



**CPA**

CHARTERED  
PROFESSIONAL  
ACCOUNTANTS  
CANADA

# CPA Common Final Examination

**BOARD OF EXAMINERS' REPORT**

PART A — The Day 2 and Day 3 Report

May 2021 Examination

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*Part B, which contains the Day 1 BOE report, will only be issued after Version 3 of DHC is written in September 2021. Therefore, there is no Part B associated with the May 2021 CFE.*



## **THE BOARD OF EXAMINERS' REPORT ON THE MAY 2021 COMMON FINAL EXAMINATION**

### **OBJECTIVES OF THE REPORT**

The objective of this report is to explain the Common Final Examination (CFE) process and to assist the profession in improving the performance of candidates on the CFE.

The report sets out the responsibilities of the Board of Examiners, the methods used for guide setting and marking the CFE, and the results of the marking process. The report also includes recommendations to candidates from the Board of Examiners.

The May 2021 CFE Report has only one part: Part A, which is the Day 2 and Day 3 Report. There is no Part B report (Day 1) associated with the May 2021 CFE.

The appendices provide more detailed information on the design, guide setting, and marking of the CFE, as well as the board's expectations of candidates on the simulations. Readers are cautioned that the marking guides were developed for the entry-level candidate and that, therefore, all the complexities of a real-life situation may not be fully reflected in the content. The CFE report is not an authoritative source of GAAP.

### **RESPONSIBILITIES OF THE BOARD OF EXAMINERS**

The Board of Examiners (BOE or the board) comprises a chair, two vice-chairs, and sixteen members appointed by the provincial bodies.

The board's responsibilities, as set out in its terms of reference, include the following:

- Setting the CFE in accordance with the *CPA Competency Map* (the *Map*) and other directions from the Professional Education Management Committee;
- Submitting the CFE and the marking guides to the provincial bodies for review;
- Marking the candidates' responses and recommending to the provincial bodies the pass or fail standing that should be given to each candidate; and
- Reporting annually on the CFE to various CPA committees and the provincial bodies, in such form and detail and at such time as is satisfactory to them.

The chair is responsible for the supervision of the evaluation process. A CFE subcommittee, made up of nine members of the board, is actively involved in the preparation of the CFE simulations, the preliminary marking guides, and the setting of the initial passing profile. Selected members of that subcommittee participate in the Preliminary Evaluation Centre where the marking guides are tested against candidate responses and finalized, and in the start-up of the marking centre. The BOE vice-chair provides oversight throughout the entire marking process, consulting with subcommittee members as required. The full board is responsible for equating the difficulty of the examination to prior years' examinations and establishing the passing standard.

## **THE CFE**

### **Preparation and Structure of the CFE**

The board staff works in conjunction with authors to ensure that simulations presented to the board achieve the overall intent and design objectives set by the board, while adhering to the competencies and the proficiency levels specified in the *Map*.

The full board provides guidance as to the content and nature of simulations to be included on the examination. The CFE subcommittee reviews and refines these simulations that make up the three-paper evaluation set.

### **Nature of the Simulations**

The CFE comprises a set of simulations that are both essential and effective in evaluating the candidates' readiness to enter the profession:

**Day 1** – The first paper is a four-hour examination consisting of a single simulation that is linked to the Capstone 1 group case. There are two versions of the linked cases. Version 1 is linked to the most current Capstone case and is written by first time writers and by repeat writers who chose to attempt the new case rather than Version 2 of the previous Capstone case. Version 2 is written by repeat writers and candidates who deferred and are writing Version 2 as their first attempt. The two versions of the exams are calibrated to ensure the difficulty of both is comparable. (Note: As a result of Covid-19, there have been adjustments made, that have resulted in a version 3 of some Capstone cases.)

**Day 2** – The second paper is a five-hour case, with four different roles and requirements. Additional information tailored to each role is provided in four separate appendices.

**Day 3** – The third paper, is a four-hour paper, consisting of three multi-competency area simulations.

## Assessment Opportunities

The board applies competency-based marking procedures that enable it to decide which candidates demonstrate readiness to enter the profession.

Assessment Opportunities are designed to answer the question, “What would a competent CPA do in these circumstances?” To attain a pass standing, candidates must address the issues in the simulations that are considered significant.

**Appendix A** contains a comprehensive description of the evaluation process.

## Marking Guides

Marking centre leaders and assistant leaders provide valuable input during the testing and setting of the marking guides, before live marking begins. The vice-chair, selected member(s) of the CFE subcommittee and senior evaluations staff hold meetings with the leaders and their assistants during both the guide-setting and the marking processes. See **Appendix B** for the Day 1 simulations that appeared on the May 2021 CFE and **Appendix C and D** for the Day 2 and Day 3 simulations and marking guides. The marking results for Day 2 and Day 3, by Assessment Opportunity, appear in the statistical reports found in **Appendix E** of this report.

**Day 1** – The marking guide is designed to assess the candidate on the stages of the CPA Way: 1) situational analysis; 2) analysis of the major issues; 3) conclusions and advice; and 4) communication. Based on these four summative assessments, the candidate’s response is then holistically judged to be either a passing or a failing response.

**Day 2 and Day 3** – Marking guides are prepared for each simulation. Besides identifying the Assessment Opportunities, each marking guide includes carefully defined levels of performance to assist markers in evaluating a candidate’s competence relative to the expectations set out by the board when developing the passing profile for a competent CPA.

Five categories of performance are given for each Assessment Opportunity. The candidate’s performance must be ranked in one of the five categories:

- Not Addressed
- Nominal Competence
- Reaching Competence
- Competent
- Competent with Distinction

## Setting the Passing Standard

The board chair and vice-chair in charge of the examination monitor the live marking. Near the completion of the marking process, the CFE subcommittee satisfies itself that the markers applied the marking guides as intended by the board.

In determining which candidates pass the CFE, a candidate is judged in relation to the board's pre-established expectations of an entry-level chartered professional accountant. Any changes to the initial profile that were made throughout guide-setting and the marking centre are ratified by the full board. In setting the passing profile, the board considers the following:

- The competency area requirements described in the *Map*
- The level of difficulty of each simulation (set using a scale: Easy, Easy to Average, Average, Average to Hard, or Hard)
- The level of difficulty of each Assessment Opportunity (set using a scale: Easy, Easy to Average, Average, Average to Hard, or Hard)
- The design and application of the marking guides
- Comments from leaders and assistant leaders regarding any marking difficulties encountered or any time constraints noted
- Possible ambiguity of wording or of translation
- Input on critical decision factors from an independent board (i.e., those BOE members not on the CFE subcommittee and therefore not directly involved) who review the fair pass package

## The Decision Model

The purpose of the CFE is to assess whether candidates possess the competencies required of an entry-level CPA through a written evaluation that is common to all CPAs. Each day of the CFE is unique and is designed specifically to assess different skills:

- Day 1 is linked to the Capstone 1 group case work. It assesses the candidates' ability to demonstrate professional skills. It is independent from Day 2 and Day 3.
- Day 2 is the **depth** test. It assesses technical **depth** in one of four unique roles (that reflect the four CPA elective choices) and provides **depth** opportunities in the common core competency areas of Financial Reporting and/or Management Accounting. Candidates pre-select one role and respond from that role's perspective.
- Day 3 supplements the **depth** test in the common core areas of Financial Reporting and/or Management Accounting. It is also the **breadth** test for all common core competency areas.

Candidates must pass all three days in order to qualify for entry to the profession. Those seeking licensure must obtain depth in Financial Reporting and in the Assurance Role.

## Day 1

Day 1 is assessed independently from Day 2 and Day 3. A pass or fail decision is made based on a holistic assessment of the candidates' performance in applying the CPA Way to demonstrate essential professional skills.

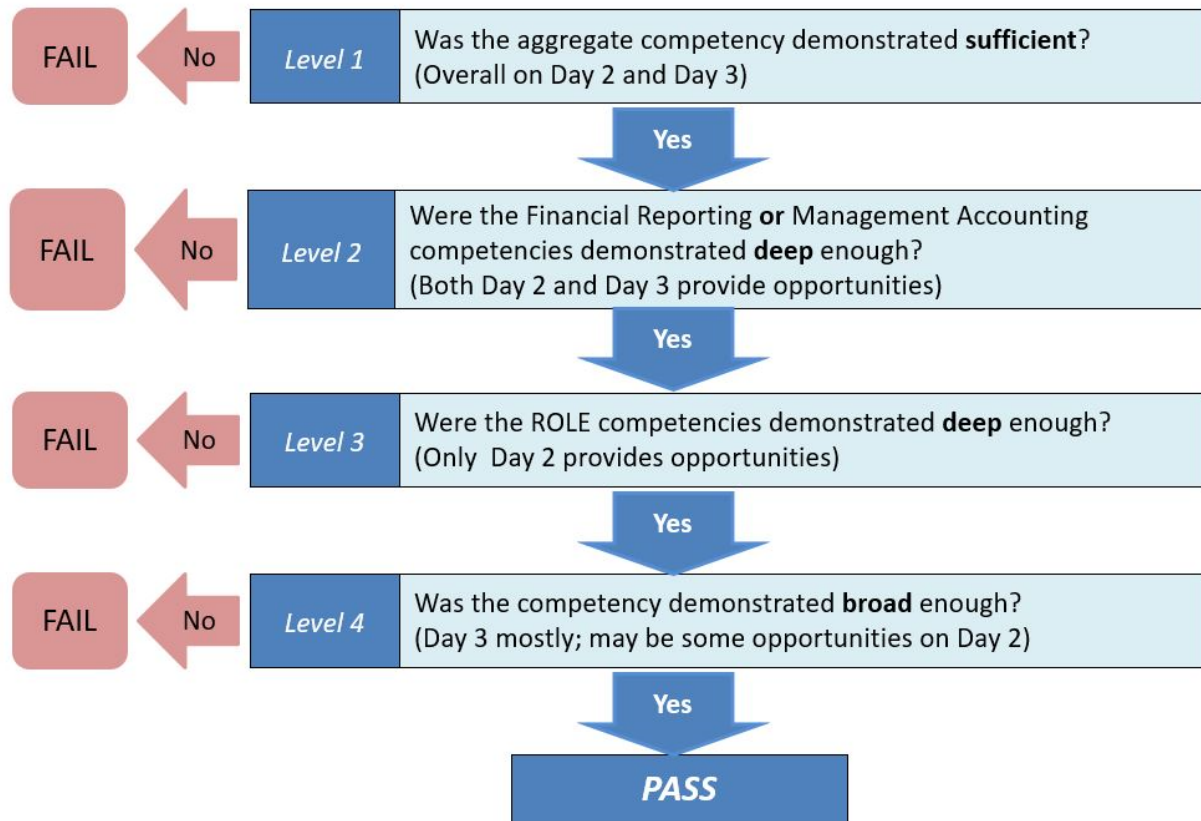
## Day 2 and Day 3

The decision model used by the board is presented in Exhibit I. Four key decision points, or levels, are applied in reaching a pass or fail decision, as follows:

1. The response must be **sufficient**; i.e., the candidate must demonstrate competence in the Assessment Opportunities presented on Day 2 and Day 3 (Level 1).
2. The response must demonstrate **depth** in the common core area of Financial Reporting or Management Accounting (Level 2).
3. The response must demonstrate **depth** in the pre-selected elective role (Level 3).
4. The response must demonstrate **breadth** across all competency areas of the *Map*, at a core level, by not having avoided a particular technical competency area (Level 4).

The BOE is responsible for equating the results from one examination to another to ensure that candidates have an equal chance of passing whichever examination they write. The BOE uses the factors listed above under setting the passing standard, in order to equate the examinations.

**EXHIBIT I**  
**DAY 2 AND 3 PASS/FAIL ASSESSMENT MODEL**





## **Approving the Results**

The CFE subcommittee reviews and approves the marking results for each simulation. Day 1 is assessed separately from Day 2 and Day 3.

**Day 1** – The CFE subcommittee discusses the profiles for both the marginally passing and marginally failing candidates to confirm that the board's pre-established passing profile has been appropriately applied by the markers.

**Day 2 and Day 3** – As part of the development process, the CFE subcommittee sets preliminary requirements for the three levels (tests of depth and breadth) being assessed on the Day 2 and Day 3 simulations. After the marking is completed, the board reviews and finalizes those requirements. The board establishes the Level 1 (sufficiency) requirement for the combined Day 2 and Day 3 simulations.

During the approval process, the board continues to consider whether the results could be affected by any inconsistency in the evaluation or the board's processes.

## **Reporting**

In reaching its decision, the board determines which candidates pass without regard to provincial origin or language. Similarly, the detailed comments are based on analyses of the performance of all candidates.

The board reports the following information by candidate number:

- Overall pass/fail standing and pass/fail standing for each of Day 1 and of Day 2 and Day 3 combined.
- A pass/fail standing for Day 1.
- A pass/fail standing for Level 1, Sufficiency. A decile ranking is provided for failing candidates.
- A pass/fail standing for Level 2, Depth in Financial Reporting and/or Management Accounting.
- A pass/fail standing for Level 3, Depth in Role.
- A pass/fail standing for Level 4, Breadth in all technical competency areas.

## Thank You

All board members wish to express their warm and sincere appreciation for the outstanding energy, support, and commitment of the Board of Examiners staff members whose dedication and talent contributed in large measure to the achievement of our objectives and the fulfilment of our responsibilities.

We also wish to acknowledge the contributions made by the provincial reviewers, markers, authors, translators, and editors. The commitment, energy, and skill demonstrated by all the markers were outstanding, resulting in the sound application of marking procedures and producing an appropriate evaluation of the candidates. Everyone's commitment to the quality and fairness of the process is appreciated.

A handwritten signature in black ink, appearing to read "Jordan Oakley", is written over a horizontal line. The signature is stylized and cursive.

Jordan Oakley, CPA, CA  
Chair  
Board of Examiners

## A MESSAGE TO CANDIDATES

***To attain a pass standing, candidates needed to achieve a “Pass” on Day 1, and on Day 2 and Day 3 combined, demonstrate sufficient competence in all areas and meet the two depth standards and the breadth standards.***

### Introduction

The May 2021 CFE Report contains a Part A only, which presents detailed information on all candidates' performance for the Day 2 and Day 3 examination cases. There is no Part B report for the May 2021 CFE because the CFE reports for the Day 1 linked cases will only be available after WDI Version 2 and DHC Version 3 are written in September 2021.<sup>1</sup> The simulations, marking guides, marking results, and Board of Examiners' (BOE) comments on the Day 2/Day 3 portion of the examination and the Day 1 simulations are provided in this document.

The intent of this message from the BOE is to help candidates improve their performance on future CFEs by drawing their attention to the most common detracting characteristics observed in candidate responses to the May 2021 CFE. The BOE's comments are based on the feedback of the marking teams, who see the entire candidate population, and reflect the broad themes noted by the markers that apply to all candidates who wrote this sitting of the CFE. More detailed AO-by-AO commentary on candidates' performance can be found in the BOE's comments in Appendix F of Part A of the CFE Report.

### Nature of the CFE

The design of the CFE is such that each day of the examination allows candidates to demonstrate a different skill set. Day 1 allows candidates to demonstrate their high-level professional skills, such as analysis that is relevant and critical to strategic decision-making, professional judgment, and ability to synthesize. Day 2 allows candidates to demonstrate their technical competence in the common Financial Reporting and Management Accounting competencies and in their chosen role, which ties to one of the four elective areas. Day 2 typically, but not always, directs candidates to the work to be done and is not designed to be time constrained, allowing candidates to demonstrate depth. Day 3 allows candidates to demonstrate depth in the common Financial Reporting and Management Accounting competencies and provides multiple opportunities to demonstrate breadth in all the core technical competency areas. It is time constrained, requiring candidates to prioritize their time per issue. Both Day 2 and Day 3 require candidates to integrate the information found in the case in order to demonstrate competence. All three days require candidates to clearly communicate their thought process.

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<sup>1</sup> Due to the cancellation of the May 2020 CFE, the profession decided to offer Version 2 of DHC on the May 2021 CFE rather than the September 2021 CFE. A Version 3 of DHC will be offered in September 2021, along with WDI Version 2.

## Strengths and Weaknesses

### Time Management

Neither Day 1 case was time constrained in any way, and most candidates managed their time well. As was the case on the September 2020 CFE, the amount of time candidates devoted to their situational analysis was better balanced with the rest of their response and focused more on the relevant changes from Capstone. Only a few candidates mismanaged their time, generally spending too much time on their quantitative analyses, performing more complex calculations than were required (e.g., Luxury Stays AO#5 on DHC Version 2, where the calculation required was a simple operating margin and all necessary data was given to candidates, yet a significant number of candidates attempted to perform an NPV/IRR on the four years of data provided), or overanalyzing issues that were considered strategically insignificant (e.g., discussing the trucking contract operational issues on WDI Version 1).

Most candidates managed their time appropriately on Day 2. However, some candidates did not attempt all the AOs, often skipping the harder ones. For example, on the Day 2 Common AOs, it was noted that candidates were more likely to skip the final three AOs than the first three AOs, with AO#4 (Financial Reporting – Non-GAAP measures), rated Hard at Competent by the BOE, being the most often skipped. On Day 2, Finance role, AO#12 (Data quality), rated Average to Hard at Competent by the BOE, and Taxation role, AO#12 (Asset tracking), rated Average to Hard at Competent by the BOE, were also skipped by many candidates. However, this could be due to poor time management, which, when combined with their higher difficulty, contributed to weaker performance on these AOs.

On Day 3, there was evidence of some candidates spending too much time on Simulation 1, and later running out of time or not answering the last AO on Simulation 2 and some of the last three AOs on Simulation 3. Day 3, Simulation 1 was the longest of the three simulations and had seven AOs to address within the allotted 85 minutes, requiring strong time management skills. If candidates went over the suggested time on Simulation 1, they would have had difficulty making that time up, since Day 3 is designed to be time constrained.

Candidates also skipped AOs, often the harder ones, on Day 3. For example, on Day 3, Simulation 2, many skipped AO#6 (Taxation – Corporate taxes payable), rated Average to Hard at Competent. The required for this AO was found in the appendix, so it may be that candidates did not allocate time to the discussion and, therefore, skipped it due to time pressure and the desire to move on to Simulation 3. However, it was more difficult than AO#5 (Taxation – Personal taxes payable), rated Easy to Average at Competent, which was also a tax AO, so candidates may not have attempted AO#6 believing they had addressed tax sufficiently, not realizing the discussion was its own AO. Day 3, Simulation 3, AO#4 (Management Accounting – Opportunity cost), rated Average to Hard at Competent, was also frequently skipped. This AO was also undirected; therefore, those candidates who did not address it may simply have missed the hints directing them to the issue.

Because the CFE has not only depth and breadth tests, but also a sufficiency score that is impacted by skipping AOs, the BOE continues to encourage candidates to take the time to identify all relevant issues and attempt a discussion of all the requireds. The Board also strongly encourages candidates to use the suggested times on each simulation as a guide to help manage the time spent per AO.

### Technical Ability

As has been the pattern for the past few years, candidates generally performed better on the straightforward and commonly tested issues presented throughout Day 2 and Day 3 of the CFE. However, the more unusual and harder issues presented a challenge for many, with some candidates avoiding those entirely. It was also noted that, within some of the AOs, candidates correctly addressed the easy elements but struggled with the more difficult elements, affecting their ability to fully demonstrate competence. Candidates seemed to perform the strongest on topics that have previously been tested. For example, they performed well on Day 2, Common AO#2 (Financial Reporting – Research & development costs); Day 2, Common AO#6 (Management Accounting – Target sales/break-even); Day 2, Assurance role, AO#8 (Audit plan revisions); Day 2, Performance Management role, AO#8 (SWOT and risk mitigation); Day 3, Simulation 1, AO#3 (Audit and Assurance – Control weaknesses); Day 3, Simulation 2, AO#1 (Strategy and Governance – Operational risks); and Day 3, Simulation 2, AO#5 (Taxation – Personal taxes payable).

The BOE noted a higher degree of variability compared with previous years in the quality of candidates' responses on the May 2021 CFE, with some strong responses and some very weak responses. Assurance candidates' performance varied more often than did performance in the other roles. For example, on AO#11 (Impact of sampling errors), only a small percentage of candidates understood the impact of the sampling errors that had been found and suggested appropriate steps (e.g., additional testing, extrapolating the error to the population, considering whether the errors are systemic, etc.). A disappointingly high number of candidates failed to understand the fundamental auditing concept of sampling. The case clearly stated that a sample had been taken, yet a majority of candidates failed to realize that the errors, being from a sample, could be indicative of a potentially broader issue in the larger population. Instead, many candidates took the errors as presented in the case and suggested carrying them forward to the summary of identified misstatements as is, often concluding the errors were immaterial. Another Assurance AO that had variable results is AO#10 (Procedures – CAATs queries), where candidates either seemed to "get it" or not. Better candidates typically provided good breadth, attempting many queries, albeit most of which addressed the more generic risks (i.e., risks that were general and not necessarily related to how management would increase income or decrease expenses as a way to inflate their bonus). Many candidates were unable to demonstrate they knew what CAATs were and often just put a heading with no attempt at all to answer the required, or they answered it in the wrong context, such as attempting to implement controls in the system to ensure that journal entries would not contain errors.

The BOE tested data analytics and information systems (DAIS) for the first time since this new knowledge area was added to each of the competencies within the CPA Competency Map. There were several AOs on this exam that directly, or indirectly, touched DAIS, and candidates generally had difficulty with them: Day 2, Assurance role, AO#10 (Procedures – CAATs queries); Day 2, Finance role, AO#12 (Data quality); Day 2, Performance Management role, AO#10 (Data integrity and sharing); Day 2, Taxation role, AO#12 (Asset tracking); and Day 3, Simulation 1, AO#1 (Management Accounting – Quality of data used). The performance of candidates on these AOs varied significantly. Some candidates clearly understood the nature of the discussion that was expected, while others seemed unsure of what was being asked and what to focus their discussion on. For example, on Day 2, Performance Management role, AO#10 (Data integrity and sharing), most candidates did very well in analyzing the dangers and potential risks of sharing patient info with other pharmaceutical companies. However, they had difficulty identifying the different ways data could be compromised and articulating their thoughts clearly to explain what would cause this to happen. When it came to discussing the quality of the data itself, they seemed to equate “data integrity” solely with confidentiality. As noted earlier, many of the DAIS AOs were also the harder ones that candidates skipped.

In terms of the more straightforward and previously tested topics noted previously, candidates performed the best on Day 2, Common AO#2 (Financial Reporting – Research & development costs), where they demonstrated sound technical knowledge of the *Handbook* requirements for research and development and applied the standards correctly to the case facts. However, in other areas, technical weakness was noted in both the core Financial Reporting and the core Management Accounting depth test AOs. Again, here, performance tended to be bimodal, with some candidates performing quite well, while others demonstrated a very poor understanding of the required technical knowledge.

In Financial Reporting, for example, on Day 3, Simulation 2, AO#2 (Financial Reporting – Foreign exchange and subsequent event), most candidates described the correct accounting treatment at the transaction date but had difficulty providing an accurate analysis at the balance sheet date for the foreign currency transactions that were presented. The SUN transaction was a straightforward transaction, and yet many candidates still had difficulty explaining how to account for it. Generally, on this AO, many candidates were unable to differentiate between monetary items that required adjusting the prevailing foreign exchange rate at the balance sheet date and non-monetary items that continued to be valued at the foreign exchange rate on the transaction date. Some candidates who attempted the journal entries were quite confused as to the accounts that were affected and the rate to use, presenting journal entries that reflected a technically deficient understanding of the accounting for the transactions. For example, some presented journal entries that did not balance or that were missing an account label next to the amount; were reversed; used the wrong account, such as sales or dividend income instead of foreign exchange gain or loss; or used an account that was not relevant, such as cost of goods sold, inventory, or investments. Some attempted to discuss functional currency, while others were completely off topic, discussing whether the cost or equity method should be used for the investment or whether the dividend should be recorded when declared or when received, even though the required clearly directed them to discuss only the foreign currency accounting treatment.

On Day 3, Simulation 3, AO#5 (Financial Reporting – Non-monetary exchange), candidates were provided with details relating to the exchange of equipment, including that it would make repairs and maintenance easier but not cheaper and that it would have no real impact on production. They were also provided with the costs, net book values, and fair values of the asset transferred out and the asset transferred in. This AO was rated as more difficult by the BOE to reflect the fact that the *Handbook* section is difficult to interpret (due to there being double negatives), even though the transaction presented was a straightforward exchange. Most candidates identified that the transaction was a non-monetary transaction and that ASPE section 3831 applied. The focus of the AO was on whether there was commercial substance based on applying the ASPE criteria. More candidates than expected incorrectly interpreted the *Handbook* requirements and concluded inconsistently with their analysis, recommending, for example, that the transaction be recorded at fair value when there was no commercial substance. Many candidates used the case facts incorrectly to analyze whether there was commercial substance, suggesting, for example, that the moulding equipment would generate revenue or that the fair value of both pieces of equipment were different, and concluding that the transaction had commercial substance. Others stated that the fair values were similar, concluding that the transaction did not have commercial substance. A surprising number of candidates simply stated that non-monetary transactions are recorded at the fair value of the asset given up, without attempting to analyze the *Handbook* guidance at all. The impression left on the BOE, based on the types of analyses the markers saw, was that many candidates were unfamiliar with this section and did not understand how to apply it.

In Management Accounting, two AOs on Day 3 tested the fundamentals of contribution margin analysis and what to do when faced with a capacity constraint, and candidates had difficulty with both. On Day 3, Simulation 1, AO#4 (Management Accounting – NEF order (quantitative)), many candidates' contribution margin analysis was incomplete, as certain costs, like the indirect materials, were omitted, or their analysis contained many errors in the calculation of the individual variable costs. For example, some candidates used the price of \$19 per plank when the case inferred \$22.50 per plank was more appropriate to use, given there were only 400 in stock and these were designated to existing orders. Some candidates only calculated the contribution margin on a per-unit basis, which was insufficient given the capacity constraint on labour hours and the fact that partial orders were not possible. Some candidates did not consider the labour capacity constraint at all.

On Day 3, Simulation 3, AO#4 (Management Accounting – Opportunity cost), there was no specific request for a calculation of an opportunity cost, but there were strong hints in the case suggesting differences between the production capacity of the old and new vacuums. This suggested the need to 1) calculate a change in production by determining the number of kayaks that the repaired or new vacuums could produce; and 2) apply the difference in units to the contribution margin per kayak to determine an opportunity cost. Candidates should have identified that the repaired vacuums did not meet demand and that the new vacuums produced more than the demand and, therefore, would need their capacity capped. Very few identified the capacity constraint, and many candidates did not calculate production capacity, instead taking the 10,000 units as the amount the vacuums could produce. Most candidates multiplied the production by the contribution margin to get to an opportunity cost, without considering the demand.

Some candidates simply multiplied the production by revenue as their attempt at an opportunity cost. Others calculated the contribution margin but seemingly did not know how to incorporate it in another part of their analysis. In addition, most contribution margin calculations contained technical errors, the most common being the inclusion of fixed overhead and failing to multiply the variable overhead costs by labour hours. A few candidates attempted to calculate the cost per kayak or provide a break-even analysis but provided little or no meaningful analysis of their results.

On Day 2, Common AO#5 (Management Accounting – Variance analysis), most candidates attempted the AO, and although some correctly calculated the price variance, many made several errors in their calculation of the efficiency variance. These errors often included mixing the number of units between the price and efficiency variances and only including two of the three relevant variables in the calculation. Many weak candidates misinterpreted the results of their calculations, failing to link the direction of the variances with obvious case facts such as the increase to the average price of materials, and thereby labelling an unfavourable variance as favourable. Variance analysis has been tested multiple times on previous CFEs (both on Day 2 and Day 3), and although the nature of the weaknesses demonstrated was similar to those in the past, they were more prevalent.

Candidates should expect to see a variety of issues of varying difficulty. The BOE consciously includes challenging topics (such as the income statement forecast in the Assurance role, the quality management discussion in the Performance Management role, the hedging discussion in the Finance role, the association discussion in the Taxation role, and the non-monetary transaction and opportunity cost calculation on Day 3) and emerging or unique topics (such as non-GAAP measures in the Common AOs, and the various AOs that tested DAIS) in order to assess candidates' ability to work through an issue they likely have never seen before. The BOE was quite surprised by the high number of candidates who were unfamiliar with the term "non-GAAP measure" and who discussed what happens if the company chooses to use the cash basis of accounting or records transactions that do not comply with IFRS. With the ever-increasing pace of change in the accounting profession, it is important that candidates be able to handle emerging and difficult issues and that they know how to look up relevant standards, draw on first principles, explore alternatives, and use their professional judgment and common sense to tackle the issues presented. As was noted in the BOE's report for the September 2020 CFE, the BOE will continue to present new and challenging topics and encourages candidates to develop and draw on their enabling skill set to respond to these issues.

#### Clarity of Communication/Unsupported Discussions

In September 2020, the BOE noted an overall improvement in the clarity of communication, with fewer very short, point-form, and generic responses that are hard to interpret. This continued to be the case on the May 2021 CFE, with most responses displaying similar characteristics. In the past, the BOE noted instances where candidates copied information from the *Handbook* but did not apply that information to the case facts, or where they listed requirements or criteria, typically *Handbook* or *Income Tax Act* guidance, labelling them "met" or "not met," without providing an explanation to support why.



There was less evidence of these weaknesses, although some candidates continued to use the “met” or “not met” approach without providing supporting why. And, although not as prevalent as in some years, it was noted on all three days that some candidates did not support or explain their quantitative analyses in their spreadsheet. Often it was difficult to know where the numbers came from or what the calculations were attempting to do.

There was evidence of candidates providing better support on Day 2, Performance Management role, AO#1 (SWOT and risk mitigation), where their analysis was considered on par with, if not better than on, previous exams. Whereas in the past many candidates merely listed case facts as being strengths, weaknesses, opportunities, and threats, with little other added value or links to the case facts, in May 2021 the candidates generally supported each element in their SWOT analysis with an explanation as to how the element mattered for RMZ.

