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## **Palm Desert Spring Meeting**

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### **Session 1200F**

### **Education and Examination Redesign**

**Track:** General

**Key words:** Education, Actuarial Profession, Society of Actuaries

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**Panelist:** JEFFREY G. ALLEN

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*Summary: The actuarial profession faces new challenges and opportunities in the future—within traditional areas of employment and in new and emerging areas. The Board of Governors believe that the foundation laid by the task force and the design team meets these challenges and opportunities. With these objectives in mind, the Board of Governors, on October 27, 1996 in Orlando, approved the redesign. This session is intended to provide you with up-to-date information on the redesign effort. The session also offers an opportunity to provide your input and ideas.*

**Mr. Robert L. Brown:** I have been a part of the Board Task Force on Education since its inception and am sort of shocked to realize that it has now been three years, three months since we started. We've almost become a committee instead of a task force. If we don't disband pretty soon, somebody's going to change our name. I'll be introducing the philosophy behind the new syllabus and some of the core material. Then I'll be turning the discussion over to Jeff Allen who is one of the SOA Education Actuaries in the headquarters office. He'll be taking you through the professional development component, the transition rules, and the time frame that we hope to achieve. We want to leave a lot of time for questions and comments. Two documents have been distributed outlining first the philosophy that we defined for the new syllabus. Then you saw some early drafts of what the syllabus would look like and were given some indication of the transition rules.

The design we have been using for the past decade has been a college catalog approach where you can pick and choose some courses. There are some core

requirements and some electives. There are more than 60 courses from which you choose something like 25. After passing those and the Fellowship Admissions Course (FAC), you achieve Fellowship. That was decided upon and chosen after a lot of serious discussion. It has been difficult now to come back around and almost go back to where we were 12 or 14 years ago; that is a small number of large exams.

One of the things that we think we will gain is the ability to have the students assimilate and integrate a great deal of different material. One of the things we hope to do in the testing of the material is to make sure that has happened. So while you will have to read chapters in a book or many books, we hope that we can pull things together in both the education and examination process. Another philosophical underpinning of the new material is that we don't think that we should be specifically testing things that you can look up on a CD Rom, such as very specific tax rules and legislation. These do not exist on the syllabus that we're about to introduce to you.

Having said that however, Jeff is going to remind you that there are other actuarial bodies, such as the Canadian Institute of Actuaries and the American Academy of Actuaries that have licensing requirements and they may be introducing some level of responsibility in those specific areas. A third underpinning, if I can say that there are three, is that we wanted to try to have a way to actually introduce and mandate some communication as a real part of the new process, as opposed to just showing up every six months in a room and writing exams. We would like presentations that you will participate in, as a real option under the new process.

So let's just take a quick look at what we're hoping to do. Let's discuss what the new syllabus will look like. So we've divided subjects into basic courses, advanced courses and then, after that, there's professional development segments. There will still be a FAC, which Jeff will talk about. So the general outline then, we start with: Course One, Mathematical Foundations; Course Two, Interest Theory, Economics, and Finance; Course Three, Actuarial Models for Contingencies; and, Course Four, Methods of Actuarial Modeling. That would parallel the core requirements for the math material that now exists in the current syllabus. Course Five and Six would parallel the Core Course, the 200-level section of the present exam syllabus, which leads you to Associateship as it now exists. So there is Course Five, Application of Basic Actuarial Principles; Course Six, Finance and Investments, and then the ASA would be awarded after Course Six. Then, the advanced courses, Course Seven, Applied Modeling, and Course Eight, Advanced Actuarial Practice, would then be designed for specialities, so there will be some specialization at the advanced level as well as in professional development.

Course One is described as a combination of calculus, probability, and risk management, but I think the emphasis is on techniques for determining and assessing risk and managing risk. Another important underpinning of the philosophy of the new syllabus is that we want to tell students at the earliest possible moment about the business that an actuary is in and what the role may be. We believe that with the current syllabus, you could write as many as four or five exams and not really know from the exam process what it is that an actuary does or what an actuary as a business person would be.

There's certainly going to be the requirement to do and be tested on calculus and probability subjects, but we're going to try to set as many of the problems as possible in a risk assessment, risk management, and business context. We'll have questions that say, "You've been approached by the state workers' compensation board. Here's the distribution of claims. What's the expected value?" Now you have to know some calculus. You have to know some probability to do that, but what we're really trying to force is thinking in the business context and in the risk assessment/risk management context. You would not have to go to a college that has a course in risk management or risk assessment. We will be putting together some sort of material. We may define chapters in existing books, or we may in fact write a study note equivalent, but it should be something that a bright college student could pick up and read and understand in a finite period of time. I see using maybe 60–80 pages of material out of a textbook or a study note, and all of the terms and concepts would be explained. You could be in a business and commerce economics program or you could be in a math program and you would be able to read that study note and understand it.

In Course Two, there is an emphasis on microeconomics, macroeconomics, interest theory, and finance. The one that you would be most comfortable with on that list right now would be interest theory. Certainly it would be a big part of this exam, and we would probably present it and test it in very much the way we test interest theory right now. Again, we want to put this into a broader business context. Microeconomics, and macroeconomics are examples of topics from undergraduate courses that aren't really preliminary. They really are areas of concern to an operating actuary. So we may not have a straightforward supply/demand curve question because that may not be important to an actuary. We might have some questions on the impact that a change in price might have in terms of units of sale, and that might require some of the same theoretical knowledge that you would get in an introductory economics course. But we're not going to be testing introductory economics. We're going to be testing the knowledge that you would get out of that program that you would need as an actuary.

