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**FUTURE EDUCATION METHODS**

(Open Committee Meeting for Students)

Chairperson: JUDY FAUCETT

- o A discussion of status and direction.
- o This session is intended primarily for ASAs who are still taking exams and FSAs responsible for administering actuarial programs. The Flexible Education System Implementation Task Force will discuss any aspects of the ASA syllabus for 1987 and discuss the proposed FSA syllabus for 1988.

MS. JUDY FAUCETT: I'm the chairman of the FES Implementation Committee and the incoming general chairman of the Education and Examination Committee. Bob McKay is the incoming chairman of the Flexible Education Implementation Committee. He's also responsible for the administration of the examinations that are flexed. Our purpose today is to answer any questions that students may have relative to how we are structuring FES and the impact that it will have on them. Bob's going to give you a brief status report of where we are on FES relative to both the ASA and the FSA examinations.

MR. ROBERT J. MCKAY: Let's briefly look at what's happening to the Associateship Exams, which may be of interest to students working with you and also give you an idea of how far along we are on the entire Flexible Education System. The Board of Governors has approved introducing Flexible Education at the Associateship level starting in 1987. The Spring exams in 1987 will be the first set of exams under the FES System. The decision and the design of the Fellowship FES exams has not been finalized. The goal is to introduce that for 1988. For 1987 the current five Associateship exams will be divided into a number of courses. In some cases one old Associateship exam equals one new course, and all you have to do is remember what the new number is. In a couple of cases the exams have been broken down into the components. The courses will

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be numbered in the 100s. Course 100 will be old Part 1 -- calculus and linear algebra. Course 110 will be probability and statistics, so that's old Part 2. Then Part 3 is divided into three pieces. 120 is applied statistical methods. 130 is operations research, and 135 would be numerical methods. Part 3 was a four-hour exam. Under FES you'll get forty credits for those three pieces. So one old hour of an Associateship exam will be worth 10 credits under the new system. You'll get 15 credits for passing statistical methods. Part 4 today consists of one hour of compound interest and four hours of life contingencies. That will be divided into two exams. Course 140 will be compound interest for 10 credits, and course 150 will be actuarial mathematics for 40 credits. Everyone's favorite exam, Part 5, which consists of four items today will be put into four pieces: risk theory, survival models, construction of actuarial tables, and mathematics of graduation, totalling 50 credits. Each of those will be independent exams. Somebody who has already passed, say Part 4 will automatically get credit for the two components, but somebody who hasn't passed Part 4 can write either or both components and the pass marks will be set independently of one another. I'm reading from a draft of the Associateship Catalog that is being published. It has all the details for our students writing Associateship exams: exactly what comprises the different courses; what credits you get based on what exams you pass today; how long the credits will be good for; all the workings of the system. That's where we are in the Associateship exams.

For the Fellowship we have spent quite a bit of time designing what we think the exam system and education system should look like. Essentially there would be some core courses that everybody would have to take. This would be equivalent to Part 6 and some of Part 7 today. There are some basic fundamentals that we want everybody to study regardless of whether they're a pension actuary or life actuary, or a group actuary, or any kind of actuary. Then there would be a series of tracks from which you would choose one to study. Right now we've identified four tracks. There would be a life track, a group benefits track (which we're trying to look at from the perspectives of both the insurance company group actuary and a consulting actuary in group benefits), a pension track, and a health track (which will combine both individual health and group health, and will pretty well be carved out of courses that are offered in other tracks). There is consideration and discussion about having a

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generalist track so that somebody would not have to follow one specific area. A student wouldn't have to follow the pension or life track. The generalist track may be of most interest to academics who are interested in getting an FSA. There is also consideration of an investment track. One of the reasons for introducing a Flexible Education System is to allow us to do this; to add different tracks as the profession changes over the years.

To move from the ASA level to the FSA level today requires passing 25 hours of exams. In the future it would require 250 credits. The Fellowship exam proposal is still in rough form. It's being reviewed by many members of the Society, various sections, the Board of Governors and a number of committees working with it. The draft that we're working with now has 70 credits for core courses. There's three courses that comprise the core which everybody would have to take. That leaves 180 credits. Of the 180, 130 would have to be taken in your particular specialty. That corresponds to 13 hours or almost one-half of the total credits required for Fellowship would be taken in your track. Most of those would be mandatory or required courses. Probably about 100 credits of that would be specific courses with no options. The remaining 30, the difference between 100 and 130, would be electives within my specialty, or specified electives within another specialty that were felt to be appropriate. For instance, for a pension actuary there might be one or two group courses that would be available as electives to satisfy my pension track. That leaves 50 credits. We started with 250. We knocked off 70 as core and 130 for my specialty. The intention right now is they would be free electives, just as in university course work. You can take whatever appeals to you, whatever you think is going to further your career and give you a better education.

The goal is to have the system up and running starting with the May 1988 exams. That's a very aggressive time table. There's an awful lot of work to be done. For some of these courses, particularly in the pension area, there's very little material available today. So we're encouraging people to write study notes and develop material. The Society also has to get all the computer records in order for the system to work. We're still on target for 1988. The Board has not yet given final go-ahead. It wants to see exactly what's being proposed and all the details before it will sign off on it. Our point of no return is next March. We have to either go ahead or defer Fellowship FES a

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year. I guess another option is for the Board members to change their minds. That's the status.