However, overall, candidates’ level of support still needs improvement, as they continue to list case facts without elaborating on why those points are relevant or explaining the relationship to the point being argued, often failing to integrate the specific case facts provided to support their position. For example, on Day 2, Assurance role, AO#8 (Audit plan revisions), some candidates listed risk factors without explaining how they would impact the overall financial statement risk, and many materiality discussions were vague and did not incorporate case facts (for example, mentioning “shareholders” and “lenders” as users, whereas they could have been more specific, noting instead that specific shareholders, Star and Tatum, are looking for a strategic buyer, and that an outstanding loan with the Confederation Bank contained a specific covenant). On Day 2, Assurance role, AO#13 (Income statement forecast), candidates did not support their conclusions with case facts. For example, most candidates concluded that the sales increase was unreasonable, simply because the percentage was different. However, there were case facts that could have been used to provide a supported analysis, such as the fact that Drug C has not yet started commercial production, there are patents expiring within the forecast period, and the Patent Medicine Prices Review Board could impact future drug prices, among others. On Day 2, Finance role, AO#8 (Germany expansion financing), candidates provided a list of case facts without explaining why these were advantages or disadvantages of either option, often, for example, creating a table which listed the terms of the two loans but not going further to compare them or explain which option was more advantageous to RMZ. On Day 3, Simulation 1, AO#2 (Strategy and Governance – Technology solution strategic alignment), many candidates restated the case facts and did not go on to explain why the misalignment was an issue for SGF. For example, they would restate the fact that the technology solution would use a smart pricing system to set a price that would extract the maximum value of each transaction, restate SGF’s vision to provide affordable furniture collections, and conclude that the two did not match, without explaining what the consequences of the mismatch could be for SGF.

In other cases, candidates repeated the case facts presented in the description of the options, simply labeling them as “pros” or “cons,” without providing additional explanations as to why or how these facts supported their position. This pattern, although less prevalent, was still evident on Day 2, Performance Management role, AO#8 (Biological drugs) and AO#9 (In-house or outsourcing of clinical testing).

There were also situations where candidates presented the technical information without providing explanations of how that technical knowledge applied to the case facts presented to them. For example, on Day 2, Taxation role, AO#13 (CCPC status), some candidates provided a theoretical list of items that apply to private corporations but not public corporations, without linking any of them to the case facts. On Day 2, Performance Management role, AO#11 (Governance structure), candidates were expected to use several case facts that pointed to problems caused by the centralized structure to support their analysis. Instead, many responses provided a purely theoretical discussion of the composition of an ideal board (e.g., having an odd number of members, being independent, having varied competencies, etc.) that could have applied to any board in any company.

Candidates are again reminded that the role of the CPA is often to advise clients on the application of standards and tax rules, as well as how and why to proceed with certain business decisions. Without a clear explanation, a client would have incomplete information. In the case of responses to CFE simulations, it is impossible to know what logic was applied without a clearly articulated response. Often, the BOE is unable to assess the degree of competence without a fully supported explanation. The BOE is interested in understanding the logic used and is looking for evidence of the analysis and professional judgment that was applied in reaching a conclusion. Therefore, it is important for candidates to answer the questions “Why?” or “So what?” when making any point using case facts, and to include the answer in the response. Presenting the rules without applying them to the specific situation, or repeating case facts without further explanation, even if it is in a logical format such as a list of pros and cons, is insufficient.

#### Misinterpretation of the Required/Irrelevant or Unrelated Discussions

As seen on previous exams, the BOE noted that some candidates continue to insert discussions that are not relevant to the case. There were instances of candidates providing irrelevant discussions as a result of misinterpreting or misreading the requireds, or as a result of failing to consider the specific case facts presented in an integrative manner. Many of these discussions appear to come from issues seen on previous CFEs, suggesting that candidates are trying to fit the answers from practice exams into the current year’s exam, rather than addressing the case facts as presented.

For example, on Day 2, Assurance role, AO#11 (Impact of sampling errors), candidates who may have practiced with the 2018 CFE appear to have assumed the issue in this case was the same and that the errors were the total errors, and, therefore, they compared them to materiality. In 2018, (AO#11 in the Assurance role), the impact of errors on the audit opinion was tested, and candidates were provided with a listing of errors from different accounts. They were asked to complete the summary of identified misstatements and consider the impact on the audit opinion. However, on the current exam, candidates were provided with errors in a sample within one account.

On Day 2, Performance Management role, AO#12 (New vitamin product pricing strategy), the candidates were directed to perform a quantitative and qualitative analysis of three pricing strategies that were presented in the appendix for the Performance Management role. However, many candidates focused their qualitative decision on the general idea of launching the new vitamin product, rather than providing a qualitative analysis of the pricing decision as stated in the required. The “go/no go” analysis performed by candidates was not what was requested in the required, suggesting that candidates may have been looking to perform this type of analysis, having done so on a previous Performance Management role (September 2019, AO#11 – Electric bicycle proposal). On this same AO, many candidates presented their qualitative analysis in the form of a “pros versus cons” format, and this format was not appropriate to use in the context of assessing the multiple pricing strategies.

On Day 2, Finance role, AO#8 (Germany expansion financing), some candidates attempted to assess the viability of the manufacturing plant by attempting a present value analysis of the viability of the plant, while others attempted a present value analysis of the loan payments for the proposed expansion. However, there was no information in the case to indicate the need for a present value analysis, nor was there sufficient information presented in the case to prepare a complete analysis. Candidates were told that a capital budgeting analysis had already been performed, suggesting such an analysis was not required. It appears that candidates are used to performing a net present value analysis when there is a new proposal and were searching for a place to provide a “traditional” net present value analysis, as would have been asked for on prior years’ exams.

The following are some additional examples of where candidates either misinterpreted the requireds or provided irrelevant discussions, often as a result of applying a templated approach or failing to consider the differences in the facts presented compared to similar issues tested on past exams:

On Day 2, Assurance role, AO#13 (Income statement forecast), some candidates questioned the use of CSAE 3000 as the special report to be issued and provided a discussion on alternatives to CSAE 3000 that could be used to audit the income statement forecast. These discussions did not add value as the case was clear that Doreen (the engagement partner) had determined that a CSAE 3000 report was appropriate.

On Day 2, Assurance role, AO#12 (Internal control weaknesses), some candidates attempted to provide an internal controls discussion on the sales process (a short process description is provided in the case). There was no value in these discussions, since there were no clear internal weaknesses in the process. In addition, the required for internal controls clearly asked the candidates to focus on the equipment and tools purchase process.

On Day 2, Assurance role, AO#9 (Procedures – accounting issues), some candidates provided procedures surrounding abnormal waste and bad debt. They seemed to think they needed to provide procedures on the items highlighted in the financial statement notes provided in the case. However, the required was clear that the candidates should develop audit procedures for the IFRS accounting issues raised by Harry. Therefore, procedures provided on abnormal waste and bad debt were not considered relevant.

On Day 2, Taxation role, AO#7 (Association), some candidates attempted to determine whether the corporations were affiliated, related, or connected, even though the required asked them to determine if they were associated. They did so either explicitly (by using those words) or implicitly (by using the word “associated” and then describing the rules, for example, for “connected”, but in all such cases they did not identify the rules for association. Some of this may have been due to technical weakness, but it was clear that many candidates were intentionally attempting to discuss the wrong issue.

On Day 3, Simulation 1, AO#5 (Strategy and Governance – NEF order (qualitative)), weak candidates tended to prioritize a balanced analysis and the need to present both pros and cons, which is likely a templated approach used with practice cases. However, the case facts provided were heavily slanted towards the negative qualitative considerations of the NEF order (i.e., the incompatibility of the order with SGF’s vision and values, the labourers reluctance to work overtime, and the branding and reputational risks), and, therefore, it was more appropriate to focus on the negative considerations in the case facts as presented.

On Day 3, Simulation 2, AO#3 (Audit and Assurance – Risk of material misstatement), candidates were asked for an explanation of how the changes made by the company during the year, including the new system implementation, would affect the auditor’s assessment of the risk of material misstatement for the 2020 audit. Some candidates went beyond the scope of the required and provided a full audit plan (i.e., one that that discussed the reliance on controls and the audit approach that should be taken, and explained how the new system would impact the auditor’s ability to rely on controls and the need for more substantive testing, the users of the financial statements, and materiality), appearing to apply a templated approach to their audit discussion.

The BOE believes it is an essential CPA skill to be able to analyze and integrate the information presented in order to identify what is, and isn’t, relevant to the issues raised in the case. The BOE continues to intentionally reduce the level of direction on some of the issues, and places certain case facts in different places, to increase the required integration. This often results in some candidates having more difficulty identifying the correct issue and relevant case facts to include in their discussions. Candidates are reminded to take the time necessary to read the required carefully and use their judgment to decide whether a discussion is pertinent to the issues at hand or to their role.

The BOE also reiterates that while it is good to practise writing cases and know different approaches to use, candidates should not automatically assume the task is the same as in previous years, even though the wording may appear similar. The facts presented are unique to each case and require integration of the pertinent case facts to fully understand what the relevant issues are for a particular case and to decide what form of analysis is appropriate. Rarely is an issue identical to a prior one. Candidates are encouraged to pause and take the time necessary to ensure that they have clearly identified what issues and analyses are most relevant, based on the set of circumstances presented, before beginning their response. Candidates are encouraged to do the same with their practice cases and to try to identify the differences when seeing a particular issue being tested on different exams.

*For more detailed commentary, see Appendix F of Part A of the CFE Report.*

### **Additional Comments Specific to Day 1 WDI (Version 1)**

Most candidates dedicated the first section of their response to a relevant situational analysis. Most used this information later in their response, making relevant links back to the company's situation when analyzing the specific strategic issues that were presented, and within their conclusions. However, the links that weak candidates made were typically to the more obvious case facts that related to WDI's key success factors, mission, and vision, rather than being tied to the more important factors, which generally varied, for each strategic issue.

There were two prominent issues relevant to WDI's internal environment that candidates were expected to identify: the governance issues surrounding Jack's and Laura's differing objectives, and the existing cash constraint worsening, given Jack's demand for large dividends. WDI also set a new objective that any assets with a return on assets (ROA) of less than 5% should potentially be sold. Candidates were expected to consider how these issues would affect the viability of each strategic alternative within their analysis and to discuss the investment(s) that best aligned with both Jack's and Laura's preferences. Candidates were also expected to identify the limited cash available for investment and discuss how their recommendations on the strategic alternatives would be affected by that constraint.

There were five issues to be analyzed in this case: the purchase of a composting facility from TNC, the sale of the New Brunswick division, entering an agreement with MDL and building the Flexi-P facility, the investment in a battery recycling plant, and the governance issues. Most candidates did a good job of analyzing the advantages and disadvantages of the strategic and operational issues that were directly presented in the case. However, a disappointing number of candidates neglected to discuss the two entity-level issues mentioned previously (the governance conflict and the cash constraint) within their analysis for each strategic alternative that was available to WDI.

Within the analysis of the major issues, there were three main factors that differentiated strong responses from weak responses. First, a strong response identified and provided an in-depth discussion on the most important decision factors for each issue. Weak candidates tended to list case facts, often failing to explain why those elements were important and how they affected the decision-making process. Second, strong candidates were able to use their quantitative analyses to help support their recommendations by linking their calculations to the stated objectives of WDI (e.g., ROA). On the other hand, weak candidates' quantitative analyses were often unstructured and unclear and, therefore, challenging to follow. Many failed to perform the correct calculation to assess the decision, missing the need to focus on the alternative's ROA. They often struggled to explain how the results of their quantitative analyses would ultimately affect the decision at hand. Third, strong candidates routinely linked their analysis of each alternative to the two prevalent entity-level issues presented in the case, the governance conflict and the cash constraint.

Strong candidates discussed how these two issues affected the viability of each alternative, whereas weak candidates either missed making these links altogether or provided a superficial discussion, listing them as pros or cons, sometimes in contradictory ways from option to option, and failing to adequately highlight the importance of these items. Strong candidates typically discussed both entity-level issues in sufficient depth and sometimes prioritized their strategic recommendations, explaining why one alternative should be invested in before the other. Given the simulation's uncertainty around cash availability and what projects Jack would agree to, this was a valuable aspect of the conclusion.

Weak candidates tended to only perform an issue-by-issue analysis without stepping back to consider the broader perspective and without integrating the key entity-level issues into their conclusions. Their conclusions were often internally inconsistent. For example, weak candidates tended to recommend that WDI forgo the TNC composting facility opportunity because the facility required an expensive upgrade that would require it to be temporarily shut down. These candidates would later go on to recommend either the Flexi-P or battery recycling options, even though those options required a similar upfront investment but would take far longer to start earning revenue. Other candidates mentioned the cash constraint in their situational analysis or in their analysis of the strategic alternatives, but then lost sight of the constraint and recommended spending more cash than was available when considering the dividend payout that was required. Few weak candidates discussed how their recommendations aligned with the conflicting objectives of Laura and Jack.

Most candidates approached their response in a coherent and organized fashion. Only a few candidates struggled to effectively communicate their ideas. These candidates tended to use poor sentence structure, confusing syntax, and an unorganized approach to their response.

### **Additional Comments Specific to Day 1 DHC (Version 2)**

Similar to WDI Version 1, most candidates dedicated the first section of their response to a relevant situational analysis. Most used the information later in their response, making relevant links back to the company's situation when analyzing the specific strategic issues that were presented, and within their conclusions.

There were two prominent issues relative to DHC's internal environment that should have been identified: issues surfacing related to DHC's new advisory board and governance, and DHC having limited cash resources when considering the substantial preferred share redemption that is to occur. Strong candidates tended to clearly identify the governance and cash constraint issues in their situational analysis. Weak candidates tended to simply list information related to key success factors, mission, and vision, taken from either Capstone 1 or this simulation, without identifying which of those items would have the most influence on their decision-making process.

There were four strategic alternatives that candidates were expected to analyze both qualitatively and quantitatively: whether to lease/renovate a building in Old Montreal, whether to renovate the Artist Warehouse Hotel, whether to renovate or sell the Northern Ontario Hotel, and whether to invest in the Luxury Stays website. Candidates were also expected to identify and discuss the governance issues that had arisen around DHC's new advisory board. For each AO, most candidates did a good job of providing a balanced qualitative discussion of both the advantages and disadvantages of each option, which included sufficient links back to the company's situational analysis. One of the main differentiating factors between strong and weak candidates was the ability to identify and discuss in depth the most relevant aspects of each decision. Rather than discuss the more pertinent implications associated with the case facts, weak candidates instead tended to provide superficial links back to SO#1 (for example, weak candidates routinely stated that a case fact linked back to DHC's key success factors without further elaboration). Strong candidates, on the other hand, scrutinized and considered the importance of each case fact and focused their discussion on the most relevant considerations. Most candidates attempted to analyze each strategic option from a quantitative perspective; however, weak candidates struggled to identify and use a relevant quantitative tool, and many opted to apply the same analysis to all options, that being an NPV or IRR, even though that was not always appropriate. Strong candidates demonstrated strong numeracy skills by being able to choose the quantitative analysis tool that was most suited to the information being analyzed in the context of the stated objectives (e.g., an operating margin comparison), while also clearly interpreting how the results of their calculations would affect their recommendations, given the objectives of the company.

However, the focus of the case was on the candidate's ability to integrate both of the DHC board's objectives within their qualitative and quantitative analyses of each AO, while also considering how the apparent governance and cash constraint issues might affect the decision-making process. Few responses incorporated a discussion of both DHC's and the advisory board's objectives within their analysis of the strategic issues along with a discussion of how the important entity-level issues and constraints could affect the outcome of each strategic objective.

Many weak candidates missed integrating and discussing how the stated objectives in the simulation had influenced their decision-making process. Weak candidates also struggled to integrate the entity-level governance and cash constraint issues into their analysis of the issues.

Only strong candidates tended to discuss DHC's cash constraint throughout each of their issue- by-issue discussions as well as within their conclusions and recommendations. Strong candidates also typically tied their recommendations to the company's longer-term objective of going public. Many weak candidates failed to conclude on how their recommendations would affect the company's cash constraint and to discuss how their analysis or recommendations would affect the company's objectives.

As was the case with WDI Version 1, only a few candidates struggled to effectively communicate their ideas. These candidates tended to use poor sentence structure, confusing syntax, and an unorganized approach to their response.

**APPENDIX A**

**EXAMINATION DESIGN, MARKING GUIDE DEVELOPMENT, AND MARKING  
OF THE COMMON FINAL EXAMINATION**



## CFE Design

Day 1 is one four-hour case that is linked to the Capstone 1 case, which is worked on in groups for eight weeks prior to the CFE. When writing the Day 1 case, candidates are allowed access to their Capstone 1 case but not their group's answer or any sample response. The Day 1 case is designed to assess the enabling (professional) skills. Candidates are directed to target a "board room and senior management" level of discussion, with high-level analytics. There are two versions of the Day 1 case. Candidates pre-select the version they will write.

Day 2 is one four-hour case that candidates are given five hours in which to respond. The extra hour gives candidates time to filter and find the information that they need to answer *their* role requirements from within the common information presented. Day 2 is designed to assess the technical competencies in **depth** (Level 2 and Level 3). Candidates pre-select a role (Assurance, Finance, Taxation, or Performance Management). All candidates work with the same case — it has a common section and four sets of appendices containing additional information applicable to each of the four unique roles. The required tasks, regardless of the role, are clearly directed unless there is an undirected/enabling issue in the case that the board expects candidates to identify on their own. Day 2 evaluates the competencies listed in the *CPA Competency Map* mostly in the elective area and in common Financial Reporting and/or Management Accounting areas in **depth**. The role **depth** test (Level 2) may also include coverage of other competency areas from the common core.

Day 3 is a four-hour examination containing a mix of small cases (60 to 90 minutes each) that evaluate the common core competencies only. The Day 3 cases provide additional opportunities for **depth** in Financial Reporting and Management Accounting and all the **breadth** opportunities for all the technical competency areas. Cases are time constrained, and they are designed to cover different competency areas within each case. A higher level of integration and judgment is required on Day 3 of the CFE than in the core modules, although the technical competencies are tested at the common core level of expectation.

The assessment opportunities on the Day 2 case are given mark values such that each of Day 2 and Day 3 are weighted equally.

## The Development of Marking Guides and the Provincial Review Centre

Prior to the Common Final Examination booklets being published, provincial reviewers, appointed by each region, meet to examine the simulations and the preliminary marking guides. The provincial reviewers' comments are then considered by the board when it finalizes the examination set and again when the senior markers review the marking guides in the context of actual responses at the Preliminary Evaluation Centre.

## **The May 2021 CFE Marking Centre**

The May 2021 CFE Evaluation Centre was 100% remote due to Covid-19. Approximately 75 individuals were chosen from the pool of experienced markers to participate in the May 2021 CFE Evaluation Centre. The marking was supervised by the CPA Canada Common Final Examination full-time board staff.

The Day 1 Version 1 linked case was marked by a team of five people from June 11 to June 17, 2021. The Day 1 Version 2 linked case was marked by a four-member team from June 1 to June 5, 2021. The Day 2 Common assessment opportunities were marked separately from the role assessment opportunities by a team of 11 people from June 10 to June 21, 2021. Day 2 Assurance was marked by a team of eight people from June 11 to June 23, 2021. Day 2 Performance Management was marked by a team of eight people from June 13 to June 21, 2021. Day 2 Finance was marked by a team of three people from June 2 to June 7, 2021. Day 2 Tax was marked by a team of three people from June 4 to June 6, 2021. All three Day 3 cases were marked from June 15 to June 26, 2021. The Day 3 simulations were marked by a total of 33 people.

In advance of the marking centre, the members of the CFE subcommittee, staff, leaders, and assistant leaders participate in a three- to six-day preliminary evaluation centre (PEC). Participants reviewed the marking guides, applied them to randomly selected candidate responses, and made necessary revisions to the marking guidelines, taking into account the comments on the marking guides received from provincial reviewers.

The smaller teams, whose markers attended PEC, moved directly from PEC to live marking. The larger teams followed the traditional marking centre schedule, which included a start-up phase to train the markers. At the beginning of the marking centre, the leaders and assistant leaders presented the marking guides to their teams, and staff and the BOE vice-chair supervised. The teams undertook a two-phase test-marking procedure prior to actual marking. Phase one consisted of marking guide familiarization, during which markers applied the marking guide to copies of candidates' responses and collectively reviewed their results. Phase one thus ensured that all markers understood the issues in the marking guide and the basis on which to apply each expectation level. Phase two consisted of an expanded test marking of several responses to establish marker congruence.

After the training and test-marking phases, and only when marker congruence was achieved, live marking commenced. There were only two French candidates. Each team had a bilingual person who marked these papers late in the process, after the marking guidelines were clearly understood. Any arbitration was performed by a second bilingual person on the team or by a bilingual staff person.

The board strives for the highest possible marking consistency and quality control. Leaders and assistant leaders, therefore, devoted much of their time to cross-marking and other monitoring activities. Control papers were automatically fed into the system daily to check markers' consistency. Markers' statistics were reviewed to ensure that marking remained consistent throughout the centre. Based on analysis of the statistics, leaders reviewed and, if necessary, re-marked papers to ensure that the assessment opportunities were marked fairly for all candidates. Additional audits were performed at the end of marking on any of the larger differences between markers.

### **Borderline Marking (Day 1)**

Each candidate's paper was marked once. All candidates' responses that were assessed as clear fail, marginal fail, and marginal pass were marked a second time by the team leader, an assistant team leader or a senior marker. Clear pass results were also audited to ensure accuracy of marking.

### **Double Marking (Day 2)**

Each candidate's Day 2 paper was marked independently by two different markers. If the two initial markings differed on any assessment opportunity, an arbitrator (the leader, the assistant leader, or a senior marker) compared the two initial markings and determined the final assessment.

As an added measure to ensure that markers were consistently applying the marking guide, a two-day rule exists that results in the second round of marking not beginning until two days have elapsed since the first marking. Adherence to this rule ensures that any movement in the application of the marking guides due to marker interpretations during the first two days of live marking are stabilized before the second marking and arbitration process begin.

### **Borderline Marking (Day 3)**

Day 3 was marked using a borderline model. All Day 3 responses were marked once and then the Day 2 and Day 3 results were combined. All failing candidates who passed the Day 2 role test, had their Day 3 response marked a second time by an independent marker, and any differences between the first and second markings were arbitrated by a leader or senior marker.

### **Subsequent Request for Remark of Results and Request for Performance Analysis**

Failing candidates may request a remark of their examination results and/or a performance analysis for either Day 1, or Day 2 and Day 3, or for all three days.

#### Review and Remarking Approach

Great care is exercised in the original marking and tabulating of the papers and results. The following review and marking procedures are applied to all three papers constituting the Common Final Examination.

Under the supervision of the chair of the Board of Examiners, as well as CPA Canada Evaluations and International Assessment staff, the responses are reviewed by the leaders and assistant leaders who did the original marking. The leaders and assistant leaders read the responses and compare them to the marking guides used at the marking centre. In reviewing candidates' results, two aspects are considered. First, it must be determined that the basis of marking the papers has been consistent with that accorded other candidates who wrote the examination. Second, all responses reviewed are subjected to a careful check to ensure the markers have indicated that consideration has been given to all material submitted by the candidate.

The results are tabulated and the decision made regarding whether any candidates have been treated unfairly and should be granted a pass on the examination.

The results are then forwarded to the provincial bodies for notification of the candidates.

**APPENDIX B**

**MAY 26, 2021 – DAY 1 SIMULATIONS**

**COMMON FINAL EXAMINATION  
MAY 26, 2021 – DAY 1**

**Case (WDI-Version 1)**

**(Suggested time: 240 minutes)**

It is March 2023, and Shawn Bryson, your boss at Stineman Consulting Group, assigns you, CPA, to another consulting engagement with Waste Disposal Inc. (WDI).

At a recent meeting, you received the following update from Laura Simmons.

There have been no changes to WDI's vision, mission or core values and, other than an upgrade that allows WDI to recycle PET plastics, the company's operations have not substantively changed. WDI has been successfully meeting its sustainability goals by switching its fleet vehicles to natural gas and investing in landfill biogas recapture equipment, both of which have helped reduce its greenhouse gas emissions by 30%.

Four of the six municipalities proceeded to construct the planned organic waste treatment facility; however, because WDI declined the project, a national competitor was used. These municipalities did not renew their contracts with WDI. However, WDI was able to replace these contracts with new contracts with similar-sized customers. As few competitors provide PET-plastic recycling, WDI has acquired new customers by offering that service. WDI has retained its other customers by keeping the same contract terms and holding the increase in annual fees to only 1%.

WDI invested heavily in leading-edge technology at all its recycling plants. In addition to enabling PET-plastic recycling, the upgrades improved the OCC and mixed-paper recycling functions. To help pay for these investments, WDI issued preferred shares to Kingsley Investment Inc. (Kingsley). The upgrades have significantly increased WDI's operating margin in the recycling division, and overall.

Although Jack Kingsley (Jack) wants to sell Kingsley's shares of WDI to a strategic buyer in the next year or two, he has decided to get a more immediate return on his investment through dividend payments. To make up for the fact that there have been no common share dividends paid since 2017, Jack will demand that a common share dividend of \$7.5 million be declared, in addition to a preferred share dividend payment of \$3.2 million.

Laura asks you to prepare a report for WDI's board that strategically evaluates the available proposals. For each proposal, you are to advise the board of any significant factors that may not have been considered, identify information that should be obtained before making decisions, and where possible, recommend a course of action that is best suited to WDI. Laura also asks you to bring to attention any other significant issues you identify.

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**APPENDIX I**  
**BOARD MEETING DIALOGUE WITH CPA IN ATTENDANCE**  
*March 15, 2023*

Laura: Thank you, CPA, for attending our board meeting. Dianne McTavish from Kingsley, who has experience in the waste management industry and expertise in recycling, replaced Marlene as the chair on November 15, 2020. There have been no other changes in board members or key management positions, but the following significant events have occurred:

April 15, 2020	WDI sold its surplus recycled materials and decided to continue to process all recyclable materials in its plants.
June 1, 2020	Issued 600,000 non-voting cumulative 12% convertible preferred shares to Kingsley for \$15 per share, with dividends payable annually on May 31 and all other conditions as originally proposed.
June 15, 2020	Signed a five-year contract, expiring May 31, 2025, with Kingsley, whereby it provides drivers and collection trucks at an initial cost of \$5 per kilometre, with annual increases tied to inflation. Kingsley agreed to purchase some of WDI's vehicles and has acquired 60% of the fleet to date.
February 20, 2021	Completed upgrades at two recycling plants, at a total cost of \$4 million.
May 3, 2021	Updated website to improve customer interaction and provide marketing materials for potential new customers.
September 4, 2021	Renewed line of credit, with the same conditions and terms. The next renewal will occur in September 2023.
October 10, 2021	Completed upgrades at the remaining two recycling plants, at a total cost of \$6 million.
May 3, 2022	Completed conversion of the remaining fleet to natural gas.

Laura: The Board of Director's 2023 objective is to improve the return on assets (ROA), which was 7.2% in 2022, compared to an industry average of 10%. The board has agreed that any assets with an ROA less than 5% should potentially be sold. The board also expressed that, for any investments, preference should be given to projects that support WDI's stated mission, vision and core values.

Dianne: I represent Kingsley on this board and, even though I might disagree with Jack's approach, he wants to receive the highest return on this investment through dividends and capital gains. Therefore, if any new investments are made, there should still be enough cash available to pay out both the preferred share and common share dividends. Also, Jack will likely only support investments that provide a more immediate return.



**APPENDIX I (continued)**  
**BOARD MEETING DIALOGUE WITH CPA IN ATTENDANCE**

- Laura: Personally, I think keeping our cash in the company and investing it where it can generate a strong return will appeal most to a potential buyer. But let us discuss it further after we have reviewed the proposals. Brian, please start.
- Brian: TN Composting Limited (TNC), a privately-owned company that operates an anaerobic composting facility, is for sale. Giselle Laflamme, the sole shareholder, wishes to retire. She is asking \$14 million for the assets. I have gathered information on TNC.
- Laura: I support this investment for the same reasons that I supported the organic-waste treatment facility proposed in 2020. It is a great opportunity for WDI to get into this sector with an existing plant and customer base. If we meet with Giselle now, I am confident we can develop a viable transition plan.
- Brian: It will bring in new customers and is one of only a few privately-owned companies in the area in this industry. We can offer these customers our other waste management services, thereby increasing revenues and their connection to us. Our new contracts can be designed to entice these customers to give us their waste collection and disposal business. It is important to note, however, that this facility is due for a \$2 million equipment upgrade.
- Robert: My recommendations continue to be based on what I think is best for WDI, which I think will also be best for Jack in the long run. Therefore, I am not in favour of stripping cash out of WDI and have told Jack he is being short-sighted. I agree with investing in an organic-waste processing facility, but am just not sure this is the right one. The upgrades may cost more like \$6 million and will take at least five months to complete, during which time the facility will be closed.
- Brian: Perhaps, but there are likely other synergies with this acquisition that we have not considered. The purchase would allow us to enter this sector at a reasonable price. As there is a lot of interest in TNC, I am sure one of our competitors will buy it if we do not.
- Dianne: This investment will require significant upfront cash, and I wonder whether the return will be high enough for Jack. Based on my knowledge of the industry, I think this investment is a favourable long-term project, but Jack may reject it.

**APPENDIX I (continued)**  
**BOARD MEETING DIALOGUE WITH CPA IN ATTENDANCE**

- Dianne: Instead, consider this about the New Brunswick (NB) assets. With a combined ROA of less than 3%, it makes sense to sell the collection centres and transfer station as stand-alone items. But no one seems interested in buying just these assets, and I doubt that will change. However, we have an offer for \$93 million from Canada Waste Management Incorporated (CWM), a national competitor, to purchase the entire NB division. WDI should accept this offer as the price is excellent! Recent market transactions for a similar bundle of assets (collection, transfer, landfill and recycling) indicate that the price offered is more than fair.
- Laura: Sell it all? But WDI is one of the few local companies remaining, and the NB assets represent a significant portion of our business.
- Robert: I do not think we should sell any of our plants that recycle PET plastics, as demand for these services is increasing. In fact, we should expand to include aluminum recycling next year.
- Dianne: That is exactly why CWM's offer should be accepted, to secure other opportunities, such as aluminum recycling.
- Brian: Laura, I understand your reluctance, but WDI is short on cash and the funds from this sale could be invested in new growth areas within the industry.
- Robert: That is true. In fact, Manchester Design Limited (MDL) proposed an agreement whereby WDI would become its sole supplier of a newly engineered type of recycled flexible plastic.
- Laura: MDL's owners are professional engineers with backgrounds in recycled materials. They have a growing business and appear to be industry innovators.
- Robert: Yes, Laura, and they are experimenting with using a new type of recycled flexible plastic (Flexi-P) in their products. Compared to what is available in the marketplace, Flexi-P appears superior. It is strong, durable and environmentally friendly upon disposal. MDL hopes that WDI will supply the new material. To do so, WDI would need to build a new recycling plant capable of producing Flexi-P.
- Brian: I like this proposal. MDL's engineering expertise would help WDI enter a new, emerging market segment.
- Dianne: Okay, but how much would it cost for us to build a facility capable of producing Flexi-P? How long before there is a decent return on this investment? Further, Jack will not like WDI expanding into areas not tied to traditional waste management, which is our core competency.

**APPENDIX I (continued)**  
**BOARD MEETING DIALOGUE WITH CPA IN ATTENDANCE**

Brian: Of course, it will take time to build the new facility, but just look at how successful our addition of PET-plastic recycling has been. With this investment, we will be able to produce Flexi-P and recycled PET plastics. We can further diversify our revenue streams and become more competitive.

