

---

**SOCIETY OF ACTUARIES**  
**Design & Accounting Exam – U.S.**

**Exam RETDAU**

**AFTERNOON SESSION**

**Date:** Thursday, October 30, 2014

**Time:** 1:30 p.m. – 3:45 p.m.

---

**INSTRUCTIONS TO CANDIDATES**

**General Instructions**

1. This afternoon session consists of 7 questions numbered 8 through 14 for a total of 40 points. The points for each question are indicated at the beginning of the question. Questions 13 and 14 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 because 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 RETDAU.
6. Be sure your written-answer envelope is signed because if it is not, your examination will not be graded.



## **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 8***

- 8.** (5 points) XYZ is considering terminating its cash balance plan and replacing it with one of the following options.
- (i) Defined contribution pension plan
  - (ii) Variable defined benefit pension plan
  - (iii) One-time salary increase

Describe the advantages and disadvantages of each option from the perspectives of both the employees and the employer.

- 9.** (3 points) Describe three ways in which members of a defined contribution plan may convert their account balance into a lifetime income payment stream at retirement.

- 10.** (12 points) XYZ Company has extra cash and is trying to decide the best use for this money. XYZ sponsors a qualified defined benefit pension plan that is underfunded. XYZ also sponsors a non-qualified pension plan (SERP) which pays benefits above the U.S. tax limits.

XYZ is considering the following options:

- Option 1: Make a large lump sum contribution to the qualified pension plan
- Option 2: Pay a one-time payroll bonus that would be immediately taxable to the employees
- Option 3: Fund the SERP arrangement

Discuss the advantages and disadvantages of each of these options from the perspectives of the following stakeholders:

- (i) Active employees
- (ii) Inactive members of both plans
- (iii) Shareholders
- (iv) XYZ

- 11.** (4 points) An executive is a participant in a non-qualified pension plan established in 2008. Within 30 days of entering the plan in 2008, she elected a commencement date of October 1, 2014, payable as a single life annuity, and became vested in her benefit.

On July 1, 2014, the executive changed her election to a 100% lump sum payment, but kept the same commencement date.

- (a) (1 point) Describe the potential violations of IRC Section 409A.
- (b) (2 points) Describe the implications to the executive of the violations in part (a).
- (c) (1 point) Describe the restrictions on funding a non-qualified plan subject to IRC Section 409A.

- 12.** (5 points) A U.S. corporation implements a defined benefit pension plan that provides an unreduced benefit of 1% of final average salary per year of service payable at normal retirement age (65), indexed annually in line with the Consumer Price Index.

Assess the benefit adequacy of this plan given the availability of government programs.

***Question 13 pertains to the Case Study.***

- 13.** (5 points) You are the consulting actuary for U.S.-based ABC. ABC acquires XYZ through an asset purchase. Both companies sponsor qualified defined benefit pension plans and non-qualified pension plans similar to those of NOC.
- (a) (2 points) Describe the objectives of the due diligence stage in the merger, as they pertain to the benefits and compensation programs only.
  - (b) (3 points) Describe the integration issues that ABC should consider as they pertain to the benefits and compensation programs only.

***Question 14 pertains to the Case Study.***

**14.** (6 points) NOC has the following workforce management objectives:

- Control costs
- Attract young employees
- Retain experienced employees

Recommend design changes to the NOC Full-Time Hourly Union Pension Plan that will help them achieve the above objectives while maintaining a defined benefit component.

Justify your response.

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

**USE THIS PAGE FOR YOUR SCRATCH WORK**



**USE THIS PAGE FOR YOUR SCRATCH WORK**

**USE THIS PAGE FOR YOUR SCRATCH WORK**