MR. PETER B. BRESLIN: It sounds to me like you're getting away from the tried and true 10-exam system into something that's looking like about a 20-exam system. Is there a reason that I shouldn't think that?

MS. FAUCETT: If you look very closely at our current system you'll find out it's really a 57-exam system. It's just that we packaged it extremely well so that everyone thinks that it's a 10-exam system. We're just being a little more open about what we really have. Even though there is the appearance of more examinations there is clearly not an increase in the units that you're going to be required to accumulate in order to gain your Fellowship designation. All too often on the Fellowship exams that you have right now you see topics grouped together but not necessarily because they fit together. For example, Part 8 is a little bit light so we can put a new topic on Part 8, because there isn't room anywhere else. There are several advantages to breaking things up into their component pieces. One clearly is to facilitate adding and changing topics. As an example, risk theory went from Part 9 to Part 10, down then to Part 5, so that there were some people who had to take it twice because they took it on both 9 and 10. Then there were those people who missed it completely because they were on Part 6 or 7 when it moved from 9 down to 5. What this means is that as we either add new topics or phase out topics we can do it without generating any transitions for the students. There's also a real plus associated with having stand-alone topical examinations that may be of no interest to you right now, but will perhaps be of interest to you in five or ten years. That's in the area of continuing education. Continuing education has always been a concern of the Society, but we never really have known how to focus on it. The most effective means so far has been that of a seminar. I don't know about any of you, but if I have a choice between getting a particular job done and doing some research and bringing myself up to date on a particular topic, I'm generally going to do what needs to be done. If I knew that I had to take and pass an examination and had a set curriculum that I had to study, perhaps I would be a little bit better about following up on my continuing education requirements. We think that by structuring the exams in this way, not only is it going to benefit our students, but it's going to give

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our continuing education people something that they can use as education tools. It's going to serve a number of purposes that I think are really positive. It may give you the appearance that there's more exams, but I don't think you're going to find that you're studying a great deal more material. You do have the advantage of being able to group courses together as you want to do it as opposed to how the Society's E&E Committee just happened to group things together. They may have made sense for us, but they may not make sense for you. On the pension side in particular we had a real problem in the structure of the topics. We defined a series of topics and groupings of topics that made sense for a life actuary. To maintain parallelism for the group and pension tracks we followed the same structure as for the life track. Everybody learned about evaluation at the same point in time whether you were group, pension or individual. The pension community complained that we had put the topics in a very illogical order for them. It may have made a lot of sense for a life actuary, but made little sense for a pension actuary. Now the pension students can take the courses in the order that they think is really best for them.

MR. JAMES JOHN PANZA: Currently on Part 9 and Part 10, in addition to the material that's recommended to be studied, the student's also responsible for keeping on top of current affairs. How much of that is going to be under the new system? It sounds from what you're saying that there's going to be quite a bit.

MR. MCKAY: One thing Judy didn't mention is that we were co-chairman of the committee that investigated current issues and recommended that it be introduced.

We haven't gone into that much detail yet exactly what would be on each course. We've outlined what topics would be there, what material, but we haven't got to that specific area. I expect that there will be some current issues, probably at about the equivalent of the Part 9 and Part 10 level. I think it would be the 500 series exams; the ones where you're expected to be into your specialty. I don't know if it will be any more than today, but it's something. What we're trying to do with current issues is prepare students for the real world after the Society stops mailing study notes. It's to introduce you to some of the other methods of keeping current on various topics and issues.

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MR. ROBERT P. STALZER\*: Now that we have these little bitty bite-size exams coming up, some actuarial candidates are concerned over the way that their employers will be administering the examination-based salary increases in the future, and I wonder if the E&E Committee had any discussion about that, or could relate any tales from their own experience.

MS. FAUCETT: I was head of an actuarial training program with a mutual company on the west coast. Some years ago we went to examination increases that were based on the number of hours of exams passed. Now, you might think that with the new system as we're proposing it you might change it to be based on the number of units of examination that you passed with the traditional increases at the Associateship and Fellowship level. I would think that companies could do something similar to that and come up with exam increases that are basically equivalent to where they are right now. I know a lot of companies probably have a guideline that says, if you pass Part 5 you get a thousand dollar increase. Clearly companies are not going to want to give students an increase of a thousand dollars for passing each of the four sub-parts that we divided Part 5 into. But, the students would be thrilled to death with that.

In fact, let us know the names of those companies because there's some of us who would like to start taking the exams over again if, you can get that kind of raise associated with them. I think what you're going to see is a translation of the current examination structure into equivalent units to come up with consistent exam increases. I know I have not heard of any employers that see this as a mechanism to enable them to pay higher salaries to their actuaries, although that's something that they clearly would like to be able to do, recognizing their real worth.

MR. ANTHONY G. PROULX: I'm on our actuarial student committee and that is exactly what we intend to do. Unfortunately it's not that clean-cut because you always have some students that have some Fellowship exams and some Associateship exams, and it's quite complicated. In fact, salary is probably the

\* Mr. Stalzer is not a member of the Society.