We're going to go on to finance. I must admit that we're still working with this a bit because we must keep it introductory. We've got to keep this finite. The first thing to happen when the design team sat down to look at early drafts of Course Two was we found the original designs to be nearly at the level of a full-blown Ph.D. in finance. Finance is an important topic. Wouldn't it be nice if we could include advanced Black-Scholes derivative pricing, as well as call and put options, all in yen? We're not going to go quite that far. We're going to put that material in later courses where it belongs, but certainly there's going to be some modern finance at an introductory level. Somebody in a business school might even take Course Two before they take Course One.

Somebody in a math program would probably take Course One before they take Course Two. But we want to do everything humanly possible to make sure that an undergraduate can write both one and two prior to leaving a college or a university. It shouldn't be necessary to be at a college or university that has an actuarial science major to be able to write Course One and Course Two prior to graduation.

**From the Floor:** Are you also bringing back other features of the larger exams, such as minimum standards for subsections?

**Mr. Brown:** We're going to try to have so much integration and assimilation that it will not be necessary. So in fact, we will not do this if we're truly successful.

**From the Floor:** You said that Course One is a three-hour multiple choice exam. Is that correct?

**Mr. Brown:** Yes. We know what Course Three and Four are going to look like in total. It has taken us a long time to decide where the line goes, and we've played around with a lot of different arrangements for the topics. For instance, Course Three might have been individual micro type contingencies or short-term contingencies, short-term cash-flow evaluation, like auto insurance and homeowners insurance; or it might have been individual versus group. We do risk theory in Course Four and individual contingencies in Course Three. I must emphasize that it's still evolving, although by July 1 we'll be distributing the transition rules, so we're getting pretty close to something.

The division right now is that in Course Three we will introduce models for contingencies. Notice that you do not see the word life contingencies anywhere in the introductory material. It will be all contingencies and hopefully you will be looking at auto or health insurance as easily as life insurance. You'll be able to come out of the course thinking that you're as close to working with property and casualty coverages as life coverages because, in fact, it will be presented to you as

general models for contingencies. So the models that will be introduced in Course Three. It will be mostly survival models and certainly if we had to emphasize a book right now, it would be the *Actuarial Mathematics* text. There's no doubt about that, but we would then be modifying a lot of that material, such as a formula like:

$$v^t p_x \mu_{x+t} dt$$

Remember that one? There's no reason why that has to be a life-contingent-based formula. The hazard function could easily be the survivorship of light bulbs. It could be auto accidents. It could be liabilities for frequent flyer points. It could be default on a municipal bond portfolio. There's no reason why  $\mu$  has to be a life contingent hazard function. That would be the type of thing we try to do. You evaluate cash flow, so the models would be presented in Course Three. Statistics is in the current course description because we have been doing a lot of negotiating with the Casualty Actuarial Society (CAS) in trying to have joint sponsorship. Jeff will tell you a little bit more, but we're a little bit pessimistic about that possibility. One of the end results is, if it doesn't happen, we will probably downgrade statistics because we believe that is preliminary. You should come with statistics and we will make sure you know it in the testing of the models, but we won't test it per se.

So now you would do modeling in Course Four. This is when you fit the curves and do the loss distributions, the risk theory, and the credibility theory. The closest thing we would have right now would be something like the CAS Part 4B, which many of you sat for. There's actually a new book out that fits very nicely here. It's called, *Loss Models: For Data to Decisions*, written by Harry Panjer, Gordon Willmot and Stuart Klugman (Wiley & Sons, 1998), names that you probably recognize as authors of equations on loss distributions, frequency distribution and credibility theory.

Let me go into Course Four a bit more because this really shows you from a philosophical viewpoint what we're trying to do. We believe that a lot of you spend your days right now doing the things that are enumerated one to seven, that you get some data, but you have to decide what you're going to do and whether the data credible. That's the first thing you should be doing. Then you're going to do an analysis of the input, use a contingent model that you learned about in Course Three. By the way, Course Three would be an absolute prerequisite for Course Four. You would then do an analysis of output. Sensitivity analysis is all important, probably with simulation techniques. You would use some sort of a stochastic process and then interpret the results again using credibility theory. You would then communicate those results. We think that a lot of you do that right now, but in fact, that is not something that we currently teach.

That's what Course Four would look like. In terms of the discipline necessary, it wouldn't be wildly different than a lot of the things we're doing now through a combination of frequency distributions, loss distributions, credibility theory, and risk theory.

**From the Floor:** What kind of format would Exams Three and Four take? Essay or multiple choice?

**Mr. Brown:** I think the intent is still multiple choice. There would certainly be some questions that would be worth more than others; whether it would actually be essay is still up for grabs.

Course Five corresponds very closely to the existing 200, 210 Courses. The transition rule for credit for Course Five is if you have 200 and 210, you get credit for Course Five. So we're going to talk about design, risk classification, pricing, ratemaking, funding, marketing, and valuation. The coverages that we'll be looking at will be the security programs that you can get, including casualty programs and some of the things that are now in Course 200, like government-sponsored insurance systems and pension plans. Then we hope to get into nontraditional areas, such as warranty evaluation and manufacturing applications (we don't mean manufacturing of life insurance products; we mean manufacturing applications). We mean General Motors. We want to get into nontraditional areas. Course Five, if you had to think about it in relation to the old syllabus, it would look most like a combination of the present 200 and 210, and it would have that sort of a presentation and testing mode. So there would definitely be some multiple choice, some essay and a fair bit of reading material. When you get to Course 5, you'll find that these exams are going to be long, probably five hours.