Dianne: This seems awfully risky. What if Flexi-P does not turn out to be the wonder product that MDL's engineers seem to think it will be?

Laura: There may be another way to diversify. Rayland Energy Inc. (REI) manufactures alkaline batteries and wants to make a \$34 million joint investment in a battery-recycling plant. REI is owned by a family I have known all my life. They started their business around the same time my father started WDI.

Brian: If, as anticipated, alkaline batteries are regulated as a hazardous waste product, REI will be required to collect and recycle these products at the end of their life, and they want to be ready.

Dianne: Because of their low metal content, there is very little financial return for recycling alkaline batteries. I do not think the investment will meet Jack's requirements.

Robert: That is because current volumes are too low. If legislation is passed, the increased volume of batteries required to be recycled would make it profitable. However, it will be vital for WDI to secure a sufficient volume of batteries through long-term contracts. I support this venture because the batteries will be diverted from landfills.

Brian: I do not like joint investments as they often lead to inaction when an agreement cannot be reached. I also do not want to put WDI at risk of having to invest more than the initial \$17 million if things do not work out.

Laura: I believe REI's goals and objectives are similar to WDI's, and we can ensure our needs are clearly stated in the agreement. From what I know, REI does not make risky investments and tends to make careful, informed decisions.

The last item is the contract for trucks and drivers. We transferred the New Brunswick collection operations to Kingsley but have yet to transfer the Nova Scotia operations. Customers in New Brunswick are complaining that the drivers are rude and that waste has been left behind. I discussed the complaints with Jack but there has been no improvement. Also, the contract with Kingsley states annual increases will be limited to inflation, but each year, the increase has been more than double that rate. Another rate increase, above inflation, is coming on May 1—this is a violation of our agreement and I want to cancel the contract.

**APPENDIX I (continued)**  
**BOARD MEETING DIALOGUE WITH CPA IN ATTENDANCE**

Dianne: WDI's costs are still lower under this contract compared to using its own drivers and trucks, and Kingsley can justify the annual increases.

Brian: Actually, that is not true. Since converting to natural gas, our costs in Nova Scotia are slightly less compared to Kingsley's contract rate.

Dianne: If you are serious about cancelling the contract, I will need to advise Jack and Kingsley's lawyers.

Laura: I am serious. Tell them we are considering more serious steps than terminating the contract. I have had enough of being pushed around.

**APPENDIX II**  
**EXCERPTS FROM WDI'S INTERNAL REPORTS**

*Earnings Comparison*

*For the year ended December 31, 2022, compared to December 31, 2020*

*(in thousands of Canadian dollars)*

	<b>Collection Centres</b>	<b>Transfer Stations</b>	<b>Landfill Sites</b>	<b>Recycling Plants</b>	<b>Total</b>
Revenue	\$49,500	\$8,400	\$14,600	\$46,206	\$118,706
<i>2020 comparatives</i>	<i>\$48,400</i>	<i>\$8,200</i>	<i>\$17,300</i>	<i>\$7,300</i>	<i>\$81,200</i>
<i>% change</i>	<i>2%</i>	<i>2%</i>	<i>-16%</i>	<i>533%</i>	<i>46%</i>
Labour and benefits	3,510	1,350	2,290	1,230	8,380
Cost of goods sold	0	0	0	28,204	28,204
Purchases – fuel	5,800	1,560	1,840	100	9,300
Trucking costs paid to Kingsley	17,175	0	0	0	17,175
Amortization	3,900	700	3,950	1,365	9,915
Remediation of landfill accretion	0	0	220	0	220
Other operating costs	12,700	3,190	4,210	1,263	21,363
	Not	Not	Not	Not	
Selling and administrative	allocated	allocated	allocated	allocated	10,890
	43,085	6,800	12,510	32,162	105,447
Operating income	\$ 6,415	\$ 1,600	\$ 2,090	\$ 14,044	\$ 13,259
<i>Operating margin</i>	<i>13%</i>	<i>19%</i>	<i>14%</i>	<i>30%</i>	<i>11%</i>
<i>2020 comparatives</i>	<i>16%</i>	<i>22%</i>	<i>30%</i>	<i>2%</i>	<i>8%</i>
<i>% change</i>	<i>-3%</i>	<i>-3%</i>	<i>-16%</i>	<i>28%</i>	<i>3%</i>

**APPENDIX III**  
**SUMMARY OF CASH AVAILABLE**  
*(in thousands of Canadian dollars)*

Cash on hand	\$ 2,650
Cash from operating activities (projected)	14,000
Long-term debt payment (GBI term loan)	<u>(4,000)</u>
Cash available	<u>\$ 12,650</u>

WDI can access an additional \$20 million in debt financing without breaching any of its existing debt covenants.

#### **APPENDIX IV INDUSTRY UPDATE**

As predicted, the amount of all types of waste has increased. The volume of PET plastics recycled is expected to increase by 8% annually for the next three years, causing more competitors to enter this market. Organic waste is expected to increase by 5% annually for several years.

In the last few years, regulations that divert organic and recyclable-material waste from landfills to other processing centres have tightened. Legislation is being proposed that will require many types of plastic products to be made from at least 55% recycled material. Alkaline batteries, which now account for 90% of all batteries sold and which are currently disposed of in landfill sites, are more toxic to the environment than was originally thought. Legislation is being considered that will require these batteries to be recycled; however, municipalities do not anticipate this change to take effect for at least another three years.

The economy has grown by about 3%, with consumer spending keeping pace. With fears of inflation climbing from its current rate of 3.2%, interest rates have been increasing, with the prime rate currently at 4%. Total industry revenues are expected to increase by 2% annually. It is expected that landfill tipping fees will remain low whereas the processing fees for organic-waste composting and the selling price of recycled materials will continue to increase.

**APPENDIX V**  
**TN COMPOSTING LIMITED PROPOSAL**  
*(Prepared by Brian Leung)*

TNC is an organic-waste processing facility that uses anaerobic digestion to produce compost and biogas. The compost is sold to landscapers, farmers, and gardeners, whereas the biogas is captured and converted into electricity to fuel the facility.

TNC collects and processes organic waste from 400 restaurants, 250 food processors, three hospitals, and one university, all in Nova Scotia. None are currently WDI customers.

TNC's contracts are all for three years, and collection and processing rates are based on weight. About 55% of the contracts, which generate most of TNC's collection and processing revenues, will expire in 2023, and the remaining 45% expire in 2024. Five of TNC's customers account for 70% of total revenue.

Giselle is very involved in TNC's daily operations and has an excellent reputation in the community. She is the sole contact for all TNC customers and deals with all their problems. As a result, many customers have been with TNC since its inception in 2007 and customer turnover is very low in comparison to the industry average.

The plant currently processes 40,000 tonnes of organic waste annually and has the capacity to process 50,000 tonnes. The equipment has not been upgraded in the past five years and relies on outdated technology.

At the current usage rate of 40,000 tonnes and after the equipment has been upgraded, TNC can expect an operating income of \$1.6 million per year.



**APPENDIX VI**  
**SALE OF NEW BRUNSWICK ASSETS**

The following excerpt from internal reports provides details for the NB assets (*in thousands of Canadian dollars*):

	<b>Collection Centres</b>	<b>Transfer Station</b>	<b>Landfill Site</b>	<b>Recycling Plants</b>	<b>Total</b>
Revenue	\$30,244	\$5,040	\$8,800	\$21,580	\$65,664
Labour and benefits	1,500	790	1,480	625	4,395
Cost of goods sold	0	0	0	14,100	14,100
Purchases – fuel	0	980	870	60	1,910
Trucking costs paid to Kingsley	17,175	0	0	0	17,175
Amortization	1,300	350	2,760	680	5,090
Remediation of landfill accretion	0	0	160	0	160
Other operating costs	7,100	1,970	2,340	620	12,530
Total costs	27,075	4,090	7,610	16,085	54,860
Operating income	\$ 3,169	\$ 950	\$1,190	\$ 5,495	\$10,804
<i>Operating margin</i>	10%	19%	14%	25%	16%
<i>Return on assets</i>	3%	2%	17%	28%	11%

Selling and administrative costs of \$4.8 million are allocated to NB; these costs are not included above.

**APPENDIX VII**  
**PROPOSED AGREEMENT WITH MANCHESTER DESIGN LIMITED**  
*(Prepared by Robert Manning)*

MDL currently manufactures products using recycled PET plastic and wants to expand its product offering to include products made from a new type of advanced flexible plastic (Flexi-P). MDL has been operating in Nova Scotia for 11 years and sells across Canada. Since 2019, MDL's sales have grown by 30% annually.

As part of a 10-year agreement, MDL would provide WDI with exclusive access to the technology involved in Flexi-P's production process. In return, WDI would be required to fulfill MDL's Flexi-P supply needs before selling to other customers.

The new plant will convert recyclable PET plastic into Flexi-P. It must be ready to produce within two years of signing an agreement. MDL estimates a cost of between \$18 million and \$22 million to build the plant. Given that the technology is changing so quickly, it is assumed that this plant will be obsolete in 10 years.

According to MDL's engineers, the new plant will have a total annual capacity of 30,000 tonnes, of which MDL will initially utilize 17,000 tonnes. MDL predicts its demand for Flexi-P will increase by 9% annually. MDL will pay WDI \$750 per tonne of Flexi-P. The plant's fixed costs are estimated by MDL to be \$1.25 million per year and variable costs to be \$415 per tonne. However, because this is a completely new technology, MDL's engineers cautioned that the costs are difficult to estimate with accuracy.

WDI uses a discount rate of 15% when assessing this type of investment.

**APPENDIX VIII**  
**JOINT INVESTMENT WITH RAYLAND ENERGY INC.**  
*(Prepared by Laura Simmons)*

**Proposal**

- REI and WDI will each own 50% of a separate corporation that will hold the assets and liabilities of the battery-recycling facility.
- Each party will initially contribute \$17 million toward the expected cost of building the battery-recycling plant, which should be operational by June 2024. Any additional financing requirements will be shared equally.
- To manage the daily operations of the facility, WDI will be paid a fixed percentage of revenue as a management fee (percentage to be determined).
- There will be four directors on the board (each party will provide two). The chairman will rotate between the parties every two years.
- The board will make all decisions related to operation, strategy, and finances. All decisions must be unanimous.
- Shares will not be transferable or sold to outside parties unless agreed to by the other party. Each party will have the right of first refusal to purchase the shares of the other party.
- The corporation will be dissolved when either party no longer agrees to the terms, or if required, due to legal, financial, or market concerns.

Based on REI's projection, WDI's return on assets would approximate 8%, and the facility would have capacity for additional outside contracts.

**COMMON FINAL EXAMINATION  
MAY 26, 2021 – DAY 1**

**Case (DHC-Version 2)**

**(Suggested time: 240 minutes)**

It is April 2023, and Irene Mallik, your boss at Wilson Consulting Group, assigns you to another engagement with Distinct Hotels Corporation (DHC).

Since 2020, Canadians' per capita disposable income has increased slightly, and consumer confidence is moderate. A strengthening Canadian dollar has increased travel costs and reduced the number of international visitors to Canada. Interest rates are expected to continue to increase for at least another two years.

The number of leisure travellers is expected to increase by only 2% annually, even for boutique hotels. Leisure travellers, both domestic and international, are increasingly price sensitive. The number of travellers booking with companies such as Airbnb and VRBO continues to increase, at the expense of traditional hotel accommodations. This increase is attributed to families looking for accommodations that include kitchen facilities and more living space at reasonable prices.

The number of business travellers is expected to increase by 6% annually. Recent studies show that face-to-face meetings are still preferred over teleconferencing. Also, a growing number of businesses are willing to pay a premium for hotels that are small, unique, and cater to the needs of business travellers.

On June 20, 2020, after receiving a substantial inheritance, Kelvin and Alyson's son, Jonathan Chung, purchased \$3 million of newly issued DHC common shares. Jonathan now owns 8% of DHC and each of the other shareholders own 23%.

Although the Board of Directors (the board) remains committed to branding itself as an operator of boutique hotels that are upscale or luxurious, in 2021, the vision was revised:

*"We make guests feel welcome and special by providing attentive, personalized, and exceptional service in a unique and luxurious setting."*

The mission was also revised:

*"We are operators of unique boutique hotels built with a welcoming and luxurious atmosphere, providing each guest with attentive and caring service beyond expectations."*

DHC's core values remain unchanged.

Irene asks you to draft a report for DHC's board, highlighting the significant changes in DHC's situation and evaluating the major decisions facing DHC, with a strategic focus. For each proposal, you are to advise the board of any significant factors the board may not have considered and identify any additional information it must obtain before making decisions. The report should also include any other significant issues you identify.

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**APPENDIX I**  
**TRANSCRIPT OF PREVIOUS BOARD MEETING**

Derek: Thank you, Irene and CPA, for attending our board meeting. Since your firm's last engagement with DHC, the only change to management is that, following Doug Mallette's termination, Jonathan became the director of marketing and brand development. First Canadian Hotel Reviews accepted that Doug acted alone, and DHC's rating was not impacted.

The major events since the last engagement are summarized below:

April 1, 2020	Purchased Artists Warehouse Hotel (AWH) for \$32 million, in cash and non-voting preferred shares issued to Isabelle, as originally proposed.
April 1, 2020	Signed a 20-year management contract with Huron Heights Hotel (HHH), with all terms and conditions as originally proposed.
May 1, 2020	Converted the Kelowna golf course to semi-private status.
May 21, 2020	Updated DHC's website, at a cost of \$980,000.
October 19, 2020	Completed renovations of \$11 million to the Nova Scotia hotel, and of \$4 million in total to DHC's other properties.
November 2, 2020	Finalized a new loan agreement with Northern Land Loans. The loan of \$39 million is repayable in annual payments of \$2 million on June 30, bears interest at 7.2%, and matures in 13 years.
February 2, 2021	Sold the Awani Spa licensing rights for \$750,000.
May 1, 2021	Declared and paid the dividends on DHC's preferred shares and a \$500,000 dividend on common shares.
July 2, 2021	Renewed DHC's line of credit, with the same terms and conditions.
April 3, 2022	Completed renovations of \$3 million to the Northern Ontario hotel, aimed at attracting people for health and wellness retreats.
May 1, 2022	Declared and paid the dividends on DHC's preferred shares and a \$500,000 dividend on common shares.
August 15, 2022	Established an advisory board, which meets quarterly.
March 2, 2023	Isabelle announced her intent to redeem her preferred shares on May 1, 2023. As agreed, the dividends for 2023 will be declared and paid on that date. Commenced refinancing discussions with the bank.

Derek: Although DHC's results have improved, we are delaying going public until 2025 to allow us to improve certain metrics. We have set targets to do so, including maintaining DHC's average daily rate (ADR) of \$440. These targets also include increasing our occupancy rate to 85% and achieving an operating margin of 15%, both by 2024. Our advisory board has also provided suggestions that we should keep in mind. We have several investment proposals to discuss. Kelvin, why don't you start?

**APPENDIX I (continued)**  
**TRANSCRIPT OF PREVIOUS BOARD MEETING**

- Kelvin: I found a great historic property in the Old Montreal district. As one of the city's first banks, it features a unique façade. These kinds of properties are seldom available. The lessor would allow us to convert it to a 50-room boutique hotel. The hotel would appeal to leisure travellers wanting personalized and pampered service. I am excited by this opportunity! There will be no restaurant, but this should not be an issue as there are a variety of excellent restaurants in the area.
- Jessica: I like that the property is in a large metropolitan centre.
- Alyson: However, it is much smaller than DHC's other hotels.
- Jonathan: Since that is the size more commonly found in Europe, it may appeal to international travellers. I already have some ideas for how to market the hotel.
- Kelvin: For now, the building owner, RH Holdings (RH), is only willing to lease the property, but might be convinced to sell in the future. I have summarized the lease terms and prepared some rough numbers.
- Derek: What if RH gets a great offer for the building from someone else and decides to sell? How will the advisory board react, given their suggestions for how to achieve DHC's objectives?
- Kelvin: We need to remember that the advisory board is just that. Its members have no money invested in the company. We do not have to follow their suggestions. DHC did well without it in the past.
- Derek: In terms of risk, how does this type of arrangement compare to our management agreement with HHH? CPA, please provide your thoughts. Jessica, do you want to discuss the situation at AWH?
- Jessica: Although Isabelle is still involved with AWH, she wants to retire. The hotel has been struggling, with net earnings after tax of \$1,315,000 in 2022. Despite our efforts to improve its standards, and getting a five-star rating, both the ADR of \$300 and the occupancy rate of 75% were lower than expected. The occupancy rate is in line with other Toronto hotels and the decline is attributable to fewer leisure travellers in that area of Toronto. Isabelle and I suggest remodelling the hotel to appeal to the business traveller. Isabelle compiled some estimates for our consideration.
- Derek: I like the idea. I expect the advisory board would support it because of the increase in the percentage of business travellers.

**APPENDIX I (continued)**  
**TRANSCRIPT OF PREVIOUS BOARD MEETING**

Kelvin: The advisory board does not know everything about our business. I am skeptical.

Alyson: Renovations will be costly. We will need to outfit each room with work areas featuring the latest technology and build a business centre, fitness facility, restaurant, and bar. To compete in Toronto's especially competitive market, DHC will also have to provide personalized services, a loyalty program, and a mobile app.

Kelvin: Some of those changes would dramatically change the uniqueness of this hotel.

Jessica: We need to do something. The ADR and occupancy rate have fallen each year since we acquired AWH. If we can renovate while retaining the hotel's charm, it makes sense.

Derek: Sean LeBois said his company would do the renovations for \$6 million. I gave Jessica his quote.

Kelvin: The quote is too high. Those renovations should not cost more than \$5.7 million. I wish you had asked me about this beforehand. You have put us in an awkward position.

Derek: Who cares if DHC pays him a little extra for this contract? He has spent countless hours helping us out by sitting on our advisory board.

Kelvin: We used LeBois' company for a small job at our Northern Ontario hotel. The work was completed late and some of it was not up to my specifications and needed to be redone.

Derek: Sean knows his company did poorly on that job but that was because of new staff he had hired. He deserves a second chance.

Jonathan: Knowing this proposal was on the agenda, I asked a few large corporations how DHC could obtain their business. They generally set maximum room rates by city, and for Toronto, the rates average \$250. The impact on our ADR will depend on the resulting mix of business and leisure travellers. We would also have to provide 30- to 60-day payment terms and guarantee them room availability.

Derek: Let's have CPA review Isabelle's estimates and determine whether the project makes sense for DHC. After the renovations, I would expect operating results at AWH to be comparable with that of our existing properties. We will choose the contractor afterwards. Next on the agenda is Northern Ontario.



**APPENDIX I (continued)**  
**TRANSCRIPT OF PREVIOUS BOARD MEETING**

- Kelvin: I am proposing additional renovations of \$13 million to the Northern Ontario hotel.
- Jessica: Nothing we have tried has worked so far, including adding a games room and swimming pool. Since 2019, the ADR has only increased by \$40 to \$300, and the occupancy rate has only increased to 70%.
- Kelvin: Our rooms are too small for families and we do not provide enough extra services. Existing rooms would be converted to one-bedroom suites with kitchens and sitting areas. The renovations will reduce the room count to 150. We could provide childcare, children's clubs, and lifeguards at the pool. These changes should improve the ADR and occupancy rate substantially since they better target families, but will also likely appeal to international travellers.
- Alyson: Families are not looking for the pampered service that DHC typically offers. I do not support this proposal.
- Derek: Given its northern location, we have never been able to overcome the seasonality factor. I am opposed to investing more money in this hotel when the funds could be better spent elsewhere.
- Alyson: Are you suggesting that we sell the Northern Ontario hotel?
- Derek: Yes, and the advisory board shares that opinion.
- Kelvin: How do you know that? The advisory board has never discussed a possible sale of this property.
- Derek: I called a few members of the advisory board and asked for their thoughts. We should be able to sell the hotel for \$40 million. If we ask that price, Thomas Wong may have even found a buyer.
- Kelvin: You have spent a lot of time working on this without our knowledge. Why did I waste time finding ways to renovate the property?
- Alyson: I have also been thinking it might be time to sell. In addition to the room size issue, the location is not ideal for a boutique hotel.
- Jessica: Selling might negatively impact DHC's eventual initial public offering plans.

**APPENDIX I (continued)**  
**TRANSCRIPT OF PREVIOUS BOARD MEETING**

Derek: I am not sure I agree. CPA can assess the risks and benefits of each alternative. Next is an investment proposal from Jonathan.

Jonathan: In 2020, DHC hired Cindy Woodman, a website designer who previously worked with Airbnb. Cindy suggested that DHC develop a new online booking business specializing in luxury, short-term stays. The proposed name for the business is “Luxury Stays” (Luxury). DHC’s and Luxury’s websites would be linked, and we would promote the luxury services, to be provided by DHC. Cindy and I have put together additional information.

Derek: The advisory board suggested that DHC target the short-term rental market. Luxury’s hosts will be primarily boutique hotels and private homeowners. This is a way for us to penetrate this market segment.

Kelvin: I worry about Luxury negatively impacting DHC’s image. How will Luxury find the hosts that will list their accommodations? Would we need to inspect every one of them to ensure that they meet DHC’s high standards?

Jonathan: Luxury would use its new website to recruit hosts. The accommodations could also be inspected, but I doubt that Luxury could charge extra fees to recover inspection costs; they would have to be absorbed. Instead, we could do like other similar businesses, and rely on guest reviews to assess how well the accommodations meet DHC’s standards.

Alyson: If customers stay in private homes or non-DHC hotels, could it take away revenue from our DHC hotels?

Jonathan: We do not plan to list DHC’s hotels, and as the site will appeal to guests who would not otherwise stay at DHC hotels, that should not be an issue.

Jessica: If we choose to create Luxury, DHC would provide extra services for all bookings, thereby offering “exceptional” service to Luxury’s clients. Offering these extra services allows all guests to enjoy a unique experience.

Derek: The initial investment is small and targets a new market segment. I think we should consider it. CPA, please provide your assessment.

CPA: Of course. Our report will be ready for your next meeting.

Derek: Thank you. Meeting adjourned.

## **APPENDIX II ADVISORY BOARD**

The advisory board membership consists of:

- George Karpenter (chairperson, and friend of Derek) has spent twenty years working in upscale hotels.
- Warren Gaspari (friend of Derek) has spent fifteen years as a conference manager with a global hotel chain.
- Samina Kalas (friend of Alyson) stays in short-term rentals whenever she travels.
- Shirley Lata (friend of Jessica) has spent eight years making travel arrangements for staff of the large company that she works for.
- Sean LeBois (friend of Derek) owns a business that specializes in hotel furniture and equipment sales, and hotel renovations.
- Laura Smythe (friend of Jessica) is an equity analyst specializing in the hotel industry.
- Thomas Wong (friend of Derek) has ten years of experience promoting tourism publications.
- Dominique Girard (friend of Jonathan) is a hotel and travel writer for Thomas Wong.

The advisory board's mandate is to provide:

- suggestions regarding DHC's strategic direction.
- information regarding trends in the hotel industry.
- advice on preparing to go public.
- advice on operational issues.
- advice on how to improve community relations.

To help DHC achieve its specific objectives and achieve a successful public offering, the advisory board recently made the following suggestions:

- Ensure that all key metrics align with industry averages, with the exception of the operating margin, which should exceed industry averages.
- Increase the number of rooms to 1,000 by 2025.
- Increase the percentage of business travellers to 40%.
- Diversify in order to reduce reliance on hotel revenue.

**APPENDIX III**  
**INTERNAL FINANCIAL STATEMENTS**

*Distinct Hotels Corporation*  
*Consolidated Statement of Comprehensive Income*  
*For the year ended December 31, 2022*  
*(in thousands of Canadian dollars)*

**Revenues**

Room revenue	\$ 95,204
AWH – room revenue	12,264
Food and beverage	51,410
Golf revenue – annual membership fees	390
Golf revenue – green fees	1,560
Management fees from HHH	1,980
	<u>162,808</u>

**Expenses**

Room operating costs	50,458
AWH – room operating costs	6,745
Food and beverage costs	34,959
Golf services costs	1,523
Management salaries and benefits related to HHH contract	1,050
Depreciation and amortization	11,380
Marketing and sales	4,936
Property tax, utilities, and insurance	12,462
Administrative and general	21,668
	<u>145,181</u>

Operating income	17,627
Interest on line of credit	(36)
Interest on long-term debt	(4,835)
Dividends on preferred shares	(1,500)
Income before taxes	<u>11,256</u>
Income taxes	<u>(3,393)</u>
Net income and comprehensive income	<u><u>\$ 7,863</u></u>

**APPENDIX III (continued)**  
**INTERNAL FINANCIAL STATEMENTS**

*Distinct Hotels Corporation*  
*Consolidated Statement of Financial Position*  
*As at December 31, 2022*  
*(in thousands of Canadian dollars)*

**Assets**

Cash and cash equivalents	\$ 3,980
Trade receivables	1,370
Inventories	2,370
Prepaid expenses	1,700
	<u>9,420</u>
Property, plant, and equipment, net	146,820
AWH – property, plant, and equipment	41,575
Goodwill – AWH	3,500
	<u>201,315</u>
Total assets	<u>\$ 201,315</u>

**Liabilities**

Line of credit	\$ 1,200
Trade payables and accrued liabilities	14,985
Income taxes payable	2,120
Contract liability – revenue	6,690
Current portion – Nova Scotia loan	3,000
Current portion – Ontario loan	2,000
	<u>29,995</u>
Long-term debt – Nova Scotia	30,000
Long-term debt – Ontario	33,000
Retractable preferred shares	25,000
Deferred tax liability	6,810
Total liabilities	<u>124,805</u>

**Shareholders' equity**

Share capital	13,175
Retained earnings	63,335
	<u>76,510</u>
Total liabilities and shareholders' equity	<u>\$ 201,315</u>

**APPENDIX IV  
COMPARISON TO INDUSTRY BENCHMARKS**

	<b>DHC</b>		<b>Boutique Hotel Segment</b>	
	<b>2022</b>	<b>2019</b>	<b>2022</b>	<b>2019</b>
Rev/PAR (Occupancy rate x ADR)	\$343	\$280	\$328	\$262
Occupancy rate	78%	70%	80%	78%
Average daily rate (ADR)	\$440	\$400	\$410	\$335
Percentage of business travellers	15%	10%	35%	30%
Current ratio	0.3	0.2	0.7	0.8
Debt to equity	1.6	2.2	2.1	2.6
Total debt to assets	0.6	0.7	0.7	0.7
Return on equity	10%	8%	12%	11%
Operating margin	11%	9%	14%	16%
Profit margin	5%	3%	6%	8%

**APPENDIX V**  
**INFORMATION REGARDING MONTREAL HOTEL**

Summary of the proposed lease agreement:

- Lease payments are \$50,000 per year plus 16% of room revenues, paid monthly.
- Term is for 15 years with an option to renew for five additional years, with the rent to be determined at that time.
- RH will pay for building insurance, utilities, and property taxes.
- RH will pay 50% of the cost of initial renovations, to a maximum of \$5 million. DHC expects renovations to cost a total of \$15 million. All renovations must first be approved by RH.
- RH has the right to sell the building at any time, provided that DHC is given 90 days' notice of lease termination. DHC will have the right of first refusal.

Financial estimates are:

- an ADR of \$750 and occupancy rate of 80%.
- room operating costs equal to 55% of room revenue.
- administrative and general expenses (including marketing and sales) equal to 13% of room revenue.

**APPENDIX VI**  
**ARTISTS WAREHOUSE HOTEL PROPOSAL**

Isabelle prepared the following post-renovation earnings forecast for Jessica.

	Note	
ADR	1, 3	\$290
Estimated occupancy	2	85%
Number of rooms	4	120
Room revenue		\$ 10,796,700
Food and beverage sales – 65% of room revenue	5	7,017,855
Room operating costs – 55% of room revenue	5	(5,938,185)
Food and beverage costs – 50% of food and beverage revenue	5	(3,508,928)
Marketing, property, and administration costs – fixed		(5,000,000)
Operating margin		<u>3,367,442</u>
Less taxes (27%)		<u>(909,209)</u>
		<u><u>\$ 2,458,233</u></u>

**Notes:**

1. The ADR used reflects a reduction from the current \$300 to \$290, to reflect the expected rate reduction required to attract more business travellers.
2. Estimated occupancy assumes a 10% increase.
3. Assumes that 45% of guests are business travellers.
4. Renovations will include the addition of a restaurant and bar. To do so, the number of rooms will decrease from 150 to 120 but we will gain new revenue from the bar and restaurant.
5. These are my best estimates.



**APPENDIX VII**  
**NORTHERN ONTARIO HOTEL PROPOSAL**

The following information has been gathered regarding the Northern Ontario hotel:

- For the year ended December 31, 2022, total revenue was \$16,726,125 and pre-tax profit was \$1,338,090.
- As at December 31, 2022, the carrying amount of the hotel's net assets was \$40 million.
- After renovations:
  - revenue is expected to be \$21.9 million (150 rooms × 365 days × \$500 ADR × 80% occupancy).
  - a pre-tax profit of \$2,628,000 is expected. Included in this calculation is a depreciation expense of \$4.9 million.

## APPENDIX VIII LUXURY STAYS PROPOSAL

Highlights of the business model are as follows:

- Hosts will pay Luxury a commission of 10% of booking revenue, and guests will pay Luxury a separate commission of 3% of booking revenue.
- Luxury will offer additional, personalized services as requested by guests, which will make it unique in this segment of the rental market. The services will include amenities that are normally provided in DHC hotels, such as maid and laundry services, grocery shopping, dog walking and childcare, but will go even further to include things such as chefs preparing meals onsite, personal trainer sessions, massages and physiotherapy. All services will be booked through the Luxury website. These services will be priced at cost plus 25% and will be provided by DHC.
- On the website, guests can search accommodation listings by location, date, property type, amenities, and price.
- Luxury will need to offer at least 1,200 accommodations across five major cities to provide the kind of selection that will attract guests.
- Although the focus will initially be on the Canadian market, once the model proves successful, expansion to accommodations outside Canada will be possible.

Luxury will require an initial investment of \$7 million, and annual operating costs of \$4 million are expected.

After conducting market research, the following financial forecast was developed.

	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>
Number of nights booked	20,000	80,000	120,000	170,000
Average revenue per night	\$300	\$350	\$370	\$380
Commission revenue	\$780,000	\$3,640,000	\$5,772,000	\$8,398,000

**APPENDIX C**

**MAY 27, 2021 – DAY 2  
SIMULATION AND MARKING GUIDES**

**COMMON FINAL EXAMINATION  
MAY 27, 2021 – DAY 2**

**Case**

Assume the pre-selected role in which you will be formulating your response. Answer all requirements as specifically directed in your role. Within the requirements for each role, candidates are directed to look at specific additional appendices, which are unique to each role. Use only the information you have been directed to refer to.