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least of our worries. Our biggest worry is passing requirements for staying on the program. If you have any ideas I'm certainly open to them.

MS. FAUCETT: What's your current requirement for staying in the program?

MR. PROULX: It varies by whether you're taking Associateship exams or Fellowship exams. Currently under the Associateship exam you must pass one exam in two sittings. Actually it's better interpreted in terms of how you fail off the program, and that's two consecutive failures. With partial exams, you scratch your head a lot.

MS. FAUCETT: Have you thought about grouping it in a way that you require that they pass either 40 or 50 units of exam within every 12 month period?

MR. PROULX: Probably that's the way it will end up going. It's always been a prospective rule and it looks like now it has to be a retrospective rule. How many did you pass in the last two sittings? What happens with the Enrolled Actuarial exams? Do they fit into the pension structure or not?

MR. MCKAY: The Enrolled Actuary exams do fit in to the pension structure. The EA-2 exam is easier to deal with. It is one of the designated courses for a Fellowship. I believe we would give 20 credits for it. That's one where there's not a correspondence between the number of hours of exam you write and the number of credits you get. You write four hours of exam, but we feel it's worth only 20 credits. That's consistent with how we're doing it today because a pension actuary writes more hours for Part 7 than other actuaries. For EA-1, there's two components. There's the compound interest piece and there's the actuarial mathematics. If you pass EA-1, you do not have to write the compound interest Associateship exam. For example, I could take course 140 (compound interest) and you could pass course 140 to get credit for compound interest, or we would give you credit if you got EA-1. You wouldn't have to write compound interest twice. The second segment of EA-1 is again one of the Fellowship pension exams for which you get credit. That's one of the areas where things can get a little awkward because we then have to create exams that are similar for Canadian pension actuaries.

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MR. PROULX: I've always had a little personal difficulty with the idea of specialty topics on Fellowship exams. I guess I see the need for them. However, when I took the exams I took all the group specialty, and I'm now in the individual health area. Those exams are not particularly helpful to me now. Did you address that issue at all when you were designing the courses?

MS. FAUCETT: I don't know that you could say that we resolved that particular issue, but certainly it was one that we discussed a great deal. A Fellow who has been in the group area and suddenly is transferred into individual or in investments might, with the new structure, find it easier to go back and pick up some of the exams in his new area to provide the education and background that he's looking for. We also addressed the concern of what happens to the student who starts out in, for example, the pension area. He's there for the first couple of years that he's writing Fellowship examinations and then, say, at the equivalent of the current Part 9 or Part 10 level he's suddenly transferred into the life area. We didn't think there was a whole lot that we could do about that just as there isn't under the current system. We think that our structure of requiring 130 units from your specialty and 50 units of free electives gives you a fair amount of flexibility, so that if you've been on the group side where you've got a number of credits built up and you're transferred into the individual side, you can start using up your 50 free electives on the individual topics that give you some of the background that you're going to need without having to go all the way back and redeclare yourself in the individual specialty. We've got some degree of flexibility there. It may not be quite as much as we need to deal with all of the specialty switching which we've been seeing in recent years, but we think it's a little bit more flexibility than we have given our students, or our experienced near-FSAs, in the past.

MR. MCKAY: I have a couple of points on that from two perspectives. I'm a Canadian pension actuary when I'm not working on E&E. The Canadian Institute of Actuaries has similar views that you've expressed. They are concerned about specialization. They don't want actuaries to be overly specialized. They want somebody with the FCIA designation to have a broad actuarial background and be able to work in actuarial matters in all their areas, not only pension, but life. I think we're even talking about casualty requirements for Canadian



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actuaries. There may, in fact, be a special Canadian track. The particular tracks we've identified may be too specialized for people interested in getting their Canadian designation.

MR. PANZA: In line with what we've been talking about, do you foresee in the future, maybe in 5-10 years, any danger that someone who is a Fellow is working in one area and who gets transferred would be required to go back and take the exams again because they're in a different part of the company?

MS. FAUCETT: Certainly we're seeing a real concern about continuing education because our profession is changing so rapidly. I think that we as a profession need to be addressing continuing education and doing something about it ourselves, or our clients/regulators will be doing those things for us. I think we need to give the appearance that we're keeping our own shop in order. Now whether that's going to be mandated examinations or whether there are other ways to go about doing it, who knows? The question you raised is a very good one. If our profession continues to evolve as rapidly as it has in the past, we're going to need to provide more in the way of continuing education to our experienced FSAs than we have in the past. Most of you are probably aware that probably three-fourths of the activities within the Society goes to support the E&E structure for students. I think that we should have as much commitment to the ongoing E&E requirements of our FSAs.

MR. ROBERT J. SHLIFER: I'm sure you've probably been asked a number of times what the appropriate strategy should be for taking exams with the smaller pieces. Presumably people will be better prepared for the smaller pieces and it's conceivable that someone who now gets a 6 on a five-hour exam might actually fail two or three pieces because of the distribution of points. It may even take a person longer to get their Associateship or Fellowship with the emphasis on the smaller pieces. People may want to only take one piece or two pieces instead of taking three or four pieces. What should I tell the students in our company as far as strategy is concerned?

