

# **INSTITUTE AND FACULTY OF ACTUARIES**

## **EXAMINERS' REPORT**

### **Subject CA3 - Communications (Written Paper) August 2016**

#### **Scenario: Paper for Rectification Team**

#### **Introduction**

The Examiners' Report is written by the Principal Examiner with the aim of helping candidates, both those who are sitting the examination for the first time and using past papers as a revision aid and also those who have previously failed the subject.

The Examiners are charged by Council with examining the published syllabus. For the CA3 communications examination the examination is designed to examine the communication of an "actuarial" concept to a non actuarial audience. Sufficient technical detail on the scenario is provided in the question so that candidates from all backgrounds are able to answer the question.

One approach to a solution is reproduced in this report; other valid approaches were given appropriate credit.

Luke Hatter  
Chairman of the Board of Examiners

November 2016

A possible answer is given below. This is not intended to be a model solution. In practice, a wide number of solutions were acceptable and candidates would have achieved good pass standards without having the same level of detail as the answer below.

Candidates were asked to draft a short paper for the rectification team providing some analysis of the total costs for a project.

Candidates were given clear instructions on what the paper should include:

*“The paper should cover:*

- *a brief introduction / some background on the project;*
- *a clear summary of the costs that have been quoted for this work (with a few relevant comments / observations);*
- *an indication of the likely total costs of the project; and*
- *appropriate commentary on whether Board sign off is required.”*

And also on what the paper shouldn't include:

*“...don't include details of how the total costs are calculated as this is unnecessary detail that the Rectification s Team don't need.”*

Candidates were also instructed to include one appropriate graph in their paper.

All the information required to answer the question was provided in the question paper.

The main points that the Examiners were looking for and some common problems encountered were as follows:

1. Most candidates produced scripts that looked like a paper suitable for the rectification team meeting. Scripts gained marks for having a clear introduction clearly explaining what the paper would cover.
2. There was no evidence of candidates running out of time and therefore not completing their answer.
3. Candidates were asked to provide a *“clear summary of the costs that have been quoted for this work”*. Some candidates ignored this instruction and so missed out on the marks that could be awarded for this content. Other candidates just copied and pasted the section on fixed and variable costs that had been provided in the question paper. Better candidates re-worded and re-formatted the relevant information provided in the question paper so that it could be easily understood by the audience. Better candidates also made some appropriate comments on the key items.
4. Candidates were asked to include a single appropriate graph in their paper. Most candidates sensibly chose to include a graph illustrating the total costs. There was a wide variety of graphs produced. Better candidates produced graphs which illustrated

the key points being made in their paper. Poorer candidates produced graphs which either contained too little information (eg the total costs for 5,000 data queries only) or too much detail (eg bar charts with 63 bars (ie all the total cost figures on page 4 of the question paper)).

5. Some candidates included information that they had specifically been told to exclude from the paper eg details of how the total costs were calculated and these candidates lost marks for doing so.
6. Better scripts provided a clear message that Board approval would be required and concluded with a summary of the main messages.
7. Some candidates were unnecessarily opinionated in some of their commentary. For example, they speculated on why the variable costs may vary between companies; they suggested that the Board meeting be re-arranged; comments were made that it was in Company B's interest to inflate the number of data queries etc. One of the skills tested in the communications exam is the candidate's ability to select the relevant information from that provided in the question paper.
8. A few scripts suffered from poor spelling, grammar and punctuation.
9. The guideline length was around 600 words. Most scripts were an appropriate length.

Overall candidates sitting this exam performed less well in the written question than in the presentation question.

### **Pass Mark**

The overall Pass Mark for the CA3 subject from the August sitting was 65%.

## SOLUTION

### **JJJ Insurance Rectifications team Analysis of 3 quotations for amending data records**

#### **1. Background**

This paper is addressed to the Rectifications Team for discussion at their project meeting on <Date>. The paper provides an analysis of the likely total cost of the calculation work on rectifying the records for our life insurance portfolio which comprises 100,000 policies. It also considers if Board approval is required for this work.

#### **2. Summary of costs for Companies A, B and C**

The companies submitted their quotations for this work in terms of a fixed cost and an additional variable cost, which depended on the number of records with data queries.

<i>Company</i>	<b>A</b>	<b>B</b>	<b>C</b>
<i>Fixed cost \$</i>	270,000	240,000	146,000
<i>Additional variable cost \$</i>			
<i>Each data query up to 5,000</i>	0	5	50
<i>Each data query between 5,001–10,000</i>	0	5	30
<i>Each data query above 10,000</i>	5	6	10

Although Company C has the lowest fixed cost (\$146,000) it can be seen that the additional costs for addressing any data queries for Company C is substantially higher (at all levels) than for Companies A and B.

