The total cost to implement and administer the process should be proportionate to the benefit obtained, and should be shared between SOA and the affected schools.
3. The system should not disenfranchise small schools (or small programs), many of which have for years been producing graduates who pursue a career in actuarial science.
4. The system should build upon the existing “Actuarial College Listings”.
5. The system should include a criterion for a curriculum that meets specified portions of the learning objectives for the preliminary education portion of the requirements for achieving Canadian and U.S. professional actuarial designations.

The process used to develop the rules, structure and procedures for an accreditation system included: review of background material; Task Force members providing their top three criteria for an accreditation system as well as completing the SOA Project Evaluation Template; discussion via email, conference calls and an in-person meeting; discussion with accounting professors; seeking reactions from a wider audience through a listserve, a presentation at the June 2005 SOA Board meeting, a presentation at the August 2005 Actuarial Research Conference, and an online survey posting on the SOA website; and making revisions in response to feedback. Appendix C provides details regarding the various components of this process.

B. Resulting Rules, Structure, and Procedures

Rules

The rules recommended by the Task Force include both the criteria to be used to make the desired meaningful distinctions, and the rules for maintaining accreditation.

Criteria

To satisfy the desired characteristic of accommodating a diversity of academic institutions with various levels of commitment to actuarial science, as well as to make meaningful distinctions among such institutions, the structure of the recommended accreditation system has two levels with the same categories of criteria but different specific requirements within the categories. This is detailed in the Structure section of this report.

The recommended criteria are intended to demonstrate that an accredited program has an explicit mission related to actuarial education.

To satisfy the desired characteristic of simplicity and ease of administration, yet have a credible system, the Task Force believes it is important that the criteria are generally objective and easily verifiable from unbiased sources. Thus, the recommended criteria are:

1. The administrative unit in which the program is located is accredited by the appropriate academic accreditation organizations for baccalaureate or graduate educational institutions.
2. The actuarial science program has a mission with respect to the purpose and goals of the program, who it serves and what the program is trying to accomplish.
3. Nature and quality of actuarial science-related curriculum and faculty:
    a. The curriculum includes regularly offered courses that meet specified portions of the learning objectives for the preliminary education portion of the requirements for achieving Canadian and U.S. professional actuarial designations;
    b. Such courses are taught by qualified instructors; and
    c. There is an identifiable actuarial science program with a set of requirements for completing the program.

4. Nature and quality of connection to the actuarial profession:
    a. There is a designated full-time faculty member responsible for maintaining current knowledge of the actuarial profession and advising students regarding the actuarial profession and an actuarial career.
    b. There are activities that inform students about the practical and professional aspects of a career as an actuary.
    c. The program has an external actuarial advisory group.
    d. The graduates of the program enhance the actuarial profession.

The current "Actuarial College Listings" require information regarding many of these items on a self-reported basis. Thus, the procedures for administering an accreditation system can build on an existing infrastructure.

Ongoing Accreditation

As with any formal accreditation system, it is important to review accredited programs on a regular basis to ensure that they continue to satisfy the criteria for accreditation. This review is particularly important for actuarial science programs given the continually evolving nature of the requirements for achieving Canadian and U.S. professional actuarial designations. In addition, given a structure with multiple levels, such a review gives actuarial science programs an opportunity to move to a higher level of accreditation. The Task Force recommends that a scheduled review of accredited programs be completed no less frequently than every five years. Initially, the frequency of the scheduled reviews should be varied so that the administrative burden can be more evenly distributed. The Task Force also recommends that accredited programs be allowed to request an unscheduled review if it believes it can be accredited at a higher level as a result of changes it has made since the previous accreditation decision. A program not currently accredited may request a review at any time as long as at least one year has elapsed since the last review.

The Task Force recommends that there be an annual report from each accredited program, and a mechanism for the SOA to initiate an accreditation review. The annual report should be designed to be very easy to submit. For example, the SOA office could email the program contact a listing of the current information and ask the contact person to simply indicate any changes.

Structure and Procedures

The Task Force considered both the structure of the accreditation system and the structure and procedures for administering the system.

Accreditation System Structure

To satisfy the desired characteristic of including a diversity of academic institutions with various levels of commitment to actuarial science, as well as the primary objective of making meaningful distinctions among such institutions, the Task Force recommends that the accreditation system include two levels. The two recommended levels are "Accredited Pre-Actuarial Education Institution" and "Accredited Actuarial Education Institution". The levels are distinguished by different missions related to actuarial science education.

1. Accredited Pre-Actuarial Education Institution: Undergraduate programs that:
    a. are committed to introducing students to the actuarial profession by providing opportunities for students to meet learning objectives related to the foundations of actuarial science, and opportunities for students to become familiar with the actuarial profession; and
    b. produce graduates who have satisfied one or more of the requirements to achieve Canadian or U.S. professional actuarial designations, seek actuarial employment or choose to attend graduate school in actuarial science.

2. Accredited Actuarial Education Institution: Undergraduate or graduate programs that:
    a. are committed to:
        i. providing students a significant education in the preliminary education portion of the requirements for achieving Canadian or U.S. professional actuarial designations;
        ii. assisting students in satisfying those requirements; and
        iii. exposing students to the practical and professional aspects of a career as an actuary
    b. produce graduates well-qualified to begin an actuarial career, or to pursue advanced graduate studies in actuarial science.

Table I provides a summary of the distinctions.

The excerpt of the draft report that was posted on the SOA website with the online survey also included two research classifications. After reviewing the feedback from the online survey and further discussion, the Task Force believes the initial implementation of an accreditation system should focus on education, exclusive of advanced graduate studies. Doing so reduces the time and effort required to apply for accreditation, and accessing information regarding research activities and advanced graduate studies at schools was not considered a priority benefit of an accreditation system. Such information can be obtained through other existing means, and the SOA Education and Research section may be interested in assisting in providing access to such information. In addition, the SOA has recently started publicizing the Actuarial Research Exchange, which is an initiative intended to connect academic researchers with actuarial practitioners.

TABLE I: ACADEMIC ACTUARIAL SCIENCE PROGRAMS DESIGNATED BY THE SOCIETY OF ACTUARIES AS "ACCREDITED PRE-ACTUARIAL OR ACTUARIAL *EDUCATION* INSTITUTIONS" ***(All accredited programs are located in an administrative unit accredited by the appropriate academic accreditation organization)***		
CRITERION	**PRE-ACTUARIAL**	**ACTUARIAL**
1. Nature and quality of actuarial science-related curriculum **(Note: This criterion requires that the courses be taught so that every student will have the opportunity to complete these courses in a four year period.)** ***Internet-based courses that are not considered independent study by the University, and for which the University gives academic credit, are acceptable**	• Includes course(s)*, other than independent study courses, that substantially cover the learning objectives for the Probability (P) Exam/CAS Exam 1. • Includes course(s)*, other than independent study courses, that substantially cover the learning objectives for the Financial Mathematics (FM) Exam/CAS Exam 2. • Includes VEE-approved courses for at least one of Economics, Corporate Finance, and Applied Statistics. • There is evidence that communication skills are addressed.	• Includes course(s)*, other than independent study courses, that substantially cover the learning objectives for the Probability (P) Exam/CAS Exam 1. • Includes course(s)*, other than independent study courses, that substantially cover the learning objectives for the Financial Mathematics (FM) Exam/CAS Exam 2. • Includes course(s)*, other than independent study courses, that substantially cover the learning objectives for the Actuarial Models (M) Exam and CAS Exam 3. • Includes course(s)*, other than independent study courses, that substantially cover the learning objectives for the Construction and Evaluation of Actuarial Models (C) Exam/CAS Exam 4. • Includes VEE-approved courses for all of Economics, Corporate Finance, and Applied Statistics. • There is an organized actuarial program, hereafter called the Program, with a set of requirements for completing the Program. This may be a major, a concentration, or whatever is appropriate in the organization of the particular school, but does lead to the student earning a ***bachelors, masters or doctorate degree.*** An interdisciplinary approach may be necessary at schools that do not have a large enough population of students or income generated from the Program. • Within the organized actuarial program, there is evidence that communication skills are addressed.