Information that is shared by all roles is presented in the “Common Information” section. Additional information, customized to each role, is presented in the “Specific Information” section.

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## **BACKGROUND COMMON INFORMATION FOR ALL ROLES**

RMZ Pharmaceuticals Inc. (RMZ) was founded in 2004 by Francine Robillard, a respected biochemist who previously worked for a global pharmaceutical company. As a reputable brand-name drug developer and manufacturer, RMZ creates a mix of chemical drugs and biologics, that is, drugs made from living organisms. RMZ currently manufactures two commercialized drugs in its state-of-the-art facility, which are sold for use in cancer treatment programs. A third drug recently received government approval to be sold in Canada, and four other drugs are in various stages of development.

It is February 11, 2021. Francine currently owns 55% of RMZ, Star Venture Capitalists (Star) owns 30%, and Tatum Venture Capitalists (Tatum) owns 15%. Both venture capitalists specialize in the pharmaceutical industry. All major operational decisions are made by RMZ's five-member Board of Directors, which meets weekly for at least five hours. Francine is CEO and chair. Star and Tatum both hope to find a strategic buyer for their shares in RMZ soon. Francine is not interested in selling her shares at this point.

RMZ has four departments: research and development (R&D); production; accounting and legal; and marketing and sales. A recent restructuring of head office reduced the number of managers, resulting in the board making more operational decisions than previously. In June, Andrea Chan, RMZ's long-time marketing manager, resigned, stating she was not being given enough responsibility and that her ideas were not being considered. In late September, Andrea was replaced by Trevor Caine, who has 15 years of experience in the industry.

RMZ currently operates at 60% of production capacity. As RMZ differentiates itself by developing innovative products, it spends a significant amount on R&D. It has outsourced the clinical testing of one of its drugs in development to Quality Research Inc. (QRI). RMZ has its own sales agents, who sell to distributors, large drugstore chains, and hospitals. About 60% of sales are denominated in U.S. dollars, 25% in euros, and 15% in Canadian dollars. While most expenses are incurred in Canadian dollars, approximately 10% of cost of goods sold, and 20% of selling and marketing expenses, are in U.S. dollars.

Companies in this industry typically have volatile cash flows and profits. A new drug can take up to ten years to develop and, given the high risk that some drugs will be ineffective or not approved for sale, several new drugs are in development at any one time.

**BACKGROUND (continued)**  
**COMMON INFORMATION FOR ALL ROLES**

Government agencies regulate and monitor pharmaceutical companies. Approval is required for drug development, manufacturing, and marketing. Delayed regulatory approvals and changes in regulations could adversely impact the company. RMZ has an excellent record and is in full compliance with all regulatory requirements.

Sales are significantly influenced by whether the drug is also approved by private (insurance companies) and public (government) payers, and therefore reimbursed for patients. Currently, both of RMZ's commercialized drugs are on the payers' covered drug lists. The payers influence drug prices through the coverage limits that are set.

There are increasing concerns from the public about the cost of health care. The Patented Medicine Prices Review Board, a Canadian government agency, establishes maximum selling prices for drugs sold in Canada. Demand for brand-name drugs is driven by the number of patients suffering from the ailments treated by the drug and the price of the substitute generics.

Generic drugs are designed to perform the same as the brand-name drugs, and currently represent 70% of all drug sales in the industry. As generic producers have few R&D costs, they can sell their drugs for as much as 40% less than the equivalent brand-name drugs. Once a generic drug is approved for sale, the brand-name drug's revenues decline significantly. Because generic drugs can only be marketed once a patent expires, a patent provides a period of protection from generic drug sales. To lessen the threat from generics, brand-name drug developers are moving to biologic drugs, which are more difficult to replicate. They may also change the composition or delivery method of their drugs, to make them more effective than the generics.

RMZ has long-term debt with Confederation Bank, a Canadian bank, which carries a debt-to-EBITDA covenant. Year-end bonuses are paid to managers and employees of the four departments based on their respective departmental operating income. RMZ has a December 31 year end and, consistent with the rest of the industry, applies IFRS. RMZ has appropriately used a Canadian dollar functional currency since its inception. All foreign currency transactions during the year have been correctly accounted for.

The controller, Harry Zhang, MBA, has responsibilities for financial reporting, budgeting, costing, and taxation. Harry was on sick leave for four months. During his absence, the accounting department staff took over for him. Harry has just returned to work and needs assistance with various tasks.

Additional information, customized to your role, is presented in your role package.

**REQUIREMENTS FOR YOUR ROLE**  
**(READ ONLY THE ONE SPECIFIED FOR YOUR PRE-SELECTED ROLE)**

**ASSURANCE REQUIREMENTS**

You, CPA, are an audit manager at Anderson & Sons (AS), RMZ's external auditor. AS has once again been engaged to audit the 2020 year-end financial statements and provide some other services.

Doreen Philmore, the engagement partner, asks you to address the accounting issues raised by Harry. Harry is also asking for assistance with some additional tasks. Doreen has determined that AS can perform all the work requested by Harry, and has documented the relevant independence considerations in the audit file. However, given some information that she recently received regarding the audit team members' and the firm's dealings with RMZ, she asks you to document any potential additional independence threats that have arisen related to the current and following years' audits.

The 2020 year-end preliminary audit plan was prepared by a student on the team. Doreen asks you to review it and make any required changes. Doreen also asks you to develop audit procedures for the IFRS accounting issues raised by Harry.

AS will be using computer-assisted auditing techniques (CAATs) to help perform journal entry testing for the current audit. Doreen is concerned about the risk of management override of controls due to RMZ's year-end bonus, and wants you to discuss what CAATs queries to perform on the general ledger to address this risk.

In addition, during the interim audit, substantive testing was completed on sales. Doreen asks you to discuss the impact of the errors found on the audit and the audit report.

For the management letter that AS will issue to RMZ, Doreen wants you to discuss any weaknesses in the internal controls related to the equipment and tools purchase processes, and recommend improvements.

RMZ is preparing an income statement forecast to present to prospective investors. Francine has asked AS to audit the forecast. Doreen has determined that a *CSAE 3000 Attestation Engagements Other than Audits or Reviews of Historical Financial Information* report is appropriate. Given your understanding of the business, she asks you to assess whether the assumptions in the forecast are reasonable, and to document the procedures required to audit the assumptions.

In addition to the common appendices (I to VI), information provided in Appendix VII (Assurance) is relevant for your analysis.

**REQUIREMENTS FOR YOUR ROLE**  
**(READ ONLY THE ONE SPECIFIED FOR YOUR PRE-SELECTED ROLE)**

**FINANCE REQUIREMENTS**

You, CPA, work as a financial analyst in the finance consulting division of Hedley and Saunders Consultants (HSC), and report directly to the partner, Thomas Deenen, CPA. Thomas recently met with Francine and Harry to discuss some issues related to the 2020 year-end financial statements and other matters.

RMZ would like HSC to address the accounting issues raised by Harry. Harry is also asking for assistance with some additional tasks.

Francine estimates that RMZ will need to raise an additional \$30 million to finance the ongoing clinical trials. Francine has proposed issuing preferred shares to Star, and Thomas asks you to assess the advantages and disadvantages of doing so. RMZ's auditors have confirmed that the preferred shares would be reported as equity on RMZ's financial statements. Based on industry benchmarks, RMZ's optimal debt-to-equity ratio is 25%.

RMZ's board wants to expand its manufacturing operations to Germany and is considering purchasing a manufacturing facility from a German drug manufacturer. The products manufactured in Germany would be sold in Europe and Asia. Thomas asks you to discuss the financial risks of this manufacturing project in Germany, analyze the two financing options, and recommend which to accept.

Jennifer Wong, the production manager, has requested a quote for new sealing machines. Thomas asks you to determine whether RMZ should lease or buy them.

Francine has provided information with respect to a new Canadian customer, Percy's Drugs Limited (Percy's). Assuming revenues from existing customers remain the same, Thomas asks you to assess the impact of the transaction on RMZ's working capital (including days in receivables and inventory for 2021), and discuss any impact on the existing bank covenant.

Thomas wants you to review the alternatives provided by the bank for hedging RMZ's income statement exposure to fluctuations in the U.S. dollar, knowing that RMZ intends to hedge 30% of its net exposure. Thomas asks you to quantify the amount that RMZ would want to hedge using these hedging options and, for each hedging alternative, discuss the implications if the August 1, 2021, exchange rate is: (i) USD 1.00 = CAD 1.40; or (ii) USD 1.00 = CAD 1.20.



**REQUIREMENTS FOR YOUR ROLE  
(READ ONLY THE ONE SPECIFIED FOR YOUR PRE-SELECTED ROLE)**

**FINANCE REQUIREMENTS (continued)**

Because of its similarity to a drug that it has in development, Debon Pharmaceuticals has offered to purchase the full rights to Drug F for \$1.5 million. Harry has provided a sales forecast prepared by RMZ's R&D manager, and information on the probability of success for drugs in development. Thomas asks you to assess the nature and quality of the data provided, its applicability in valuing Drug F, and discuss any additional data that should be considered.

Thomas also asks you to determine the fair market value of the rights to Drug F, discuss whether RMZ should sell the rights, and provide a recommendation. The value of rights is typically based on the cash flows that could be generated from licensing revenues. If cash flows are risk adjusted, a discount rate of 8% would be appropriate.

In addition to the common appendices (I to VI), information provided in Appendix VII (Finance) is relevant for your analysis.

**REQUIREMENTS FOR YOUR ROLE  
(READ ONLY THE ONE SPECIFIED FOR YOUR PRE-SELECTED ROLE)**

**PERFORMANCE MANAGEMENT REQUIREMENTS**

You, CPA, work as an analyst in the management consulting division of Hedley and Saunders Consultants (HSC), and report directly to Thomas Deenen, CPA, a partner. Thomas recently met with Francine and Harry to discuss some issues related to the 2020 year-end financial statements and other matters.

RMZ would like HSC to address the accounting issues raised by Harry. Harry is also asking for assistance with some additional tasks.

Thomas asks you to prepare a SWOT analysis. The board thinks a strategic buyer would perform such an assessment, and wants to understand where RMZ is positioned. The Board would also like an explanation of how to mitigate the risks RMZ faces.

Randy, the R&D manager, has identified some issues in his department. Thomas asks you to analyze the alternatives identified for increasing the skills in the area of biologic drug R&D, and provide a recommendation. Thomas also wants you to discuss whether increasing the focus on biologic drugs is a good strategy and supports further investment.

Thomas asks, based on concerns raised by Randy, whether the clinical testing outsourced to QRI should be brought back in-house. He asks you to analyze the options and make a recommendation.

Randy is considering sharing patient information with other pharmaceutical companies. Thomas asks you to describe what could compromise data integrity at RMZ, and recommend ways to prevent such issues. He also wants your opinion on the idea of sharing patient information.

Hannah Baldwin, a board member from Star, has raised concerns about the fact that the board is making most of the operational decisions. Thomas would like you to analyze the advantages and disadvantages of RMZ's current structure, and suggest improvements.

Thomas asks you to perform a quantitative and qualitative analysis of the pricing strategies that Trevor from the marketing department has proposed for a new product, and make a supported recommendation.

Customer complaints about packaging have been increasing. Thomas asks you to use the principles mentioned by Hannah to help improve the quality of RMZ's packaging. He asks you to explain which elements RMZ should consider under each principle.

In addition to the common appendices (I to VI), information provided in Appendix VII (Performance Management) is relevant for your analysis.

**REQUIREMENTS FOR YOUR ROLE**  
**(READ ONLY THE ONE SPECIFIED FOR YOUR PRE-SELECTED ROLE)**

**TAXATION REQUIREMENTS**

You, CPA, work as an analyst in the tax department of Hedley and Saunders Consultants (HSC), and report directly to Thomas Deenen, CPA, a partner. Thomas recently met with Francine and Harry to discuss some issues related to the 2020 year-end financial statements and other matters.

RMZ would like HSC to address the accounting issues raised by Harry. Harry is also asking for assistance with some additional tasks.

Francine inherited shares in Zora Inc. in 2020, and made a small investment in Hip Hop Inc. Francine is not familiar with the association rules, and Thomas asks you to determine whether RMZ is associated with any companies for 2020, and if so, to assess the impact on the small business deduction available for each company.

Thomas also asks you to calculate RMZ's taxable income and federal income taxes payable for 2020. This analysis should include an explanation of the tax implications related to the accounting issues you address. Thomas would also like you to calculate the year-end balance in the RDTOH accounts.

During 2020, RMZ hired Carole Denis, a senior scientist. To entice Carole to join the company, RMZ agreed to provide her with several benefits. Thomas asks you to address the tax implications of these benefits, for Carole and for RMZ.

Thomas asks you to determine whether RMZ's property, plant, and equipment (PP&E) tracking system provides the data necessary for tax compliance with respect to capital assets, and to recommend improvements to the system, if any.

RMZ is currently a private corporation. If RMZ is unable to find a strategic buyer in the next few years, it will consider going public. Thomas asks you to explain the differences, from a tax perspective, between a private and a public corporation, and how these differences apply to RMZ.

In addition to the common appendices (I to VI), information provided in Appendix VII (Taxation) is relevant for your analysis.

**APPENDIX I – COMMON  
EMAIL FROM HARRY ZHANG**

From: Harry.Zhang@RMZ.ca  
To: CPA  
Date: February 11, 2021  
Subject: 2020 year end

Details of the accounting issues and additional tasks are as follows:

1. All contracts with our customers are signed by Francine and the customer. Prior to 2020, all contracts contained the same terms and conditions.

In 2020, we entered into a new revenue contract with Sheppard General Hospital that has different terms (Appendix III). The customer agrees to pay within 30 days of receipt of the goods. Historically, collection of amounts receivable from this customer has never been a problem. Ownership of the goods transfers when received by the customer. We recorded \$990,000 of revenue in 2020 for the 18,000 units, sold at \$55 each, that were delivered.

2. At the start of the drug development process, we create a business plan for each drug. Our accounting system tracks expenditures and captures the costs per drug. I have attached a schedule that details the phase of each drug, as well as the expenditures that were capitalized as intangible assets in 2020 for Drug C (Appendix IV).
3. On May 1, our administrative office moved into 732 Pendrell Street (Pendrell), the building that houses R&D and manufacturing, which had recently been renovated. We rented out the old office building at 995 Gloucester Street (Gloucester) and the tenants moved in on June 1. Attached is information from two appraisal reports from 2020 (Appendix V). As at December 31, 2020, the net book values of the Gloucester land and building were \$567,800 and \$1,867,900, respectively. Gloucester is currently recognized separately as investment property. I believe there are options for what amount to record as the carrying value but have not looked at their impact on the financial statements. I have already confirmed with Doreen, the audit engagement partner, that the Gloucester lease is recorded correctly.
4. In a recent podcast, I heard about non-GAAP measures. I would like to know what you think is driving the increased use of non-GAAP measures, and what the main concerns related to externally reporting these measures are. In addition, can you outline what our current and potential shareholders, and our current lender, need from our financial reporting, and describe the types of adjustments they would want to see if we reported a non-GAAP net income in addition to our IFRS financial statements?
5. Also attached is a memo from our production manager (Appendix VI).

I appreciate all your help.

**APPENDIX II – COMMON  
EXCERPTS FROM DRAFT FINANCIAL STATEMENTS**

*RMZ Pharmaceuticals Inc.  
Statement of Income and Comprehensive Income  
For the years ended December 31*

	2020	2019
	Draft	Audited
Product sales	\$ 22,751,200	\$ 21,270,000
Cost of goods sold (Note 1)	7,037,800	6,533,100
Gross profit	<u>15,713,400</u>	<u>14,736,900</u>
Expenses:		
Research and development	5,428,400	4,647,700
Selling and marketing	4,373,000	4,230,000
Restructuring costs	390,000	95,000
General and administration (Note 2)	3,258,660	3,880,000
Loss on disposal	256,000	0
Impairment of intangible asset	0	48,000
Total operating expenses	<u>13,706,060</u>	<u>12,900,700</u>
Operating income	2,007,340	1,836,200
Foreign exchange gain (loss)	(87,400)	387,000
Rental income	140,000	0
Rental expenses	(54,200)	0
Interest income	108,930	109,500
Interest expense	(600,000)	(600,000)
Earnings before taxes	<u>1,514,670</u>	<u>1,732,700</u>
Income taxes	<u>(378,668)</u>	<u>(433,175)</u>
Net income and comprehensive income	<u>\$ 1,136,002</u>	<u>\$ 1,299,525</u>

**APPENDIX II – COMMON (continued)**  
**EXCERPTS FROM DRAFT FINANCIAL STATEMENTS**

*Notes to the Statement of Income and Comprehensive Income*

1. Due to a poor-quality batch of packaging material, there was a major production problem in November related to Drug B, resulting in abnormal waste of \$130,000. It took the board two months to change suppliers. The new supplier ships on time and provides higher-quality material.

In late December, government regulations concerning packaging requirements were simplified, which reduced RMZ's average unit packaging cost. This had a minimal impact of \$15,000 on the 2020 net income.

2. Included in this amount is a large bad debt write-off of \$120,000 due to an unresolved invoice dispute in 2020. No write-offs occurred in 2019.

Also included in this amount is a charitable donation of \$204,000 in 2020 (none in 2019).

**APPENDIX II – COMMON (continued)**  
**EXCERPTS FROM DRAFT FINANCIAL STATEMENTS**

*RMZ Pharmaceuticals Inc.*  
*Statement of Financial Position*  
*As at December 31*

	2020	2019
	Draft	Audited
<b>Assets</b>		
Cash and cash equivalents – Confederation Bank	\$ 1,389,564	\$ 3,824,103
Accounts receivable	2,589,610	2,006,192
Inventories	1,486,410	1,184,020
Other current assets	753,000	856,000
Total current assets	<u>6,218,584</u>	<u>7,870,315</u>
Loan receivable – employee	600,000	0
Property, plant, and equipment	32,172,100	35,202,700
Investment property	2,435,700	0
Intangible assets	<u>3,275,000</u>	<u>1,585,000</u>
Total assets	<u>\$ 44,701,384</u>	<u>\$ 44,658,015</u>
<b>Liabilities</b>		
Current liabilities		
Accounts payable and accrued liabilities	\$ 4,324,170	\$ 5,621,710
Income taxes payable	110,207	90,300
Total current liabilities	<u>4,434,377</u>	<u>5,712,010</u>
Long-term debt – Confederation Bank	10,000,000	10,000,000
Deferred taxes	1,792,300	1,589,200
Other long-term liabilities	265,300	283,400
Total liabilities	<u>16,491,977</u>	<u>17,584,610</u>
<b>Equity</b>		
Share capital	22,571,800	22,571,800
Retained earnings	5,637,607	4,501,605
Total equity	<u>28,209,407</u>	<u>27,073,405</u>
Total liabilities and equity	<u>\$ 44,701,384</u>	<u>\$ 44,658,015</u>

**APPENDIX III – COMMON  
EXCERPT FROM NEW CONTRACT SIGNED IN 2020**

**Contract #20410**

Customer: Sheppard General Hospital (Sheppard)

Date: May 4, 2020

Sheppard may purchase up to 30,000 units of Drug B at the agreed-upon price of \$55 per unit, during the period from June 1, 2020, to May 31, 2021. If Sheppard purchases all 30,000 units prior to May 31, 2021, RMZ agrees to provide 3,000 additional units at no charge.

Based on purchases to date, we may have to provide the 3,000 additional free units.  
Harry



## **APPENDIX IV – COMMON SUMMARY OF DRUG RESEARCH**

Research and clinical testing phases for drug research are as follows:

- Research: Scientists gain an understanding of how the disease works and use this knowledge to isolate potentially effective molecules or compounds.
- Pre-clinical testing: Drugs are tested in the lab to determine whether they are safe to test on humans.
- Clinical testing:
  - *Phase I* – The drug is tested on between 20 and 100 healthy volunteers.
  - *Phase II* – Placebo-controlled trials are conducted on between 100 and 500 volunteer patients who have the illness.
  - *Phase III* – Between 1,000 and 5,000 volunteer patients are tested in various settings, such as hospitals and physicians' offices.
- Once all the data has been collected, an application is submitted for government approval to sell the drug in a specific jurisdiction, such as Canada, United States, or Europe.
- In some cases, there is a *Phase IV* for post-marketing studies to, for example, evaluate the longer-term effects of the medication usage.

During this process, a 20-year patent is registered on the drug.

Even after approval, research continues in order to find additional uses for the drug or to make product improvements.

**APPENDIX IV – COMMON (continued)**  
**SUMMARY OF DRUG RESEARCH**

<b>Drug</b>	<b>Type</b>	<b>Development Status</b>	<b>Approved for Sale</b>	<b>Patent Expiry</b>
Drug A	Chemical	Completed	In 2011 for Canada and U.S. and in 2015 for Europe	2024
Drug B	Chemical	Completed	In 2008 for Canada and U.S.	2027
Drug C	Biologic	Completed	On April 1, 2020, for Canada, but commercial production has not yet begun	2036
Drug D	Biologic	Phase III in progress – on track	None	2028
Drug E	Chemical	Phase II in progress – outsourced to QRI – Significant delays and setbacks	None	–
Drug F	Biologic	Phase II in progress	None	2036
Drug G	Biologic	Phase I in progress	None	–

Costs incurred and capitalized in 2020 with respect to Drug C are as follows:

January to February	Market research – incurred evenly throughout the period. The market research concluded that no drug similar to Drug C currently exists on the market and that there will be a strong demand for the product, once available.	\$ 70,000
January to May	Ongoing follow-up with Phase III trial patients, to record any other effects of the drug	90,000
June to December	Trial production runs, including employees' wages and costs to run the machines	120,000
July to December	Training and education of sales force	75,000
August to December	Phase IV clinical testing, as required for European approval	40,000
Total		\$ 395,000

**APPENDIX V – COMMON  
APPRAISAL REPORTS**

Based on two appraisal reports, the fair market values of Gloucester were as follows:

	<b>As at May 1, 2020</b>	<b>As at December 31, 2020</b>
Land	\$ 540,000	\$ 570,000
Building	2,610,000	2,900,800
Total	\$3,150,000	\$3,470,800

If RMZ were to sell Gloucester, selling fees would be 5% of the total fair market value.

There has been no depreciation recognized on Gloucester during 2020. Annual depreciation would normally have been \$103,500.

No impairment losses have ever been recognized on this asset.

Harry

**APPENDIX VI – COMMON  
MEMO FROM JENNIFER WONG, PRODUCTION MANAGER**

From: Jennifer.Wong@RMZ.ca  
To: Harry.Zhang@RMZ.ca  
Date: February 8, 2021  
Subject: Variances, pricing, and other issues

**Variances**

I have not completed the January 2021 analysis of Drug B for my production report. I wonder if CPA could quantify and explain the variances for the packaging costs for January.

Here is the data CPA will need:

- Per unit of Drug B produced, the standard volume of packaging used is 100 grams, at a standard price of \$1.25 per 100 grams.
- We had a great month in January—we planned to produce and sell 24,000 units but exceeded this by 1,200 units. And we only used 92 grams of packaging per unit!
- In January, the average price we paid for the materials was \$1.35 per 100 grams.

**Units**

On another matter, the Patented Medicine Prices Review Board is considering setting a maximum price on Drug B of \$51 per unit, compared to our current average selling price of \$55. Can you have CPA determine how many units of Drug B RMZ will have to sell in 2021 at this new price in order to earn the same profit as in 2020?

**APPENDIX VI – COMMON (continued)**  
**MEMO FROM JENNIFER WONG, PRODUCTION MANAGER**

In 2020, we produced and sold 43,000 units of Drug B in Canada. The total costs allocated to the Canadian sales of Drug B in 2020 are as follows:

		Note
Direct materials	\$ 399,900	1
Direct labour	95,300	1
Other manufacturing costs	209,200	2
Production costs	704,400	
Selling costs	426,000	3
Administration costs	161,200	4
Total costs	\$ 1,291,600	

**Notes:**

1. Varies according to the production volume.
2. Includes depreciation and amortization, plant facility costs, and the supervisors' salaries.
3. Includes commissions of 5%, the same rate as for our other drug sales, totalling \$118,250.
4. Administration costs are made up of:
  - a portion of the CEO salary and legal costs, allocated based on units produced, totalling \$39,000.
  - a total annual salary expense of \$84,400 for the employees working on Drug B.
  - a portion of the utilities and telephone for the office space, allocated based on Drug B's employees' office usage.

Also, we sent our production managers and senior production employees on a one-week training course last month. Using overtime for our other staff, we were able to keep the production lines running smoothly. This training, which had been on the agenda since June, was finally approved by the board at its November meeting.

***ASSURANCE ROLE  
ADDITIONAL INFORMATION***

## **APPENDIX VII ASSURANCE – ADDITIONAL INFORMATION**

### **Audit Team and AS Staff Interactions with RMZ**

1. A new manager on the audit team, Doug, disclosed that his wife, Laura, works at RMZ as a senior scientist. She reports directly to the R&D manager and is directly involved in the clinical trials for one of the drugs. Laura prepares the requisitions to purchase equipment and materials for approval and is also involved in hiring and firing employees in the department.
2. As the current assistant controller will be on maternity leave, RMZ has asked if anyone at AS could work in that position on a temporary contract basis. The individual would continue to be employed by AS and AS would charge RMZ a fee for this work. Samantha, a current audit team member, is interested in the position. The nine-month contract will start in April 2021, after the 2020 audit is completed. Samantha is expected to continue to be on the audit team for the 2021 audit.
3. A retired partner has disclosed that he invested \$200,000 in Tatum in 2019. The retired partner receives a fixed pension from AS and is no longer active in the firm.

### **Preliminary Audit Plan**

The following planning information was documented in January 2021.

#### Risk assessment

The risk of material misstatement at the financial statement level has been assessed as low, as RMZ is a private company with no complex transactions.

#### Approach

As the control environment was assessed as strong, we should take a combined approach.

#### Materiality

Using internal statements available in January, materiality is set at \$80,000, based on 5% of preliminary income before taxes.

**APPENDIX VII (continued)**  
**ASSURANCE – ADDITIONAL INFORMATION**

**General Ledger Fields**

The following fields are available for query in RMZ's general ledger:

- Journal entry number
- Account number
- Account description
- Whether the journal entry is manual or automated
- User identification number of individual who created the journal entry
- User identification number of individual who approved the journal entry
- Date of journal entry
- Time of journal entry
- Debit amount
- Credit amount

**Substantive Testing Performed to Date**

When a contract is signed with a customer, RMZ's sales clerk enters the contract price for each product for this customer into the accounting system. When items are shipped, the shipping clerk generates a shipping document from a separate inventory system, and also enters the quantity shipped into the accounting system so the information can be used for invoicing. The sales invoices are prepared by the accounting system, and an entry is automatically made by the system to the general ledger at the same time.

Based on vouching a sample of 10 entries totaling \$650,000, selected from the general ledger, to invoices and contracts from August to December, the following errors were found. No errors were found in the sample of 20 sales entries tested for the period from January to July.



**APPENDIX VII (continued)**  
**ASSURANCE – ADDITIONAL INFORMATION**

**Substantive Testing Performed to Date (continued)**

Invoice # from General Ledger	Invoice Amount	Explanation	Adjustment Required
10632	\$16,500	Jaskon Hospital – The amount of the invoice is \$16,500 (correct amount), but the amount posted to the general ledger is \$15,600.	+\$900
10637	\$37,800	Dakota – The price per unit should have been \$53, not the \$63 charged. The invoice amount should have been \$31,800.	-\$6,000
10249	\$87,000	HFM Pharmaceuticals – The price per unit should have been \$30, not the \$29 charged. The invoice amount should have been \$90,000.	+\$3,000
10215	\$75,000	Greatwest Hospital – 2,100 units were shipped, but 2,500 units were invoiced. The invoice amount should have been \$63,000.	-\$12,000
10568	\$132,000	Rexmand – The calculation of price times quantity was incorrect on the invoice. The correct calculation results in \$123,000, and not \$132,000 as invoiced.	-\$9,000
Total			-\$23,100

**Tools and Equipment Purchase Processes**

The production manager, R&D manager, and Harry are authorized to make purchases for tools and equipment in their respective departments. Harry is responsible for all administration purchases, including IT.

For purchases less than \$10,000, the manager calls the supplier directly and places the order with the required specifications, with no approval required.

For purchases over \$10,000, a signed formal request must be made by the manager. This request details the tools or equipment, required specifications, why the purchase is necessary, and whether it is replacing old equipment or tools. Harry is required to approve and sign the manager's request.

**APPENDIX VII (continued)**  
**ASSURANCE – ADDITIONAL INFORMATION**

**Tools and Equipment Purchase Processes (continued)**

For purchases over \$50,000, both a director and Harry must approve and sign the formal request, and at least one supplier quote must be obtained. The manager is the only one responsible for reviewing the quotes and deciding which one to accept. The accepted quote is retained and filed by the manager.

For all purchases, a purchase order (PO) is created as evidence of the order. The manager keeps one copy of this PO and one copy goes to the accounts payable (A/P) clerk.

When the tools and equipment arrive, the manager signs the packing slip and checks the shipped items against the PO. The manager retains and files any documentation related to operational instructions and warranties. The signed packing slip goes to the A/P clerk.

When an invoice is received, the A/P clerk matches it to the packing slip and the PO. The invoice, along with the packing slip and PO, is sent to the manager for final approval (indicated by their initials), where they review the package and compare the quote (if applicable) to the invoice, to ensure that the type of tools and equipment and amounts are correct.

The invoice is returned to the A/P clerk, who enters it into the A/P system. The manager selects the appropriate general ledger account for posting, which is either an equipment account for capital expenditures or a repairs and maintenance expense account, depending on the amount and nature of the expenditure. When it is time to pay, the cheque and supporting invoice go to Harry for signature. Harry agrees the invoice amount to the cheque and signs the cheque. A second signature is required from Francine, who also reviews the invoice before signing the cheque.

The A/P clerk enters any equipment purchased in an Excel spreadsheet (PP&E ledger). Tools are not tracked. Each entry has a number associated with it, which is the next consecutive number on the list. The type of equipment, supplier, and purchase date are all noted on the list. Depreciation is also calculated and tracked for each piece of equipment. When disposals occur for a piece of equipment that RMZ has more than one of, the oldest entry is always removed from the list because the specific equipment disposed of cannot be identified. The file is backed up on a USB key on a monthly basis, and is kept by the A/P clerk. Anyone can look at this file by asking for it, and the managers can update it as needed.

