SOCIETY OF ACTUARIES
Retirement Benefits Canada – Company/Sponsor Perspective

Exam CSP-RC

AFTERNOON SESSION

Date: Friday, April 29, 2011
Time: 1:30 p.m. – 4:45 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This afternoon session consists of 6 questions numbered 9 through 14 for a total of 60 points. The points for each question are indicated at the beginning of the question. Questions 9-10 pertain to the Case Study, which is enclosed inside the front cover of this exam booklet.
2. Failure to stop writing after time is called will result in the disqualification of your answers or further disciplinary action.
3. While every attempt is made to avoid defective questions, sometimes they do occur. If you believe a question is defective, the supervisor or proctor cannot give you any guidance beyond the instructions on the exam booklet.

Written-Answer Instructions

1. Write your candidate number at the top of each sheet. Your name must not appear.
2. Write on only one side of a sheet. Start each question on a fresh sheet. On each sheet, write the number of the question that you are answering. Do not answer more than one question on a single sheet.
3. The answer should be confined to the question as set.
4. When you are asked to calculate, show all your work including any applicable formulas.
5. When you finish, insert all your written-answer sheets into the Essay Answer Envelope. Be sure to hand in all your answer sheets since they cannot be accepted later. Seal the envelope and write your candidate number in the space provided on the outside of the envelope. Check the appropriate box to indicate morning or afternoon session for Exam CSP-RC.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

Tournez le cahier d'examen pour la version française.

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CASE STUDY INSTRUCTIONS

The case study will be used as a basis for some examination questions. Be sure to answer the question asked by referring to the case study. For example, when asked for advantages of a particular plan design to a company referenced in the case study, your response should be limited to that company. Other advantages should not be listed, as they are extraneous to the question and will result in no additional credit. Further, if they conflict with the applicable advantages, no credit will be given.

****BEGINNING OF EXAMINATION****
Afternoon Session
Beginning with question 9

Questions 9 – 10 pertain to the Case Study.

9. (*8 points*) The CEO of NOC has received a proposal from a multiemployer plan covering individuals who work in the oil industry. The multiemployer plan offers the same provisions and benefits as the National Oil Full-Time Hourly Union Pension Plan but for 75% of NOC's current expected employer contribution for the upcoming year.

(a) (*4 points*) As NOC's consulting actuary, describe the considerations that NOC should address when assessing the contribution levels of these two plans.

(b) (*4 points*) Assuming that NOC chooses to join the multiemployer plan, assess the risks to NOC and additional considerations that should be taken into account when making this decision.

Questions 9 – 10 pertain to the Case Study.

10. (*12 points*) NOC introduced the following changes to the National Oil Full-Time Salaried and Union Retiree Health Benefit Program on July 1, 2010:

Change 1:

- NOC terminates 1,250 active employees who had an obligation of $100,000,000 and annual service cost of $8,000,000. No one from this group is currently eligible for immediate retirement.
- As a result of this change, assume the expected remaining service life to full eligibility age and the expected remaining service life to retirement are both reduced by 25%.

Change 2:

- For all other employees, spousal coverage will be eliminated for any employees who retire after July 1, 2010.
- Decreases the plan's remaining obligation as of July 1, 2010 by 20%.
- Decreases the plan's remaining annual service cost by 40%.
- Expected benefit payments remain unchanged.

Assume the following:

- Change 1 will be accounted for first;
- the discount rate is unchanged from the rate as at January 1, 2010;
- retirement incidence is not expected to change as a result of Change 2;
- there is no other source of actuarial gains or losses since January 1, 2010; and
- the demographics of the active members remained unchanged from January 1, 2010.

Determine NOC's 2010 accounting expense under CICA 3461 including the effects of the plan changes. Show all work.

11. (*10 points*) The CFO of ABC Company wishes to adopt an asset allocation policy, including an asset allocation policy for its defined benefit pension plan, which maximizes shareholders' value. Shareholders who have a combined $20 billion invested in their individual portfolios own the company. Pension investments are transparent to shareholders and they rebalance their portfolios to maintain a 50% Equity / 50% Fixed Income mix. The shareholders have determined that their current total after-tax income, using the Augmented Balance Sheet approach, is $910 million.

ABC is considering a new investment policy for the defined benefit pension plan which it sponsors.

New Policy: 80% of the plan assets in equity investments, 20% of the plan assets in fixed income investments.