Course Six is like the sum total of Courses 220 and 230, and they would cover capital markets, investment vehicles, and derivatives. This is where some of that advanced finance would reappear. Not everything is in Course Two because we want to keep it manageable. In Course Six, some of the tougher differential equation requirements might be included. You'll find portfolio management and asset/liability management. After completion of Course Six would be the level of the ASA and that wouldn't significantly change from where it is.

Course Seven, is probably closest to the current Course 152. This is a hands on intensive seminar. The students go to the seminar. Although it's still evolving, I see some teamwork will be needed in this seminar. You will be working in a room and you may in fact, be working shoulder to shoulder together with other people getting through the material. I would suggest that we would like to see you on a campus somewhere, not necessarily a university campus, but it could be a business

park campus, with an instructor or two for close to five days. We would probably be able to get through all of this material in that period of time if we send you out the data and a case study description ahead of time. You would be expected to arrive ready to work. We would not have to introduce the data or the case study and you would have it in a computer readable form. You would be expected to either bring the disks or bring your computer, ready to go. So it's going to involve the use of computers for sure.

So the idea is to work on model design or selection, analysis of input, analysis of outputs and communication of results. You can really only do that when you're in the same room as the instructor, but there will be an objective evaluation, just as there is for Course 152. You will not just attend and pass. I've heard Course 152 described as a test in sleep deprivation?

**From the Floor:** That was a quote, yes.

**Mr. Brown:** So you passed because you were able to stay awake the last day.

**From the Floor:** No, I think out of that five days, I probably had about six or seven hours of sleep.

**Mr. Brown:** Right, but there was an objective evaluation. You didn't just attend.

**From the Floor:** There was an exam and a written report required during the course.

**Mr. Brown:** There will be. Notice also that you may be asked to choose a practice area in Course Seven. There will be some commonality, but we want to start to get some practice specificity into the syllabus at the advanced level.

There are several issues that we're dealing with in Course Seven. It's a long list. What are we going to do for our Taiwanese students who want to take Course Seven? Are they going to have to fly to North America? Could we combine Course Seven and the FAC, so that if you did have to fly to North America, you only had to do it once. Is your employer going to pay and if you fail, are they going to have to pay again? I would say the answer to that is yes. They're going to have to pay and if you fail it; yes, they're going to have to pay a second time. Are they going to be willing to do that? Well in total, we don't think that the time or the money that will have to be expended in the new syllabus will exceed the time and the money that you have to expend in the present syllabus.

When we get into Course Eight, then we're going to have practice specificity. You will choose one of a series of possible topics, such as finance, group life and health, individual insurance, investments, and managed care. We had hoped that we would not have anything nation specific, but pensions are so regulation and tax driven that we are now looking at a pension/Canada and pension/U.S. specificity. Jeff just had a conference call during which he was talking about the group life/health and the managed care exams. He said, "It looks as if we may have 40–50% commonality between the group life/health and the managed care specialty exams. There might be two to three hours of common exam material and two to three hours that then go into those subdivided specialities."

Now, I'd like to turn it over to Jeff. As I said, Jeff is one of the Education Actuaries with the SOA. He has been working much more closely than I have with the day-to-day details. He's going to go through the professional development component and some of the outstanding issues.

**Mr. Jeffrey G. Allen:** Actually we had a focus group at this meeting to discuss the designs for the group life/health and managed care courses that met here. We took advantage of having a number of health actuaries at this location at the same time and we held a luncheon focus group. I think we have received good feedback on what we're doing on the course. I think Rob brought out a lot of unique aspects and how this new system will look compared to the old system. I'd like to point out one large overriding similarity, and that is, with the exception of Course Seven, these courses are all individual study followed by a written multiple choice or written answer examination, which has always been the traditional way that actuaries have gone through this system.

What I'd like to talk about for a little while is the professional development component, which is taking a little bit of a step away from the traditional individual study program that we're used to. As I talk about this, I'd like to talk a little bit about many of the issues involved, not just the specifications of this specific course. I'd like to bring in some of the other issues that we're thinking about, or that we're considering. I'd like to spend some time talking about the audience for professional development. Who are the people that are going through this professional development component? I'd like to talk about the topics that would be covered and then I'd like to spend some time on the plan or the process of the professional development component.

First, let's discuss the audience, or the people who would attend the professional development course. I think we need to keep in mind that the people who are going through this course are people who have some experience, who have been in the system for a while; and who have passed a large majority, if not all of Courses One



through Eight. These are people who, because of the requirements of the professional development components, will, by definition, be within two years of their FSA. These are people who have started attending SOA meetings and are becoming involved in professional activities, such as local actuarial clubs. Based on the interaction I've had with local actuarial clubs, a number of the leaders of our local actuarial clubs would be included in this group. So I think it's important to remember that these are people who have some experience and are building significant responsibilities at work and within their professional career.

I think it's also good to point out that this is an audience that is near the point where, as professionals, they will be responsible for managing their own continuing education in their careers. Professional development is kind of a bridge from basic education to continuing education. So I think it's important to keep in mind who these people are that are taking this component.

It's also important to consider the objectives of professional development. I'll read directly from what the objectives are. The objective of the professional development component is to, "cover topics the practitioner needs to study throughout his or her career, including those topics that are country specific, regulatory or otherwise volatile in nature."

As we think about the format, I think it's important that we realize that some of these topics are not necessarily taught well through self study and an exam. First of all, it's hard to administer an exam on subjects that are changing rapidly. So many of these subjects that are covered are better covered in a face-to-face, one-on-one interaction, or within interaction with a group. The other thing I'd like to emphasize is, the interactive format is also important for the development of actuaries. Rob brought up a couple times the importance of communication. I think one of the skills that actuaries need to have is communication and the ability to interact effectively with other professionals with whom they work.