**APPENDIX VII (continued)**  
**ASSURANCE – ADDITIONAL INFORMATION**

**Income Statement Forecast for Prospective Investors**

In preparing the forecast, management used the following assumptions:

- Revenues will increase annually by 20% for 2021, 2022, and 2023, and by 10% per year for 2024 and 2025.
- Cost of goods sold is estimated to be 30% of sales.
- R&D costs will increase by 10% annually.
- Restructuring costs, selling and marketing, and general and administration costs will increase annually at the rate of inflation, which is estimated to be 2%.

***FINANCE ROLE  
ADDITIONAL INFORMATION***

**APPENDIX VII**  
**FINANCE – ADDITIONAL INFORMATION**

From: Francine Robillard, RMZ  
To: Thomas Deenen, CPA, HSC  
Date: February 11, 2021  
Subject: Various issues

**Financing Proposal**

RMZ will issue \$30 million fully participating, non-voting preferred shares, with an annual cumulative dividend of 5%.

If there is a change in control, the preferred shares will be redeemed upon transfer of control. Any accumulated dividends must be paid at that time.

**Germany Expansion**

A significant increase in sales is expected once approvals to sell Drug B are obtained in Europe and Asia. Rather than increase manufacturing capacity in Canada, it will be more efficient to manufacture in Germany.

RMZ is considering acquiring a German manufacturing facility:

- The acquisition price is €20 million (CA \$30 million, at the current exchange rate).
  - A capital budgeting analysis, using a discount rate of 8%, indicated that the manufacturing facility is expected to generate positive value.
  - The facility is expected to generate annual pre-tax cash flows of €1.1 million in 2021, increasing to €2.9 million by 2024.
-

**APPENDIX VII (continued)**  
**FINANCE – ADDITIONAL INFORMATION**

**Financing Options – Manufacturing Facility in Germany**

Option 1 – DB Landesbank, Germany

*Loan proceeds*

- Up to 65% of purchase price, to a maximum of €13 million
- Proceeds and payments are in euros

*Security*

- Mortgage on the manufacturing facility in Germany
- Annual audited financial statements prepared under IFRS

*Borrower fees*

- Upfront administration fees: €130,000
- Legal fees: €10,000

*Interest and principal*

- Ten-year term loan
- Annual interest rate of 2.5%, payable monthly
- Principal of €1.3 million, payable annually on the anniversary date of the loan

*Other terms*

- Any additional borrowings by RMZ must be approved
- RMZ may not declare or pay dividends during the term of the loan
- On breach of any of the terms or default of payment, DB Landesbank has the right to call the loan, and any outstanding principal will be due immediately

**APPENDIX VII (continued)**  
**FINANCE – ADDITIONAL INFORMATION**

**Financing Options – Manufacturing Facility in Germany (continued)**

Option 2 – Confederation Bank, Canada

*Loan proceeds*

- Up to 80% of purchase price, to a maximum of CA \$24 million
- Proceeds and payments are in Canadian dollars

*Security*

- Mortgage on the manufacturing facility in Germany
- Annual audited financial statements prepared under IFRS

*Borrower fees*

- Upfront administration fees: CA \$350,000
- Legal fees: CA \$25,000

*Interest and principal*

- Twelve-year term loan
- Annual interest rate of 4.35%, payable monthly
- Principal of CA \$2 million, payable annually on the anniversary date of the loan

*Other terms*

- RMZ must maintain a debt-to-asset ratio of 0.40
- On breach of any of the terms or default of payment, Confederation has the right to call the loan, and any outstanding principal will be due immediately

**APPENDIX VII (continued)**  
**FINANCE – ADDITIONAL INFORMATION**

**New Sealing Machines**

From: Jennifer.Wong@RMZ.ca  
To: Harry.Zhang@RMZ.ca  
Date: January 23, 2021  
Subject: Sealing machines

Below is the quote from the distributor of the sealing machines. I expect annual maintenance costs will be \$68,000, to be paid at the end of the year. The annual insurance cost of \$25,000 will be paid at the beginning of the year.

Alternatively, we could lease this equipment. I have attached the draft lease terms.

From: Ifranklin@CHequipment.com  
Date: January 7, 2021  
Subject: Quote on sealing machines: Model #5690SM

Equipment price: \$750,000  
Delivery charge: \$8,000  
Payment terms: Total due upon delivery  
Delivery date: April 1, 2021

The machines have a useful life of six years, with a salvage value of \$65,000.

From: Harry.Zhang@RMZ.ca  
To: Jennifer.Wong@RMZ.ca  
Date: January 23, 2021  
Subject: Sealing machines

Thanks. These machines will be included in Class 53 and can be fully deducted in 2021 for tax purposes as they qualify for accelerated depreciation. Our tax rate is 26.5%.



**APPENDIX VII (continued)**  
**FINANCE – ADDITIONAL INFORMATION**

**Draft Sealing Machines Lease Terms**

1. The lease will start on April 1, 2021, and end on March 31, 2027 (“Expiration Date”).
2. RMZ agrees to pay \$20,000 per month in advance as rent for the machines, starting on March 1, 2021.
3. RMZ is responsible for all setup costs, including the cost of shipping the machines to RMZ’s premises.
4. At the Expiration Date, RMZ will return the machines in good working order, ordinary wear and tear excepted.
5. The lessor is responsible for all regular maintenance and insurance costs.
6. The machines are, and will remain, the exclusive property of the lessor.

**Percy’s Drugs Limited**

Percy’s will purchase 10,000 units of Drug A per month at \$30 per unit, with payment due within 90 days. Because Percy’s uses a just-in-time system to manage its inventories, it requires RMZ to hold a minimum of 100 days’ worth of sales in inventory. The cost of manufacturing each unit of Drug A (before selling commission) is \$10.50.

**APPENDIX VII (continued)**  
**FINANCE – ADDITIONAL INFORMATION**

**Information on Drug F**

From: Randy@RMZ.ca  
To: Harry.Zhang@RMZ.ca  
Date: January 22, 2021  
Subject: Drug F

Clinical trial results

The preliminary Phase II clinical trial results for Drug F became available to us last week and they look very favourable. I believe that Drug F will undoubtedly receive Phase II approval in one year. Following that approval, it will take an additional five years to complete Phase III testing and obtain the next approvals. Starting in 2021, annual R&D costs will be \$2 million.

I am optimistic that Phase III clinical trials will be successful. I believe Drug F has a greater than 75% probability of Phase III success, which is higher than the data from the regulatory authorities indicates.

Data published by the regulatory authorities

The regulatory authorities disclosed the following data, for the 2011 to 2020 period, regarding the number of drugs entering each phase of development and the percentage of drugs that were successful at each phase.

	Phase I		Phase II		Phase III	
	Number of Drugs	% Success	Number of Drugs	% Success	Number of Drugs	% Success
All drugs	3,185	62%	2,844	31%	1,439	58%
Drugs similar to Drug F	21	57%	14	36%	9	46%

**APPENDIX VII (continued)**  
**FINANCE – ADDITIONAL INFORMATION**

**Information on Drug F (continued)**

Sales forecast

The market for drugs similar to Drug F is concentrated in North America and Europe. I estimate minimum future Drug F sales in these markets as follows (*in millions of dollars*):

2028	\$10.6
2029	\$15.9
2030	\$25
2031	\$30
2032	\$40
2033	\$50
2034	\$60
2035	\$70
2036	\$80
2037	\$80

The above sales figures only consider drugs our competitors currently have on the market; if there are new strong competitors to Drug F, this could negatively impact minimum sales. However, we expect demand outside North America and Europe to increase in the future. At this time, the demand forecast data is very incomplete, especially in Asia.

The license to produce and sell this type of drug would require a royalty rate of 15% of gross sales.

Drug F could be a real breakthrough drug for us. What we learn from its development will also be useful for further research and development.

Randy  
R&D Manager

**APPENDIX VII (continued)**  
**FINANCE – ADDITIONAL INFORMATION**

**Hedging Alternatives**

From: K baker@confederationbank.ca  
To: Francine.Robillard@RMZ.ca  
Date: January 12, 2021  
Subject: U.S. dollar financial derivatives

Hi Francine,

During 2020, the average USD to CAD exchange rate was USD 1.00 = CAD 1.30.

For 2021, I can offer:

1. Forward contract – The forward rate for a six-month contract will be USD 1.00 = CAD 1.35. The contract matures on August 1, 2021.
2. Put option – For a six-month option, the exercise price is based on an exchange rate of USD 1.00 = CAD 1.32. The premium for each contract is CA \$500. The options expire on August 1, 2021.

Note that derivative contracts are sold in amounts of \$100,000.

***PERFORMANCE MANAGEMENT ROLE  
ADDITIONAL INFORMATION***

## **APPENDIX VII PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

### **Background Information**

Given that the population is aging, the number of cancer patients is expected to increase. At least three competitors are developing drugs to treat the same types of cancers as RMZ's drugs. Two are large, global manufacturers who have a diverse range of drugs for sale and in development.

Many drug manufacturers are outsourcing tasks and partnering for their R&D. Several highly-qualified, efficient contract manufacturers and research companies exist. Smaller companies are also forming collaborative partnerships, to share R&D and combine their resources, in order to get their drugs to market faster.

Many pharmaceutical companies are also using cross-functional teams (regulatory and government affairs, pricing and market access, and medical affairs) to reduce the waste and inefficiencies that a siloed departmental structure creates, and to improve patient access.

Consolidation is also occurring in the industry, driven by the desire to reduce costs and specialize in an ailment. Strategic buyers in the industry are primarily looking for specific R&D capabilities, and for drugs in development that may complement their own.

**APPENDIX VII (continued)**  
**PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

**Research Department Issues**

From: Randy@RMZ.ca  
To: Francine.Robillard@RMZ.ca  
Date: January 22, 2021  
Subject: Research department issues

Francine, some issues have become critical.

Biological drug development

We want to increase our focus on biological cancer drugs, but only have a few researchers with knowledge in this area.

A few options are to:

1. Hire skilled staff and provide training for existing staff.

As demand is high, there is a lack of skilled staff in the market. There will be a learning curve with new hires before they are completely familiar with the stage of our current drug development.

2. Form a strategic alliance, through a collaborative partnership with a small competitor, Mansons Research Corporation (MRC).

The two companies would work together to get a drug to market more quickly. MRC has well-known research staff and is making great progress in biologic drugs. MRC's employees have basic skills in R&D and managing clinical trials. MRC has new technology and equipment that RMZ has yet to purchase. Because MRC has no manufacturing capabilities, once it takes a drug through all the clinical trials, it sells the drug rights to manufacturers. The agreement would allow for the sharing of costs and ownership of one drug only: Drug G.

3. Acquire the shares to take control of MRC.

**APPENDIX VII (continued)**  
**PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

**Research Department Issues (continued)**

Contract with QRI

QRI is currently contracted to perform the clinical testing on Drug E for Phases II, III, and IV. However, QRI's performance to date is worrisome. There have been significant delays and setbacks, some of the trials had to be redone due to poor management and controls, and reports are incomplete. We also have ongoing problems accessing the data in real time.

If we bring the testing back in-house, we will not need any additional principal research scientists, but will require more of the other R&D staff, who are in adequate supply, as well as materials and small tools. We will also incur \$300,000 in additional administration costs. You will find a summary of the QRI contract below.

Sharing of patient data

We gather a lot of information in our clinical trials, including patient name, address, age, gender, specific health issues, and reactions to our medications. Our lab technicians and QRI staff log into our system and enter all the data from the clinical trials. Each patient authorizes us to collect this data for our own use, that is, to meet regulatory requirements and for ongoing research and product improvements.

We also collect data directly from the doctors who prescribe our drugs. We track each of the drugs they prescribe back to the patients through data that is provided by the pharmacies. The doctors and pharmacists input the data themselves, using remote access.

We also use this data for our key performance indicators: the number of patients receiving treatment; the number of patients participating in clinical trials; the number of trial sites; the number of new drugs in development; and the number of regulatory filings and approvals obtained.

I would like to share the data collected with other pharmaceutical companies, and vice versa. This way, we would all benefit from more complete information in attempting to target our marketing efforts.



**APPENDIX VII (continued)**  
**PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

**Summary of Contract with QRI**

For a fixed price of \$900,000 annually, QRI provides the scientists and lab technicians who work on Drug E clinical testing. Additional payments of \$100,000 are made on completion of each of Phases II, III, and IV, and on final approval for sale in Canada.

This contract expires in March 2027. There is a renewal option for an additional five years.

The terms of the agreement are as follows:

- QRI provides services related only to the management of clinical trials and clinical data.
- QRI provides appropriate staffing, including scientists with at least 10 years' experience in the specified area of research.
- QRI provides all materials, tools, and equipment required for the clinical testing.
- QRI and RMZ staff meet monthly, and progress reports are provided.
- RMZ retains all ownership rights to the drug.
- RMZ can cancel the contract at any time, giving QRI 60 days' notice.
- QRI agrees to provide RMZ with all data collected from the clinical tests, and RMZ retains ownership of it.

**APPENDIX VII (continued)**  
**PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

**Costs in the R&D Division and Their Allocation**

	<b>Total</b>	<b>Clinical Testing</b>	<b>Primary Research</b>
		(4 in-house and 1 by QRI)	
Principal research scientists (Note 1)	\$ 380,000	\$ 152,000	\$ 228,000
Research scientist supervisor (Note 2)	750,000	600,000	150,000
Senior scientists (Note 3)	1,200,000	960,000	240,000
Lab technicians (Note 4)	1,800,000	1,260,000	540,000
Direct materials (Note 5)	668,400	350,000	318,400
Small tools and equipment (Note 6)	360,000	210,000	150,000
Depreciation on equipment (Note 7)	560,000	280,000	280,000
Payments to QRI	900,000	900,000	0
	<u>6,618,400</u>	<u>4,712,000</u>	<u>1,906,400</u>
Less: amount capitalized to development costs	(1,190,000)	(1,190,000)	0
Total expense	<u>5,428,400</u>	<u>\$ 3,522,000</u>	<u>\$ 1,906,400</u>
Administrative costs (Note 8)	<u>1,010,000</u>		
	<u><u>\$ 6,438,400</u></u>		

**Notes:**

1. Two scientists, at a salary of \$190,000 each. Allocated based on time spent.
2. Five supervisors, at a salary of \$150,000 each. Allocated one supervisor per drug tested in clinical, and one in primary research.
3. Ten scientists, at a salary of \$120,000 each. Allocated two senior scientists per drug tested in clinical, and two in primary research.
4. Forty technicians, at a salary of \$45,000 each. Allocated seven lab assistants per drug tested in clinical, and twelve in primary research.
5. Based on actual costs, and on number of doses of drug required during the clinical trials.
6. Based on actual usage of tools and equipment.
7. 50% to each area.
8. Based on a fixed percentage of total costs.

**APPENDIX VII (continued)**  
**PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

**New Vitamin Supplements**

The marketing department has collected information on a possible new product line: vitamin supplements that can be marketed to cancer patients. Research indicates improved health by taking higher amounts of certain vitamin and mineral supplements after treatments.

RMZ will use higher-quality ingredients than are currently used on the market. A cost estimate for manufacturing 400,000 bottles, excluding start-up costs, is as follows:

Direct materials	\$ 870,000
Direct labour	610,000
Variable manufacturing overhead	250,000
Fixed manufacturing overhead	790,000
Sales commission	650,000
Fixed selling and administrative costs	350,000
	<u>\$ 3,520,000</u>

Similar products sell for \$10 per bottle, with expiry dates of 12 months. We are considering three demand-based pricing strategies, with estimated sales volumes as follows:

	Year 1		Year 2 and Following Years	
	Price per Bottle	# Bottles Sold Annually	Price per Bottle	# Bottles Sold Annually
Strategy 1	\$ 9.50	200,000	\$10.20	700,000
Strategy 2	\$ 9.00	400,000	\$ 9.00	800,000
Strategy 3	\$11.00	100,000	\$11.00	600,000

This industry is very competitive and the demand curve is elastic. Competitors are trying to increase market share by enhancing their products, making them more specialized for certain age segments or to treat certain ailments. The market for vitamin supplements is in the mature stage. However, the product life cycle for supplements targeted to cancer patients is in its growth phase.

**APPENDIX VII (continued)**  
**PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

**E-mail from Hannah Baldwin, Board Member**

From: Hannah@StarVC.ca  
To: Francine.Robillard@RMZ.ca  
Date: January 22, 2021  
Subject: Packaging

Hi Francine,

I am excited about a quality management methodology that we have implemented at one of Star's other pharmaceutical companies. It was built on five principles:

1. What the customer finds important should always be the focus.
2. To achieve high quality, top-level management must be involved and committed.
3. Management must have a clear definition of quality, and understand the risks of the lack of quality.
4. Quality control must be done on a continuous basis.
5. Suppliers must be involved in quality management.

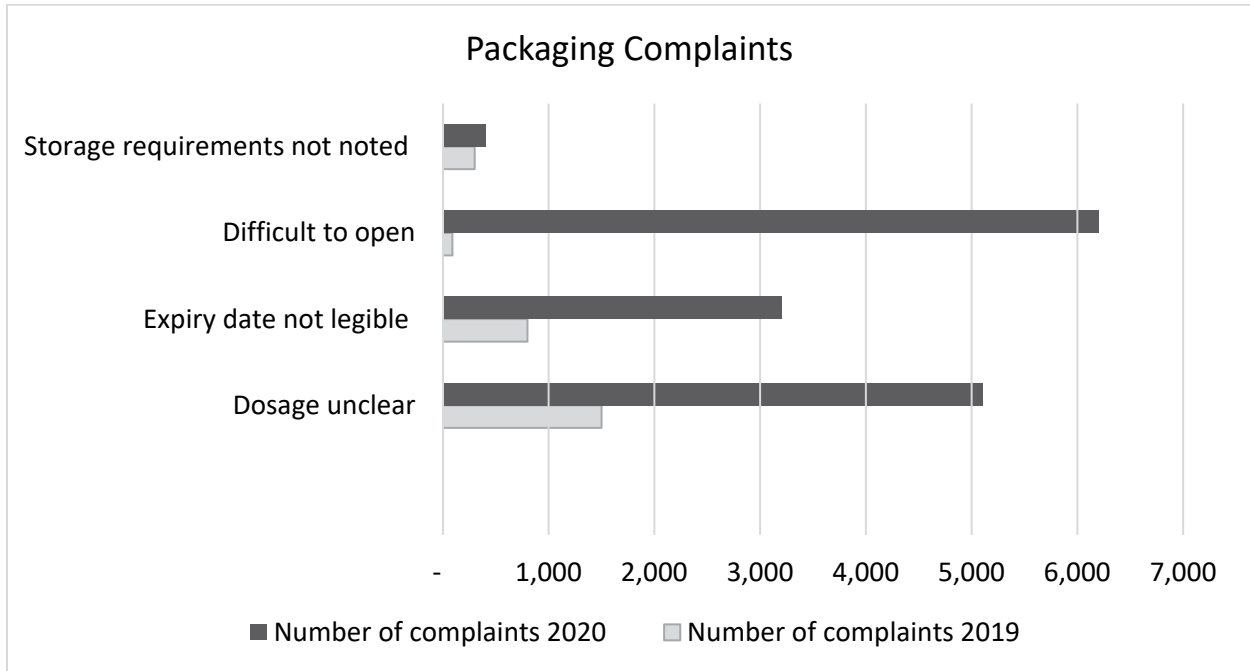
Perhaps RMZ should apply these principles to the packaging issues that have been raised by its customers.

Also, I question whether RMZ's current organizational structure makes sense. RMZ's board appears to be doing everything! Is that the best way to manage the company?

**APPENDIX VII (continued)  
PERFORMANCE MANAGEMENT – ADDITIONAL INFORMATION**

**Packaging Complaints**

The following chart shows the breakdown of customer complaints:



Other information is as follows:

- Quality control on the medication is performed as required.
- To remain effective, RMZ’s medications must be stored out of direct light and in a dry location.
- RMZ made changes to the package size, shape, and label font, as suggested by the marketing department.

***TAXATION ROLE  
ADDITIONAL INFORMATION***

**APPENDIX VII  
TAXATION – ADDITIONAL INFORMATION**

**Capital Asset Continuity for 2020**

	Gloucester			Pendrell	
	Land	Building	Investment Property	Land	Building
Opening balance	\$ 567,800	\$1,867,900	\$ 0	\$1,030,180	\$ 7,968,210
Additions					4,798,930
Transfers	(567,800)	(1,867,900)	2,435,700		
Disposals					
Amortization					(1,753,900)
Closing balance	\$ 0	\$ 0	\$2,435,700	\$1,030,180	\$11,013,240

(continued)	Manufacturing Equipment	Other Equipment	Capitalized Development Costs	Total
Opening balance	\$15,741,230	\$8,027,380	\$1,585,000	<b>\$36,787,700</b>
Additions		245,900	1,810,000	<b>6,854,830</b>
Transfers				<b>0</b>
Disposals	(548,230)			<b>(548,230)</b>
Amortization	(2,253,490)	(1,084,110)	(120,000)	<b>(5,211,500)</b>
Closing balance	\$12,939,510	\$7,189,170	\$3,275,000	<b>\$37,882,800</b>

Disposal of the manufacturing equipment is made up of the following three items:

Equipment ID #	Original Cost	Net Book Value	Proceeds	Gain (Loss)
8763	\$2,587,200	\$176,200	\$ 0	\$(176,200)
9602	210,000	137,000	272,230	135,230
5470	698,000	235,030	20,000	(215,030)
Total	\$3,495,200	\$548,230	\$292,230	\$(256,000)

**APPENDIX VII (continued)**  
**TAXATION – ADDITIONAL INFORMATION**

**Undepreciated Capital Cost (UCC)**

<b>Class</b>	<b>Description</b>	<b>UCC Balance, Dec. 31, 2019</b>
Class 1 (4%)	Gloucester building	\$ 2,158,910
Class 1 (4%)	Pendrell building	\$ 7,562,300
Class 8	Furniture, equipment, and tools	\$ 6,289,400
Class 12	Computer software and small tools	\$ 15,980
Class 44	Patents	\$ 5,745
Class 50	Computer equipment and software	\$ 14,960
Class 53	Manufacturing and processing equipment	\$ 2,423,000

**Other Tax Balances**

<b>Item</b>	<b>Date</b>	<b>Amount</b>
ERDTOH	Dec. 31, 2019	\$ 0
NERDTOH	Dec. 31, 2019	\$ 0
Capital dividend account	Dec. 31, 2019	\$ 568,000
Scientific research expenditures deducted per financial statements (includes amounts recorded in cost of goods sold)	Fiscal year ended Dec. 31, 2020	\$ 7,300,000
Allowable deduction for SR&ED pool expenditures	Taxation year ended Dec. 31, 2020	\$ 5,400,000
SR&ED investment tax credit available	Taxation year ended Dec. 31, 2020	\$ 810,000



**APPENDIX VII (continued)**  
**TAXATION – ADDITIONAL INFORMATION**

**Additional Information from 2020 Financial Statements**

General and administration expense includes the following:

Software expensed	\$465,000
Meals and entertainment	\$810,000
Fitness club dues for employees	\$240,000

Selling and marketing expenses also include \$2.5 million of meals and entertainment. Depreciation and amortization deducted in the calculation of net income was \$5,211,500.

Included in interest income is \$2,250 related to the loan receivable from an employee. The rest of the interest income was earned on passive investments.

**PP&E Tracking System**

RMZ uses an Excel spreadsheet to track its PP&E. When a new item is purchased, it is entered into the spreadsheet, along with related information.

An extract from the spreadsheet is as follows:

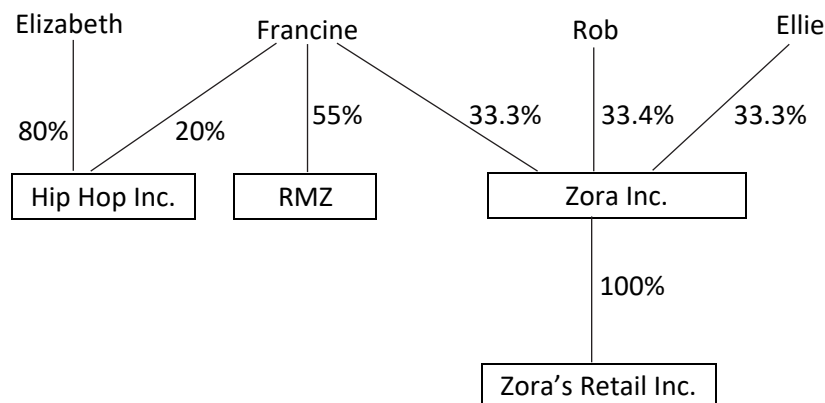
ID #	Type	Purchase Date	Supplier	Inv. #	Purchase Price	Depreciation Method	Annual Depreciation	Accumulated Depreciation, Dec. 31, 2020
10689	Desk	Nov. 3, 2019	Davidsons Office Supply	4580	\$1,056.00	SL <sup>1</sup> , 10 years	\$105.60	\$114.40
10690	Tablet Friability Tester	Nov. 5, 2019	Pharma Equipment Supplier	671	\$2,905.00	SL, 5 years	\$581.00	\$629.42
10691	Heat Sealer	Nov. 15, 2019	AGA Manufacturing Equipment	2009	\$2,390.00	SL, 7 years	\$341.43	\$369.75

<sup>1</sup> SL= straight-line

**APPENDIX VII (continued)**  
**TAXATION – ADDITIONAL INFORMATION**

**Francine’s Ownership in Various Companies**

Rob is Francine’s brother, Ellie is Francine’s cousin, and Elizabeth is Francine’s 25-year-old daughter. All shareholders, including Francine, are Canadian residents, and each corporation only has one class of shares. The ownership of the corporations is as follows:



Each corporation has a December 31 taxation year end. Information for the December 31, 2020 taxation year end is as follows:

	<b>Taxable Capital of the Prior Year (All Employed in Canada)</b>	<b>Active Business Income</b>	<b>Taxable Income</b>
Zora Inc.	\$10,200,000	\$120,000	\$690,000
Zora's Retail Inc.	\$ 3,800,000	\$360,000	\$295,000
Hip Hop Inc.	\$10,780,000	\$490,000	\$520,000

**APPENDIX VII (continued)**  
**TAXATION – ADDITIONAL INFORMATION**

From: Harry.Zhang@RMZ.ca  
To: Carole.Denis@RMZ.ca  
Date: March 2, 2020  
Subject: Loan

I want to confirm your loan arrangements. RMZ will provide you with a loan of \$600,000, to be used to start your spouse's new business at your new location. Interest of 0.5% will be payable annually on March 31, starting in 2021. The loan will mature on March 31, 2025, when the full amount will become due. As agreed, we will advance this loan to you on your start date of April 1, 2020.

---

From: Harry.Zhang@RMZ.ca  
To: Carole.Denis@RMZ.ca  
Date: April 1, 2020  
Subject: Benefits

You might be asked to work overtime on an infrequent basis. If you work at least two hours of overtime, we will pay you \$20 for a meal.

We will also pay for an annual fitness club membership for you.

**APPENDIX VII (continued)**  
**TAXATION – ADDITIONAL INFORMATION**

From: Harry.Zhang@RMZ.ca  
To: Carole.Denis@RMZ.ca  
Date: April 6, 2020  
Subject: Re: Moving expenses

Thank you, Carole. We will issue a cheque on April 22, 2020, to reimburse you for all these moving costs.

From: Carole.Denis@RMZ.ca  
To: Harry.Zhang@RMZ.ca  
Date: April 4, 2020  
Subject: Moving expenses

Attached are my receipts for the following moving costs:

Airfare for Carole	\$950
Airfare for Frank (spouse)	\$950
Moving company fees	\$2,100
Hotel for three nights	\$1,300
Meals for Carole	\$560
Meals for Frank	\$610
Selling costs of old home	\$25,000
Legal fees for new home purchase	\$2,780
Loss on sale of old home	\$51,000

Please accept this email as confirmation that I relocated 500 km from my old home to accept this job.

**DAY 2 – MARKING GUIDE – COMMON  
RMZ PHARMACEUTICALS INC. (RMZ)**

In all roles, the candidate is expected to discuss the accounting issues identified by Harry (new revenue contract, capitalized research and development costs, and the investment property). Candidates are also expected to address the request related to non-GAAP measures, as well as the variance analysis on packaging materials and the calculation of units required to earn the same profit given the reduction in selling price for Drug B.

To: Doreen  
From: CPA  
Subject: Issues raised by Harry Zhang

**Assessment Opportunity #1 (Common)**

The candidate discusses the revenue recognition for the new contract.

*The candidate demonstrates BREADTH or DEPTH in Core Financial Reporting.*

CPA Map Technical Competency (based on the 2019 CPA Competency Map):		Core
1.2.2	Evaluates treatment for routine transactions	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

**New Sales Contract**

RMZ has a new sales contract in 2020, and the revenue related to it may require correcting journal entries.

Under IFRS 15 – *Revenue from Contracts with Customers*, there are five steps for revenue recognition:

1. Identify the contract with the customer.
2. Identify separate performance obligations, if they exist.
3. Determine the overall transaction price.
4. Allocate the transaction price to the separate performance obligations.
5. Determine when the performance obligation is complete and revenue can be recognized.

### Step 1: Identify the Contract with the Customer

For a revenue contract to exist, it must be enforceable, the rights regarding the transfer of goods and services must be identified, payment terms must be specified, and collection of the consideration must be probable.

For the new contract, we conclude it is valid. It is written, outlines the rights regarding the transfer of Drug B from RMZ to the customer, and specifies the transaction price and payment terms. In addition, RMZ has historically never had a problem collecting amounts receivable from this customer. Therefore, the requirements for Step 1 are met.

### Step 2: Identify Separate Performance Obligations, if They Exist

IFRS 15.24 states that “*a contract with a customer generally explicitly states the goods or services that an entity promises to transfer to a customer.*”

IFRS 15.26(j) states that promised goods may also include “*granting options to purchase additional goods or services (when those options provide a customer with a material right).*”

IFRS 15.27 states:

*A good or service that is promised to a customer is distinct if both of the following criteria are met:*

*(a) the customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer (i.e., the good or service is capable of being distinct); and*

*(b) the entity’s promise to transfer the good or service to the customer is separately identifiable from other promises in the contract (i.e., the promise to transfer the good or service is distinct within the context of the contract).*

Under this contract, RMZ agreed to provide 3,000 units for free once a certain level of sales is reached. Sheppard’s ability to receive free product is an additional right under this contract. RMZ has estimated that it will need to provide the 3,000 units. This contract gives Sheppard the right to purchase additional goods at a price of \$0, which provides Sheppard with a material right.

Therefore, this contract has two distinct performance obligations: the sale of the first 30,000 units at \$55 per unit and the sale of an additional 3,000 units at \$0 per unit. They are distinct because (1) Sheppard can benefit from the goods on their own whether they are purchased at the price of \$55 or purchased for \$0; and (2) RMZ’s promise to deliver the free goods is separately identifiable from its obligation to deliver product at the \$55 price.

### Step 3: Determine the Overall Transaction Price

The total transaction price is \$1.65 million (30,000 units × \$55).