TABLE I (Continued): ACADEMIC ACTUARIAL SCIENCE PROGRAMS DESIGNATED BY THE SOCIETY OF ACTUARIES AS "ACCREDITED PRE-ACTUARIAL OR ACTUARIAL *EDUCATION* INSTITUTIONS" *(All accredited programs are located in an administrative unit accredited by the appropriate academic accreditation organization)*		
CRITERION	**PRE-ACTUARIAL**	**ACTUARIAL**
2. Faculty	• The class(es) substantially covering the learning objectives for SOA Exam FM/CAS Exam 2, are taught by instructors with appropriate qualifications, as attested to by a designated full-time faculty member who is a member or correspondent member of the CAS or the SOA. Qualifications to be considered may include past teaching experience and evaluations, having an advanced degree (Masters or Ph.D.) in the subject matter, being an Associate or Fellow of the CAS or the SOA, and passing the corresponding professional actuarial examination.	• The classes substantially covering the learning objectives for SOA Exam FM/CAS Exam 2, SOA Exam M and CAS Exam 3 and SOA Exam C/CAS Exam 4 are taught by instructors with appropriate qualifications, as attested to by a designated full-time faculty member who is a member of the CAS or the SOA, or by the external actuarial advisory group. Qualifications to be considered may include past teaching experience and evaluations, having an advanced degree (Masters or Ph.D.) in the subject matter, being an Associate or Fellow of the CAS or the SOA, and passing the corresponding professional actuarial examination.
3. Nature and quality of connection to the actuarial profession	• There is a designated full-time faculty member who is a member of the CAS or the SOA or a correspondent member of the CAS, and is responsible for maintaining current knowledge of the actuarial profession and advising students regarding the actuarial profession and an actuarial career. • The graduates of the Program enhance the actuarial profession, as described in a brief written report provided by the Program; such descriptions might include: the number of students who have passed at least one actuarial exam at time of graduation; the number of students going on to actuarial science related graduate school; alumni who become members of the CAS or SOA; and feedback from alumni.	• There is a designated full-time faculty member who is a member of the CAS or the SOA or a correspondent member of the CAS, and is responsible for maintaining current knowledge of the actuarial profession and advising students regarding the actuarial profession and an actuarial career. • The graduates of the Program enhance the actuarial profession, as described in a brief written report provided by the Program; such descriptions might include: the number of students who have passed at least one actuarial exam at time of graduation; the number of students going on to actuarial science related graduate school; alumni who become members of the CAS or SOA; and feedback from alumni. • There are activities that inform students about the practical and professional aspects of a career as an actuary, including the actuarial profession's code of conduct. • The Program has an external actuarial advisory group, normally with a majority being members of the CAS, CIA or SOA, at least one of whom is actively working in nonacademic actuarial employment; the group provides input to the Program regarding issues of importance to the actuarial profession and actuarial practice.

Structure and Procedures for Administering the System

The Task Force recommends that an Accreditation Administration Committee be created to administer the accreditation system. The Task Force recommends that the Committee include SOA members, both academic and nonacademic, and SOA staff.

It is hoped that the existence of appropriate websites and email can make the application process less time-consuming for the academic institution and the application review process more efficient for SOA staff and the Accreditation Administration Committee. Appendix D gives a summary of possible procedures the Committee could follow in implementing the accreditation system, as well as a sample application form.

As soon as possible after the review is complete, SOA staff prepares and distributes a form that provides the results of the review of the application materials to the academic institution contact person

V. SIGNIFICANT ISSUES RAISED

The Task Force considered significant issues as they were raised. These issues resulted from Task Force discussions, email correspondence, presentations to the Board and at the August 2005 Actuarial Research Conference, and the online survey. Some of the issues impacted the design of the recommended accreditation system; others did not. Appendix E is a log of the significant issues that were considered and their disposition.

VI. SOA PROJECT EVALUATION: VALUE AND NECESSARY RESOURCES – PEOPLE AND FUNDING

The Board's action in October 2004 confirmed that a system of accreditation of academic actuarial science programs had value to the SOA. However, little evaluation of the value relative to the cost of the necessary resources for schools to apply, or for the SOA to administer, or relative to other initiatives, was possible at that time.

The resources necessary for schools to apply include faculty or staff time and possibly an application fee upon re-accreditation. The resources necessary for the SOA to implement and administer are primarily conference calls and an occasional in-person meeting, and volunteer and staff time[3]. The Task Force believes, based in part on the experience of the VEE committee, that the recommended accreditation system would require at most one full-time administrative assistant to facilitate the appropriate initial and subsequent reviews, and to maintain the list of accredited schools. The need would likely be highest during the initial submission of accreditation applications. The current estimated cost of a full-time administrative assistant, including benefits, is $46,000 annually.

In an attempt to assess the relative value of a system of accreditation, the Task Force members completed the SOA project evaluation template, both before and after they designed the recommended accreditation system. The results are summarized in Tables II and III (The numbers in parentheses are the equivalent unweighted numbers.)

Appendix F is a copy of the template.

[3] Cost of paper and overhead should be minimal

TABLE II: Project Evaluation: BEGINNING (n=11)							
	Member Value (40%)	Volunteer Requirements (15%)	Annual Budget Effect & NPV Margin (15%)	Time & Complexity (5%)	Interdependence on Others (5%)	Project Risk (20%)	TOTAL
Mean	1.09 (2.73)	0.63 (4.18)	0.46 (3.09)	0.14 (2.73)	0.11 (2.18)	0.52 (2.59)	2.95
Standard Deviation	0.31	0.11	0.17	0.06	0.04	0.21	0.44
Minimum	0.40 (1)	0.45 (3)	0.30 (2)	0.05 (1)	0.05 (1)	0.20 (1)	2.45
Maximum	1.60 (4)	0.75 (5)	0.75 (5)	0.25 (5)	0.20 (4)	0.80 (4)	3.95

TABLE III: Project Evaluation: END (n=11)							
	Member Value (40%)	Volunteer Requirements (15%)	Annual Budget Effect & NPV Margin (15%)	Time & Complexity (5%)	Interdependence on Others (5%)	Project Risk (20%)	TOTAL
Mean	1.38 (3.45)	0.65 (4.36)	0.52 (3.45)	0.15 (3.00)	0.11 (2.27)	0.73 (3.64)	3.55
Standard Deviation	0.60	0.12	0.10	0.07	0.02	0.24	0.73
Minimum	0.40 (1)	0.45 (3)	0.45 (3)	0.05 (1)	0.10 (2)	0.20 (1)	2.05
Maximum	2.00 (5)	0.75 (5)	0.75 (5)	0.25 (5)	0.15 (3)	1.00 (5)	4.55

The average scores for each category increased from the beginning to the end of the Task Force's work. The greatest relative change in the project evaluation scores were in the Project Risk category (40% increase) and the Member Value category (27% increase). For Project Risk, the average score of 3.64 falls between "Moderate project risk; high risk of not doing or deferring" and "Moderate project risk; low risk of not doing or deferring." The average score for Member Value, 3.45, falls between "Support activity with value to all members" and "Core activity with value to a subset of members." These scores are consistent with the unanimous decision of the Task Force to recommend that consideration of the recommendations of this report be deferred until the work of the Alternative Route Further Study Task Force is complete.

Value: Online Survey

The Task Force made an excerpt of its draft report, including the proposed criteria and structure for an accreditation system and a draft application form, available online, along with a survey to elicit feedback. With respect to the potential value of the proposed accreditation system, the survey yielded the following results:

a. With the exception of one potential benefit, between 70 and 85% of the respondents felt that each potential benefit of the accreditation system as proposed is worthwhile to the actuarial profession in comparison with the potential costs in time, effort and money. While this is a strong majority, it should be noted that a fairly significant minority, 15-30%, felt that the potential benefits of the proposed system were not worthwhile. The exception noted is that only 56.5% overall, and fewer than half of the nonacademic respondents, felt that the potential benefit of giving academic institutions the opportunity to provide input to enhance actuarial education and research was worthwhile to the actuarial profession. This result is somewhat surprising given the expertise of the academic community in these areas, although perhaps not so surprising given the sensitivity of some actuaries to the use of academic education in lieu of passing designated exams in satisfying requirements for the professional actuarial designations.

b. When asked to rate how worthwhile each potential benefit is to the academic community in comparison to the potential costs in time, effort and money, between 60 and 80% rated each potential benefit worthwhile.

c. Over 85% of the nonacademic respondents indicated that they do not use the current Listing of Actuarial Science programs. However, half believed that they would make use of an accredited actuarial science program listing. A greater percentage (half) of the academic respondents use the current college listing, with 74% indicating they would make use of the accredited program listing. Sixty-seven percent of the academic respondents indicated that they would encourage their institution to apply for accreditation. An additional 17% indicated that whether or not they would encourage their institutions to apply depended on items such as the fee level, their ability to implement courses for Exam C, what other schools do, and the final requirements. Significantly more academic actuaries responded that they would apply for the Pre-Actuarial or Actuarial designations than the Research Activity or Advanced Graduate Studies designations. Sixty-five percent of the academic actuaries seemed to believe that the time and

A summary of all the survey results is included as Appendix G.