I'd like to talk a little bit about the topics that would be covered under professional development. We said that they would be the topics that are more nation specific than general. Since this is a health and pension meeting, I thought I'd talk about the health and pension topics. For example, managed care issues could be those such as the alignment of incentives, specialty capitations and provider profiling. These are some examples of the types of topics that will be discussed in greater depth in the professional development component. These are the types of topics that the candidate should be focusing on. For pensions, this would include topics like advanced regulatory issues. The Small Job Protection Act of 1996 might be an example of something that probably wouldn't be on an exam but is a good topic for someone at the professional development level to address. I was going through the

sessions that are being held during this SOA meeting that would be an example of the type of topic that would provide credit for professional development. I picked out a couple just as I went through the program. They include: "Design and Development of Point-of-Service Products," "Evaluation of Health Plans," "Physician Incentive Programs." I think these are all topics that are important to actuaries in those specialty areas. Pension topics include, "Dialogue with the Pension Benefit Guaranty Corporation" "Which Funding Method is Right for You?" and "Completing the 1996 Schedule B." These are the kind of the topics we were thinking about. Sessions with someone like James Baker or maybe Colin Powell, probably would not count toward professional development. Also poolside receptions would probably not count toward professional development, although I do think there is an element of professional development there, and a communication element as well, which maybe should not be underemphasized either.

I'd like to talk a little bit about the process that we've been talking about for professional development or PD. It begins with submitting a PD plan, signed by an advisor. An element of this is the choice of an advisor. A formal advisor is to be chosen to consult with the candidate and assist in the selection of an appropriate course of study. Upon completion of the plan, the candidate is to produce a written document, limited to probably five pages, describing the benefits acquired to the professional development component. This short report will also provide the SOA with an important tool for evaluating whether the professional development component is working. After submitting the written document to the advisor, and to the SOA, and attesting to having completed the PD program, the SOA would then affirm that the candidate is eligible to attend FAC.

Other things I wanted to bring in here are that the PD component will cover 50 hours of eligible education within a two-year period. At least 50% of that must be explicitly approved by the SOA. That would probably include certain seminars or SOA meeting sessions. There is also the option to take an exam validated program, such as another Course Eight or the Certified Financial Analyst (CFA) Exams, or another type of exam validated program that would qualify for the PD component.

**From the Floor:** Will candidates' be eligible to take PD seminars prior to the year 2000?

**Mr. Allen:** That's correct, I think we would be working on establishing the structure for PD prior to 2000, so that when 2000 arrives, PD will be in place. Candidates could have taken some courses that would satisfy PD before the year 2000. However, they wouldn't receive the credit until after 2000, when the new system is in place.

The requirement is that eligible education must come within a two-year period prior to receiving your FSA. Now during that two years prior to completing your course work (Courses One through Eight)—you could also be working on obtaining some professional development during that time.

**From the Floor:** Is it a rolling two-year period, so that if the time extends longer than two years, what you first picked up at the beginning will drop off.

**Mr. Allen:** Yes, it drops off. So if you're attending sessions, and then you don't finish your Eighth Course or whatever course is left to you, those courses taken earlier than two years before will drop off.

I'd like to move to the conversion rules. Now the conversion of credits will take place when the new system goes into effect at the beginning of 2000. Another element here is that courses will not be given simultaneously under the old and the new system. When 2000 starts, the new courses will start, and the old courses will no longer be offered. An initial version of the conversion rules were distributed in January 1997, and they covered the rules for Courses One through Four combined, and then they showed the individual transition rules for Courses Five through Eight in professional development. At this point, we're still working with the CAS on what topics will be included and what courses might be jointly sponsored. So we aren't able to firmly establish the individual transition rules for Courses One through Four.

The final rules will be released by July 1, 1997, so we are in the process of wrapping that all up. Because we made the initial version of the transition rules available in January, we have had the opportunity to get feedback and that's something we're trying to benefit from. There are some areas we identified as needing clarification, and we will attempt to address these issues in the final transition rules that are released in July. There were some areas that were found to be ambiguous, and the SOA will try to make those issues more clearly defined in the July 1 transition rules.

There is some other feedback we've received that I'd like to mention. There has been feedback on individual courses, but I think, in general, the biggest concern that the SOA has heard has to do with the "cliff effect" of going from a system with smaller exams to a system comprising large exams. That is, you need to get a certain number of small exams to get full credit for the large exam. If you don't get all the way, there's no partial credit given towards the courses. Actually, partial credit can be used towards professional development, but as I just went through the professional development, it's not the same thing as a written exam and this partial

credit is the same as partial credit toward an exam; although there is some element of partial credit individuated.

**From the Floor:** Will the two-year limit for professional development apply to credit gained through examination?

**Mr. Allen:** No, the two-year period won't apply to exam credit. If you have exam credit, you won't lose it.

We've heard different responses to the "cliff effect" problem. In general, candidates are taking the approach that if they can see that they have a real good chance at getting to that next level of credit, that next cliff, they're going full speed ahead toward that next cliff. If they feel uncomfortable about whether they're going to get there, they have given two different responses. One is, I don't think I'm going to make it; I'm going to wait. Or, the other response that we've heard is they will help in taking exams. They look at the professional development component and they recognize that even though it's not an exam, there is a cost element involved, and there is a time element involved and they've decided to continue and get the credit toward the PD in the event. They don't make it to the next full exam credit. So that's just some of the feedback that we've been getting on the transition rules.