You are given the following data and assumptions:

- Pension plan assets: $3.0 billion
- Gross investment return assumptions:
  - ⇒ Equity investments: 7% per annum
  - ⇒ Fixed income investments: 4% per annum
- Corporate income tax rate: 30%
- Individual tax rates on investment income:
  - ⇒ Equity investments: 10% per annum
  - ⇒ Fixed income investments: 30% per annum

Changes in shareholders' equity, including returns on plan assets, flow through to investors and are taxed at 10%.

Using the Augmented Balance Sheet approach, calculate the total after-tax income for the new policy and make a recommendation whether the proposed policy supports the CFO's goal. Show all work.

12. (*10 points*) You are the consulting actuary for an Ontario registered non-contributory defined benefit pension plan sponsored by ABC Company and established in 1995. The plan has members in Ontario and Quebec.

You are given the following information about ABC Company's pension plan:

- Benefits are calculated as 2% of final average earnings multiplied by credited service
- All pension benefits are subject to annual post-retirement cost-of-living-adjustments in the amount of 100% of the Consumer Price Index
- The normal retirement age is 65; members may retire as early as age 55 with an actuarially reduced pension
- The normal form of pension payment is life only for single members and a joint and survivor 60% pension for married members
- The plan does not allow for commuted value transfers for members who are retirement eligible
- The transfer ratio in the last filed actuarial valuation report is 0.50

ABC Company has asked you to assist them in developing an administration policy addressing the transfer of commuted values on termination from the pension plan in accordance with Section 3500 – Pension Commuted Values of the Canadian Actuarial Standards of Practice (the "CIA Standard").

(a) (*7 points*) Describe the plan provisions, assumptions and methods that ABC Company needs to consider when determining commuted values in accordance with the CIA Standard.

(b) (*3 points*) Assess the risks that the members are exposed to as a result of the future transfer of the commuted value of pension benefits from the plan.

13. (*10 points*) ABC, a publicly accountable enterprise, sponsors an unfunded retiree medical plan that was amended for the first time on January 1, 2008.

You are given the following in respect of the amendment as at January 1, 2008:

- before the plan amendment, the accrued benefit obligation (ABO) was $100,000,000 and there was no unamortized prior service cost;
- the amendment increased the ABO of the active members by $15,000,000, as follows:

As at January 1, 2008	Vested active members	Non-vested active members	Total active members
Expected Average Remaining Service Life ("EARSL")	3	21	17
EARSL to Full Eligibility	0	15	10
Increase in ABO	$5,000,000	$10,000,000	$15,000,000

You are given the following as at January 1, 2010:

- the ABO of the plan is $96,000,000;
- the appropriate discount rate is 4.5% per annum;
- the current service cost is $5,000,000; and
- the actual benefit payments for 2010 are $2,000,000.

Effective for the fiscal year beginning January 1, 2011 and ending December 31, 2011, ABC will report financial results under IFRS for the first time. ABC immediately recognized all previously unrecognized gains and losses at the transition date and has elected to immediately recognize future gains or losses in Other Comprehensive Income.

For the purposes of this question, ignore any tax adjustments.

(a) (*3 points*) Determine the impact of the unamortized past service costs on ABC's Retained Earnings as at the transition date to IFRS. Show all work.

(b) (*4 points*) Explain how your answer in (a) would differ in each of the following independent situations:

(i) an event triggering settlement accounting occurred at December 31, 2009 under the plan; or

(ii) an event triggering curtailment accounting occurred at December 31, 2009 under the plan.

(c) (*3 points*) Determine the 2010 expense under IFRS/IAS19. Show all work.

14. (*10 points*) XYZ Co. sponsors an Ontario registered non-contributory defined benefit pension plan for its salaried employees. XYZ Co. is considering implementing one of the following two options for this plan effective January 1, 2012:

- Option #1: Full plan wind up; or
- Option #2: Freeze the defined benefit accruals under the plan (both service and salary) and implement a defined contribution pension plan for future service.

The plan will be fully funded on the wind-up basis as at January 1, 2012.

(a) (*5 points*) Describe the process for winding-up an Ontario registered pension plan.

(b) (*5 points*) Compare and contrast the risks that XYZ Co. is exposed to under both options.

****END OF EXAMINATION****
Afternoon Session

USE THIS PAGE FOR YOUR SCRATCH WORK

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