MR. MCKAY: We wish we knew what the strategy is going to be so we could analyze the results. Part of what we're trying to figure out is how to set pass marks under FES, and to some extent how the performance of students may

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change because of it. Some students may be slowed down a little. A student who gets through every exam with a 6 will undoubtedly miss some of the components and it would take a little longer. That is deliberate. Today that student gets through by knowing something pretty well and some things not very well, and the pluses outweigh the minuses. The other -- the corresponding student who is slowed down because he continually gets a 5, is going to move through quite a bit quicker. Let's say you get a 5 on Part 5. Under FES you may have passed two or three of those pieces. I think it works both ways. Students who are moving through quickly today may move through more quickly because they may be able to write six hours of exam instead of four or five and still get through. I think the strategy depends on how much you study and how comfortable you are with the material. There's certainly no intent to slow people down. One of the reasons for looking at Flexible Education System and Flexible Education Methods is to make the profession more attractive to kids coming out of university. One of the aspects that's unattractive today is it can take eight or nine years on average to get through. We're not trying to slow things down at all.

MR. SHLIFER: You did indicate that the exams would be graded independently.

MR. MCKAY: That's correct. They will be independent. We're also recognizing that if people are writing fewer hours in the future than they are today that people will tend to be performing better and therefore we would expect to see improved results. In other words, we wouldn't continue to just pass, say, 35% for an exam if in fact people know that material better.

MR. RONALD I. BECKER: At a local actuarial club workshop we had last year, this topic was being discussed and one of the issues that came up was there was a proposal to be a livelihood or a certain duration of time associated with each part, such as seven years. If you don't get your designation within that time, that part would fall by the wayside. Has that passed, or is that still a viable issue?

MS. FAUCETT: Not only is it viable, but it's in the 1987 catalog for the ASA exams, and I will try to explain it by giving a series of examples. If you have difficulty following this you may understand why it takes six pages of

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rules and examples to explain it in the ASA catalog for the Series 100 or the ASA examinations. We're going to publish a new catalog whether or not the catalog changes. There will be a 1987 catalog. There will be a 1988 catalog, and the 1988 catalog may be identical in every way to the 1987 catalog. Each catalog has a vitality of six years. The 1987 catalog is valid six years; it will be good through 1992. The 1988 catalog will be valid through 1993. Courses are valid for ten years. Let's look at course 100. Let's say you got credit for calculus and linear algebra, course 100. That's a course that changes minimally over time. Somebody starts writing their examination in 1987. The 1987 catalog expires because the six years are up, but Course 100 has been included on all of the subsequent catalogs so that course still is valid to give credit towards the ASA designation. It's only when the 10 years are up that we would look at it to determine whether or not that course could still provide credit toward the ASA designation. The important thing to keep in mind is that on courses we have the right to expire credit at the end of 10 years, but unlike the catalogs, credit does not automatically expire. If we look at a particular course and determine that the content has not changed a great deal over that 10-year period, then we would probably continue to provide credit for the course for the designation. Now that would be more typical at the ASA examination level. It might be difficult, for example, to imagine how drastically calculus would change over a 10-year period so that we would no longer want to provide credit for the equivalent of our current Part 1. I think it's more appropriate to look at the impact at the Fellowship level and a topic such as pension regulation, which can change substantially in a 10-year period. For something like that, if the course content has changed a great deal, the credit probably would expire and we would want the students to retake that course in order to meet their Fellowship requirements. That is they need to recertify themselves on the current requirement for a pension actuary or a life actuary rather than doing it, shall we say, on perhaps out-of-date requirements. Vitality, both for a catalog and a particular course, is still a viable issue. *It provides for lengthy and interesting reading in the Series 100 catalog, and I would encourage all of you to study it. We are actually thinking about having a 10-unit examination at the Fellowship level just to see whether or not people understand how the new syllabus is structured and what all of the requirements are. It would count as one of the free electives that you have available. If you pass it you're eligible to become a general*

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chairman of the E&E committee. If you don't pass it, it means that you fit into our exam writing process and are a good candidate to join an exam committee.

MR. BRESLIN: Have you given any thought as to how you're going to split up Fellowship exams between May and November?

MS. FAUCETT: Yes, we have taken a stab at that. You might be interested to know that it was a well recognized actuarial technique that we used in putting it together: 401, May exam; 402, November exam. There was an attempt made when we put together the tracks to make sure that there was a good distribution between the credits and courses available in May and November and we tried to put things into a logical sequence. It's always hard to know whether you should start your preliminary required courses in May or November. When are students really going to come into the Fellowship cycle? We have done an assignment of the exam session so that we can focus our education efforts in getting all the study notes written in the right order. We will address what's needed for the May exam first and then get on to the November examination. We recognize that a student may want to write some exams at the same time. Say the 300 level exam would be basic techniques of actuarial valuation for the pension actuary, and the 400 exam would be advanced techniques. They may be studied from the same textbook. You study the first five chapters for the 300 level exam, and the last five for the second exam. Those two exams would be offered at the same time or the same season so that you could study them simultaneously. Students run into problems today where part of a topic is on Part 7 and the rest is on Part 9 or Part 10. Not a lot of people want to write two of today's Fellowship exams at the same time. Where it is a logical combination we've tried to incorporate it into our structure.