There are other issues and I'll try and get through these quickly. One is potential CAS joint sponsorship on Courses One through Four and Course Six. The SOA has spent a lot of time working with the CAS in trying to come to an agreement on jointly sponsoring exams. I think Courses One and Two have come along very well in coming to agreement. Regarding Courses Three, Four and Six, I think that one of the participants in the group summed it up best by saying that, "in working together, we've been able to come to a middle ground on the development of those courses but we haven't been able to come to common ground." We can go through and see where the CAS would like greater emphasis and where the SOA would want greater emphasis. We're trying to find a point in the middle. It's just a point in the middle but both sides are not comfortable. So there is still continuing discussion on Courses Three, Four and Six, but we're not real optimistic.

Some examples of the issues under discussion include that the SOA would like 60–70% coverage of long-term contingencies on one of the courses, and the CAS would prefer 25% coverage. That just gives you a feel for the difficulty of bringing those two projections together.

Under the new system, attainment of associateship would be achieved following the new Course Six. I think that's consistent with the current level which is after the

core courses. Courses Five and Six match pretty well with the 200-level exams, and I think that's pretty consistent with where we are now.

The FAC will be required and that is expected to remain unchanged. I think there has been a lot of value in the FAC, and I think that's another area where the SOA has taken a step that's different than an exam-based educational method. I think that there has been a lot of positive feedback on that and we're not expecting that there would be a major change in that.

At this point, I think I've wrapped up all the prepared comments that we were planning to make on this.

**From the Floor:** How often will the intensive seminar be offered?

**Mr. Allen:** I expect Course Seven will probably be offered multiple times throughout the year. Since there's a practice specialty element expected in Course Seven we might need to have a certain number of—specialty Course Sevens, such as a pension-specialty, individual life-specialty. I think those seminars would be given numerous times at different locations. As far as the other exams go, I would expect that the earlier exams will be given twice a year. I don't know how far up the ladder that will go and we'll push it as far as we can. As you can see, there are fewer courses here. One of the biggest constraints we have to offering exams more often is the ability of exam committees to do all the work in putting them together. So with a fewer number of courses, it might be more reasonable. It might be more likely that certain exams can be held twice a year. I can't make a guarantee. It also has to do with the number of people taking the courses and the number of volunteers on the committees that can develop those courses.

**From the Floor:** After part three, will the exams be five hours in length?

**Mr. Allen:** I think that is probably most likely.

**Mr. Brown:** One and two are three hours.

**From the Floor:** How is the five-hour exam given? Is that given all at once?

**Mr. Brown:** The five-hour exam has a lunch break.

**From the Floor:** So that's similar to taking Course 100 and 110 at the same time?

**Mr. Allen:** Yes, it's similar to taking Course 100 and 110 on the same day. That would be six hours worth of exams.

**From the Floor:** How will travel time be affected?

**Mr. Allen:** It is difficult to address future travel time, but I can talk about current and post-travel time. I pulled some statistics before I left. I looked at the travel time in the mid-1980s, before we really made the move into the flexible system. Then I looked at the most recent statistics, the mid-1990s. The average travel time was about eight-and-a-half years from the first exam to Fellowship. It's now running now a little over nine-and-a-half. So I think we've seen some significant lengthening in the travel time. We've also seen a decrease in the average credits. In that same time, the average credits taken and the average credits passed have both dropped about five credits. We had been at about 35 credits on average, and it has dropped down to about 30 credits or less. The last couple of sessions, we've dropped under 30 credits per sitting, per candidate.

**Mr. Brown:** An issue that was on our table when we started was that the travel time was too long and that we could possibly be losing candidates to other professions where the travel time seemed to be much shorter. Having said that, the way I often answer this question is, I think the travel time will be shorter under the new system, but the average age of attainment of Fellowship may not change very much. Where the travel time will be shortened will be more at the early end.

The very first time I presented this syllabus, an insightful student came up and said, "Well when you wrote the exams, you had exams one to ten and basically when I write the exams, I'm going to have three to twelve." That might just be the best observation that I've heard. The travel time will be shorter than it is, but the average age of attainment of Fellowship may not change all that much.

**From the Floor:** Regarding the advisor for the professional development component, what if you change jobs or you don't have an FSA in the shop? How do you handle that?

**Mr. Brown:** I think, first of all, an FSA is encouraged for the advisor, but I don't expect that to be a requirement. If you're in a new area of investments or finance and you can make a case that there's someone who could be a better advisor to you in that position, the FSA is not a requirement.

**From the Floor:** What if you work for a small company, where there are only ASAs in the shop? You really should have an FSA sign off.

**Mr. Allen:** I think that if you contacted the SOA, the E&E Committees or the SOA office would work with you to help find an appropriate advisor.

**Mr. Brown:** If the last resort comes to be, it could be somebody in the SOA who is assigned, as opposed to somebody in your work area or somebody in your town. We may even have some very unique situations. One of the things you have to remember is that these exams are now given in many, many countries—more than 30 now. We expect to have some really unique situations, and if all else fails, we will take on that responsibility as the SOA.

**From the Floor:** In looking through this, theoretically, I think that credit for all course requirements can be completed at a level just short of the correct FSA requirement. Is that true?

**Mr. Allen:** Yes, that's true, and if you looked at the transition rules, you can add up the credits and it is less than what's required right now.

**From the Floor:** So is there a plan to allow conversion before that, even though the rule will be out? You can end next year and then just wait two years, and the conversion will take place and you'll have completed your course requirements with the exception of the FAC?