Funding

As a possible offset to the costs of the recommended accreditation system, the Task Force considered the possibility of charging schools fees for being accredited, as is done with other academic accreditation systems. In considering the possibility of fees, the Task Force discussed the following factors:

1. the time and effort required of an academic institution to apply for accreditation, provide an annual report, and apply for re-accreditation;
2. the costs associated with implementing and administering an accreditation system;
3. the current financial situation of the SOA; and
4. the principle articulated by the SOA Task Force on Academic Infrastructure that "The total cost to implement and administer the process should be proportionate to the benefit obtained, and should be shared between SOA and the affected schools"; this principle addresses a concern that an accreditation system could be costly to implement and maintain, and that the Board of Governors, recognizing current budget limitations, is reluctant to approve a project unless there is offsetting revenue being generated.

To obtain additional feedback on possible fee structures, the Task Force's draft report excerpt posted online identified the following three options for a fee structure:

1. For the first round of accreditation, charge no fees, based on the following rationale:
    a. Because we do not know the costs to the SOA of running this process, any fee is bound to be arbitrary.
    b. With a significant burden on the participating schools to collect the requested data, there is already a major cost involved for them – an additional cost, at a time the SOA is declaring how important academic institutions are to achieving its future mission, may be prohibitive.
    c. If the SOA truly believes in an accreditation system, the Board ought to be willing to support it and pay for its full cost.
2. For the first round, all costs involved (e.g., SOA staff time, supplies) should be charged back to the schools seeking accreditation, based on the following rationale:
    a. Accreditation will provide significant benefits to the schools and they should be prepared to pay for them.
    b. At this stage of the SOA budgeting process, there are no operating funds for a new, potentially costly venture.
    c. Bills for the fees can be sent out after the accreditation process has been completed and the full costs determined. An initial assessment (a 'best guess') could be paid at the start of the process with the remainder paid upon completion.
3. Use a set of modest fees (e.g. $150-$250 per designation applied for with initial application, and $75-$150 per designation applied for with renewal application) for the first round, based on the following rationale:
    a. It is unlikely that anyone can accurately cost the implementation expenses in advance without an extensive study, and a modest set of fees is better than none.
    b. With an initial payment, the schools will be accustomed to budgeting for the privilege of being accredited. Future costs can be more fairly determined and fees adjusted after the initial costs are accumulated.
    c. It will be easier to adjust fees in the future as compared to imposing fees for the first time.

d. Some fee income will flow into the Treasury of the SOA and will offset these new expenses, which may alleviate any financial concerns the Board may have.

The survey feedback indicated an overall preference for no fee (23 Academic and 9 Nonacademic respondents, or 49% of the respondents), although a significant minority (13 Academic and 12 Nonacademic respondents, or 38.5%) favored a nominal fee.

The Task Force recommends that:

1. there be no fee for the initial accreditation at either level, or for an application to move from the Pre-actuarial to the Actuarial level of accreditation; and
2. there be a nominal fee for re-accreditation, as determined by the Accreditation Administration Committee.

VII. EFFECTIVE DATE AND PILOT TEST

The amount of work required to apply for accreditation could be substantial. An appropriate amount of time should be given for programs to gather the relevant information and submit it in a suitable format. Programs should be granted accreditation based on their desire to be accredited and their merits with respect to the accreditation criteria, and not according to the complexity of the required submission. Thus, programs should be given sufficient time to submit an application and to be listed on the initial listing of accredited programs if the application is approved. The Task Force recommends that the first listing of accredited schools be published no sooner than nine months after the initial general solicitation of applications for accreditation.

Also, it is difficult to forecast the response to the solicitation and there are many unknowns concerning the administration of the application review procedures. If many schools apply simultaneously for accreditation, the Accreditation Administration Committee may not be able to evaluate all the applications in a timely manner. This may alienate schools, contrary to the objective of improving relations with the academic community. Thus, the Task Force recommends that a pilot test be conducted before a general solicitation of applications. The pilot test should include schools from each of the categories in the SOA's current listings of academic actuarial science programs, as well as programs expected to seek accreditation in the different designation level and programs that teach classes in a language other than English. The Accreditation Administration Committee could choose a few programs with characteristics sufficiently different from each other to represent a broad spectrum. The schools participating in the pilot test should have the fees, if any, waived. The names of any schools accredited during the pilot test should not be made public before the first listing of accredited programs. In order to be consistent with the general timing considerations discussed above, the pilot test should ideally be completed within six months of the creation of the Accreditation Administration Committee and the general solicitation for accreditation should be issued only after completion of the pilot test.

VIII. CONCLUSIONS AND SUMMARY OF TASK FORCE RECOMMENDATIONS

The Task Force believes that the recommended accreditation system satisfies the desired characteristics for an accreditation system, and is a valuable new initiative that can strengthen the relationship between the academic community and the actuarial profession. The significant majority of the feedback received, especially from the online survey, strengthened that belief.

The recommendations of the Task Force are:

1. The SOA Board authorize the creation of an Accreditation Administration Committee, consisting of both academic and nonacademic SOA members, and including SOA staff, with the authority and responsibility to:
    a. initiate the procedures necessary to implement and maintain an accreditation system using the criteria and structure detailed in this report;
    b. implement a pilot test of the procedures before the initiation of the system;
    c. set an appropriate schedule of reviews for re-accreditation;
    d. set an appropriate fee schedule for re-accreditation; and
    e. recommend or implement, as appropriate, modifications to the accreditation system that are desirable as a result of changes to the SOA's Education and Examination system or as a result of any other changes that impact the nature and quality of actuarial education at academic institutions.
2. The first listing of accredited schools be no sooner than nine months after the initial solicitation of applications for accreditation.
3. The SOA Board authorize the expenditure of up to $50,000 annually to provide administrative support for the implementation and maintenance of the accreditation system.

IX. APPENDICES

APPENDIX A

Objectives of a partnership from "*A Partnership Between The Academic Community And The Actuarial Profession*, White Paper – For Review And Comment, March 2000, Joint CAS, CIA, SOA Task Force on Academic Relations, Discussion Draft, October 1999"

The Task Force has identified the following objectives of a partnership between the actuarial profession and the academic community, with the understanding that the actuarial profession must retain ultimate responsibility and accountability for the professional qualification of its members.

1. **To produce a sufficient number of highly qualified students and employees.**

   The product of the education function of the academic community (students) must be consistent with the skills needed to fulfill the mission and vision of the actuarial profession. Individuals who can be successful and are desired by employers must be attracted to the profession.

2. **To produce a sufficient amount of theoretically sound and practical research.**

   The product of the research function of the academic community (ideas), developed in partnership with the actuarial profession, must contribute to the advancement of actuarial science and actuarial practice. The research function of the academic community must advance both theory and application and serve the needs of those who can benefit from actuarial analysis.

3. **To enhance the reputation of actuarial science within the academic community.**

   As the reputation of actuarial science as an academic discipline is enhanced, actuarial science related curriculum and research activities will receive more attention and resources from within the academic community, which will contribute to the success of the actuarial science education and research functions.

4. **To enhance the reputation of the academic community within the actuarial profession, the business community and government.**

   As the reputation of the academic community within the business community and government is enhanced, there will be greater opportunity for cooperative and mutually beneficial efforts that will benefit both actuarial practice and actuarial science.

5. **To enhance public recognition of the profession.**

   The independent, objective thinking promoted in an academic community and a faculty knowledgeable about actuarial science and actuarial issues enhance public recognition of the expertise of the profession. Research, education and comment on public policy issues to which actuarial analysis can add value needs to be supported by academia.

APPENDIX A (continued)

Objectives of a partnership from "*A Partnership Between The Academic Community And The Actuarial Profession*, White Paper – For Review And Comment, March 2000, Joint CAS, CIA, SOA Task Force on Academic Relations, Discussion Draft, October 1999"

6. **To optimize the use of the combined resources of both the academic community and the actuarial profession.**

   It is important to balance the use of members of both the academic community and the actuarial profession between where they are best qualified and where they can most benefit from interaction with each other. The academic community is an under-utilized resource with regard to the actuarial profession while practitioners may be better utilized in providing support to other volunteer areas.