MS. FAUCETT: Our initial plan is to offer courses as often as they are offered right now. For example, a life contingencies course will be offered twice during 1987. It's not going to be cut back to one. Nor will it be expanded any. At the FSA level each course would be offered at least once during the calendar year. One of the things that we're going to be looking at is whether we can deal with more frequent examinations of the more key topics. We really feel that all we can support is to parallel what we do presently.

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Perhaps staggering the points in time in which we offer examinations instead of only offering exams in May and November will help. In 1987, there will be an additional February administration of Part 1. Later on, maybe we'll offer examinations in August, or perhaps in March.

MR. BRESLIN: Is there any thought being given to having computer science either as an elective or a stand-alone or a Fellowship track?

MR. MCKAY: There are certainly some people who feel that that's appropriate. I think there have been a number of discussions about what kind of education an actuary should have. The approach we're taking is to isolate those things that are unique to our profession and educate and examine people on that. I think no matter how hard we try and how much money we spend we probably wouldn't do very well at educating people in computer science. There's a lot of other institutions and organizations that do a much better job. I think similarly there's been a lot of talk about management techniques as part of the Fellowship syllabus. Again, there are better ways of getting that kind of education than SOA exams. Anybody who's taken exams recently realizes how heavy the material is. A practical consideration is where you could put these topics. You either double the materials somebody has to study or chop something out, and that's not appropriate to do. We recognize that actuaries need to understand computers and how to use them, but we expect them to pick that up either on the job or through other educational means.

MR. JAMES D. BROCK: I have two questions. One, in talking about frequency of exams, the CLU people have gone to a process where they permit exams on request through a computer terminal. This seems like an appropriate option for our students, at least up through, say, Part 4. Could we look forward to that in the near future? My second question is, are you going to change the nature of the exams? Do you expect them to be any more in-depth? If I were taking the exams do I really have to worry that they are going to be harder to pass? Or would it really be effectively like taking Part 3 today?

MR. MCKAY: It should be like taking Part 3 today. We're not looking to change the nature of the exams. The people who are putting those three exams together for May 1987 are the people who put the Part 3 exam together for

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November 1986. It's the same committee and the same method of putting exams together. There is no intent to change the level of difficulty of the exam.

A couple of things are happening coincident with the move to FES but they shouldn't make exams more difficult or easier. It may change how you study for Part 4. The life contingencies section of Part 4 is four hours of multiple choice questions. We're going to increase the length to 4-1/2 hours. We're not increasing the length of the reading, so there should be no extra studying required. There will be a three-hour morning paper, all multiple choice with the same type of questions that we're having today. The afternoon will be a 1-1/2 hour written-answer exam. So instead of having A,B,C,D, or E, as answers (like you tend not to get in the real world), you'll have a problem and be asked to develop a solution to it.

The reason for doing that is that the new textbook lends itself to getting into some problems in more depth which you cannot do with multiple choice questions. And there's some nifty statistical techniques and actuarial techniques that we think students should be learning. The purpose is not to make the exam harder or easier. It changes how students demonstrate their knowledge of a topic. We will be publishing a study note with some sample written-answer questions so that students have an idea of what the questions will be like.

As for your first question, people seem to be pretty good at digging up our history. When I wasn't chairing that other committee with Judy, I chaired a committee on computerized exam-taking. The system that's used by a number of bodies is called Plato. It's owned by Control Data. What you do is you sign up for an exam and send in your money. They tell you that in three weeks appear at 9:00 a.m. at a particular location. You sit in front of a computer terminal. The computer randomly selects an exam for you out of 1,000 or so questions. At the end of the exam, you push a button, the computer thinks for 10 seconds and tells you the good news or the bad news. That is very, very attractive to us, particularly on the lower level exams, to attract people who don't know about the profession. They finish their final year at university; or, it's February of their final year at university and they meet with some recruiters on campus from an insurance company. The recruiter says you'd

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probably be a good actuarial candidate, but show me you can pass Courses 100 or 110. Today that student has first to find out where Itasca is.

MR. BROCK: Then, they have to write an exam in May and get the results in July. By then the company may have hired somebody else. The expectation with Plato would be that you could get the results within three or four weeks of signing up. In practice it will be very, very expensive. There's a lot of people out there writing CLU exams. The exam costs got to be pretty high when we looked at what it would cost per candidate. The higher the costs got, the more people who would just write it the old-fashioned way on paper, and the higher the costs would get for the remaining people who wanted or needed to use Plato. Also, we weren't convinced that the type of exams we offer lend themselves to a computer exam. Calculation intensive exams may not be done easily via terminal. I think the thing that really killed it was the expense. We still have a concern about the students suddenly learning about the profession. We want to attract them if they are good students. That's the main reason we went to this February offering of Part 1. We'll probably extend it to Part 2 if it's successful to give students the opportunity to get those credits at that particular point in their careers.