**Mr. Brown:** I think it's about 99% certain that the conversion is going to take place January 1, 2000. There are a couple of reasons for that. One, while we realize the reality is that there will be some people who will have done what is necessary and just sit for exams, we don't want to encourage it. Two, we have a massive human resource task to get this new syllabus in place and make it work, and we don't want to add to that a myriad of requests for special consideration. One way to handle that is just to have a rule that works and stick to it. I really believe we're awfully close to dotting the i's and crossing the t's, unless there's some ground swell that we haven't heard about yet.

**From the Floor:** People knew I was coming here, so they gave me a bundle of questions. The first one pertains to the enrollment exams. Are they going to be separate exams, separate from these in the course? The way it is right now, you have 141 that you can take in place of 140 if you wanted to do that. It seems like the enrollment is going to have to be completely separate. Is that a true statement?

**Mr. Allen:** EA1B will be part of the requirements for receiving full credit for Pension–U.S., Course Eight.

EA1B would go towards half of Course Eight. So the U.S. Pension Actuaries are likely to have smaller SOA Course Eight exams, but then, would also be required to pass the EA1B exam.

**From the Floor:** I just wanted to offer a bit of additional information that unfortunately is not complete. I wish it were. I have to teach a class in Boston for people taking both EA1 and EA2. I was recently alerted to the fact that the Joint Board is, in fact, considering a change to the exams for the first time in a dozen years. The specific changes they are considering were not identified. *Pension Section News* mentions that there is going to be a hearing in Washington as late as June, on the proposed changes in the Joint Board syllabus. I have no idea how the revamped Joint Board syllabus will dovetail with what the Society is about to do, but I just wanted to alert you that there's more uncertainty here.

**Mr. Allen:** The SOA is in communication with the Joint Board on these proposed changes. The Joint Board is aware of what the SOA is doing, and we're aware of the changes that they're considering. So the SOA is optimistic that whatever will be developed will coordinate in some way.

**From the Floor:** Right now, where I stand, I'll probably get through Course Six and then be taking some specialty fellowship exams. Can I use those credits towards Course Eight? Because most of them are going to be in a specialty, can I apply them to Course Eight rather than Course Seven?

**Mr. Allen:** The transition rules for Course Eight state that you need 50 required credits within a specialty track and ten elective credits. If you have the 50 required credits within a specialty track and ten elective credits, my understanding is, you won't have to use those for Course Seven. You can apply those directly to Course Eight and then you would take Course Seven. I think it would be counterproductive for you to have taken all those required courses in your specialty track, and then have to apply them to Course Seven and then take Course Eight. Covering most of that mentioned a second time, I think that's counterproductive. What I've heard from the design team is that you can apply those to the Course Eight, if you have the 50 required credits in your specialty track and an extra ten elective credits. Now if you have only 40 credits in your specialty track, they'll have to go towards Course Seven.

**From the Floor:** Much of my concern revolves around Course Seven. I've taken the intensive seminars. Even though I was tired, I didn't really find those to be bad, but I know there is a lot of concern in my office about how intensive it is going to be? Some people can take a five-day seminar, like 152, and thrive in it, and do well under all that pressure. There are other people that would rather study for three months, and then take an exam.

**Mr. Allen:** This issue came up last year as you might remember. I think we had some good feedback, and I think the SOA would like to do some things in terms of



distributing study material in advance of the seminar, to work with candidates that way, so that they can still learn at the same level and not to have to put in quite as demanding a schedule as they do in the current intensive seminars.

**From the Floor:** So the days would be more normal? Most of the intensive stuff would be on your own time, so to speak?

**Mr. Allen:** I believe the SOA would like to make it more of a manageable amount and to do that by rising more advanced work.

**From the Floor:** Keep in mind that Course Seven is a requirement, as opposed to an elective. When it's an elective, as it is currently, and you have a choice about whether to take it, it's a lot different.

**Mr. Brown:** How long did 152 last when you took it?

**From the Floor:** I think it was five days.

**Mr. Brown:** When I use the word intensive, I think the period of time that you're there will still be intensive, but five days is beyond what I see happening. We're going to ship a lot of stuff out ahead of time. When I say three days, I actually mean two-and-two thirds. It will be intensive for two-and-two-thirds days.

**From the Floor:** How far ahead of time are you going to be sending out the material? Six months ahead of time or two weeks?

**Mr. Brown:** I think it would be like the reading material where you could access it as far ahead as you want. You might even access it two years ahead, even though it would probably change. You can study for an exam two years in advance now, even though it could change as you get closer.

**From the Floor:** Has the SOA considered running the credits under the new structure to let candidates know where they stand before this takes place?

**Mr. Allen:** Yes, that came up at a recent actuarial club meeting as well, and I expect the SOA, sometime before January 2000, will be able to send out a transcript to everybody who's actively taking exams. It would say, "If the conversion was to take place, here's what you would have." I just know that when I was taking exams, there is something about receiving that official transcript that has the course numbers listed. It makes a big difference, and the SOA is working on doing something like that.

**From the Floor:** I think they'll save a lot of heart attacks.

**Mr. Allen:** I think you're right. We've been doing that on an individual-by-individual basis for those calling in to the Society office. But the SOA would like to do it in a mass mailing. I think you're right.

**From the Floor:** Can the SOA put this online?

**Mr. Allen:** The SOA can't put your credit online. At this point, there is a security issue involved with putting that personal information online.

**Mr. Brown:** We can put the rules on line, but then there will be an exception to every rule. Someone might have 40 credits for Course 200, not 30 credits, so credit will be an individual thing.