   Academics need and want a better understanding of "real world" problems and access to practitioners to work with in solving such problems. Practitioners want to understand better how to apply research and the link between the tools academics can provide and the problems to be solved.

7. **To maintain a flexible and dynamic basic and continuing education system.**

   It is essential to maintain a basic education system and a continuing education system that can quickly respond to advances in actuarial science, in actuarial practice, or in educational methods, and to the changing environments in which actuaries work.

   These objectives need to be coordinated and consistent with changes in the education processes of the CAS and the SOA.

8. **To support consistency of the relationship between the actuarial profession and the academic community throughout the world.**

   As more and more employers of actuaries conduct business in more than one country, it is important for employers to be able to easily identify those individuals who are qualified to work as actuaries, regardless of geographic location. Consistency of the relationship of the actuarial profession and the academic community will expedite the task of identifying such individuals.

APPENDIX B

Recruiting Task Force Members and Interested Parties

Warren Luckner, as the SOA Board member responsible for relations with the academic community, was charged with the responsibility of recruiting individuals to serve on the Task Force, subject to confirmation by SOA President Steve Kellison.

Recruiting efforts included solicitation of representatives from:

1. the SOA Education and Research Section;
2. the Joint CAS, CIA, SOA Committee on Academic Relations;
3. the Joint CAS, CIA, SOA Task Force on Academic Relations (also known as the Radcliffe Task Force);
4. the Task Force on Academic Infrastructure (also known as the London Task Force);
5. the CAS;
6. the various areas of practice; and
7. the various classifications of programs (introductory undergraduate, advanced undergraduate, graduate-education, and graduate-education and research) in the current listings of colleges and universities offering actuarial science programs ("Actuarial College Listings").

In addition, a solicitation of interest was distributed via the Academic Relations Listserve.

APPENDIX C

Components of process to develop Rules, Structure and Procedures

The process used to develop the rules, structure and procedures for an accreditation system included the following components:

1. Review of background material, including:
   a. "Report to the Society of Actuaries Board of Governors from the Task Force on Academic Infrastructure, October 23-24, 2004";
   b. "*A Partnership Between The Academic Community And The Actuarial Profession"*, White Paper – For Review And Comment, March 2000, Joint CAS, CIA, SOA Task Force on Academic Relations, Discussion Draft, October 1999";
   c. Categorization criteria for the 2004 "Actuarial College Listings";
   d. Institute of Actuaries in Australia University Accreditation Policy And Criteria;
   e. Document summarizing the general basis for academic accreditation and the professional certification of actuaries in Mexico
   f. International Actuarial Association (IAA) Education Guidelines and Education Syllabus;
   g. Chapter 6, Education and CPD, (17 pages) from the "Morris Review of the Actuarial Profession, Interim Assessment Report, December 2004"; and
   h. Comments from several actuarial faculty members prior to the first Task Force conference call.
2. Task Force members providing their top three criteria upon which a system of accreditation of academic actuarial science programs should be based.
3. Discussion during conference calls, meetings and via email.
4. Discussion with accounting professors, including the chair of the School of Accountancy at the University of Nebraska – Lincoln, which is preparing for an accreditation review by the Association to Advance Collegiate Schools of Business (AACSB) during the 2005-2006 academic year.
5. Presentation and discussion at the June 2005 meeting of the SOA Board of Governors
6. Presentation and discussion at the August 2005 Actuarial Research Conference
7. Posting of an excerpt of its draft report; the excerpt included the proposed criteria and structure for an accreditation system, as well as a draft application form; notification of the posting was sent via email to:
   a. SOA Board members
   b. contacts at schools on the current Actuarial College Listings;
   c. actuarial employer contacts from the Actuarial Training Programs directory
   d. individuals on the Academic Relations Listserve;
   e. members of the SOA's Education and Research section;
   f. CAS academic correspondent members; and
   g. members of the Alternate Route Further Study Task Force.
8. Making revisions in response to feedback.

APPENDIX D

Table D-I summarizes possible verification and evaluation procedures for each criterion of the recommended accreditation system.

TABLE D-I: Summary of Verification and Evaluation Procedures		
Criterion	**Verification and Evaluation Procedures**	
	If information is NOT available on a website	**If information is available on a website**
Administrative unit accredited as baccalaureate or graduate educational institution	Statement from contact person identifying date of last academic accreditation review, the accreditation organization and the outcome of the review; SOA staff member verifies	SOA staff member verifies from website
Mission statement	Statement from contact person describing the purpose and goals of the program and who it serves; volunteer member of Accreditation Administration Committee evaluates submission	Volunteer member of Accreditation Administration Committee checks website for what is available on the website and evaluates
Curriculum: Courses (other than VEE-approved courses)	For courses that substantially cover the learning objectives for Exams P, FM, M, CAS Exam 3, and C: Submission of the catalog description and a recent course syllabus for each course (if more than one section, need to submit only a syllabus for a typical section); volunteer member of Accreditation Administration Committee evaluates submission	Volunteer member of Accreditation Administration Committee checks website for what is available on the website and evaluates, and also evaluates what is submitted
Curriculum: VEE-approved courses	SOA staff verifies internally	
Curriculum: Evidence that communication skills are addressed	Statement from designated full-time faculty member who is member of the CAS or the SOA, or correspondent member of the CAS, regarding how communication skills are addressed; volunteer member of Accreditation Administration Committee evaluates submission	
Curriculum: Organized actuarial program	Submission of catalog description or other document describing the organized actuarial program; volunteer member of Accreditation Administration Committee evaluates submission	Volunteer member of Accreditation Administration Committee checks website and evaluates
Faculty – Qualified instructors	Statement from designated person or external actuarial advisory group identifying the instructors for each course, and attesting to their academic and professional credentials; SOA staff or a volunteer member of the Accreditation Administration Committee checks website or follows up with submitter as deemed necessary	

APPENDIX D (continued)

TABLE D-I (Continued)		
Criterion	**Verification and Evaluation Procedures**	
	If information is NOT available on a website	**If information is available on a website**
Connection to the profession – Designated full-time faculty member responsible for current profession knowledge and advising students regarding actuarial profession and actuarial career	Given name from general information submitted, SOA staff verifies using actuarial memberships database or contact with CAS	
Connection to the profession – Graduates enhance the profession	Statement from contact person describing how the graduates enhance the actuarial profession; items that might be included in such a description are noted in Table I; volunteer member of Accreditation Administration Committee evaluates submission	Volunteer member of Accreditation Administration Committee checks website for what is available on the website and evaluates, and also evaluates what is submitted
Connection to the profession – Activities that inform regarding practical and professional aspects of actuarial career	Statement from designated full-time faculty member who is a member of the CAS or the SOA, or a correspondent member of the CAS, describing activities in the last three academic years that inform students about the practical and professional aspects of a career as an actuary; volunteer member of Accreditation Administration Committee evaluates submission	Volunteer member of Accreditation Administration Committee checks website for what is available on the website and evaluates, and also evaluates what is submitted
Connection to the profession – External actuarial advisory group	Submission of list of members and their actuarial affiliations, and statement describing how the advisory group provides input to the program regarding issues of importance to the actuarial profession and actuarial practice; SOA staff verifies list, and volunteer member of Accreditation Administration Committee evaluates statement	

APPENDIX D (continued)

ACADEMIC ACTUARIAL SCIENCE PROGRAM ACCREDITATION:

Sample Application Form for Initial Accreditation

Please Note:

1. There is **no** fee for initial accreditation by the Society of Actuaries. Re-accreditation requires a nominal fee according to the following schedule **(To be determined by the Accreditation Administration Committee)**
2. Some information about your program will be directly verified by the SOA. By applying for accreditation you are granting the SOA permission to verify information called for in this application process.
3. Please provide web-links when possible.

PLEASE SUBMIT THE FOLLOWING ELECTRONICALLY.

I. General Information.

Institution Name: _____

Address(es): _____

Phone Number(s): _____

FAX Number(s): _____

Most relevant web pages: _____

Academic Accrediting Organization: _____
(for university, college, school or faculty-whichever is most relevant)

Date of Most Recent Academic Accreditation: _____

Outcome: _____

Level at which actuarial science courses are offered:

___ Undergraduate only ___ Undergraduate and Graduate ___ Graduate only

The category of accreditation for which you are applying:

Pre-actuarial *Actuarial*

Name of the contact person for the actuarial program:

_____ Email Address_____

Name and actuarial credentials of the faculty person responsible for maintaining current knowledge of the actuarial profession and advising students regarding the actuarial profession and an actuarial career. (May be same as above).