Both the fixed and variable elements therefore need to be considered in determining the likely total cost of this exercise.

### 3. Board requirement for sign-off

Our policy is that any work where the total costs are expected to be in excess of \$150,000 must receive approval from the Board. Although Company C has quoted a fixed cost that is below this limit, only a small number of data queries (81) would take the total cost in excess of this limit. Section 5 below includes details of the likely number of data queries based on the analysis we have carried out. This confirms that a significantly larger number of data queries are expected; some 5,000 to 7,000 as discussed below.

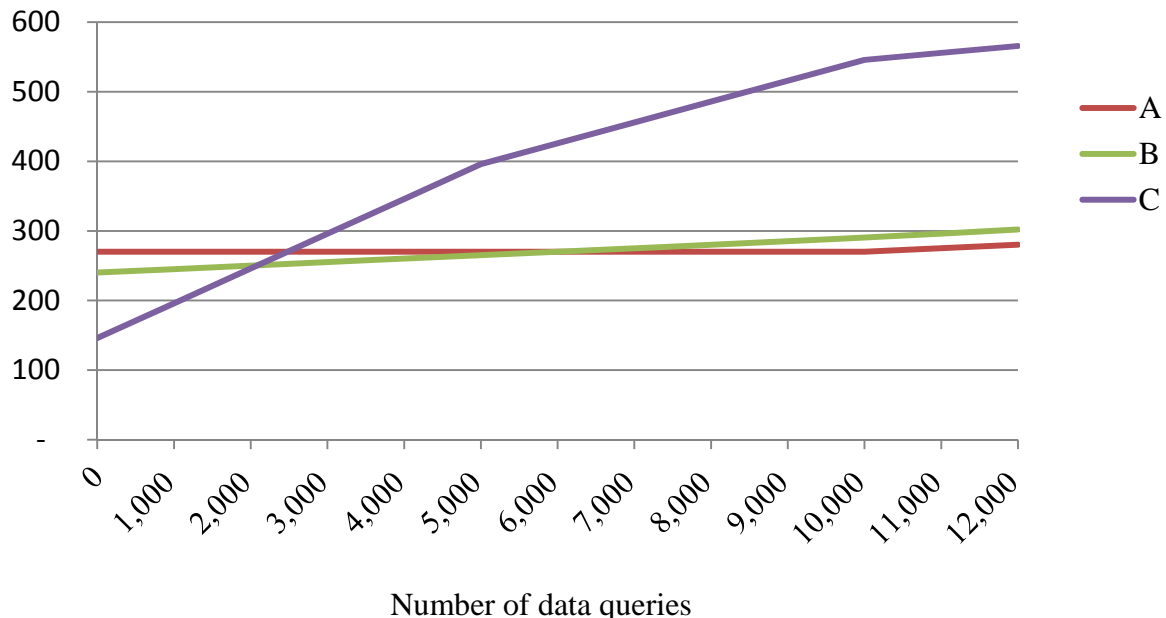
Regardless of which Company carries out the work Board approval will therefore be required.

### 4. Total Cost comparison of three companies

The graph below shows the Total Cost of the work for each Company depending on the number of data queries (between zero and 12,000). The Total Cost where there are no data queries represents the fixed cost of the quotation. As the number of data queries increases then the Total Cost increases.

At around 2,000 data queries the costs for all three of the quotations are very similar. However, the costs for Company C then increase rapidly compared to Company A and Company B which remain fairly similar.

Total Cost (\$000)



## **5. Likely number of data queries**

We have considered the likely number of data queries based on an analysis of a sample of data records. Although the exact number of queries cannot be known until the exercise is complete, indications are that the likely number will fall between 5,000 and 7,000. Within this range the Total Cost of the calculation work is substantially more expensive with Company C (between \$396,000 and \$456,000). In comparison the Total Cost for Company A is \$270,000 and Company B between \$265,000 and \$275,000. Company A is cheaper than Company B when the number of data queries is more than 6,000.

## **6. Summary**

The Total Cost of the calculation work is in excess of \$150,000 and so will require Board approval.

We expect that the number of policies with data queries will fall between 5,000 and 7,000. Company A and Company B have similar Total Costs (of up to \$275,000) for this number of data queries. Company A has the lowest Total Costs where the number of data queries is more than 6,000.

If you would like me or one of my colleagues to attend the meeting and go through this paper please let me know. Alternatively, please contact me if you have any questions.

Regards

Gordon  
Actuarial Team  
Date

**[611 words excluding heading and sign off]**

**END OF EXAMINERS' REPORT**