Step 4: Allocate the Transaction Price to the Separate Performance Obligations

At the inception of the contract, RMZ needs to estimate whether the free product will be provided and then allocate and defer a portion of the transaction price to the free product. Once the free product is shipped, the unearned revenue will be recognized as revenue. If the customer does not meet the threshold required for the free product by May 31, 2021, then any remaining amount in the unearned revenue balance can be recognized as revenue at that time.

RMZ expects it will have to provide 3,000 extra units. The total contract price is \$1.65 million, and RMZ expects to ship 33,000 (30,000 + 3,000) units for this total price. Therefore, the price per unit on delivery should be \$50 per unit. As each unit is sold, RMZ must defer a portion of the amount invoiced that will represent the “free” product to be shipped at the end of the contract.

Step 5: Determine When the Performance Obligation Is Complete and Revenue Can Be Recognized

Each obligation is completed as the ownership of goods is transferred to Sheppard, which, in this case, is the point at which the customer receives the product.

To date, RMZ has invoiced sales to Sheppard under this contract for \$990,000, based on 18,000 units at \$55. However, as calculated above, the per-unit amount should be \$50. Therefore, RMZ should have deferred a portion of this invoiced amount.

At December 31, 2020, the portion of the sales to be recognized as a contract liability is as follows:

Total sales recognized = \$990,000

Sales that should have been recognized =  $18,000 \times \$50 = \$900,000$

Deferred portion =  $\$990,000 - \$900,000 = 18,000 \times \$5 = \$90,000$

The correcting journal entry will be:

DR Revenue	\$90,000
CR Contract liability	\$90,000

The revenue related to the contract liability will be recognized as the “free” product is shipped to Sheppard. If no additional product is shipped, then the amount in the contract liability will be adjusted to revenue at the end of the contract. If it is determined that Sheppard will not meet the threshold amount, an adjustment of the estimated transaction price and allocation of the revenue would be required at that time.

These adjustments will worsen the debt-to-EBITDA ratio required for meeting the bank’s covenant, the managers’ and employees’ year-end bonuses, and the prospective strategic buyer’s assessment of RMZ.

For Assessment Opportunity #1 (Financial Reporting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the revenue recognition for the new contract.

**Competent** – The candidate discusses the revenue recognition for the new contract.

**Competent with distinction** – The candidate thoroughly discusses the revenue recognition for the new contract.

### Assessment Opportunity #2 (Common)

The candidate discusses the accounting treatment for the capitalized research and development costs for Drug C.

*The candidate demonstrates BREADTH or DEPTH in Core Financial Reporting.*

CPA Map Technical Competency:		Core
1.2.2	Evaluates treatment for routine transactions	A

### CPA Map Enabling Competencies:

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

Under IAS 38 – *Intangible Assets*, any intangible asset that will be recognized on the financial statements must be identifiable. Per paragraph 12:

*An asset is identifiable if it either:*

- (a) is separable, i.e., is capable of being separated or divided from the entity and sold, transferred, licensed, rented or exchanged, either individually or together with a related contract, identifiable asset or liability, regardless of whether the entity intends to do so;*
- or*



*(b) arises from contractual or other legal rights, regardless of whether those rights are transferable or separable from the entity or from other rights and obligations.*

Since the drug costs incurred give rise to a patent, criterion (b) above is satisfied, and the intangible asset is identifiable.

IAS 38 defines research and development costs as follows:

*.57 An intangible asset arising from development (or from the development phase of an internal project) shall be recognised if, and only if, an entity can demonstrate all of the following:*

*(a) the technical feasibility of completing the intangible asset so that it will be available for use or sale.*

*(b) its intention to complete the intangible asset and use or sell it.*

*(c) its ability to use or sell the intangible asset.*

*(d) how the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset.*

*(e) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset.*

*(f) its ability to measure reliably the expenditure attributable to the intangible asset during its development.*

Once the criteria have been met, the next step is to determine if the expenditure qualifies for capitalization. Per IAS 38:

*.59 Examples of development activities are:*

*(a) the design, construction and testing of pre-production or pre-use prototypes and models;*

*(c) the design, construction and operation of a pilot plant that is not of a scale economically feasible for commercial production; and*

*(d) the design, construction and testing of a chosen alternative for new or improved materials, devices, products, processes, systems or services...*

*.66 The cost of an internally generated intangible asset comprises all directly attributable costs necessary to create, produce, and prepare the asset to be capable of operating in the manner intended by management. Examples of directly attributable costs are:*

- (a) costs of materials and services used or consumed in generating the intangible asset;*
- (b) costs of employee benefits (as defined in IAS 19) arising from the generation of the intangible asset;*
- (c) fees to register a legal right; and*
- (d) amortisation of patents and licences that are used to generate the intangible asset.*

*.67 The following are not components of the cost of an internally generated intangible asset:*

- (a) selling, administrative and other general overhead expenditure unless this expenditure can be directly attributed to preparing the asset for use;*
- (b) identified inefficiencies and initial operating losses incurred before the asset achieves planned performance; and*
- (c) expenditure on training staff to operate the asset.*

Based on IAS 38.57, for expenditures to be capitalized as development costs, all six criteria outlined from (a) to (f) must be met. All criteria have been met by April 1, 2020, for Drug C:

- (a) Technical feasibility was likely established a short time before regulatory approval; therefore, the regulatory approval date (April 1, 2020) would be the latest this criterion would be met.
- (b) RMZ intends to complete the development of the drug and sell it. If RMZ did not intend to sell the drug, it would not have gone through the government approval process. This criterion would have been met at the time of application for government approval.
- (c) RMZ is able to sell the drug using its sales force and existing distribution channels. This criterion would have been met at the inception of Drug C's research since RMZ has been operating since 2004 and would have established its sales force and distribution channels before research on Drug C started.
- (d) There is future economic benefit from the costs incurred and a market for the product. Market research has shown that no drug similar to Drug C currently exists on the market and that, once it's available, there will be significant demand for the product. Therefore, RMZ will be able to sell Drug C and generate future revenues.
- (e) RMZ has adequate technical, financial, and other resources to complete the development to sell the drugs. In Harry's email, he stated that RMZ has developed business plans for each of its drugs. This fact supports RMZ having the availability of adequate technical, financial, and other resources to complete the development of each drug since the inception of Drug C's research. (IAS 38.61 – suggests that business plans can provide evidence of this.) In addition, RMZ is currently operating at 60% capacity, indicating there are sufficient manufacturing resources to take on the additional production.

- (f) RMZ is able to reliably measure expenditures related to drug development. Based on Harry's email, the company has the systems to reliably measure the related expenditures. The current accounting systems can measure the expenditures and capture the costs by specific drug. This criterion has been met since the inception of Drug C's research. (IAS 38.62 – suggests that costing systems can provide evidence of meeting this criterion.)

The next step is to determine which costs can be capitalized.

Cost	Amount	Conclusion	Explanation
Market research	\$70,000	Expense	Marketing costs cannot be capitalized, per IAS 38.67(a).
Follow-up with trial patients	\$36,000 \$54,000	Capitalize Expense	Studies were conducted January to May, but the criteria to capitalize the development costs as an intangible were only met on April 1. Assuming these are incurred evenly over the five months, we must expense three months ( $\$90,000 \times 3/5 = \$54,000$ ) and capitalize the remainder of \$36,000. These expenditures qualify for capitalization as allowed by IAS 38.59, since testing is a qualifying expenditure, and by IAS 38.66, which allows costs of materials and services and employee benefits used in the testing to qualify.
Trial production runs	\$120,000	Capitalize	Costs incurred for trial production runs may be capitalized as allowed by IAS 38.66 since the trial production runs are required to get the product ready for commercialization and sale.
Training and educating sales force	\$75,000	Expense	Training costs must be expensed and cannot be capitalized, per IAS 38.67(c).
Phase IV clinical testing	\$40,000	Capitalize	These costs are directly related to meeting the regulatory approval requirements. These expenditures qualify for capitalization as allowed by IAS 38.59, since testing is a qualifying expenditure, and by IAS 38.66, which allows costs of materials and services and employee benefits used in the testing to qualify.

Adjusting journal entry:

DR R&D expense	\$54,000	
DR Administration expense	\$75,000	
DR Marketing expense	\$70,000	
CR Capitalized development costs		\$199,000

These adjustments will worsen the debt-to-EBITDA ratio required to meet the bank’s covenant, the managers’ and employees’ year-end bonuses, and the prospective strategic buyer’s assessment of RMZ.

Given that the increase in intangible assets from the prior year is \$1.69 million, there are likely capitalized R&D costs related to other drugs. Further analysis will have to be performed on each of these drugs to see if the criteria for capitalizing these costs have been met.

For Assessment Opportunity #2 (Financial Reporting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the accounting treatment for the capitalized research and development costs for Drug C.

**Competent** – The candidate discusses the accounting treatment for the capitalized research and development costs for Drug C.

**Competent with distinction** – The candidate thoroughly discusses the accounting treatment for the capitalized research and development costs for Drug C.

### Assessment Opportunity #3 (Common)

The candidate discusses the accounting treatment for the investment property (Gloucester).

*The candidate demonstrates BREADTH or DEPTH in Core Financial Reporting.*

CPA Map Technical Competencies:		Core
1.2.1	Develops or evaluates appropriate accounting policies and procedures	A
1.2.2	Evaluates treatment for routine transactions	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

On May 1, 2020, RMZ moved into Pendrell. On June 1, 2020, a new tenant moved into Gloucester. There has been no depreciation recognized yet on Gloucester in 2020; therefore, an adjustment needs to be made to recognize some. The actual amount of depreciation expense will depend on the measurement model adopted.

**Definition of Investment Property**

Because Gloucester is now held for earning rental income, it has been correctly classified as investment property (per IAS 40 – *Investment Property*, paragraph 5: “*Investment property is property (land or a building — or part of a building — or both) held by the owner to earn rentals or for capital appreciation or both*”).

In addition, per IAS 40.57, “*An entity shall transfer a property to, or from, investment property when, and only when, there is a change in use. A change in use occurs when the property meets, or ceases to meet, the definition of investment property and there is evidence of the change in use. In isolation, a change in management’s intentions for the use of a property does not provide evidence of a change in use. Examples of evidence of a change in use include: (a) commencement of owner occupation, or of development with a view to owner-occupation, for a transfer from investment property to owner occupied property.*”

Therefore, RMZ has changed its use of Gloucester from owner-occupied to a rental property, which qualifies as an investment property. As investment property, Gloucester can be recognized and measured using either the cost model or the fair value model (IAS 40.30).

**Under the Cost Model**

Under the cost model, the land and building are recognized at original cost and the building is depreciated based on useful life, similar to how they were treated as property, plant and equipment. If RMZ decides to continue with the cost model, depreciation for the year (all 12 months) must be recognized.

The updated balance in the investment property account would be as follows:

	Land	Building	Total
Net book value (January 1, 2020)	\$ 567,800	\$ 1,867,900	\$ 2,435,700
Less: Depreciation for January to December 2020 (given)		(103,500)	(103,500)
Net book value (December 31, 2020)	\$ 567,800	\$ 1,764,400	\$ 2,332,200

Under the cost model, the asset (land and building) is tested for impairment. Given the December 31, 2020, appraisal values of land at \$570,000 and building at \$2,900,800, the fair value is higher than the net book value and, therefore, there is no impairment. The net book value of the asset will decline as depreciation is recognized and will increase if capital improvements are made.

On the income statement, depreciation will reduce net earnings by \$103,500. Therefore, this adjustment will worsen the debt-to-EBITDA ratio required for meeting the bank's covenant, the managers' and employees' year-end bonuses, and the prospective strategic buyer's assessment of RMZ.

#### Under the Fair Value Model

Under the fair value model, no depreciation is recognized, and the investment property is adjusted to fair value at every reporting period. The change in the fair value is immediately recognized in the current year's income statement.

If RMZ decides to adopt the fair value model for the investment property, this is not a change in accounting policy, but instead is a transfer of the asset from owner-occupied to investment property, as at May 1, 2020.

In addition, there are specific guidelines to follow if the fair value model is adopted for the transition as outlined below:

Under IAS 40.62:

*Up to the date when an owner-occupied property becomes an investment property carried at fair value, an entity depreciates the property (or the right-of-use asset) and recognises any impairment losses that have occurred. The entity treats any difference at that date between the carrying amount of the property in accordance with IAS 16 or IFRS 16 and its fair value in the same way as a revaluation in accordance with IAS 16. In other words:*

*(a) any resulting decrease in the carrying amount of the property is recognised in profit or loss. However, to the extent that an amount is included in revaluation surplus for that property, the decrease is recognised in other comprehensive income and reduces the revaluation surplus within equity.*

*(b) any resulting increase in the carrying amount is treated as follows:*

*(i) to the extent that the increase reverses a previous impairment loss for that property, the increase is recognised in profit or loss. The amount recognised in profit or loss does not exceed the amount needed to restore the carrying amount to the carrying amount that would have been determined (net of depreciation) had no impairment loss been recognised.*

*(ii) any remaining part of the increase is recognised in other comprehensive income and increases the revaluation surplus within equity. On subsequent disposal of the investment property, the revaluation surplus included in equity may be transferred to retained earnings. The transfer from revaluation surplus to retained earnings is not made through profit or loss.*

As detailed above:

*1. Recognize the depreciation to the changeover date (up to May 1, 2020)*

The updated balance in the investment property account would be as follows:

	<b>Land</b>	<b>Building</b>	<b>Total</b>
Net book value (January 1, 2020)	\$ 567,800	\$ 1,867,900	\$ 2,435,700
Less: Depreciation for January to April 2020 (103,500 × 4/12)		(34,500)	(34,500)
Net book value (May 1, 2020)	\$ 567,800	\$ 1,833,400	\$ 2,401,200

*2. Recognize any increase between the carrying value and the fair value at the change-of-use date in other comprehensive income (OCI) as a revaluation surplus*

Appraisal for land and building at May 1, 2020, was \$540,000 and \$2,610,000, respectively, for a total of \$3,150,000. Note that the 5% selling fees are not deducted from the fair value since, under the fair value model, fair value is not adjusted for selling costs. Therefore, the adjustment as at May 1 is \$3,150,000 – \$2,401,200 = \$748,800.

The adjustment is allocated to OCI since it is made as a revaluation adjustment initially. This revaluation surplus can then be closed out to retained earnings when Gloucester is disposed of.

*3. Adjust at year end to fair value*

Appraisal for land and building was \$570,000 and \$2,900,800, respectively, for a total of \$3,470,800 at December 31, 2020. The fair value adjustment, recognized as income, is \$320,800, calculated as \$3,470,800 – \$3,150,000.

Therefore, under the fair value model, there will be a net increase in earnings before taxes and comprehensive income for 2020 of \$286,300 (\$320,800 less \$34,500 of depreciation), and an increase in OCI of \$748,800. In subsequent years, the impact on net income will depend on the change in fair values. An increase in fair value will increase net income, but a decrease in fair value will decrease net income. This may add volatility to the earnings. The company will also need a valuation each year to determine the fair value of the investment property.

### Recommendation

Since RMZ's management likely wants to increase net income and comprehensive income for 2020, and given there will be a net increase in comprehensive income for 2020 of \$1,035,100 ( $(\$34,500) + \$748,800 + \$320,800$ ), compared to a \$103,500 decrease in net income if the cost model were chosen, we suggest that Gloucester be measured using the fair value model.

The adjusting journal entries required are as follows:

DR Depreciation expense	\$34,500	
CR Investment property		\$34,500

To adjust for the depreciation up to the change of use on May 1, 2020.

DR Investment property	\$748,800	
CR OCI – revaluation surplus		\$748,800

To adjust the investment property to fair value as at the date of change of use on May 1, and adoption of the fair value model.

DR Investment property	\$320,800	
CR Fair value gain – investment property		\$320,800

To record the increase in fair value of the investment property during the year.

These adjustments will improve the debt-to-EBITDA ratio required for meeting the bank's covenant, the managers' and employees' year-end bonuses, and the prospective strategic buyer's assessment of RMZ.



For Assessment Opportunity #3 (Financial Reporting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the accounting treatment for the investment property.

**Competent** – The candidate discusses the accounting treatment for the investment property.

**Competent with distinction** – The candidate thoroughly discusses the accounting treatment for the investment property.

#### Assessment Opportunity #4 (Common)

The candidate discusses what is driving the increased use of non-GAAP measures, the concerns related to externally reporting these measures, and user needs.

*The candidate demonstrates BREADTH or DEPTH in Core Financial Reporting.*

CPA Map Technical Competencies:		Core
1.1.1	Evaluates financial reporting needs	A
1.1.4	Explains implications of current trends, emerging issues and technologies in financial reporting	C

**CPA Map Enabling Competencies:**

- 2.1.1.1 Obtains an initial understanding of the problem and its context*
- 2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*
- 2.1.1.4 Differentiates problems having a single viable solution/conclusion from problems having multiple potentially viable solutions/conclusions*
- 2.1.2.1 Identifies the purpose and type(s) of information to be gathered*
- 2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*
- 2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis*
- 2.1.4.1 Explores potentially viable solutions or conclusions*
- 2.1.4.3 Considers alternative interpretations of quantitative and qualitative information*
- 2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives*
- 2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*
- 2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

**What is Driving the Increased Use of Non-GAAP Measures?**

- Non-GAAP measures are often used by investment analysts to help better understand a company's underlying business. When the company prepares these measures, there is more transparent information available to investors that may not be obvious from GAAP-prepared statements. Often, additional information is provided in the presentation of non-GAAP measures that is not readily available in the GAAP-prepared financial statements (e.g., one-time expenses, etc.). Therefore, although they may disagree with the adjustments that have been made, investors have all the information available so they can make their own adjustments, if required. Overall, additional transparent information is provided.
- When non-GAAP measures are used internally, the external reporting of these performance measures can help investors understand how a company evaluates its own performance and compensates employees.
- Investors are increasingly interested in environmental, social, and governance (ESG) factors when making decisions about investments. Non-GAAP disclosures can provide them with this kind of information, which would not otherwise be readily apparent from the financial statements.
- Non-GAAP measures provide investors with management's perspective on the future of the company, which can be helpful when they are making decisions about their investments.

**Concerns Related to Non-GAAP Measures**

- Consistency: There is no consistency in how a non-GAAP measure is calculated. There can be a variety of items to adjust for, and some might argue the adjustments that are typically made are really part of normal operations and should not be included (e.g., unusually large expenses — just because the amounts fluctuate year to year, they are still part of normal operations).

- **Comparability:** If an investor were trying to compare one company with another in the same industry, there may not be similar information to make the equivalent adjustments. Because entities can pick and choose which items they will adjust for in any year, the nature of these adjustments may not be consistent year over year, making it harder to compare companies.
- **Management manipulation/bias:** How does management decide what is adjusted for and what is not year over year? And how does this change from company to company? For example, do all companies add back similar items in the industry? Because there are no standards for the nature of revenue and expenses that can be added or deducted, these adjustments become subjective, not only between different companies but also for the same company from year to year. This lack of consistency allows companies to manipulate the results to meet their own objectives. For example, if RMZ's management wants to show improving results, it can add back more to income.
- **Competitive disadvantage:** There is a risk that competitors will see this information and be able to use it, which could put RMZ at a competitive disadvantage if they do not have similar information for their competitors.

### **Shareholders' and Lenders' Needs**

- **Current shareholders:** The current shareholders, particularly Star and Tatum, will want to show the highest operating income possible to demonstrate favourable results for potential investors since they want to sell their shares. They will have a bias in adjustments to increase operating income.
- **Potential shareholders (purchasing the shares from Star and Tatum):** Potential new investors are also concerned with predicting the ability of the company to generate enough cash flow from normal operations to provide an adequate return on their investment. Their assessment of future cash flows will be used to determine the value they would be willing to pay to purchase the shares from Star and Tatum. These users need to understand the impact of unusual items that occurred in 2020 that would not be sustainable in the future and should be adjusted for in future predictions, or items that will recur but are volatile. These users will also be interested in understanding which unusual items were the result of poor management decisions and which were caused by factors outside of management's control.
- **Confederation Bank:** This is currently RMZ's only lender. The bank is concerned with assessing and predicting the ability of the company to generate cash flows to make its loan payments. In addition, the bank has a loan covenant, so it will want to ensure that the debt and EBITDA amounts are accurately calculated and that the covenant is not breached. The bank will be interested in understanding the impact of unusual items that occurred in 2020 on EBITDA. Specifically, the bank will want to understand the nature of these items. Are they unlikely to recur in the future and require adjusting in future predictions? Or will they occur every year, but the amounts will be volatile year over year based on factors beyond the company's control? In addition, which unusual items occurred due to factors that can be controlled by management, versus factors they cannot control?

As can be seen from this discussion, there is some conflict in the objectives of these users. These conflicts will have to be considered in determining the adjustments that should be made.

## Types of Adjustments in an Adjusted Income Figure

There are four main categories of adjustments to consider from the perspective of the noted users:

- **Items that are in the normal course of operations but are volatile/unpredictable.** For items such as foreign exchange gains and losses, a gain or loss on the sale of manufacturing equipment, and gains or losses on the investment property (if RMZ chooses the fair value model), the current shareholders may want to adjust for these items in years where losses are experienced, since they may argue that these items do not reflect the true operations of the company. However, potential shareholders and lenders will likely not want to adjust for these items, given that they are largely linked to the operations and are a normal part of the business (e.g., having foreign exchange gains and losses is unavoidable given there are sales in U.S. dollars and euros).
- **Items that are in the normal course of operations but are one-time/infrequent in nature.** Items such as the bad debt write-off, the abnormal waste from the bad batch of packaging materials, and impairment gains and losses on intangible assets, while resulting from the normal course of operations, are likely isolated events. Given that these items are losses (and not gains) in 2019/2020, the current shareholders will likely want to adjust for these amounts. Potential shareholders and lenders will also likely agree with these adjustments to net income, given their one-time or infrequent nature. Regardless of whether these are adjusted for in presenting an adjusted net income, this information would likely be useful for the external users of the company when assessing RMZ's performance and could be disclosed regardless. Additional context, such as what management has done to address the abnormal wastage or the specific circumstances that led to the invoice dispute, will be helpful for the users, regardless of whether RMZ adjusts net income for these amounts.
- **Items that are discretionary.** For items such as charitable donations, current shareholders will likely argue that there should be an adjustment to net income, given these are discretionary expenses and RMZ can stop incurring them at any time. While this is a reasonable argument, potential shareholders and lenders may view this as a recurring expense that helps the business (e.g., donations to a specific charity may result in some exposure of the company to gain customers). Disclosure of this amount, even if not adjusted for in net income, would be helpful for external users.
- **Non-operating income/expenses.** Items such as rental income and expenses are not part of RMZ's "core" business operations. Therefore, it can be argued that these should be adjusted for. Current shareholders, potential shareholders, and lenders would likely all agree with this adjustment, given that these users would be assessing RMZ's core operations and performance. However, since they are already presented separately in the income statement, such adjustments may be redundant.

For Assessment Opportunity #4 (Financial Reporting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts a discussion of the uses of and concerns with non-GAAP information or the needs of shareholders and lenders.

**Competent** – The candidate discusses the uses of and concerns with non-GAAP information and the needs of shareholders and lenders.

**Competent with distinction** – The candidate thoroughly discusses the uses of and concerns with non-GAAP information and the needs of shareholders and lenders and attempts a discussion of the types of adjustments they would want to see.

#### Assessment Opportunity #5 (Common)

The candidate analyzes the quantity and rate variances for the Drug B packing materials.

*The candidate demonstrates BREADTH or DEPTH in Core Management Accounting.*

CPA Map Technical Competency:		Core
3.2.3	Computes, analyzes, or assesses implications of variances	A

#### CPA Map Enabling Competencies:

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis

2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors

2.1.3.4 Chooses and applies appropriate analysis techniques

2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis

2.1.4.1 Explores potentially viable solutions or conclusions

2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences

2.1.4.3 Considers alternate interpretations of quantitative and qualitative information

Based on the information provided, the calculations for the flexible budget variance, the rate variance, and the efficiency variances are provided below:

	<b>Actual</b>	<b>Standard</b>
<i>Packaging Materials</i>		
Direct materials – packaging (gm/unit)	92	100
Actual units sold (24,000 + 1,200)	25,200	25,200
Total quantity of packaging materials (in grams) based on actual units sold (AQ and SQ)	2,318,400	2,520,000
Cost per 100 gm of direct packaging material (AP and SP)	\$1.35	\$1.25
Cost per 1 gm of direct packaging material (AP and SP)	\$0.0135	\$0.0125
A Actual quantity × actual price (AQ × AP)	\$ 31,298	
B Actual quantity × standard price (AQ × SP)	\$ 28,980	
C Standard quantity × standard price (SQ × SP)	\$ 31,500	
Flexible budget variance (A – C)	\$ 202	favourable
Rate variance (A – B)	\$ 2,318	unfavourable
Efficiency variance (B – C)	\$ 2,520	favourable

### Packaging

Overall, there is a very small favourable flexible budget variance. However, this is made up of an unfavourable rate variance, due to the company having to pay \$1.35 per 100 gm compared to \$1.25 per 100 gm as set for the standard price, and a favourable efficiency variance, due to less material being used per unit produced than set in the standard (92 gm versus 100 gm per unit).

We are told the company recently changed its packaging supplier. Since the material is of higher quality, it is likely more expensive, as indicated by the higher rate to be paid per gram. The higher-quality material could also be causing the favourable efficiency variance in that less material now needs to be used, with less waste.

We are also told that government regulations concerning packaging were relaxed at the end of December 2020, thereby reducing the unit packaging costs. It can be assumed the change in the unit cost is caused by a lower quantity, since government does not affect the price of the packaging materials. This change in regulation took place at the end of December, so it had little effect on the 2020 fiscal year. However, it did impact the actual quantities used in January 2021 and could explain the favourable variance observed.

For Assessment Opportunity #5 (Management Accounting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to calculate and explain the variances.

**Competent** – The candidate calculates and explains some elements of the variances (rate or efficiency).

**Competent with distinction** – The candidate calculates and clearly explains the elements of the variances (rate and efficiency).

#### Assessment Opportunity #6 (Common)

The candidate determines the number of additional units of Drug B that will have to be sold in 2021 at the new regulated price to achieve the same profit level as in 2020.

*The candidate demonstrates BREADTH or DEPTH in Core Management Accounting.*

CPA Map Technical Competency:		Core
3.5.1	Performs sensitivity analysis	A

#### CPA Map Enabling Competencies:

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.4.7 Explicitly articulates and justifies assumptions*

Before calculating the number of units, we must determine which administration costs should be allocated to Drug B to determine its profitability:

- Currently, a portion of the CEO salary and legal costs are allocated based on units produced, totalling \$39,000. The issue here is whether the CEO's time and the legal costs spent on this product are connected in any way with the units produced. This is not likely, since the CEO's and legal department's time is spent on more general areas, not production. This amount has been excluded from the calculation since it appears to be an allocated cost and not a real fixed cost related to this product.
- Salaries of \$84,400 for the staff working on this product are included. This represents a direct fixed cost and should be included in the Drug B profitability analysis.
- A portion of the utilities and telephone for the office space are allocated based on usage. This is calculated to be the remaining amount of \$37,800 (\$161,200 – \$39,000 – \$84,400). The assumption is that this is a directly related fixed cost since it relates to the employees working on the drug and is allocated based on employee usage. Therefore, this amount is included in the calculation below.

The Patented Medicine Prices Review Board is considering setting a maximum price on Drug B of \$51 per unit. RMZ currently makes the following operating profit before tax from the sale of Drug B:

Sales 43,000 units × \$55 =	\$ 2,365,000
Less: Total costs	<u>(1,291,600)</u>
Net profit before tax	<u>\$ 1,073,400</u>

However, when making the recommended changes discussed above, the net profit before tax generated by Drug B would be as follows:

Net profit before tax as above	\$ 1,073,400
Plus: CEO salary and legal costs	<u>39,000</u>
Revised net profit before tax	<u>\$ 1,112,400</u>

The direct material and direct labour costs all vary with production and so are variable costs. All the other manufacturing costs of \$209,200 are fixed costs.

Included in selling costs are commissions (\$43,000 × \$55 × 5% = \$118,250). These are variable since they are based on price. The remaining selling costs of \$307,750 are fixed costs.



Calculation of the units required to be sold at the new proposed price to obtain the same profit:

Selling price per unit	<u>\$51.00</u>
Variable costs:	
Direct materials ( $\$399,900 \div 43,000$ )	\$ 9.30
Direct labour ( $\$95,300 \div 43,000$ )	\$ 2.22
Commissions at 5% of selling price	<u>\$ 2.55</u>
Total variable costs per unit	<u>\$14.07</u>
Contribution margin per unit	<u>\$36.93</u>

*Fixed Costs*

Fixed manufacturing costs	\$209,200	
Fixed selling costs ( $\$426,000 - \$118,250$ )	307,750	
Fixed administration costs:		
Office employees directly related to product	84,400	
Employee usage of office space and phone	<u>37,800</u>	( $\$161,200 - \$39,000 - \$84,400$ )
Total fixed costs	\$ 639,150	
Plus: Profit as per 2020	<u>1,112,400</u>	
Total fixed costs plus profit to be achieved	<u>\$1,751,550</u>	
Volume to sell ( $\$1,751,550 \div \$36.93$ )	47,424.14	
Rounded to		47,424 units to sell

Note: Since all the fixed costs remain the same when volume and selling price change, a candidate could have ignored them in the calculation and achieved the same answer, presenting a calculation focused on contribution margins:

Unit contribution margin with previous price:

*Per Unit of Drug B*

Selling price per unit	<u>\$55.00</u>
Variable costs	
Direct materials ( $\$399,900 \div 43,000$ )	\$ 9.30
Direct labour ( $\$95,300 \div 43,000$ )	\$ 2.22
Commissions at 5% of selling price	<u>\$ 2.75</u>
Total variable costs per unit	<u>\$14.27</u>
Contribution margin per unit	<u>\$40.73</u>

At the previous price, the total contribution margin was \$1,751,550 ( $\$40.73 \times 43,000$  units).

To achieve the same total contribution margin at the new price, the volume required would be 47,424 units ( $\$1,751,550 \div \$36.93$ ), or 4,424 additional units.

For Assessment Opportunity #6 (Management Accounting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts a calculation of the number of additional units that will have to be sold at the new regulated price to achieve the same profit level as in 2020.

**Competent** – The candidate calculates the number of additional units that will have to be sold at the new regulated price to achieve the same profit level as in 2020.

**Competent with distinction** – The candidate discusses RMZ's cost allocations and calculates the number of additional units that will have to be sold at the new regulated price to achieve the same profit level as in 2020.