_____ Email Address_____

Name and actuarial credentials of the person(s) responsible for attesting to the academic and professional qualifications of faculty teaching actuarial courses. (May be same as above).

_____ Email Address_____

APPENDIX D (continued)

II. Curriculum and Faculty: The Accreditation Administration Committee is particularly interested in courses in your curriculum related to the professional credentialing process.

For the Pre-actuarial category those are courses that substantially cover the learning objectives for the CAS/SOA Probability (P) Exam and the CAS/SOA Financial Mathematics (FM) Exam (see **WEBSITE ADDRESS TO BE PROVIDED**).

For the Actuarial category, these are courses that substantially cover the learning objectives for CAS Exam 3, SOA Exam M, and CAS/SOA Exam C, as well as courses for the Pre-actuarial category. Submit only for those courses for which a significant part of the content involves the learning CAS/SOA objectives.

A. Please submit a description of the structure of your actuarial curriculum (administrative location, culminating degree(s), and degree requirements). The description could be catalog copy or a separate document. If you have an appropriate document posted, provide a web link.

B. For each such course in your curriculum please supply the following information (please provide web-links, or submit electronically, in lieu of paper documents when possible).

    1. Catalog description. Web link: _____
    2. A recent and representative syllabus. Web link: _____

C. Identify by course, the teachers and their credentials (advanced degree(s), actuarial credentials, actuarial exams passed, or other relevant information), for courses directly related to SOA Courses FM, M and C, and CAS Exam 3.

D. You must offer the appropriate VEE courses (one for the Pre-actuarial category, and all three for the Actuarial category) and they must have been approved by the SOA. This information will be verified by the SOA.

APPENDIX D (continued)

III. Program Description: Please provide statements on each of the following elements in your actuarial program. One well constructed paragraph for each is sufficient, more than two or three paragraphs on any element is too much.

If you have an appropriate statement posted, provide the web-link; otherwise please submit these statements within this document when it is submitted electronically.

A. Describe the mission of your actuarial science program. (We would like to know your thoughts on the purpose and goals of your program, and who it serves.)

B. Communication skills are a major concern of the SOA. Please describe how students develop communication skills at your institution.

C. Describe the connection to the actuarial profession of your faculty and other people directly involved with your program. Of particular interest is how personnel maintain current and accurate information about the actuarial profession.

D. Describe student success. Do your students pass actuarial exams while in school? Do they have internship experiences? Do your alumni enter the actuarial profession? Continue with the credentialing process? Become credentialed? Become leaders in the profession? Detailed statistics are not expected, but supporting data is welcome (e.g. the number of students who have passed at least one actuarial exam at time of graduation; the number of students going on to actuarial science related graduate school; alumni who become members of the CAS or SOA; and feedback from alumni).

E. Describe activities that connect your students to the profession. Provide a description or a list of activities available to your students enabling them to learn about the actuarial profession, including the actuarial profession's code of conduct, career expectations and opportunities, and professional development.

F. If your program has an external actuarial advisory group, list the members and any actuarial credentials they have. Describe how the advisory group provides input to the program regarding issues of importance to the actuarial profession and actuarial practice. An external actuarial advisory group is required for the Actuarial category.

APPENDIX E

Issues Considered During the Work of the Accreditation Implementation Task Force (AITF)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
BOG 1	What is desired Partnership Vision: Business as usual, or perhaps slightly better? OR Increasing role of University programs? OR Does it matter for accreditation?	▪ The existence of the TF answers this question: increasing the role of University programs. It's a win/win for all. ▪ University programs aren't static; both the SOA and universities will have to change. ▪ Primary objective should be to improve the exam process and result: efficiency of delivery? Or deliver a better product? ▪ Another objective is to attract the best and brightest students. ▪ Role is to increase the number of programs, and increase the interaction between business and academic communities. ▪ Don't do this in a way that impedes recruiting from Ivy League schools. ▪ Response to observation that companies are reluctant to hire from actuarial science programs: some companies don't like to hire because they become FSAs too fast; companies recruit from a variety of programs/schools - they want to recruit the best and brightest.	Raised to the Board at the June 17-18, 2005 SOA Board of Governors meeting
BOG 2	What is importance to and for the profession? What is importance to and for the academic actuarial community? What benefits justify the cost for schools to participate?	▪ Response to question re: CAS involvement: Not a priority for them right now, given limited resources; also some concern re: how schools will react. ▪ Academic (education) accreditation is more important than Research accreditation. ▪ Research distinction is important for some. ▪ Series of options in document re: who pays the bills - reminder to get in budget ▪ Will this hurt smaller actuarial programs if they can't get accredited? ▪ Could be a perceived conflict of interest between academics accrediting and being accredited; response: standard procedures for Academic accreditation, but no academics are involved in the accreditation of their own institution. ▪ Issue of number of faculty, length of service, etc. Has this been discussed this time around? What is the critical mass? Response: quality of instructors more important than number; critical mass more important for research.	Raised to the Board at the June 17-18, 2005 SOA Board of Governors meeting
BOG 3	If the subsequent work of the Alternative Route Task Force requires changes to the accreditation program, what concerns would that raise?	▪ Not a real concern. That TF would like to wait for this one to finish its work.	Raised to the Board at the June 17-18, 2005 SOA Board of Governors meeting

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
BOG 4	What would be perceived as undue SOA influence on university actuarial science programs?	▪ Many professions manage to do this in an acceptable manner; actually could give universities some ammunition to beef up their programs. ▪ Avoid being too restrictive; undue influence would be to force them to teach every exam, etc. UK allows schools to substitute depth for breadth; leave flexibility. ▪ SOA is not all powerful. The notion that either side can overpower the other is false. ▪ Another interpretation of undue influence: timing and urgency of roll out, etc. ▪ An Accreditation System does set standards for the program, maybe universities would find it difficult if SOA dictated what you couldn't teach vs. what you need to teach. ▪ Did you discuss too easy (i.e. too many schools qualify) vs. too strict (too few schools qualify)?; response: principle from Academic Infrastructure TF (London TF) is that the development process should establish a set of accreditation criteria, which individual institutions can then meet or not at their choice, rather than to begin by setting a specific goal for a predetermined number of accredited programs.	Raised to the Board at the June 17-18, 2005 SOA Board of Governors meeting
BOG 5	Does "Pre-Actuarial" have a negative or a positive connotation? Or neither?	▪ Would prefer some other term. ▪ From the Knowledge Management Strategic Action Team: Is there value to even having this category? Could be decreasing the value of the accreditation process. ▪ Flip side is that "pre-actuarial" schools (self-reporting) are keeping in mind the actuarial profession in advising and educating students. ▪ "Pre-actuarial" can have the same positive connotation as "Pre-med" and "Pre-law". ▪ Mixed response from survey as well.	Raised to the Board at the June 17-18, 2005 SOA Board of Governors meeting

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
AITF 1	Would some combination of the current listing of schools and a smaller listing of accredited schools better address concerns than the current draft of two levels of designation for each of education and research?	▪ Pros and cons of this combination approach were discussed. ▪ The consensus was that the survey question addressing this approach is the appropriate action rather than making a change before posting the report excerpt. ▪ In the survey, 34.3% of academics and 30.8% of nonacademic respondents preferred the alternative of a classification not subject to accreditation instead of a pre-actuarial category, while 54.3% of academic and 57.7% of nonacademic respondents did not. ▪ AITF decided to keep the pre-actuarial category in its proposal.	Raised to the AITF by the Board at the June 17-18, 2005 SOA Board of Governors meeting. Discussed during the July 12, 2005, and October 6, 2005 AITF Conference Calls.
AITF 2	What is a reasonable estimate for revenues and costs for the 2006 budget?	▪ Costs addressed in SOA PROJECT EVALUATION: VALUE AND NECESSARY RESOURCES – PEOPLE AND FUNDING section of report; recommended fee structure results in no revenue until re-accreditations.	Raised to the AITF by the Board at the June 17-18, 2005 SOA Board of Governors meeting. Discussed during the July 12, 2005 and October 6, 2005 AITF Conference Calls.
AITF 3	How transition to a tougher accreditation standard if desired later?	▪ Consensus was that making the standard tougher could be viewed as a higher level category and viewed as a natural evolution for, for example, additional benefits such as alternate route consideration. ▪ This should not cause significant difficulties.	Raised to the AITF by the Board at the June 17-18, 2005 SOA Board of Governors meeting. Discussed during the July 12, 2005 AITF Conference Call.

