SOCIETY OF ACTUARIES
Retirement Benefits United States – Company/Sponsor Perspective

Exam CSP-RU

Date: Friday, April 30, 2010
Time: 8:30 a.m. – 1:15 p.m.

INSTRUCTIONS TO CANDIDATES

General Instructions

1. This examination has a total of 90 points.

   This exam consists of 10 questions, numbered 1 through 10.

   The points for each question are indicated at the beginning of the question. Questions 1, 3, 4, 6, and 8 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 Exam CSP-RU.

6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.

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Printed in the U.S.A.

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
Retirement Benefits United States – Company/Sponsor Perspective

Question 1 pertains to the Case Study.
Each question should be answered independently.

1. (*11 points*) NOC has amended the National Oil Full-Time Salaried Pension Plan (Salaried Plan) to freeze Best Average Earnings and service as of January 1, 2010.

The National Oil Full-Time Salaried Supplemental Retirement Plan (SRP) was amended to provide an accrued benefit equal to:

(i) the accrued benefit under the provisions of the Salaried Plan prior to the amendment without regard to the tax system maximums

less

(ii) the frozen accrued benefit under the Salaried Plan.

Members whose benefits were less than the tax system maximums as at January 1, 2010 will have no SRP entitlement.

You are given the following information:

	Salaried Plan (in 000's)	**SRP (in 000's)**
Projected Benefit Obligation as of January 1, 2010	$1,297,000	$46,000
Projected Benefit Obligation as of January 1, 2010 after the Salaried Plan freeze	$907,900	$56,000
Service cost as of January 1, 2010 after the Salaried Plan freeze	N/A	$1,374
Market value of assets as of January 1, 2010	$969,200	N/A
Contributions for 2010	$0	N/A
Benefit payments for 2010	$28,000	$300
Average future working lifetime as of January 1, 2010	N/A	5.90
Discount rate for 2010 accounting expense	5.50%	5.50%
Expected Return on Assets for 2010 accounting expense	7.00%	N/A

Contributions and benefit payments are assumed to be made mid-year.

Calculate NOC's 2010 accounting expense for both the Salaried Plan and the SRP. Show all work.

2. (*6 points*) Describe how investment and longevity risk are shared between the plan sponsor and the plan members of the following plan structures:

(i) Cash balance with shared investment risk

(ii) DC design with shared investment risk

Questions 3 – 4 pertain to the Case Study. Each question should be independently.

3. (*11 points*) Vosne has amended legislation to allow companies to pre-fund post-retirement medical benefit liabilities in the same way the ERPs are currently funded. As a consequence, NOC decided to fund the National Oil Full-Time Salaried and Union Retiree Health Benefit Program and has allocated $500,000,000 to initially fund a buyout program. Any of this allocation not used for the buyout program will be used to fund the ongoing plan.

Effective on January 1, 2009, NOC offers a $300,000 lump sum payment to retirement-eligible members who elect to opt out of the plan.

You are given the following:

- 600 members accepted the offer.
- As a result of the buyout acceptances, expected benefit payments for 2009 will be reduced by $10,000,000.
- The APBO in respect of the members accepting the offer was $240,000,000 as of January 1, 2009.
- The Expected Return on Assets assumption is 6% per annum.
- The AFS after the buyout program increased to 17 years.

Determine the 2009 expense, including the effects of the buyout program.

Questions 3 – 4 pertain to the Case Study. Each question should be independently.

4. (*11 points*) XYZ Company is considering the purchase of a portion of NOC's operations. As a result of the proposed purchase, all active members of the National Oil Full-Time Salaried Pension Plan (NOC Salaried Plan) who are in the affected part of the business will be transferred to an existing defined benefit pension plan sponsored by XYZ.

The proposed purchase agreement states that:

- assets equal to NOC's Projected Benefit Obligations, based on NOC's assumptions, will be transferred to the XYZ plan
- the XYZ plan will assume the obligations for past service that had been earned under the NOC Salaried Plan

The following table summarizes XYZ's funding and accounting assumptions as of January 1, 2009:

	Funding	Accounting
Discount Rate	5.0%	5.5%
Expected Return on Assets	5.0%	6.5%
Salary Increases	4.25%	4.25%
Mortality Table	UP94	UP94
Termination	Service-related scale based on most recent plan experience	Service-related scale based on most recent plan experience
Retirement	Age-related scale based on most recent plan experience	Age-related scale based on most recent plan experience

The CEO of XYZ has asked you to prepare a report addressing the pension accounting, funding, and investment issues that XYZ should consider in reviewing this proposed purchase. Outline your response.

5. (*10 points*) In the country of Chambolle, defined benefit pension plan sponsors are currently required to adhere to the following pension funding rules:

Minimum required annual contribution:

- Normal cost, plus
- Amortization of unfunded liability over five years.

Maximum allowable contribution:

- Normal cost, plus
- Unfunded liability.

Chambolle's pension regulator is considering revising its pension funding rules to allow the unfunded liability to be amortized over fifteen years. The regulator is proposing no change to the maximum allowable contribution.

Evaluate the regulator's proposed changes from the perspective of:

(i) Plan sponsors

(ii) Plan members

(iii) Government / society

Question 6 pertains to the Case Study.
Each question should be answered independently.

6. (*11 points*) NOC has recently made a contribution to fully fund the National Oil Full-Time Salaried Pension Plan on a projected benefit obligation basis. The Treasurer proposes revising the current investment strategy to reduce the plan's interest rate risk to the extent possible.

(a) (*7 points*) Evaluate the Treasurer's proposal.

(b) (*4 points*) Describe alternative investment approaches for implementing the Treasurer's goal.

7. (*8 points*)

(a) (*5 points*) Your client wishes to explore the options available for stock-based compensation. Describe the characteristics of:

(i) stock purchase plans

(ii) incentive stock options

(iii) phantom stock plans

(b) (*3 points*) Describe the risks that employees could face from participating in each of these types of plans.

Question 8 pertains to the Case Study.
Each question should be answered independently.

8. (*7 points*) NOC is considering funding the National Oil Full-Time Salaried Supplemental Retirement Plan (SRP).

(a) (*4 points*) Describe the advantages and the disadvantages associated with funding the SRP from the perspective of NOC and the SRP members.

(b) (*3 points*) Describe four types of vehicles available for securing the SRP benefits. Assume that the funding vehicles available in the United States are also available in Vosne.

9. (*7 points*) You are the actuary for the XYZ defined benefit pension plan. XYZ's CFO has suggested that she would like to pursue an active bond mandate with a portion of the current domestic fixed income allocation.

(a) (*4 points*) Describe the major sources of risk faced by actively-managed fixed income portfolios.

(b) (*3 points*) Describe the key considerations and best practices for XYZ to follow while conducting the search for an active bond manager.

10. (*8 points*) The CFO of XYZ suggests that the company's defined benefit pension liabilities have a well-defined market-value that can be determined.

Outline supporting and opposing arguments for this statement.

****END OF EXAMINATION****