MS. BETTY W. MAK: You mentioned that for EA-2 you are going to give the exam 20 credits. Would that whole exam add up to 50?

MR. MCKAY: No. EA-2 is one piece of the exam. Right now EA-2 is combined with a couple of other things in Part 7 for U.S. pension students.

EA-2 exam is a four-hour exam. You pass and you get 20 credits. If you pass EA-1, you get 15 credits. That's Principles of Pension Evaluation I, which is a 2-1/2-hour exam. You also get the compound interest credits (10 credits) for the Associateship level exam. That's 25 for EA-1.

MS. MAK: So for 6-1/2 hours of exam you get less than 50 credits?

MR. MCKAY: People who aren't taking the pension track write five hours of exam and get one Society credit -- Part 7. It's felt that one hour of EA exam

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is not equivalent in value in terms of preparation to one hour of traditional SOA exam.

MS. MAK: So for pension students, one of the other four exams will have more than 50 credits.

MR. MCKAY: In terms of giving credits for how many exams you have, nobody's going to lose any credits. Let's say that I'm a pension actuary and I have one exam to go. I've passed everything except Part 10, so I'm 50 credits short in the new system. I would be given at least 200 credits. Nobody's going to find themselves having to write proportionately more than they used to under the old system. If we make any mistakes, it would be on the side of being liberal by giving extra credits.

MS. MAK: For getting the Fellowship will you require Associateship plus 250 Fellowship credits? Or would you require 500 credits from all the exams that you have taken?

MR. MCKAY: We would require Associateship which is equivalent today to completing Series 100.

Now we have courses defined as electives and requirements. When you add the bits up you have to take all the electives to the ASA designation. There may be additional exams added as we identify topics in the future. I don't think it's impossible that we may allow you to take one or two of those Associateship courses that you didn't take when you were becoming an ASA and fulfill your Fellowship electives, but that's a few years away.

MS. MAK: You say you want to set a time period for getting the Associateship. When you apply for a Fellowship, will that timeframe go back to the day you started taking the Associateship exams, or will it go back to the day you start taking the Fellowship exams?

MS. FAUCETT: Once you attain your Associateship, it cannot be taken away from you. The vitality clock for the Associateship designation starts when you take or receive credit for your first ASA exam. The vitality clock for your



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FSA designation begins when you pass your first Fellowship examination. The only time that you could start running into difficulty is if you decide to take Courses 100 and 250 concurrently, so that you're writing Fellowship and Associateship examinations simultaneously.

The time period to achieve your FSA designation does not begin when you start writing Course 100. It starts when you write Course 200.

MS. MAK: If someone passed the EA exam three years ago, will you go back to the date passed, or the day you published the catalog to determine vitality?

MS. FAUCETT: As an example of what we have done, the ASA courses that were passed prior to the publication of the 1987 ASA catalog will be considered as having been earned during calendar year 1986. No one should be significantly disadvantaged by that. It's called the running start approach.

MS. MAK: Are you going to change Part 6 from May to November?

MS. FAUCETT: The exams will not look like anything that you have currently. Parts of Part 6 may be offered in May and parts of Part 6 may be offered in November.

MS. MAK: You mentioned some of the pension topics are poorly arranged. Will you explain that more fully? Also, can you recommend an order of taking these exams since they are not very well arranged?

MR. MCKAY: The problem with the pension topics is that they've been fit into the structure that's been created for life actuaries. We've had to say that pension mathematics and regulation are parallel to valuation techniques and financial reporting for a life actuary. I think another area where we run into problems is the constraints of the EA exams. We have to put certain material in Part 7 because of joint board requirements. Yet portions of the material are tested a different way on Part 9 and Part 10 in actuarial mathematics. The principles for valuation for pension actuaries are part of either Part 9 or Part 10. Regulation comes up there again. Some pension material you get tested on twice. It's not the ideal system. Here are the courses we're

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thinking of for the pension track. Principles of Pension Valuation is Course 410. That's the Canadian course. Course 411 is the same thing for Americans. That's the second part of EA-1. Then we have a social insurance course and you'd either write the Canadian or the U.S. version. We have Design of Employee Benefits. Again, either Canadian or U.S. Regulatory Environment would also be available on a nation-specific basis. The U.S. piece would be EA-2. Pension Funding Media and Investments would be a specific exam on what kind of investments make sense for pension plans. One that we're kind of excited about is Introduction to International Pension Issues. We spend so much time studying the U.S. regulations or the Canadian regulations appropriate to our day-to-day practice, and we hope this is going to allow us to sit down and consider what happens elsewhere in the world and how that may affect us. It helps us in our thought processes to expand our knowledge of what is done and what can be done. A lot of pension consultants get into other areas beyond pensions. Group benefit consulting is very common. Executive compensation consulting is something a lot of us do. Introduction to Executive Comp will be an elective course. I would find that a lot more interesting than studying about the financial reporting for the insurance companies. Pension Benefits and Disillusions and Litigations -- actuaries are being called on more and more to testify about the value of a particular scheme of payments. There are not a lot of us who know too much about that and this would give us some background on that. It's different than a typical actuarial valuation. There would be Advanced Principles of Pension Valuation. That would be some more actuarial valuation mathematics, but at an advanced level. There would be a separate exam on accounting standards, FASB or Canadian Institute of Charter Accountant Standards. That's what we're looking at and it should be more attractive to the pension actuaries than what they get today. There's certainly more pension material in there and you could probably study it in a more logical order.