**Mr. Allen:** I talked about some of the feedback we've received since we delivered the transition rules in January and those two issues both came up and we want to specifically address those issues in the transition rules that come out in July. It's been beneficial to us, but I know it has been somewhat of a difficulty to people taking the exams, not to have the final transition rule right away.

**From the Floor:** For the new Course Five, what if I have credit for Course 200, but not Course 210?

**Mr. Brown:** At the moment, you would get no credit for Course Five and you would have 30 elective credits. So one thing I am telling people is, if you're not there yet, work as hard as you can to get all of the 200 series. If you have Course 200, but not 210, then focus on that because of this cliff investment that we've referred to. It's clear that the understanding at the moment is that Course Five requires 200 and 210, and Course Six would require 220, but not 230.

To the best of our ability, we will try to be sure that you won't lose the credit in total. At the very least, it'll go toward professional development. I don't think anybody will be able to say they lost something. You'll get credit for it somewhere, but if you have Course 230, you're going to get direct credit.

**From the Floor:** So in keeping with the professional development component. What other alternatives will there be?

**Mr. Allen:** Seminars, symposiums.

**Mr. Brown:** Research papers.

**Mr. Allen:** University courses. You could go to a university and take a course that would apply to your area of specialty.

**From the Floor:** So there could be a three-hour course or a three-hour seminar?

**Mr. Allen:** There's a maximum number of credit points you can get from any one activity, and I believe it's 15.

**Mr. Brown:** So you can't receive more than 15 credits towards the 50 through any one activity, except to write an exam. So again, the Fellowship research paper will still be available. The SOA would like the PD component to be flexible. Most of the sessions here and many of the sessions at CIA meetings or Joint Board meetings will apply, whatever the equivalent is.

**Mr. David M. Holland:** I'd like to comment on the issue of having sufficient credit to already achieve Fellowship under the rules for conversion. First, let me say that I've held every Education and Examination Committee position except General Chair. I've been Exam Chair and Vice General Chair, and we have a tremendous number of situations that are really hard to believe. There are students appearing for an exam late who say they are going to take the exam or else. We have all sorts of unusual incidents. I'm one of the culprits who is probably responsible for part of the flexible exam system that we have now. When I was Part 5 chair, which also dealt with Part 4, we had 5A, 5B, 5C and 4A, 4B, and 4C. Then the Joint Board would want something moved from one exam to the other exam and the Casualty Actuarial Society would want something else done. Finally, the transition rules became a real problem for people because there are so many unique circumstances, and it's difficult to treat people fairly unless you decide these are the rules, no exceptions. By putting the exams in little pieces, you would not lose credit for a smaller section because you didn't take that section or whatever.

I fully support the redesign program that we have here. I think it's something that will be very good for the future of the profession. We are really developing models where we are able to use our expertise to define problems, come up with solutions and present them, so that we are involved and managing the results. I think that the philosophy is that we will teach principles. It was not easy being the chair of the social security exam because even if you could use the same questions every year, the answers would change. There's no need for people to have to memorize and regurgitate that page 128, footnote 2b says this, that or the other. We'll be focusing on principles as much as we can and trying to avoid some of the detail. What that means in the interim is that we have two definitions of actuaries. Some people always thought it would be nice if we had this one monolithic definition of actuaries, but we've had parts 8A and 8B, and all sorts of different parts for people

going through at different times. We are happy with the actuaries that we have now. We feel that for the next century actuaries are going to have to have a different face. Actuaries will need different skills. So we are making the transition and the transition gets awkward because it says now we're taking pieces and put them back together. It's a little easier to do this than changing the exams from big exams to small. We will have the 2000 definition of actuaries. We would like to have someone just go through that process. Realistically it will be three to eight years before someone who starts with the new Course One and goes through the new process will become an actuary. So in the meantime we will have this blended process. We're going to come up with some sort of rule and we're going to try to be more than fair in both cases. We could have taken, in many areas, a much harder line in terms of the credit that we'll give. You should have passed this exam, and you didn't pass it by this date so you don't get any credit. To be an actuary, this is what you have to do.

But we're trying to come up with a set of rules that are generous. As a practical matter, when this thing finally comes before the Board, it will be one of the things that I'm sure will be addressed. There will be a decision, not just at the E&E level, but at the Board level as well. Do we say, this is the rule, no exceptions; or do we say we recognize that this is a special case. But I think we'll find that as soon as we have one special case, we're going to have 100 cases that are not at all identical and that we're going to have to spend a year going through them. I think that we'll try to do the best thing. The decision hasn't been made yet.

**From the Floor:** The professional development is a requirement of 50 hours. It's suddenly hitting me that my company's current policy is one meeting a year; that's all it will pay for. When I think of trying to get 50 credits in two years, I don't believe that it will be possible unless I put out a significant amount of my own money. Can you comment on that? I guess I have a choice of moving to another company.

**Mr. Brown:** There are also other alternatives to seminars. There will be other ways to get credit, other than seminars, but I think you raise a very good point.

**From the Floor:** I expect that we will find a number of FSAs who find themselves as advisors. Is there going to be education for advisors so that all the students who are taking exams will have some consistency in working with advisors?

**Mr. Allen:** Yes definitely, there will be a handbook for advisors to let them know what's expected of them, what will be expected of the candidates, and how to handle various situations. That's definitely in the plans.

**Mr. Brown:** This is another area that has elicited a great deal of discussion. The word mentor was used for a while and then advisor was used. There was a stage where we talked about how the advisor would have to sign off and could refuse to sign off on your forms. I think we have backed down from that, but we certainly want to have fairness and high quality; it's a compromise sometimes. I can assure you that we have discussed these issues at length and with some pain, but certainly with a lot of concern or caring. I'm not sure if I made that distinction quite clear. The advisor is not necessarily approving the plan, but is signing that he or she has discussed the plan with the candidate. There's not an approval needed there.