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
AITF 4	Would it be better to start with only an education category of accreditation?	▪ The Research categories were considered important. ▪ The consensus was that having those categories did not add significant problems at this time. ▪ A newly identified use of such categories is to provide information to prospective graduate students regarding research graduate studies at either the Master's or PhD level. ▪ The wording/criteria for the currently designated PhD category will be changed to accommodate a Research Master's degree. ▪ After reviewing the feedback from the Online Survey and further discussion, the AITF believes the initial implementation of an Accreditation System should focus on education, exclusive of Advanced Graduate studies. Doing so reduces the time and effort required to apply for accreditation, and accessing information regarding research activities and Advanced Graduate studies at schools was not considered a priority benefit of an Accreditation System. Such information can be obtained through other existing means, and the SOA Education and Research section may be interested in assisting in accessing such information. In addition, the SOA has recently started publicizing the Actuarial Research Exchange, which is an initiative intended to connect academic researchers with actuarial practitioners.	Raised to the AITF by the Board at the June 17-18, 2005 SOA Board of Governors meeting. Discussed during the July 12, 2005 and October 6, 2005 AITF Conference Calls.
AITF 5	How are internet-based courses to be evaluated, given the wide range of types of internet courses?	▪ Consensus was that if the University of an Accredited Actuarial Science Program accepts the course for academic credit, the SOA should accept the course. ▪ Wording/criteria of the Education categories will be changed accordingly. This issue is more significant for the Alternative Route TF.	Raised to the AITF by the Board at the June 17-18, 2005 SOA Board of Governors meeting. Discussed during the July 12, 2005 AITF Conference Call.
WU 1	What are the compelling arguments for accreditation?	▪ An Accreditation System: a. supports several of the SOA's strategic objectives as noted in the slides; b. raises the level of credibility relative to that of the current listing of schools; and c. provides valuable information to prospective students, members and employers regarding the nature and quality of actuarial education and actuarial research at various schools.	One of two wrap up questions discussed at the June 17-18, 2005 SOA Board of Governors meeting

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
WU 2	What issues remain to be addressed?	▪ Primary issue is to establish procedures and fees at a level that balances: a. the need to be able to objectively evaluate whether or not an academic actuarial science program should be accredited, and b. the desire to have the system require as little burden as possible on the program and on the SOA.	One of two wrap up questions discussed at the June 17-18, 2005 SOA Board of Governors meeting
ARC 1	Post document similar in length to document handed out at ARC, or a condensed version, or both?	▪ Just condensed version, preferably less than 20 pages.	Issue raised at ARC in August 2005
ARC 2	Content of excerpt to be posted	▪ Include motivation, resulting desired characteristics, development principles and process, the proposed criteria and structure for an Accreditation System, alternative fee philosophies, and draft application form (approximately 18 pages).	Issue raised at ARC in August 2005
ARC 3	Reference ethics?	▪ Explicit wording re exposure to the profession's code of conduct added to the Actuarial classification, in part because few students know that exam takers are subject to the code of conduct, even if they are not members, and in part because of the importance placed on professional conduct as a result of recent corporate failures.	Issue raised at ARC in August 2005
ARC 4	Eliminate the Exam C/4 curriculum requirement	▪ Strong consensus to retain requirement that curriculum includes courses that "substantially cover" the Exam C/4 learning objectives; ▪ One semester of mathematical statistics not considered sufficient; however, wording added to clarify that the Program must offer all the required courses, but need not require that students complete all such courses.	Issue raised at ARC in August 2005; also raised in Online Survey
ARC 5	Require Fellowship rather than just membership in CAS/SOA	▪ Consensus that requiring Fellowship is not necessary and may cause significant difficulties for some schools, without adding significant benefit; ▪ Any additional benefit could be provided through the external advisory group. ▪ For a faculty member who is an Associate to become a Fellow requires time, effort and expense that may be difficult to justify for academic faculty and to hire an additional faculty member who is a Fellow is difficult for a variety of reasons.	Issue raised at ARC in August 2005; also raised in Online Survey
ARC 6	Allow CAS Liaison in lieu of external advisory group	▪ Strong consensus that should not allow CAS Liaison in lieu of advisory group; ▪ Programs that do not have an external advisory group should add one.	Issue raised at ARC in August 2005

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
ARC 7	What should Advanced Graduates studies mean?	▪ Means having previously studied material that substantially covers the learning objectives for the P, FM, M and C actuarial exams, and a research thesis (Masters of Ph.D.) in topic related to actuarial science. ▪ Elimination of Research accreditations removes need to define this term.	Issue raised at ARC in August 2005
ARC 8	Should Research accreditation be allowed without an Education accreditation?	▪ Allow Research without Education and vice-versa, in part because of the possibility that some schools that do not have actuarial education programs could be motivated to seek the Research accreditation. ▪ Elimination of Research accreditation removes need to address this question.	Issue raised at ARC in August 2005
ARC 9	With the new risk-related programs that are developing and overlap actuarial training, should there be some reciprocity agreements with those programs?	▪ No explicit content added; premature, and not directly related to accreditation.	Issue raised at ARC in August 2005
ARC 10	An administrative issue raised was the appropriate lag time between when schools can first apply and when the first list of accredited programs will be posted. The concern is the amount of time it will take to process initial submission and the desire to be fair to all schools in posting the list.	▪ Effective Date and Pilot Test section in Report addresses these concerns.	Issue raised at ARC in August 2005

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
PT 1	Only one classification – actuarial education; verification should include formal discussion with submitter.	▪ The consensus was that no changes should be made to the excerpt to be posted based on this feedback, in part because of the limited feedback and the desire to have more feedback before making changes. ▪ Removed Research accreditations but kept two levels of Education accreditation following Online Survey feedback. ▪ Online Survey results did not favor the unaccredited category.	Issue from Pilot test of Survey at ARC in August 2005 (raised by one respondent)
PT 2	There was support for an unaccredited category in lieu of the pre-actuarial accreditation (6 of 8 agreed strongly (4) or somewhat (2), 1 had no opinion).		Issue from Pilot test of Survey at ARC in August 2005 (raised by different respondent); Online Survey
PT 3	Add the following 9th item to the list of eight General Objectives: *To produce a sufficient number of actuarial academics*.	▪ This references the eight objectives from the Joint CAS, CIA, and SOA Task Force on Academic Relations. Agreed that this is important and could be added to the list, but not sure how directly an accreditation program helps meet this objective. ▪ Wording was added to the list of General Objectives referencing this item.	Issue from Pilot test of Survey at ARC in August 2005
OS 1	Remove the two previously proposed Research classifications from the recommended Accreditation System	▪ The feedback received from the Online Survey indicated low interest in having a Research Accreditation classification. ▪ A number of the comments received questioned the need for these classifications or recommended eliminating them. In light of this feedback, the consensus of the AITF is to remove these classifications from the proposed Accreditation System. ▪ Information regarding research activities can be obtained through existing means, such as the Actuarial Research Exchange	Online Survey; discussed during October 6, 2005 AITF Conference Call
OS 2	Time and effort required too much relative to benefit received	▪ Eliminated Research accreditation. ▪ Defer until work of Alternative Route Further Study Task Force completed.	Raised during AITF conference calls and in feedback, especially from Online Survey

0APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
OS 3	Criteria to be added: a. Research institutions of either level should have faculty who are members of either the CAS or SOA (not correspondent members only) b. In order to graduate from an actuarial (not pre-actuarial) program, candidates should be required to pass AT LEAST three of the first 4 exams (currently P, FM, M, and C). c. look at undergrad work as pre-actuarial and implement a 1-3 year GRADUATE program as base qualification for an actuarial hire d. pre-actuarial approval of VEE credit in at least two areas e. There should be a minimum pass ratio requirement over all of at least 1 standard deviation above the mean. There needs to be education in real problems including an internship program. f. designated full-time faculty member has 2 years practical work experience. g. One member faculty member (not a correspondent) is fine for pre-actuarial, but requirement for actuarial should be stronger. h. Under the 'Faculty' criterion for 'Actuarial' schools, I believe coursework for exams M & C should be taught by designated faculty members. i. For the 'Nature and quality of connection to the actuarial profession' criterion, I believe for 'Actuarial' schools should have more than one designated faculty member, at least one of whom should be full-time. j. External Advisory group must have SOA representatives on it who are not employed by academia.	▪ Elimination of Research accreditation removes need to address “a”. ▪ Discussion of “d” resulted in no consensus; there were strong opinions in support of “d” and strong opinions opposed. ▪ Wording changed in Table I to incorporate “j”. ▪ No support for making changes in response to any of the other items. ▪ On an ongoing basis, the Accreditation Administration Committee would have the authority and responsibility to recommend or implement, as appropriate, modifications to the Accreditation System that seem desirable.	Online Survey