Let me add one note on the Associateship exams. The Society office is preparing to send each student who is not yet an Associate a notification of exactly what credits you have earned for the Flexible Education System.

MR. WILLIAM R. ELY: I've got two questions. First of all, I was wondering if you could elaborate a little bit more on your statement that if someone is taking the existing Part 3 under FES, it would be no more difficult than it is

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currently, especially in view of the other statement you made earlier that someone passing with a 6 would find his track time slowing down, presumably due to not passing all the parts. Secondly, if indeed it turns out that track time to FSA does slow down, do you see abandoning this system or deteriorating the pass mark?

MR. MCKAY: The type of exam should not change. The types of questions being asked will not change, with the exception of Part 4. Today we say somebody who demonstrates adequate knowledge of the topics of Part 3 should pass. Under Flexible Education somebody who demonstrates a similar adequate knowledge should also pass. That may mean that people change their study techniques. I think some of them will know the material better than today. Therefore, the pass percentage would increase. There is absolutely no expectation to slow people down and we do not want it to happen. Somebody who got a 6 every time through their ASA would probably slow down a bit. We've done some analysis of what happens. That kind of student will probably change his technique. There are few students who get a 6 on all their exams. Students get some sixes and fives. That student may only pass two of the three pieces that they would have received a 6 on, but the next time they may pass two of the three pieces they would only have received a 5 on.

Marta Holmberg, who works in the Society office, has been doing a lot of analysis of what this can mean to students. Marta, am I right that for the majority of people, we don't think it will change their travel time through ASA?

DR. MARTA L. HOLMBERG: That's right.

MR. MCKAY: People who take a long time to get through the exams today could speed up a bit because they will be showing knowledge in some courses every time. Our goal is not to increase travel time. We have a number of options available to us, and I don't think that one of them is to scratch the system unless we believe the system is really not working properly or giving us the educational value that we are looking for. That's the only reason that I can see for scratching the system. Something that we might do, however, would be to reduce the number of units required since we may be requiring a higher

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standard on all of the topics. Right now on Part 6 or on Part 7 you've got a number of topics that you study. You may choose to study all of them equally. You may choose to study two or three of them and do extremely well while not demonstrating any competence in the other area. By breaking the exams up into the component pieces, we're now requiring areas as opposed to really acing one or two while not learning anything about the third. I know it worked for me. We will try to take into account the way that we have set our pass marks in the past and come up with something that gives us an equivalent pass mark, across a number of courses. A lot of it, as Bob pointed out, is going to depend upon the strategy that the students follow; whether they take exams a little bit at a time. I think clearly the strategy of acing one or two pieces of it, and sort of ignoring the third is going to fall by the wayside. Students will better distribute their time across the courses so that they meet the Level 6 standard on all of the topics instead of a 10, a 3, and a 6 on the three different topics on an examination. On the issue of what we see as far as the impact of our pass mark standards on travel time, again, it gets back to what the strategy of the students is going to be. If the strategy of the student doesn't change at all, I agree that for some students who routinely get a 6, it could take them a little bit longer to get through the exam. Instead of passing all three topics at the first sitting they're only going to pass two of the topics and they're going to have to take the third one over again. Meanwhile you have a student who perhaps has a 5 as an overall score on the exam, but who might have a 6 or better on one or two of the topics. That person is actually going to get through the exams a little bit quicker because he's not going to have to go back and retake the entire examination. The problem that I think we're going to run into is the case of students who, no matter how hard they try, are never going to be able to pass, for example, numerical methods, and the best that they can ever do on numerical methods is a 2. There's no way they're ever going to be able to offset that poor performance on numerical methods against their outstanding performance on advanced statistics or operations research.

MR. BROCK: We have some students who expect to be finishing up in May. Are you going to do some sort of transition to be sure that a student who might expect to finish up, say with Part 10 in May, is able to get two pieces of it in May, but the third piece is not available until November?

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MS. FAUCETT: As we indicated earlier, we've done some preliminary work on saying what's going to be a May exam and what's going to be a November exam. We are in the process of doing a mapping of current course credit into new course credit. Once we see how that mapping looks we will take a look at what that means to someone who would be finishing up with Part 10 in May. Does that mean that they can take half of it in May and half of it in November? Or can it all be taken in May? If on the first run through it looks like it's going to be split between the two exam administrations, is there some reasonable way we can do a flip-flop of courses such that these students will still be able to finish up with the May administration?

It may be possible that for one or two courses, we could offer them twice during the first year. We will certainly look at any reasonable alternative. We're just not far enough along in the process for me to be able to say, yes, we will definitely do that or we've looked at it, but we determined it's impossible to fix. Part of this analysis depends on whether we go May 1988. If we decide next March that we're not far enough along and that it's no go for May, then we have to decide whether or not we can make it for November. In that case, we go back to the drawing board and make sure that what we do is not going to disadvantage the student who would be getting his Fellowship with Part 9 in the November administration. Clearly, we're going to have some difficulty for the students who take exams out of order, and it's not Part 9 or Part 10 that's going to give them their Fellowship. We can't assure the student who is going to be writing Part 6, Part 7, or Part 8 for Fellowship that he is going to be able to do it in one session. You've raised a good point and we'll try to be sure that we take as much into account as we can and not disadvantage the near-FSA.