**Mr. Allen:** They can't fail you in effect. They can bring a lot of pressure to bear that you do good things and you learn things that will be supportive of the day-to-day work that you're doing, but they're not in a position to take the role of an examiner equivalent.

**Mr. Brown:** The other thing we'd like to encourage through this process is another layer of communication. We would really like it if the student were to come back and report on this seminar they went to or this university course that they took and communicate what they learned to more than just the advisor. Maybe a small group at the head office could sit and listen to a presentation. We really want to try to use this as another conduit for communication skills in attaining Fellowship.

**From the Floor:** Will there be any guidance about the number of sponsors?

**Mr. Brown:** You're not suggesting that there might be advisor shopping or something?

**Mr. Allen:** I think you're thinking about a panel of advisors to your plan.

**From the Floor:** No, let's say you're at a fairly large company or something, and the company wants to use the head of the student program as the immediate advisor for every student there. This person could be dealing with 40 or 50 people. You won't be able to get attention from that advisor.

**Mr. Brown:** We're hoping that will get settled at the company level and that it won't become an issue that has to be settled bureaucratically by the Society of Actuaries. I guess we're ultimately there to lend a hand when necessary.

**From the Floor:** I have a question on the time requirements for professional development, specifically if two sessions are an hour-and-a-half-each, totaling three hours. Is that three hours applied directly as three hours or would it be one hour or would it be five hours?

**Mr. Allen:** It would at least be worth three hours. It has come up whether 50 minutes is equivalent to an hour. So the question is whether that three hours becomes something a little bit more than three hours, and I'm not sure what the answer to that is. It's at least three hours. If you have two 90-minute sessions, it's at least three hours.

**Mr. Brown:** The intent is that an hour is an hour, but then some hours are only 50 minutes long. Again, we really hope that we don't have to referee on every one of these situations. Level heads should prevail. If that's in the program as two times an hour-and-a-half and it lasts two times an hour-and-a-half, you'll have three hours of credit.

**Mr. Allen:** There are other situations too and I think that, as an example, enrolled actuaries rules can give us some guidance. Let's say you decide to lead one of those sessions and you're picked to be on a panel; there's also the possibility that you would receive additional credit for your preparation time. That's another type of credit.

**Mr. Brown:** Each member of the committee was asked to write a perspective for professional development. Then we were even forced in a second stage to not allow for any transition credit. So we had to start as a brand new student and we wrote up examples of what could be handed in. On mine, I listed being a participating member of an SOA Committee and I counted ten hours for that. I would probably be able to prove that I spent a lot more than ten hours on that. Ten was what I personally needed to get to 50. I think my advisor would know how much time and effort I had put in, but I personally would have no problem at all with one of the components toward 50 hours being time spent as an active member of an SOA Committee, especially if the person could show that he or she had attended and taken part and helped to draft some proposals and things like that. I think that's perfectly legitimate.

**From the Floor:** How often is the FAC given?

**Mr. Allen:** That's a good question. Currently it's given four times a year and it's scheduled when the results come out from the prior exam session. With PD as a final requirement, we would expect more of an even flow. I think we might still have more people around exam time. So I'm not sure if that'll change a lot. That is something to look into. We may be able to schedule those FACs at different times during the year.

**Mr. Brown:** We have had a significant number of people stop and talk about that a lot. What we decided at this stage is we didn't want to add that to our issues list.

We felt that was an issue prior to and separate from the new syllabus. I guess we sort of put it over here and said, we'll get back to that. We've got so much else to do, but it is still high on the list of priorities.

**Mr. Allen:** Actually it was brought up prior to and separate from the Board activities or the task force activities. The Board is discussing a professionalism requirement at the ASA level and whether and how to do that. It's discussing what types of modifications we should make to the FAC and things like that. So it is a current issue, and I think there's quite a bit of support for introducing the ASA level requirement.

**Mr. Brown:** But I think we feel that the issue of ethics is an important one, and I think we benefit from addressing it at both the ASA and the FSA level. I think repetition on a topic like that is not detrimental by any means, and that it can be addressed at different levels. At the ASA level, there's a basic need for education and professionalism. At the FSA level, there's another type of need for education and professionalism, and I think it can be addressed appropriately at both levels.

**Mr. Allen:** If it's exam credit, there's no expiration. For meetings and seminars, there's a two-year window.

**Mr. Brown:** That's right. Philosophically, one of the reasons for that is this is supposed to be breaking information. This is supposed to be up-to-date professional activity, day-to-day work, pertinent information and knowledge. If it's two years old, it doesn't exist anymore.

**From the Floor:** How are we going to manage the success of this restructuring?

**Mr. Brown:** We will put in measures, one of which will be the travel time. We will hopefully do some surveys of users of our services and our students. I can guarantee absolutely for sure, the one thing that's guaranteed is that this will not be the absolute syllabus that will exist ten years from now. It's going to continue to change, and we even know now that in publishing the transition credits, when the first exam comes out, it won't look exactly like what we think it's going to look like. We are, however, going to have the transition in place and that's going to be guaranteed. That won't change. These exams have to evolve and continue to evolve and always evolve. One of the things that I can guarantee is that there will be more and different specialties under Course Eight. There's not a workers' compensation or Social Security specialty at the moment. I believe there will be within ten years. There are all kinds of possibilities, but hopefully, the big picture will be evaluated and remain fairly consistent. It will be the details that will evolve as the world around us evolves.