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
OS 4	Criteria to be removed: a. Entire Research accreditation b. Do Graduate programs have to be only for those with basically an undergrad degree in Actuarial Science? c. All criteria referring to Graduate programs: accreditation should be concerned only with the Undergraduate programs d. Actuarial professional designation requirement for the faculty for the pre-actuarial designation e. The Actuarial level should be removed for undergrads.	▪ Eliminated Research accreditation, which addresses "a" and "b", and to some extent, "c". ▪ The professional designation requirement for the faculty is important because accreditation is by the SOA. ▪ The AITF believes Actuarial level is appropriate for undergraduates, especially given that entry into the profession is currently possible immediately upon completion of an Undergraduate degree.	Online Survey
OS 5	Objection to requirement that actuarial professionals must approve the teaching credentials of university faculty	▪ Ideally, there are such professionals on faculty.	Online Survey
OS 6	Additional guidance and/or examples related to the phrase "substantially cover the learning objectives" for the specific exams listed would be helpful	▪ The Accreditation Administration Committee would have the responsibility to provide such guidance as deemed necessary.	Online Survey
OS 7	Universities are run under the principle of collegiality. Imposing too many criteria on how their curriculum should be designed would be counterproductive …process that leaves the universities relatively free to design their own actuarial program courses, coupled with a good periodic review system for quality and consistency, will probably find more universal acceptance	▪ The AITF believes it is important that the criteria are generally objective, easily verifiable from unbiased sources, and consistent, but that flexibility is also possible such as with respect to substantially covering learning objectives ▪ The AITF also believes it is appropriate for the SOA to decide what the requirements are for becoming members of the SOA and accrediting academic programs based in part on how the curriculum relates to those requirements.	Online Survey
OS 8	If you want to do things properly, you need "on site" visits. Either you face the cost of this, or you don't do it! The reward (label, no exemption) is not worth it.	▪ The AITF believes that such visits are not necessary for all programs, given the costs, but that it is appropriate for the Accreditation Administration Committee to have the option of an on-site visit if deemed necessary.	Online Survey
OS 9	Allow programs that use individuals with actuarial designations on a voluntary basis to apply for waivers of the faculty actuarial designation requirements	▪ The professional designation requirement for faculty is important because accreditation is by the SOA and the options for satisfying that requirement are reasonable.	Online Survey

APPENDIX E (continued)

ISSUE NUMBER	ISSUE/FEEDBACK ITEM	RESPONSE / DISPOSITION	SOURCE
OS 10	Retain the designation "Advanced Undergraduate" to emphasize importance of advanced, specialized courses available for exam preparation. Going from "Advanced Undergraduate" to "Actuarial" may seem almost like a demotion to our recruits and their parents. If you retain 2-tier Education accreditation, call lower level "Introductory Actuarial" and increase its curricular requirements somewhat.	▪ The AITF disagrees and notes that this potential problem should disappear over time. ▪ Actuarial covers both undergraduate and graduate.	Online Survey
OS 11	College/University should have two classifications if applicable: 1) Advanced Undergraduate 2) Advanced Graduate Studies.	▪ Elimination of Research accreditations removes Advanced Graduate Studies. ▪ The AITF believes the Pre-Actuarial and Actuarial classifications are appropriate.	Online Survey
OS 12	Accreditation as described in your document is nothing more than a label (although prestigious maybe). This is going to increase competition between universities whereas we should work together.	▪ The AITF believes that the benefits of the proposed Accreditation System, especially to students, outweigh concerns regarding any potential increased competition. ▪ Also, both competition and working together already exist among actuarial science programs, and increased competition can lead to improvement in actuarial science programs.	Online Survey
OS 13	With all due respect to the Board, the ARTF should have had his job done before the AITF.	▪ Recommendation to defer implementation of the Accreditation System permits this.	Online Survey
OS 14	It is not reasonable that a new faculty member at an AAU institution or one with those aspirations - or even a Carnegie Research I university - could both get tenure and satisfy your "2. Faculty. Actuarial" requirements. Nothing but refereed research really and truly counts in those first 5 critical years, or then the next 5-7 when full Professorship is attained. Only then is there the luxury of time to actually sit for exams.	▪ The professional designation requirement for faculty is important because accreditation is by the SOA and the options for satisfying that requirement are reasonable.	Online Survey

APPENDIX F

SOA Project Evaluation Template

	Criteria	Wt (%)	Definition/Categories	Wted Score	Scores				
					1	2	3	4	5
BSC Strategy	Member Value	40	The Member Value category ranks the activity according to whether it is a required activity, a **core activity**, (i.e., E&E, CE or Research) or a **support activity** (services to members). Evaluation of the project based on its placement on the SOA Strategy Map.		Critical to member satisfaction	Core activity with value to all members.	Support activity with value to all members.	Core activity with value to a subset of members.	Support activity with value to a subset of members.
Member	Volunteer Requirements	15	The Volunteer Requirements category ranks the activity by the volunteer effort required. Projected volunteer hours necessary to implement the project and sustain the activities.		Will reduce volunteer hours for existing committee or task force.	No change required to existing committee or task force.	Temporary increase in existing committee or task force workload.	Permanent increase in existing committee or task force workload.	New task force or committee needed to implement.
Financial	Annual Budget Effect and NPV Margin	15	Implementation and year-by-year costs of the program (includes estimated salary-related costs, based on projected staff hours required to implement). The annual budget effect measures the cost in a given year, while the NPV measures costs over a 5 year budget cycle.		Generates marginal revenues in excess of costs.	Self-supporting.	Annual budget effect <$50K and NPV< $250K.	Annual budget effect up to $200K or NPV up to $1MM.	Annual budget effect over $200K or NPV over $1MM.
Implementation	Time & Complexity	5	Expected time and complexity of the project implementation.		Not complex and easily implemented in the short term.	Some project management needed. Implemented in one year or less.	Some project management needed. Multi-year project.	Highly complex with significant project management needed. Implemented in one year or less	Highly complex with significant project management needed. Multi-year project.
	Interdependence on Others	5	Involvement of other (organizations) in the project implementation. Degree of reliance on other organizations for success.		No involvement or reliance.	SOA is lead organization; coordination with others needed.	SOA is lead organization; high reliance on others.	SOA is not lead organization; coordination with others needed.	SOA is not lead organization; high reliance on others.
Risk	Project Risk	20	Risks associated with implementation of the program. Threats or loss of opportunities should the decision be made not to proceed with or to defer the project.		Low project risk; high risk of not doing or deferring.	Low project risk; low risk of not doing or deferring.	Moderate project risk; high risk of not doing or deferring.	Moderate project risk; low risk of not doing or deferring.	High project risk; low risk of not doing or deferring.

APPENDIX G

Summary of Survey Results

A survey was created to obtain feedback from practicing actuaries, both academic and nonacademic, on the system of accreditation being proposed. The survey was designed to provide a greater understanding of whether the respondents believe that the system would achieve the desired benefits and whether the criteria and structure are reasonable. A link to the survey was provided on the SOA website, and targeted emails were sent to:

a. SOA Board members
b. contacts at schools on the current Actuarial College Listings;
c. actuarial employer contacts from the Actuarial Training Programs directory
d. individuals on the Academic Relations Listserve;
e. members of the SOA's Education and Research section;
f. CAS academic correspondent members; and
g. members of the Alternate Route Further Study Task Force.

The results of the survey responses are summarized below.

A total of 129 individuals responded to at least part of the survey. The number of actuaries indicating academic affiliation was roughly equal to those indicating insurance company or consulting firm affiliation.

Affiliation	Academic	Nonacademic	Both	No Affiliation	Total
Number of Respondents	54	48	7	20	129

Given the relatively low number of responses, care should be taken when drawing conclusions from the survey results.

The survey results are tabulated in Table G-I.