MR. PROULX: You mentioned that you hope to be sending a mailing that would in essence do a conversion process from number of exams passed to the number of course credits. When you look at the mapping right now it's very clear one for one, four for one. Will there be any surprises in there?

MS. FAUCETT: No, there won't be any surprises. We hope it just reinforces to the students that they understand the numbering system as well as they think they do.

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MR. PROULX: At one point I had read or heard that there would be some special handling of the asterisk scores. True or not true?

MS. FAUCETT: Not true. The special handling is that they will be treated as they have in the past.

MR. MCKAY: There may be one surprise in there and the asterisk made me think of it. The 1984 transition had partial exams, 4A, B and C. If the students did not make that a whole exam by the end of 1984, they lost their remaining partial exams. They're going to have a surprise in that they're going to be given those partials back. If you had credit for 4A, you will get credit for Course 140, the compound interest.

MR. PROULX: I mentioned the problems we anticipate with a student who has some Associateship exams and some Fellowship exams. Our ideal would be, beginning in January, to go strictly to a credit basis for everyone. Is there a practical rule I can apply for converting Fellowship exams?

MR. MCKAY: You could convert one hour of Fellowship exam to 10 credits. I think all the Fellowship exams are five hours except for the EA exams.

MR. PROULX: The EA exams get 45 credits under FES? When you do that conversion process for the Fellowship exams, do you anticipate that it will ever be less than 50 credits other than EA? In other words, if I have one exam will I ever get less than 50 credits?

MR. MCKAY: No. There will not be a one-to-one correspondence for everything. If you have credit for Part 9, we may not say that that's equivalent to Courses 530, 540, and 550. For some exams there will be a direct equivalence, particularly the required courses. There may be 10 or 20 credits that are not directly tied into one of the Fellowship exams. What we would say is you have 20 elective credits. We wouldn't say what course it was, but you would get the credit.

MS. FAUCETT: I don't know any easy way to think about it, but it may be helpful to tell your students that if you have two exams to go for Fellowship

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you're never going to need more than 100 units of credit. The mapping will be such that you never need more than 100 units of credit to get your Fellowship under the new system if you only need two parts. It may turn out that you need less than 100, but you will never need more.

MS. MAK: What about the student who has credit for Part 7 because he's passed the EA exams? I thought that was only 45 credits.

MS. FAUCETT: If somebody has passed Part 6 and then EA-1 and EA-2 to get full Part 7 credit, he will not have more than 150 units required to get his Fellowship designation. That may be the same as saying that you're going to get 50 units of credit on Part 7. What we're going to do is insure that somebody who has two exams isn't going to need more than 150 units of credit to get his Fellowship designation. I think that's really more appropriate than trying to say that I'm going to get 50 units for this exam and 50 units for that exam.

MS. DONNA R. CLAIRE: Because you're going to a 4-1/2-hour exam for life contingencies, will the compound interest be given on a different day?

MR. MCKAY: No. It will be given the same day. I don't think the logistics are going to be a real problem. It is going to be a 1-1/2-hour exam. A one hour exam for compound interest turns out to be only ten or twelve questions. The book's not going to be increased in length. You still have to study the same, but a 1-1/2-hour exam seemed to be fairer to everybody. There will be three hours in the morning for contingencies, then break for lunch and a beer. You'll come back for 1-1/2 hours of longer answer contingencies, and then there will be another break of 30-45 minutes. Then it's 3:30 to 5:00 for compound interest.

Long-term people may not write compound interest and life contingencies at the same time. The more logical combination would be risk theory and life contingencies. They're from the same book.

MS. CLAIRE: Will there ever be a time when two of these courses are offered simultaneously just in case people come up with weird exam combinations?

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MR. MCKAY: Right now you could write all the ASA exams if you really wanted to. Do we still have that 14-hour rule?

MS. FAUCETT: I believe that we have the 14-hour rule, but it can be waived if you could demonstrate that the reason you want to write more than 14 hours is other than sheer insanity.

MS. CLAIRE: Other than the old Part 4, are there any changes in the number of hours of exam at the Associateship level?

MR. MCKAY: No. That's the only change.

MS. CLAIRE: Other than the change you've mentioned, 10 units equals one hour?

MR. MCKAY: Yes.

MS. CLAIRE: One last question: What will the shortest exam be? Will you go down to one hour exams?

MR. MCKAY: Yes. Numerical methods, construction and graduation would each be one-hour, 10 credit courses. In the Fellowship syllabus we're also looking at it. There will definitely be some one hour, ten credit courses. For instance, the International Pension Issues is designed to be a one-hour exam.

MS. FAUCETT: Our intent is to keep the membership apprised of what we're doing relative to the Fellowship examinations. We look forward to hearing your comments.