**DAY 2 – MARKING GUIDE – ASSURANCE ROLE  
RMZ PHARMACEUTICALS INC. (RMZ)**

In the Assurance role, the candidate is expected to discuss the dealings between RMZ and the members of the audit team and firm to assess whether additional independence threats may have arisen. In addition, they are expected to revise the existing audit plan and develop audit procedures for the IFRS accounting issues highlighted. The candidate should also discuss which CAATs queries should be performed on RMZ's general ledger. For the substantive testing that has been completed, the candidate is expected to discuss the impact of these errors on the audit and the audit report. The candidate is also expected to assess the weaknesses in internal controls related to the purchase of equipment and tools, as well as assess the reasonableness of the assumptions in the forecasted income statement and explain the procedures required to audit the assumptions.

**See Common Marking Guide for the Common Assessment Opportunities #1 to #6.**

**Assessment Opportunity #7**

The candidate discusses the dealings between RMZ and members of the audit team and firm and documents whether any additional independence threats have arisen for the current and next years' audits.

*The candidate demonstrates DEPTH in the Assurance role.*

<b>CPA Map Technical Competency (based on the 2019 CPA Competency Map):</b>		<b>Core</b>	<b>E3 AS</b>
4.3.1	Assesses issues related to the undertaking of the engagement or project	<b>B</b>	<b>A</b>

**CPA Map Enabling Competencies:**

- 1.2.3 Maintains objectivity, independence in mental attitude, and professional skepticism*
- 1.3.1 Protects stakeholder interests by maintaining confidentiality, focusing on the public interest, and avoiding conflicts of interest*
- 1.4.2 Acts in accordance with the rules of professional conduct*
- 2.1.1.1 Obtains an initial understanding of the problem and its context*
- 2.1.1.3 Exercises judgment in determining whether an issue requires attention*
- 2.1.4.1 Explores potentially viable solutions or conclusions*
- 2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*
- 2.1.5.3 Develops implementation plans for recommendation(s)*

Doreen noted some information about the between RMZ and the members of the audit team and firm. Each scenario is discussed separately, indicating whether it causes a threat to independence and, if so, how this can be resolved.

Per CAS 200 – *Overall Objectives of the Independent Auditor and the Conduct of an Audit in Accordance with Canadian Auditing Standards*:

*CA17 The auditor is subject to relevant ethical requirements, including those pertaining to independence, relating to financial statement audit engagements. In Canada, relevant independence and other ethical requirements are set out in rules of professional conduct/code of ethics applicable to the practice of public accounting issued by various professional accounting bodies.*

Therefore, it is important as part of the audit planning process to identify, describe, and document any potential independence threats and to provide reasons why they do or do not preclude the firm or a particular staff member from performing the engagement. In addition, any significant independence threat should be identified and described, as should the safeguards that could be implemented to reduce each threat to an acceptable level.

Per Rule 204, Guidance for Rules 204.1 to 204.3:

#### *THREATS TO INDEPENDENCE*

*30 Independence is potentially affected by self-interest, self-review, advocacy, familiarity and intimidation threats. The mere existence of such threats does not per se mean that the performance of a prospective engagement is precluded. The undertaking or continuation of an engagement is only precluded where safeguards are not available to eliminate or reduce the threats to an acceptable level or where Rule 204.4 provides a specific prohibition.*

#### *Self-Interest Threats*

*31 A self-interest threat occurs when a firm or a person on the engagement team could benefit from a financial interest in, or other self-interest conflict with, an assurance client. Examples of circumstances that may create a self-interest threat include, but are not limited to:*

- *a direct financial interest or material indirect financial interest in an assurance client;*
- *a loan or guarantee to or from an assurance client or any of its directors or officers;*
- *dependence by a firm, office or member on total fees from an assurance client;*
- *undue concern about the possibility of losing the engagement;*
- *evaluating performance or providing compensation for selling non-audit services to an assurance client;*
- *having a close business relationship with an assurance client; and*
- *potential employment with an assurance client.*

#### *Self-Review Threats*

*32 A self-review threat occurs when any product or judgment from a previous engagement needs to be evaluated in reaching a conclusion on the particular assurance engagement, or when a person on the engagement team was previously an officer or director of the client, or was in a position to exert significant influence over the subject matter of the assurance engagement. Examples of circumstances that may create a self-review threat include, but are not limited to:*

- *a person on the engagement team being, or having recently been, an officer or director of the client;*

- a person on the engagement team being, or having recently been, an employee of the assurance client in a position to exert significant influence over the subject matter of the assurance engagement, or another person having the duties or responsibilities normally associated with such an employee;
- a member or firm performing services for an assurance client that directly affect the subject matter of the engagement; and
- a member or firm preparing original data used to generate financial statements or preparing other records that are the subject matter of the engagement.

#### *Advocacy Threats*

33 An advocacy threat occurs when a firm, or a person on the engagement team, promotes, or may be perceived to promote, an assurance client's position or opinion to the point that objectivity may be, or may be perceived to be, impaired. Such would be the case if a person on the engagement team were to subordinate his or her judgment to that of the client, or the firm were to do so. Examples of circumstances that may create an advocacy threat include, but are not limited to:

- dealing in, or being a promoter of, shares or other securities of an assurance client; and
- acting as an advocate for or on behalf of an assurance client in litigation or in resolving disputes with third parties.

#### *Familiarity Threats*

34 A familiarity threat occurs when, by virtue of a close relationship with an assurance client, its directors, officers or employees, a firm or a person on the engagement team becomes too sympathetic to the client's interests. Examples of circumstances that may create a familiarity threat include, but are not limited to:

- a person on the engagement team having an immediate or close family member who is an officer or director of the assurance client;
- a person on the engagement team having an immediate or close family member who is in a position to exert significant influence over the subject matter of the assurance engagement;
- a former partner of the firm being an officer or director of the assurance client or in a position to exert significant influence over the subject matter of the assurance engagement;
- the long association of a senior person on the engagement team with the assurance client; and
- the acceptance of gifts or hospitality from the assurance client, its directors, officers or employees, unless the value thereof is clearly insignificant.

#### *Intimidation Threats*

35 An intimidation threat occurs when a person on the engagement team may be deterred from acting objectively and exercising professional skepticism by threats, actual or perceived, from the directors, officers or employees of an assurance client. Examples of circumstances that may create an intimidation threat include, but are not limited to:

- the threat of being replaced due to a disagreement with the application of an accounting principle; and
- the application of pressure to inappropriately reduce the extent of work performed in order to reduce or limit fees.

1. A new manager on the audit team, Doug, disclosed that his wife, Laura, works at RMZ. She is a senior scientist reporting directly to the R&D manager, and she is directly involved in the clinical trials for one of the drugs.

There is a potential familiarity threat. Because they are married, Doug may be biased to not highlight errors that could result from Laura's actions.

We need to determine whether Laura is in a position to exert significant influence over the subject matter of the engagement. Generally, this type of work would include

- having significant influence over operating, financial, and accounting policies of RMZ; or
- handling cash; or
- holding a position such as internal auditor, accounting supervisor, purchasing agent, or inventory warehouse supervisor.

If Laura is performing any of the work listed above, this would be considered a significant threat. We would want to confirm that she has no power to make operating decisions in the department, but that these types of decisions are made by her supervisor. This appears to be the case, since she must request equipment and materials. She is involved in hiring and firing employees in the department, but this is likely with approval from the R&D manager, which we should confirm. It appears that Laura's employment is in areas that are non-financial and she is not in a position to influence the items under audit.

Therefore, Doug's independence does not appear to be impaired with respect to RMZ, and he can remain on the audit team. Since we do not know which drug Laura is working on, it would be best if Doug did not audit anything specific to the R&D area, since this could be perceived as a conflict (independence in appearance).

2. A current audit team member, Samantha, would like to be considered for the position of assistant controller at RMZ, which is to start in April 2021, after the 2020 audit is completed. If chosen, Samantha will continue to work for AS throughout this period, and AS will bill RMZ for this work. Samantha is expected to continue to be on the audit team for the 2021 audit.

There is a potential self-review threat. While there would be no self-review threat for the 2020 audit because the audit will be complete before Samantha begins work at RMZ, this threat would be relevant for the 2021 audit. As an assistant controller, Samantha will likely create or approve journal entries and be involved in internal controls, for example. This work, which will be considered performed by AS (since Samantha will be under AS employment), will then be audited by AS, creating the self-review threat.

There is also a potential familiarity threat. As the loan of staff will be for a nine-month contract, Samantha will likely develop close relationships with RMZ employees. She may not be as objective in auditing RMZ's transactions in 2021 due to these relationships, or she may divulge how AS will audit certain transactions in an attempt to prepare RMZ to ensure fewer errors are found.

Therefore, AS cannot loan staff to RMZ.

3. A retired partner has disclosed that he has invested \$200,000 in Tatum.

Retired partners are also subject to the independence rules, and this investment could impair AS's independence with RMZ. Having a financial interest in RMZ, which the retired partner would have through his investment in Tatum, is a potential self-interest threat, since RMZ's performance may have an impact on the partner's financial situation. However, the retired partner receives a fixed income from AS and, therefore, is not largely dependent on the success of RMZ. In addition, the retired partner is not active in the operations of AS so would be unlikely to influence the audit. Therefore, there is no significant threat of independence.

For each of these three scenarios, documentation should be included in the files identifying the potential threat to independence and either detailing the steps that were taken to reduce it to an acceptable level or stating that no threat to independence was found.

For Assessment Opportunity #7 (Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss whether any independence threats have arisen.

**Competent** – The candidate discusses whether any independence threats have arisen.

**Competent with distinction** – The candidate thoroughly discusses whether any independence threats have arisen.

#### **Assessment Opportunity #8**

The candidate discusses the revisions required to the preliminary audit plan.

*The candidate demonstrates DEPTH in the Assurance role.*

<b>CPA Map Technical Competencies:</b>		<b>Core</b>	<b>E3 AS</b>
4.3.4	Assesses materiality for the assurance engagement or project	B	A
4.3.5	Assesses the risks of the project, or, for audit engagements, assesses the risks of material misstatement at the financial statement level and at the assertion level for classes of transactions, account balances and disclosures	B	A
4.3.6	Develops appropriate procedures, including Audit Data Analytics (ADA), based on the identified risk of material misstatement	B	A

#### **CPA Map Enabling Competencies:**

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.3 Considers alternative interpretations of quantitative and qualitative information*

*2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

#### **Risk Assessment**

The risk assessment, which originally concluded that the overall financial statement risk was low, needs to be revised because there are many additional factors the student did not consider that have an impact on the overall financial statement risk.

#### Factors That Increase Overall Financial Statement Risk

- There is increased risk because there is motivation to manipulate the financial statements to improve reported profits due to the following:
  - Star and Tatum, two directors and shareholders of the company, would want financial results to show good performance to attract buyers and get as high a selling price per share of RMZ as possible.
  - Bonuses are paid to managers and employees based on their departmental operating income.
  - The long-term debt with Confederation Bank (the company's corporate bank) has a debt-to-EBITDA covenant, and the company may want to maximize EBITDA so that the covenant is not breached.
- Harry, the controller, was on sick leave for four months and just returned to work. During his absence, the accounting department staff covered for him, resulting in an increased risk that normal internal controls may have been circumvented during the period. The fact that Harry was not replaced also means there was less oversight. This also increases the risk of errors made in the recording of transactions, since there would have been a reduced number of controls to detect errors if they were made.



- Several errors have been found in the financial statements in the current year (e.g., revenue recognition, R&D capitalization, and depreciation related to the investment property). It appears that staff may not be as knowledgeable about accounting standards as Harry. This increases the risk that there are other errors in RMZ's financial statements.
- The student noted RMZ does not have complex transactions; however, this is not the case:
  - The company sells not only in Canada but also in the United States and Europe, and some of its costs are in U.S. dollars. Therefore, there are many foreign exchange transactions, which are complex to account for.
  - In addition, the company reports under IFRS, which is a complex set of standards to apply, with significant disclosure requirements.Increased complexity could result in additional errors and increases the financial statement risk.
- The internal control environment may not be strong:
  - Internal control weaknesses were identified in the tools and equipment processes. This may indicate there are also other weaknesses in internal controls.
  - There was a recent restructuring, so managers may be taking on new or different responsibilities and may not be as familiar with existing internal controls.
  - There were also errors discovered in the interim sales testing (this will be discussed further below).This lack of internal controls means that errors are less likely to be caught, increasing risk.

#### Factors That Decrease Overall Financial Statement Risk

- RMZ has a board that meets weekly and makes all major operational decisions. Their involvement decreases risk since there is good oversight and review of financial information, which means errors are more likely to be caught.
- The company has always had an excellent record of being in full compliance with all regulatory requirements and receiving approvals for drug development, manufacturing, and marketing. This means that controls on manufacturing and inventory management are likely strong enough to ensure compliance with these regulations. This decreases risk because internal controls are likely adequate to prevent error in the areas of production, R&D, and marketing. (The operating effectiveness of the controls would have to be tested.)
- Because RMZ has been audited in the past, the opening balances have been scrutinized and they are unlikely to contain errors.

Given the above factors, the overall financial statement risk should be assessed as high.

## Approach

The student on the audit team has not considered several relevant factors in the audit approach documented. They suggested a combined approach for the audit, supported by a claim that RMZ's control environment was strong. A combined approach may not be possible given that Harry was away for four months and controls during that time may not have been as strong as usual. Before a combined approach can be taken, controls will have to be assessed and then tested for that specific period (as well as the rest of the year) to ensure that they were operating as intended. If controls were not operating effectively during Harry's absence, a substantive approach will be needed during that time period at least, and the audit team will have to consider whether it is efficient to rely on controls for only a portion of the year or to use a substantive approach for the full year.

In addition, internal control weaknesses were noted in the tools and equipment processes. This means that controls cannot be relied upon in this area. A substantive approach should be taken for accounts related to these processes.

## Materiality

The student did not justify the materiality level used. In order to determine the materiality level, the users of the financial statements should be considered:

- Star, Tatum and Francine, as owners and directors of the company, will be using the financial statements. They will be interested in the profitability of RMZ to determine their return on investment.
- Star and Tatum are looking to sell soon, so potential strategic buyers will be using the financial statements. They will be interested in the profitability of RMZ to determine whether it is a worthwhile purchase.
- RMZ currently has a long-term debt outstanding with the Confederation Bank. The bank will be using the financial statements to ensure the covenant has been met and to assess RMZ's ability to repay, which can be determined through profitability.
- Management and the employees receive a bonus based on departmental operating income. They will be interested in RMZ's profitability as an indication of the size of their bonus.

Based on the above analysis, all users are interested in the profitability of RMZ. Therefore, income before tax is the most appropriate basis to use for materiality, as suggested by the student. This is also consistent with CAS 320 – *Materiality in planning and performing an audit*, paragraph A5, which suggests that “*profit before tax from continuing operations is often used for profit-oriented entities.*” CAS 320.A8 also states:

*Determining a percentage to be applied to a chosen benchmark involves the exercise of professional judgment... For example, the auditor may consider five percent of profit before tax from continuing operations to be appropriate for a profit-oriented entity in a manufacturing industry, while the auditor may consider one percent of total revenue or total expenses to be appropriate for a not-for-profit entity. Higher or lower percentages, however, may be deemed appropriate in the circumstances.*

The common range is 3% to 7% to be applied to income from continuing operations. Given the users' sensitivity to misstatements (due to the potential sales, the covenant, and the bonus), the lower end to middle of the range would be appropriate. Therefore, 5% should be applied to income before taxes.

Materiality needs to be revised as the auditor becomes aware of issues affecting the calculation. Given the adjustments made to the financial statements and some non-recurring items, the new materiality based on the revised financial statements is as follows:

$$\begin{aligned} &= [\$1,514,670 \text{ (draft earnings before taxes)} - \$90,000 \text{ (revenue adjustment)} - \$199,000 \\ &\text{ (development costs adjustment)} - \$34,500 \text{ (depreciation on investment property to date of} \\ &\text{ change of use)} + \$130,000 \text{ (abnormal waste)}] \times 5\% \\ &= \$1,321,170 \times 5\% \\ &= \$66,059, \text{ or } \$66,000 \text{ rounded} \end{aligned}$$

The fair value gain of \$320,800 from the investment property has been excluded from the adjustments since this is not part of normal operations. In addition, the bad debt write-off and charitable donations are assumed to be normal items.

The student also did not set a performance materiality. Per CAS 320.A13, performance materiality is “*set to reduce to an appropriately low level the probability that the aggregate of uncorrected and undetected misstatements in the financial statements exceeds materiality for the financial statements as a whole.*” Performance materiality is usually in the range of 60% to 75% of materiality. Given that the risk of material misstatement at the financial statement level has been assessed as high and we are already aware that errors occurred during the year, the low end of the range should be used. A performance materiality factor of 60% has been applied.

The performance materiality is, therefore, \$39,600 ( $\$66,000 \times 60\%$ ).

For Assessment Opportunity #8 (Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the revisions required to the preliminary audit plan.

**Competent** – The candidate discusses the revisions required to the preliminary audit plan.

**Competent with distinction** – The candidate thoroughly discusses the revisions required to the preliminary audit plan.

**Assessment Opportunity #9**

The candidate discusses the audit procedures for the IFRS accounting issues highlighted by Harry.

*The candidate demonstrates DEPTH in the Assurance role.*

CPA Map Technical Competency:		Core	E3 AS
4.3.6	Develops appropriate procedures, including Audit Data Analytics (ADA), based on the identified risk of material misstatement	B	A

**CPA Map Enabling Competencies:**

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.2.4 Gathers additional relevant information, as needed, to explore unexpected or inconsistent findings*

*2.1.5.2 Determines whether the information collected and the work performed are sufficient to support conclusions*

The following are audit procedures related to specific IFRS accounting issues highlighted by Harry.

**Revenue Recognition for the New Contract**

The main audit risks are occurrence and accuracy (due to the complex requirements of IFRS 15):

- Examine the new contract and ensure that it has been signed by Francine and the customer, and note the terms and conditions. Check the date the customer has accepted the contract and ensure that it is before the contract commencement date. Note the nature of contract terms (e.g., the additional 3,000 free units once 30,000 units have been reached for the Sheppard contract).
- Select a sample of Sheppard revenue transactions from the general ledger, vouch to the related invoice, and do the following:
  - Check the transactions have been recorded at the contracted selling price by vouching back to the contract amounts.
  - Agree the amount to the related shipping documents and any amounts outlined in the contract.
  - Check that the customer has signed for receipt of the goods on the shipping document (that is the point when ownership transfers).
  - Check for any unusual adjustments on the sales invoices.
  - Agree the amount of the subsequent receipt from the customer to the invoice amount to verify that collection is probable.

- Alternatively, send a confirmation to the customer to verify amounts purchased to date and the dollar amount of the units.
- Ensure RMZ is keeping track of units sold to date under the contract. Review this summary of total sales volume to date to ensure that 30,000 units has not yet been reached. Select a few original invoices/shipping documents to Sheppard and trace to this list to verify the completeness of the volumes shipped.
- Review management's assessment of the performance obligations that are present in the contract and whether the 30,000 units will be reached. Corroborate management's assessment with sales staff.
- Verify that the adjustment to the revenue account to transfer deferred revenue to the contract liability account is booked.

### **Capitalized Development Costs**

The main audit risks are existence and accuracy/valuation because of the specific accounting criteria that must be met to capitalize development costs as an intangible:

- The development costs criteria must be reviewed to determine whether they have been met. The following procedures should be performed:
  - Have a discussion with the manager of R&D to understand which stage the drug is in.
  - Have discussions with management to determine the ability to sell the drug, the existence of a market, and the availability of resources to complete the development. This should be corroborated with evidence from such things as management minutes, business plans for Drug C, market study reports, and a review of available funds in the company.
  - Examine supporting documentation to verify the date that government approval for sale was given to Drug C, which also corroborates the phase the drug is in.
- Select a sample of development costs during 2020 and vouch to supporting documentation to ensure they have been appropriately capitalized:
  - For capitalized costs that relate to salaries and benefits, examine the payroll records to verify the amounts capitalized for the personnel indicated. Verify the work done by these individuals related to the drug development indicated in the supporting documentation.
  - For capitalized costs relating to trial production runs for Drug C, examine supporting invoices for evidence that the costs relate to that drug.
  - For the Phase IV clinical testing, obtain the listing of costs required for this and select a sample of invoices, timesheets, etc., to support the amounts recorded and to ensure the costs relate to clinical testing.
- Discuss the estimated useful life of the development costs of Drug C with the R&D manager (e.g., life of patents, expected life of drugs, etc.). Compare the information obtained to the policies used by RMZ for amortization and recalculate the amortization for the year.

## Investment Property

The main audit risks are existence, accuracy/valuation, and rights/obligations, given the change in use of the property and the adoption of the fair value method for the investment property:

- Agree the opening balance for the land and building to the prior-year audit schedule, and verify the cost, accumulated depreciation, and accumulated impairment losses (should be zero) related to the land and building at the beginning of the year.
- Verify the company had ownership throughout the year by, for example, examining property tax bills.
- Review the reports prepared by the appraisers and verify the credentials of the appraisers, assumptions used, valuation methods, etc. Verify that the address of the location that has been appraised agrees to the land and building currently on the books. Confirm the market values of the land and building from the reports and compare them to the amounts recorded.
- Verify the change-of-use date by reviewing the new lease to confirm that the whole building is in fact now being rented and to determine the start date, which would indicate when the building became an investment property and depreciation would cease under the fair value method.
- For the land and building:
  - Verify if there has been any change in the depreciation policy for the building through discussion with management.
  - Determine the appropriate depreciation policy for the building by discussing estimated useful life, usage patterns, etc., with management and compare management's calculation of the depreciation up to the change-of-use date to our calculation.
  - Verify that the net book value of the land and building as at the change-of-use date has been transferred to the investment property account.
  - Verify that the adjustments to the investment property, depreciation, OCI, and fair value gain accounts have been booked properly.

For Assessment Opportunity #9 (Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate discusses some audit procedures for the accounting issues identified.

**Competent** – The candidate discusses several audit procedures for the accounting issues identified.

**Competent with distinction** – The candidate discusses many audit procedures for the accounting issues identified.

**Assessment Opportunity #10**

The candidate discusses the CAATs queries that should be performed on RMZ's general ledger to respond to the risk of management override of controls.

*The candidate demonstrates DEPTH in the Assurance role.*

<b>CPA Map Technical Competencies:</b>		<b>Core</b>	<b>E3 AS</b>
4.3.5	Assesses the risks of the project, or, for audit engagements, assesses the risks of material misstatement at the financial statement level and at the assertion level for classes of transactions, account balances, and disclosures	B	A
4.3.6	Develops appropriate procedures, including Audit Data Analytics (ADA), based on the identified risk of material misstatement	B	A

**CPA Map Enabling Competencies:**

2.1.1.1 Obtains an initial understanding of the problem and its context  
 2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis  
 2.1.1.3 Exercises judgment in determining whether an issue requires attention  
 2.1.2.1 Identifies the purpose and type(s) of information to be gathered  
 2.1.2.2 Uses appropriate methods to gather or develop relevant information  
 2.1.3.3 Uses information technology to support and improve analysis  
 2.1.3.4 Chooses and applies appropriate analysis techniques  
 2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis  
 2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences  
 2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions

First, we will need to ensure that the controls surrounding the entry/processing of the data in the general ledger are functioning effectively, so that we can rely on the data produced by the accounting system. We should determine what controls are used for data entry/processing and ensure that key controls are tested.

Once we receive RMZ's general ledger with all journal entries included, we should ensure the population is complete. We should be using CAATs to perform the following checks:

- Ensure the sums of debits and credits are equal.
- Ensure all journal entry numbers between the first number of the period and the last number of the period are present.
- Ensure the sums of the amounts for each general ledger account tie to the trial balance amounts.

Once we have ensured we have the complete population of journal entries, in order to respond to the risk of management override of controls, we should focus on identifying potentially inappropriate journal entries.

The biggest risk related to this is the fact that year-end bonuses are paid to managers and employees based on departmental operating income. Therefore, there is a significant risk that entries would be made to overstate revenues or understate expenses. The following CAATs queries could be performed related to these risks:

- Search for entries in the sales account where the original entry was before year end while the reversing entry is after year end, as this may indicate fraudulent sales entries.
- Search for sales entries that are manual rather than automated, since sales entries are automatically made by the accounting system, and thus manual entries would be indicative of potential management override.
- Search for entries to expenses subsequent to year end that are >10% increase from a similar entry in the prior year, since unusually large expenses subsequent to year end may indicate a shift of expenses from the current year to the next year, to understate expenses.
- Search for entries over a specific amount (e.g., \$10,000) in capital accounts that do not have an invoice as the source document, as this may indicate entries that are moving expense amounts to capital accounts.

In addition, we should identify journal entries with specific characteristics, since these entries are at greater risk of resulting from management override of controls. We can design queries that would highlight entries with these characteristics, as follows:

- Search for entries made to typically unrelated accounts, such as the following:
  - The other side of a sale entry is not accounts receivable.
  - The other side of an expense entry is not accounts payable.
  - The other side of an accounts receivable reduction is not cash.
  - The other side of an accounts payable reduction is not cash.
- Create a summary of the number of entries that are made to each account. Accounts with a small number of entries (say, bottom 5%) should be highlighted and the related journal entries reviewed, as management may be using seldom-used accounts for their management override entries.
- Search for all entries related to equity accounts, particularly retained earnings or other comprehensive income, as entries related to those accounts are higher risk since they should occur frequently.
- Search for entries made by individuals who do not typically make journal entries:
  - Search for entries created by Francine or Harry — given they are in senior positions, they would be unlikely to create entries, but should rather be the ones to approve them.
  - In addition, for the period when Harry was away, search for entries created by unexpected parties (e.g., non-accounting department employees), as supervision and review during this period was lacking.
- Search for entries where the description field is blank.
- Search for entries where the amounts are round numbers or have consistent ending numbers (e.g., “999”).



- Ask for entries that have the same user ID creating and approving the entry, or entries with no approval user ID.
- Search for entries that were made before or after normal business hours or on weekends.
- Search for entries with amounts under a certain threshold (e.g., \$100) and over a certain threshold (e.g., \$10,000). Alternatively, have the system highlight the top 1% and bottom 1% of entries from the perspective of dollar amounts, to identify entries with unusually low or high dollar amounts.
- Search for entries that are reversed in a subsequent reporting period.
- Search for entries that have specific entity names (e.g., Star or Tatum, as it would be unusual to have transactions with these parties).
- Search for entries that have the same details (e.g., dollar amount, description, etc.), which may indicate duplicate entries.

In addition to specific journal entries, we can search for accounts with unusually high or low volumes of transactions, both for the year and during specific months. This can be done using CAATs to count the number of transactions by month and for the year, and this can be compared to previous years to determine any outliers.

Once unusual entries are highlighted, substantive procedures should be performed on them. We should review the entries for supporting documentation (e.g., invoice) to substantiate the legitimacy of the journal entries.

For Assessment Opportunity #10 (Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate discusses some of the CAATs queries to be performed on RMZ's general ledger.

**Competent** – The candidate discusses several of the CAATs queries to be performed on RMZ's general ledger.

**Competent with distinction** – The candidate discusses many of the CAATs queries to be performed on RMZ's general ledger.

**Assessment Opportunity #11**

The candidate discusses the impact of the errors identified on the audit and audit report.

*The candidate demonstrates DEPTH in the Assurance role.*

<b>CPA Map Technical Competencies:</b>		<b>Core</b>	<b>E3 AS</b>
4.3.6	Develops appropriate procedures, including Audit Data Analytics (ADA), based on the identified risk of material misstatement	B	A
4.3.7	Performs the work plan	B	A
4.3.8	Evaluates the evidence and results of analysis	B	A
4.3.10	Draws conclusions and communicates results	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.2.4 Gathers additional relevant information, as needed, to explore unexpected or inconsistent findings*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.5.2 Determines whether the information collected and the work performed are sufficient to support conclusions*

The evidence that has been gathered must be evaluated. There were 5 errors found out of a sample of 10 during the period from August to December. No errors were found for invoices sampled from January to July.

## Additional Work

First, we must perform some additional work, given the errors identified.

1. The amount of the known errors is an overstatement of sales of \$23,100 in a sample totalling \$650,000, or 3.6% error. Assuming that all errors were in the last five months of the year (since no errors were found in the sample taken from January to July), then 5/12 of the total revenue ( $\$22,751,200 \times 5 \div 12 = \$9,479,667$ ) for the year would be subject to error. This means the extrapolated error would be \$336,893. This amount is higher than our performance materiality and planning materiality. There are risks in extrapolating this error to the entire population, particularly given the small sample size of 10 invoices. The smaller the sample size, the greater the risk of the extrapolation not reflecting the true error in the population. Therefore, additional testing should be done to arrive at a more complete analysis of known errors before the extrapolation is calculated. It is also unclear how the sample was selected (random, large dollar values, monetary unit sampling, etc.). If the initial sample selection method was not representative, extrapolation would not be appropriate.
2. Evaluate qualitatively the nature of the errors. We need to follow up each difference to determine whether it arose from
  - a) a misunderstanding of the accounting principles (this issue was not noted with this sales invoice sample);
  - b) simple mistakes or carelessness;
  - c) an intentional irregularity (three out of five errors resulted in higher sales); or
  - d) an override of internal control procedures, or the absence of internal control procedures because these errors occurred during the period when Harry was away.All of b), c), and d) may be applicable and, therefore, each error will have to be investigated.
3. Discuss each error found with management to determine how the error might have arisen. It appears that, based on the nature of the errors (i.e., calculation errors and posting to the general ledger), internal controls may have been circumvented for some reason or control procedures were not performed when Harry was away.
4. The sample size should be increased. That 50% of the sample have errors is problematic. Therefore, additional samples of invoices should be taken from the same period to determine if other errors of the same nature and magnitude exist. The additional testing should focus on any apparent cause of the errors first. For example, it could focus on why the system calculates invoices incorrectly or posts a different amount to the general ledger than what the invoice shows, or how the incorrect sales price was used (is there a problem with a particular sales clerk or with particular customers?). After that, a representative sample should be taken so the extrapolation reflects the population.

## Audit Plan Revisions

We need to revise our preliminary audit plan.

1. Given the number of errors already identified, it is likely that the controls surrounding revenue were not effective from August to December. If our audit strategy included reliance on controls over revenue from August to December, we need to revise our strategy for revenue to do substantive testing only in this period. Given there may be system errors, we also need to ensure that, when obtaining sources of information from the system for our other audit procedures, substantive procedures are performed on those sources to ensure reliability before selecting samples, etc.
2. We will need to reassess our risk assessment and determination of performance materiality. We had assessed the risk of material misstatement as high, so the evidence of errors here will not increase our assessment of risk. However, performance materiality should be adjusted for the errors found. Given overall revenues are overstated, performance materiality will be reduced as a result.