Some highlights of the responses are as follows:

With the exception of one potential benefit, between 70 and 85% of the respondents felt that each potential benefit of the accreditation system as proposed is worthwhile to the actuarial profession in comparison with the potential costs in time, effort and money. While this is a strong majority, it should be noted that a fairly significant minority, 15-30%, felt that the potential benefits of the proposed system were not worthwhile. The exception noted is that only 56.5% overall, and fewer than half of the nonacademic respondents, felt that the potential benefit of giving academic institutions the opportunity to provide input to enhance actuarial education and research was worthwhile to the actuarial profession. This result is somewhat surprising given the expertise of the academic community in these areas, although perhaps not so surprising given the sensitivity of some actuaries to the use of academic education in lieu of passing designated exams, in satisfying requirements for the professional actuarial designations.

APPENDIX G (continued)

When asked to rate how worthwhile each potential benefit is to the academic community in comparison to the potential costs in time, effort and money, between 60 and 80% rated each potential benefit worthwhile.

Over 75% of those responding believed that the desired characteristics of the system of accreditation are important, with more academic actuaries emphasizing the importance of flexibility, multiple distinctions, and accommodating a diversity of academic institutions, than their nonacademic counterparts.

The nature and quality of the criteria for the Pre-Actuarial and Actuarial classifications were similarly supported by more than three quarters of the respondents. Academic and nonacademic actuaries responded consistently. In contrast, just over half of the respondents felt that the Research and Advanced Graduate Studies criteria were reasonable. Less than one-third of those responding felt that it would be preferable to replace the Pre-Actuarial classification with a classification that was not subject to accreditation.

Over 85% of the nonacademic respondents indicated that they do not use the current Listing of Actuarial Science programs. However, half believed that they would make use of an accredited actuarial science program listing. A greater percentage (half) of the academic respondents use the current college listing, with 74% indicating they would make use of the accredited program listing. Sixty-seven percent of the academic respondents indicated that they would encourage their institution to apply for accreditation. An additional 17% indicated that whether or not they would encourage their institutions to apply depended on items such as the fee level, their ability to implement courses for Exam C, what other schools do, and the final requirements. Significantly more academic actuaries responded that they would apply for the Pre-Actuarial or Actuarial designations than the Research Activity or Advanced Graduate Studies designations. Sixty-five percent of the academic actuaries seemed to believe that the time and effort required to apply for accreditation was reasonable, with 31% disagreeing.

There was a diversity of opinion on fees to be charged with accreditation. Over 60% of the academic respondents desired no fee for accreditation, and 35% believed a nominal fee would be appropriate. In contrast, 10% of the nonacademic actuaries believed the fees should cover the full costs of administering the accreditation program, just fewer than 50% indicated a nominal fee was appropriate, and only 35% believed there should be no fee charged.

APPENDIX G (continued)

Table G-I

Benefits of Accreditation System to Actuarial Profession vs. to Academic Community	Potential benefit of following item	To Actuarial Profession			To Academic Community		
		Percent indicating item is worthwhile					
		All respondents	Academics	Non-academics	All respondents	Academics	Non-academics
	a. Provides better understanding to students of nature and quality of education available	84.5	87.2	81.8	73.2	75.0	73.3
	b. Provides better understanding to employers of nature of graduates of accredited programs	71.8	82.1	59.4	62.3	70.0	53.6
	c. Provides recognition to institutions with high quality education or research	74.6	71.8	78.1	79.4	76.9	85.7
	d. Provides guidance and standards to institutions aspiring to develop and improve actuarial education and research	72.9	71.1	75.0	81.2	77.5	85.7
	e. Encourages academic institutions to allocate resources to actuarial science programs	72.5	71.8	73.3	68.7	65.0	73.1
	f. Encourages a stronger relationship between academic institutions and actuarial profession	80.0	82.1	78.1	77.6	79.5	77.8
	g. Gives academic institutions opportunity to provide input to enhance professional actuarial education and research	56.5	65.8	41.9	70.6	72.5	67.9
	h. Gives actuarial profession opportunity to provide input to enhance actuarial education provided by academic institutions	76.5	78.4	74.2	66.7	67.5	67.9
	i. Provides a list of schools that can be targeted for additional support, such as expansion of VEE, scholarships, internships, research funds or endowed faculty positions	72.1	78.4	61.3	76.8	82.5	71.4

Importance of the desired characteristics of the system of accreditation		Percent Indicating Important		
		Academic	Nonacademic	Total
	a. Accommodates a diversity of academic institutions with various levels of commitment to actuarial science	83.3	67.7	76.0
	b. Simplicity and ease of administration	85.0	83.9	84.9
	c. Easily understood	90.5	96.6	93.2
	d. Multiple classifications with meaningful distinctions	81.0	64.5	74.7
	e. Flexibility to accommodate special circumstances	85.4	61.3	74.3

APPENDIX G (continued)

		Percent Indicating Agreement		
		Academic	Nonacademic	Total
Reasonableness of the classification criteria	a. The specific nature and quality of actuarial science related curriculum criteria for the Pre-Actuarial Classification designation are reasonable	83.3	81.5	83.1
	b. The specific nature and quality of actuarial science related curriculum for the Actuarial classification designation are reasonable	78.4	84.6	81.5
	c. The specific faculty criteria for the Pre-Actuarial classification are reasonable	78.4	66.7	72.7
	d. The specific faculty criteria for the Actuarial classification are reasonable	83.8	80.8	81.5
	e. The specific nature and quality of connection to the actuarial science professions for the Pre-Actuarial classification are reasonable	73.5	69.2	74.2
	f. The specific nature and quality of connection to the actuarial science professions for the Actuarial classification are reasonable	81.1	76.9	80.0
	g. The specific nature and quality of actuarial research criteria for the Research Activity classification are reasonable	54.1	58.3	58.7
	h. The specific nature and quality of actuarial research criteria for the Research Activity and Advanced Graduate Studies classification are reasonable	54.1	61.5	56.9
	i. The specific Advanced Graduate Studies for actuarial science students criteria for the Research Activity and Advanced Graduate Studies classification are reasonable	54.3	64.0	58.1
		Percent Indicating Agreement		
		Academic	Nonacademic	Total
Feedback on the classifications	a. The two classification structure for the Education designation makes meaningful distinctions between the classifications	75.7	88.0	81.3
	b. The names for the two Education classifications distinguish the classifications clearly and accurately	78.4	79.2	79.4
	c. The alternative of a classification not subject to accreditation to replace the Pre-Actuarial classification is preferable to having two classifications of accredited actuarial education institutions	34.3	30.8	31.7
	d. The two classifications for the Research designation makes meaningful distinctions between the classifications	61.1	60.0	63.5
	e. The names for the two Research classifications distinguish the classifications clearly and accurately	60.0	64.0	62.9

		Percent Indicating Agreement		
		Academic	Nonacademic	Total
Feedback on the fee structure	a. There should be no fee	62.2	34.6	49.2
	b. There should be a nominal fee	35.1	46.2	38.5
	c. The fee should be the amount necessary to cover the costs	0.0	11.5	6.2
	d. Other	2.7	7.7	6.2

APPENDIX G (continued)

		Percent Indicating Yes		
		Academic	Nonacademic	Total
Use of the Actuarial College and Accredited Program Listings	Do you make use of the current college listings?	58.3	14.8	36.9
	Would you make use of a list of accredited actuarial science programs?	73.7	50.0	63.2

		Percent Indicating Agreement		
		Academic	Nonacademic	Total
Time and effort required	a. The amount of time and effort required to apply for initial accreditation is reasonable	65.7	N/A	N/A
	b. The amount of time and effort required to complete the proposed annual report is reasonable	60.0	N/A	N/A
	c. The amount of time and effort required to apply for re-accreditation is reasonable	62.9	N/A	N/A

		Percent Indicating Agreement		
		Academic	Nonacademic	Total
Estimated time required to prepare an initial accreditation application	a. Less than 10 hours	14.7	N/A	N/A
	b. 11 – 20 hours	35.3	N/A	N/A
	c. 21-30 hours	32.4	N/A	N/A
		Percent Indicating Agreement		
		Academic	Nonacademic	Total
Respondents that would encourage their school to apply for accreditation	Yes	67.4	N/A	N/A
	No	15.2	N/A	N/A
	It depends	17.4	N/A	N/A

		Percent Indicating Agreement		
		Academic	Nonacademic	Total
Classifications that respondents would encourage their school to apply for	a. Pre-Actuarial	22.0	N/A	N/A
	b. Actuarial	51.2	N/A	N/A
	c. Research Activity	9.8	N/A	N/A
	d. Research Activity and Advanced Graduate Studies	17.1	N/A	N/A