## Impact of Errors on the Audit Opinion

If, after the additional tests are completed, we still find significant errors in sales, then a qualified opinion might have to be given for GAAP departures in sales. In addition, if program errors are found to be pervasive in the system (i.e., beyond just the sales process), then we may not be able to rely on the output of the system. In the worst case, an adverse opinion may be required, and we will have to provide the reasons for this adverse opinion in the report. Once we obtain additional information, professional judgment will be required to make this final determination.

For Assessment Opportunity #11 (Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the impact of the errors identified on the audit and audit report.

**Competent** – The candidate discusses the impact of the errors identified on the audit and audit report.

**Competent with distinction** – The candidate thoroughly discusses the impact of the errors identified on the audit and audit report.

**Assessment Opportunity #12**

The candidate discusses the weaknesses in the internal controls related to the tools and equipment purchase processes and recommends improvements.

*The candidate demonstrates DEPTH in the Assurance role.*

CPA Map Technical Competencies:		Core	E3 AS
4.1.1	Assesses the entity's risk assessment processes	A	A
4.1.2	Evaluates the information system, including the related processes, using knowledge of data requirements and risk exposures	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

There are many weaknesses in the company's current processes related to tools and equipment purchases.

**1. Purchases under \$10,000**Weakness

For purchases less than \$10,000, managers call the supplier directly and place the order with the required specifications. No additional approval is required.

Implication

The fact that the manager places the order, receives the goods, and approves the invoice for payment creates a potential for fraud, since the manager could order goods for their own personal use and no one would be aware.

### Recommendation

There should always be a requestor and an approver for every purchase made. It is likely inefficient for Harry to approve every request; therefore, the process for purchases of small amounts should be such that requests are made by members of the department and the manager is responsible for approving them.

## **2. Purchases between \$10,000 and \$50,000**

### Weakness

For purchases between \$10,000 and \$50,000, Harry reviews and approves requests made by the production manager and the R&D manager. This is a good control to ensure these requests are legitimate and supported. However, there is no second review of Harry's purchases in the administration departments.

### Implications

Without a second review, Harry has sole authority to make equipment purchases up to \$50,000, which is higher than the limits set for the other managers. This means that he does not have to support his rationale as robustly as the other managers for purchases between \$10,000 and \$50,000. As a consequence, the threshold is not consistently applied and the purchases of administration departments are potentially riskier (i.e., not as efficient/effective compared to the other departments) in this price range.

### Recommendation

Francine should authorize Harry's requests for equipment purchases over \$10,000. This will ensure that only equipment really needed and justified is purchased.

## **3. Quotes for Purchases**

### Weakness

Although a quote is required for any equipment over \$50,000, multiple quotes are not necessary. In addition, the manager has sole authority to choose whichever supplier they want to accept, and only the accepted quote is retained by the manager. Although the manager compares the invoice price to the quote, no one else has seen the quote(s) originally received.

### Implication

Without quotes or a formal bid process, the company may be overpaying for equipment. In addition, the fact that the manager can select the supplier alone, with no other parties involved, allows them the ability to show favouritism towards a specific supplier, which they might do for many reasons (for example, a family member, a friend, or the manager could receive a kickback for making the purchase).

### Recommendation

All quotes and requests for proposals from the production and R&D departments should be reviewed by Harry. All quotes and requests for proposals from Harry's department should be reviewed by Francine. For major purchases, a minimum of two quotes should be required. The decision on which supplier to select should be made jointly by at least two people. This will ensure that there is no potential for favouritism and the best supplier is selected. All quotes should be retained, but the accepted quote should be marked as approved. A copy of the approved quote can stay with the manager, but another copy of the approved quote should be attached to the final invoice. The accounts payable clerk should then compare the approved quote to the invoice and investigate any discrepancies.

## **4. General Ledger Account Coding**

### Weakness

There is no review of the managers' general ledger account coding on the invoices.

### Implications

This allows managers to use the general ledger account coding to manipulate their department's earnings, which in turn influences their bonus. For example, to receive a higher bonus, a manager could capitalize anything possible to reduce the repairs and maintenance costs and increase earnings.

### Recommendation

Harry, as the controller, should verify that the general ledger account to which an amount is to be posted is correct. Harry's general ledger coding for his own purchases should be reviewed by a senior person in the accounting department. There should also be policies in place that determine the nature of items that are capitalized rather than expensed.

## **5. Identification Number of Equipment**

### Weakness

Currently, the accounts payable clerk keeps a list in a spreadsheet to track equipment. A sequential number is assigned to the equipment, but this number does not seem to be attached to the equipment in any way, since the oldest entry in the tracking sheet is always removed from the list because the specific piece of equipment cannot be identified.

### Implications

Without an identification (ID) number on the actual equipment, it is almost impossible to track an individual asset. It is also not possible to check whether the asset is still owned or has been disposed of. Finally, the wrong asset could be deleted from the list, which could create a material misstatement in the financial statements.

### Recommendation

Each piece of equipment that is entered into the spreadsheet should have its ID number attached to it in some manner (e.g., serial number). In addition, periodic spot checks should be done to confirm equipment listed is still owned by the company.

The ID number attached to the equipment should also be listed on the related invoice. This will help in future should the company have to go back to the specific supplier for an issue related to the equipment.

## **6. Tracking of Tools**

### Weakness

Capitalized tools do not appear to be tracked in any way.

### Implications

Without any tracking, employees could easily steal the tools without being caught. In addition, duplicate tools could be ordered unnecessarily because employees are not aware of what RMZ already owns. Both of these things would lead to an increase in cost for RMZ.

### Recommendation

As recommended for the equipment, tools should be tracked on the spreadsheet, with a similar process as described above (i.e., tools should have ID numbers attached and spot checks should be performed).

## **7. Security of Equipment-Tracking Spreadsheet**

### Weakness

The company is currently using an Excel spreadsheet to keep track of equipment. It does not appear to be password protected, and anyone is allowed access. Managers can also make changes without any authorization. The backup is simply kept on a USB key and is done only monthly.

### Implications

Using a manual system to track the equipment can result in many errors arising since there is no check on whether all information has been entered correctly. With improper records, additions, disposals, and depreciation recognized in the financial statements may be incorrect. In addition, managers can update it, allowing for the covering of any theft or removing of capital assets to ultimately decrease expenses and increase their bonus. Finally, given that backups are performed only monthly, if a backup were needed, the information on the backup could be almost a full month out of date.



### Recommendation

If possible, this equipment listing should be prepared directly from invoicing information entered in the accounting system (i.e., in a fixed asset module). This ensures that entries are made only once and there will be checks that amounts are correct. If an item is posted to an equipment asset account, there should be a prompt that asks for additional information to be entered, including serial number, for example. The accounts payable clerk and the controller should be the only ones with access to this ledger. If changes are required, then the managers should provide updated information to the clerk for entry. The clerk would then also enter the additional information noted above. The controller should be the only person to determine the amount of depreciation. Backups of this information would then be part of the company's total systems backup procedures and should be performed weekly.

## **8. Information on Equipment-Tracking Spreadsheet**

### Weakness

The accounts payable clerk only tracks the type of equipment, the supplier, and the purchase date on the equipment list.

### Implications

Without additional details all in one place, it is hard to track, identify, and locate equipment. If details of the equipment are required (e.g., for audit purposes), it requires significant effort to go back to supporting documentation to find the information.

### Recommendation

At a minimum, the following information should also be included in the tracking sheet:

- serial number and model numbers
- the department and location of the equipment
- service dates
- the related general ledger account
- any disposal or write-offs — the date of the disposal or write-off, proceeds on disposal, and who the asset was sold to

For Assessment Opportunity #12 (Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate discusses some of the internal control weaknesses in the tools and equipment purchase processes and recommends improvements.

**Competent** – The candidate discusses several of the internal control weaknesses in the tools and equipment purchase processes and recommends improvements.

**Competent with distinction** – The candidate thoroughly discusses many of the internal control weaknesses in the tools and equipment purchase processes and recommends improvements.

### Assessment Opportunity #13

The candidate discusses whether the assumptions used in the forecast are reasonable given an understanding of the business, as well as the procedures required to audit the assumptions.

*The candidate demonstrates DEPTH in the Assurance role.*

CPA Map Technical Competencies:		Core	E3 AS
4.3.6	Develops appropriate procedures, including Audit Data Analytics (ADA), based on the identified risk of material misstatement	B	A
4.3.8	Evaluates the evidence and results of analysis	B	A

### CPA Map Enabling Competencies:

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.2.4 Gathers additional relevant information, as needed, to explore unexpected or inconsistent findings*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.3 Considers alternative interpretations of quantitative and qualitative information*

*2.1.5.2 Determines whether the information collected and the work performed are sufficient to support conclusions*

## Revenue

### Reasonability of Assumption

Management assumes revenues will increase annually by 20% for 2021, 2022, and 2023, and by 10% per year for 2024 and 2025. The following facts should be considered:

- Drug C was approved for sale in the current year, but commercial production has yet to begin. This is consistent with the increase in revenues from 2021 onwards as this is likely when Drug C will be sold, which is in addition to what is being sold currently.
- Drug A's patent expires in 2024 and, therefore, sales should decline after this expiration date, which is consistent with revenues increasing at a lower rate starting in 2024 in the forecast.
- The Patented Medicine Prices Review Board is considering setting a maximum price for Drug B that is below what it is being currently sold for. We do not have enough information to determine whether this is consistent with the forecast. If Drug B volumes are low compared to the other drugs being sold, it could be reasonable that overall revenues will still increase despite the price projection.
- Sales from Drug A and Drug B alone increased by approximately 7% from 2019 to 2020 (6.5% after adjusting for the \$90,000 revenue error). Therefore, the 20% increase for 2021 to 2023 and 10% increase in 2024 and 2025 seem aggressive, unless there is a significantly different market for Drug C.

### Procedures Required

- Drug C: Review documentation from the government specifying approval of this drug. We should also discuss with management whether commercial production is anticipated for 2021 at the latest and what the planned volume of production will be for the upcoming years. Also inquire about whether customers for Drug C have been identified.
- Drug A: Review patent documentation to confirm the patent expires in 2024. Review historical sales volumes of Drug A and whether an increase in sales volume is reasonable. For example, have additional customers been identified? Is the percentage annual growth for Drug A for the next three years reasonable based on historical trends?
- Drug B: Discuss with management whether there has been progress on the Patented Medicine Prices Review Board's decision on pricing. If the reduction has been confirmed, we should obtain the supporting documentation related to this. Review historical sales volumes of Drug B and whether an increase in sales volume is reasonable. For example, have additional customers been identified? Is the percentage annual growth for Drug B for the next three years reasonable based on historical trends?
- Discuss with management whether other significant factors that influence sales volume/prices have been considered, including the following:
  - How long is it forecasted that the drugs will remain on the approved list for insurance companies?
  - What is the timing for drugs currently in the pipeline to be approved for sale?
  - Are there any other known decisions upcoming from the Patented Medicine Prices Review Board?

- Verify the drug prices used are based on reasonable support, such as price ranges dictated by the Patented Medicine Prices Review Board or long-term sales contracts. Vouch the prices used to these supporting documents.
- Review the expiry dates of the patents of each of the drugs by agreeing them to the legal patent documents received and ensure that the company has considered the impact on revenues for these dates. Consider if industry data is available that shows a decrease in volume once patents expire and generic drugs can compete.
- Review any available data for how sales have typically increased and decreased for drugs that RMZ has been selling for some time (Drug A and Drug B), and compare to the expectations for Drug C.

### **Cost of Goods Sold**

#### Reasonability of Assumption

Management assumes cost of goods sold will be 30% of sales. The following facts should be considered:

- Cost of sales was 30.9% in 2020 (31.1% after taking into account the accounting error in revenue) and 30.7% in 2019. Given that there was restructuring in the current year, the slight decrease in future years is consistent with our understanding of the business.
- RMZ changed to a new supplier for packaging materials for Drug B, which likely has a different cost compared to the previous supplier. We do not have enough information to determine whether this is consistent with the forecast. If the price is lower than before, then this is consistent. If the price is higher, this may still be consistent if Drug B volumes are small compared to the other drugs being sold.

#### Procedures Required

- While we have considered the overall cost of goods sold compared to revenue, we should verify what the cost of goods sold as percentage of revenue for each product is currently, and compare these amounts to what is being used in the forecast. We should consider how the addition of new products (i.e., change in product mix) will affect the overall cost of goods sold percentage by discussing this with the production manager and reviewing any management minutes for discussions of costs related to the drugs.
- Review the contract with the new supplier to determine the new cost for packaging and ensure those amounts have been incorporated into the forecast.
- Review management and board meeting minutes to determine whether there are other factors that may impact cost of sales, such as direct materials costs, salary increases, etc.

## **Research and Development**

### Reasonability of Assumption

Management assumes R&D will increase 10% annually from current amounts. The following facts should be considered:

- The increase in R&D costs from 2019 to 2020 was 16.8% (21.1% after taking into account the accounting error in R&D). The amount spent annually on R&D can change significantly depending on the phases that the drugs in development are at, how successful the clinical trials have been, the nature of data found with basic research, how long it takes to get drug approval for sale, and changing regulatory requirements. We require more information to determine whether a 10% increase is reasonable. At a minimum, however, assuming a straight increase in percentage for each year is likely not reasonable.
- The expenses that were capitalized and now need to be expensed in the 2020 statements will significantly increase the starting point from which these costs will increase. Therefore, the amounts projected will, at a minimum, need to take these new expenses into account.

### Procedures Required

- Obtain detailed forecasts of R&D costs by drug and phase to determine what percentage increase would be reasonable for each year. Review the calculations to determine the reasonability of these projected costs, including discussions with drug research managers.
- Review any business plans and discussions in management and board meetings (as evidenced by meeting minutes).
- Have a discussion with the R&D manager to corroborate what percentage of annual increase is reasonable. For example, discuss whether any new drugs are expected in the product line, any of the current drugs will be dropped, and any of the current drugs will go into Phase IV study.

## **Restructuring Costs**

### Reasonability of Assumption

Management assumes restructuring costs will increase 2% annually from current amounts due to inflation. The following fact should be considered:

- While there were restructuring costs in the current year, it is unlikely RMZ's management plans to restructure every year. In addition, even if restructuring were planned for the next several years, costs could change significantly depending on the type of restructuring completed. Applying a general inflationary increase does not seem reasonable.

### Procedures Required

- Confirm with management whether the current year's restructuring is complete (and, therefore, no additional restructuring costs will be incurred next year). Also confirm whether there are restructuring plans for each of the next five years. If the company does plan to restructure each year, review the details of the plans to quantify the costs that would be required.

- Restructuring typically leads to cost savings in other areas. Discuss with management where these planned savings would materialize, and ensure these savings have been incorporated into the forecast.

## **Selling and Marketing Costs and General and Administration Costs**

### Reasonability of Assumption

Management assumes selling and marketing costs and general and administration costs will increase 2% annually from current amounts. The following facts should be considered:

- Selling and marketing costs increased by 3.4% from 2019 to 2020, and general and administration costs decreased by 16% from 2019 to 2020. While historical trends would indicate that a blanket 2% annual increase for these costs, based on inflation only, may be inappropriate, we should gain an understanding of whether inflation is an appropriate measure on which to base the cost increases. For example, perhaps there were exceptional circumstances in the current year to result in a significant decrease in general and administration (e.g., perhaps the restructuring resulted in significant savings).
- Drug C has been approved for sale, which suggests that increased selling and marketing expenses would be required compared to current amounts spent for this drug.

### Procedures Required

- Discuss with management the rationale for basing the cost increase on inflation. Specifically, discuss the facts outlined above and whether they have been considered when basing the increase on inflation.
- If inflation is deemed an appropriate basis after discussions with management, ensure the 2% reflects expected future inflation amounts by vouching the percentage to an external source, such as Bank of Canada forecasts.
- Review management and board meeting minutes to determine whether there were significant decisions during the year that would impact these costs going forward (e.g., marketing strategy).
- Obtain the details of selling and marketing costs and general and administration costs for the past several years. Determine what costs are being incurred. Review any specific contracts related to these costs to see if there are any expected increases that would be significantly higher than 2%.
- Depreciation amounts would have been included in cost of sales, R&D, and general and administration costs. Determine how depreciation and amortization has been incorporated into the forecast and whether the assumptions related to estimated useful lives of the equipment are consistent with the year-end assumptions.

### Other Income and Expenses

There are other income and expense line items for which no assumptions have been provided. For these items, the following procedures should be performed:

- **Loss on disposal:** Discuss with management whether there are any planned disposals in future years. If so, vouch the market value of the assets to supporting documentation, such as third-party websites, to determine the appropriate gain/loss on assets to include in the forecast.
- **Impairment of intangible assets:** Discuss with management whether any impairment of intangible assets is anticipated and the possible triggers (e.g., change in use of the intangible asset, change in estimated cash flows resulting from the intangible asset, etc.).
- **Rental income/expense:** Review the rental agreements to verify the timing and amounts of the rental income expected to be received. Where possible, confirm supporting documentation for future costs (e.g., budgeted property taxes in future years).
- **Interest income/expense:** Review the loan agreement for the interest payments to be made. Evaluate the reasonableness of the interest rate that will be received on excess cash invested by looking at forecasted Bank of Canada interest rates. Review management's cash flow projections to determine how much excess cash will be on hand each year.
- **Income taxes:** Confirm the percentage used by reviewing prior years' income tax returns for the rate used to calculate income taxes. Review legislation for any substantially enacted changes to tax rates and ensure these revised rates (if any) have been incorporated into the forecast.

For Assessment Opportunity #13 (Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate discusses some of either the assumptions used in the forecast or the procedures required to audit the assumptions.

**Competent** – The candidate discusses several of either the assumptions used in the forecast or the procedures required to audit the assumptions.

**Competent with distinction** – The candidate discusses many of either the assumptions used in the forecast or the procedures required to audit the assumptions.

**DAY 2 – MARKING GUIDE– FINANCE ROLE  
RMZ PHARMACEUTICALS INC. (RMZ)**

In the Finance role, the candidate is expected to discuss the advantages and disadvantages of issuing preferred shares. The candidate has also been asked to outline the financial risks of manufacturing in Germany and to assess two proposed financing options and provide a recommendation on which option the company should accept. The candidate is further asked to review the costs of a new machine and determine whether the company should lease or buy the asset based on a quantitative and qualitative analysis. The candidate is provided with information on a new customer and asked to assess the impact on days in receivables and inventory and on RMZ's working capital and bank covenant. The candidate is then asked to review alternatives for hedging the company's exposure to U.S. dollars. Lastly, the candidate is provided with information on the probability of success and minimum sales for a drug in development, and is asked to assess the quality and applicability of this data and whether additional data should be considered. This information is then applied to the valuation of an intangible asset to assess whether the company should sell the asset.

**See Common Marking Guide for the Common Assessment Opportunities #1 to #6.**

**Assessment Opportunity #7**

The candidate discusses advantages and disadvantages to RMZ of issuing cumulative preferred shares.

*The candidate demonstrates DEPTH in the Finance role.*

<b>CPA Map Technical Competencies (based on the 2019 CPA Competency Map):</b>		<b>Core</b>	<b>E2 FIN</b>
5.2.3	Evaluates sources of financing	B	A
5.2.4	Evaluates decisions affecting capital structure	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

*2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*



To raise \$30 million to finance additional clinical testing, Francine has suggested RMZ issue fully participating, non-voting preferred shares with an annual cumulative dividend of 5%.

Note: Currently, there is a debt-to-EBITDA covenant on the long-term Confederation Bank loan. This covenant will not be impacted by the issuance of preferred shares.

As requested, I've outlined the advantages and disadvantages from RMZ's perspective.

### **Advantages**

- These cumulative preferred shares will be reported as equity on the balance sheet and, therefore, will improve the debt-to-equity ratio. Currently, the company's debt-to-equity ratio is 58.5% ( $\$16,491,977 \div \$28,209,407$ ), which is higher than the industry target of 25%. With the new preferred shares, this debt-to-equity ratio will decline to 28% [ $\$16,491,977 \div (\$28,209,407 + \$30,000,000)$ ], which is just slightly higher than the benchmark target of 25%.
- The preferred shares bear annual dividends of \$1.5 million ( $5\% \times \$30,000,000$ ). The advantage for RMZ is that these dividends only become payable once declared by the board. Therefore, if cash flows are constrained in any year, the dividends can be deferred.
- The shares are non-voting, so there will be no dilution of Francine's voting control when they are issued.
- There is no maturity date on the preferred shares, nor is there a retraction option, which reduces the risk that RMZ will need to redeem the shares in a year when it has insufficient cash to do so.
- The preferred dividends will not show as an expense and, therefore, do not reduce the net earnings of the company.

### **Disadvantages**

- Although there is no maturity date, if there is a change in control, the terms require the preferred shares be redeemed prior to the sale and any dividends in arrears be paid. Note that "change in control" has not been defined in the terms and should be clarified. The venture capitalists would like to sell their shares in the company within the next two years. Although they own less than 50%, their participation on RMZ's board could suggest that an effective change in control would occur at this point.
- Dividend payments (unlike interest payments on debt) are not tax deductible; therefore, no tax benefit is received on payment.
- The company requires significant cash flows to finance its R&D, so no cash will be available to make the dividend payments on an annual basis. At this point, the company still has four drugs in its pipeline that are not yet approved for sale. The company will continue to invest in R&D for these drugs until either the research indicates that they will not work as intended or the drugs get approval to be sold. The requirement to have to pay dividends even if in arrears or to repay the shares on transfer of control may come at a time when the company has no cash available.

- The company also has volatile cash flows, since the regulatory bodies are considering mandating a reduction in the selling price of one of RMZ's drugs, which will reduce sales revenue and cash inflows. Therefore, RMZ should not take on a form of financing that requires annual payments. (Even though the dividends may be deferred, they will eventually have to be paid.)
- In addition, RMZ has one drug that will be losing its patent protection in 2024, which will result in a significant reduction in sales revenue, since at that time generic sales will increase. This will reduce cash inflows. Therefore, RMZ should not take on a form of financing that requires annual payments or potential repayment.

### Conclusion

These preferred shares have a fixed return of 5%. There would be an opportunity for investors to earn a higher return if dividends were also paid on the common shares, but RMZ is not likely to pay dividends on the common shares prior to the sale of the company.

Preferred shares are unlikely to meet the objectives of investors looking to invest in a pharmaceutical company, who tend to seek capital gains rather than dividends. Therefore, there may be a limited number of investors who are interested in subscribing to these preferred shares. RMZ should consider issuing common equity instead, although this would dilute the existing investors and result in Francine losing control of RMZ.

For Assessment Opportunity #7 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the advantages and disadvantages of issuing cumulative preferred shares.

**Competent** – The candidate discusses the advantages and disadvantages of issuing cumulative preferred shares.

**Competent with distinction** – The candidate thoroughly discusses the advantages and disadvantages of issuing cumulative preferred shares.

### Assessment Opportunity #8

The candidate discusses the financial risks associated with an expansion in Germany, reviews the two financing proposals, and makes a recommendation.

*The candidate demonstrates DEPTH in the Finance role.*

<b>CPA Map Technical Competencies:</b>		<b>Core</b>	<b>E2 FIN</b>
5.2.3	Evaluates sources of financing	B	A
5.6.1	Evaluates the purchase, expansion, or sale of a business	B	A

#### **CPA Map Enabling Competencies:**

1.2.3 *Maintains objectivity, independence in mental attitude, and professional skepticism*

2.1.1.1 *Obtains an initial understanding of the problem and its context*

2.1.4.1 *Explores potentially viable solutions or conclusions*

2.1.4.3 *Considers alternative interpretations of quantitative and qualitative information*

2.1.4.5 *Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

2.1.4.6 *Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

2.1.5.1 *Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

RMZ is considering the purchase of a manufacturing facility in Germany for €20 million (CA \$30 million at calculated 1.50 exchange rate). RMZ believes sales in Europe and Asia should increase, and it will be more efficient to use a German manufacturing facility rather than increasing manufacturing capacity in Canada.

#### **Risks of German Expansion**

When assessing an international investment, there are additional factors to consider over investing domestically when projecting relevant cash flows and the appropriate discount rate to achieve.

- **Market risk:** Volatility in the German markets should be assessed to determine if it would impact cash flows. This includes regulatory issues (i.e., drug pricing), cost of inflation (high inflation would negatively impact cash flows), and stability of the currency (as costs will be incurred in euros).
- **Credit risk:** Germany's creditworthiness and stability should be considered. This includes consideration of its monetary policies and per capita income, as well as its sovereign risk rating. If a country has a poor risk rating, there is a risk of instability that could make it difficult to continue operating and move cash flows back to Canada. The need to line up financing in euros (or be subject to increased translation risk) results in additional credit risk.
- **Liquidity risk:** The risk of asset liquidity (i.e., ease of purchasing or selling assets) and the regulatory environment (for example, if the government limits the flow of funds through the country) could impact liquidity.
- **Operational risk:** This encompasses political risk, the ability to hire employees with the appropriate experience and knowledge to carry out operations, and any legal and regulatory factors that could impede operations. The impact on financial statements, including any translation issues and bank covenants, should also be considered to ensure that RMZ understands how to account for the transaction and ongoing operations.

## Financing Alternatives

For financing, two proposals have been made, which I've discussed below. The security and recall terms are the same for both loans, but there are significant differences in other terms.

Note that currently there is a debt-to-EBITDA covenant on the long-term Confederation Bank loan. RMZ should assess whether the covenant will be breached and, if so, renegotiate with Confederation Bank or consider alternate sources of financing.

### DB Landesbank, Germany

The first proposal is to borrow the funds required from a German bank in euros. The following are advantages of using this financing:

- The currency is the same as the currency of the investment being made and some of the returns the investment will generate. In other words, the company is borrowing in euros to invest in assets that will generate some cash flow from sales in euros. As a result, RMZ will have a natural hedge with euros, and there will be no exchange gains and losses as long as the German operations make sufficient annual cash flow to pay the interest and principal obligations on the loan. Therefore, the foreign exchange risk is mitigated to some extent, although this depends on the proportion of sales made to countries on the euro versus non-euro countries (in Europe and Asia).
- The upfront fees are lower than for the Canadian loan.
- At only 2.5%, the interest rate is lower than for the Canadian loan.

The following are disadvantages:

- The total amount that can be borrowed is only €13 million. Therefore, RMZ will have to fund the difference of €7 million or CA \$10.5 million out of its own funds or borrow the difference from Confederation Bank.
- The term is for only 10 years.
- The annual payment for the first year will be €325,000 ( $2.5\% \times €13,000,000$ ) plus principal payment of €1.3 million, which totals €1,625,000. As a result, the forecasted before-tax cash flow of €1.1 million in 2021 would not be sufficient to cover the annual payment. This means that RMZ would have to fund the difference of €525,000 from its Canadian operations. Currently, this is equal to \$787,500, but this amount could be different depending on the currency rates at the time of exchange. For all the other years, the forecasted cash flows are enough to cover the required payments. However, if there are any years when there is a deficiency, the Canadian operations will have to make up the difference, and this will result in foreign exchange gains or losses.
- The covenants on the loan are more restrictive than with the Canadian loan. The German loan requires that RMZ get prior approval to take on more debt and that RMZ not declare dividends during the term of the loan.
- At year end, this debt will be translated into Canadian dollars, which is RMZ's functional currency, and this will result in exchange gains and losses. In addition, interest payments will also result in foreign exchange gains and losses being reported on translation.

- Taking on debt with a new lender likely requires approval from Confederation Bank, which holds RMZ's existing debt. Confederation Bank would also want to include the German assets in its security package, resulting in the debt being cross-collateralized.

### Confederation Bank, Canada

For the Canadian loan, the following are advantages of using this financing:

- The currency is in RMZ's functional currency.
- The loan can be as high as \$24 million, or €16 million; therefore, less cash would be required from RMZ's operations to finance the acquisition.
- The loan is for 12 years, which is longer than the 10 years for the German loan, resulting in lower principal payments each year.
- RMZ already has business with Confederation Bank, since its current long-term loan and operating accounts are with Confederation. Therefore, Confederation is familiar with RMZ.

The following are disadvantages:

- The upfront administration fees are higher at \$350,000 (compared to  $€130,000 \times 1.5 = \$195,000$ ) and the legal fees are higher at \$25,000 (compared to  $€10,000 \times 1.5 = \$15,000$ ).
- The interest rate is higher at 4.35%, versus only 2.5% for the German loan.
- RMZ must maintain a debt-to-asset ratio of 0.40. Currently, the company has a debt-to-asset ratio of 0.37 ( $16,491,977 \div 44,701,384$ ), so there is not a lot of capacity for more debt without breaching this covenant.

### **Recommendation**

RMZ should use the German loan to finance the investment in Germany. Although there will be foreign exchange gains and losses on translation, the loan acts as a natural economic hedge on earnings from Germany, so the foreign exchange risk is mitigated. The interest rate is also lower than for the Canadian loan. Although there are more restrictive covenants on the loan, it is unlikely that RMZ, given its industry, will want to declare any dividends. The Canadian debt-to-asset covenant of 0.40 could be onerous, since it includes all liabilities.

If RMZ decides to proceed with the purchase and uses the Landesbank loan for financing, it should try to get Confederation Bank to finance any shortfall, which is the additional €3 million (€16 million – €13 million).

For Assessment Opportunity #8 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss either the financial risks of manufacturing in Germany or the two proposed financing options.

**Competent** – The candidate discusses the financial risks of manufacturing in Germany and the two proposed financing options, and recommends which option to accept.

**Competent with distinction** – The candidate thoroughly discusses the financial risks of manufacturing in Germany and the two proposed financing options, and recommends which option to accept.

### Assessment Opportunity #9

The candidate calculates the net advantage of leasing, discusses the qualitative factors of the lease-versus-buy decision, and provides a recommendation.

*The candidate demonstrates DEPTH in the Finance role.*

CPA Map Technical Competency:		Core	E2 FIN
5.3.1	Develops or evaluates capital budgeting processes and decisions	B	A

### CPA Map Enabling Competencies:

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

The following calculations compare the net present value of leasing to the net present value of buying the equipment.

1. Calculation of after-tax cost of interest

Confederation Bank has offered RMZ a loan at an interest rate of 4.35% (for the purchase of the manufacturing plant in Germany). We have used this rate for the purpose of this analysis (although other borrowing rates could also be considered).

The after-tax interest rate used is  $4.35\% (1 - 0.265) = 3.2\%$

2. Calculation of the net value to leasing:

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Calculation of Amount</b>	<b>Present Value Factor</b>	<b>Amount × Present Value Factor</b>
Equipment cost	Per manufacturer's quote \$750,000	1.0000	\$750,000
Delivery costs	Per manufacturer's quote \$8,000	Under either leasing or purchase option, RMZ must pay the delivery charge; therefore, this amount is not included in the net calculation.	\$0
Maintenance	Per Jennifer's email, \$68,000 will be paid by RMZ if purchased; paid by lessor if leased. Paid at the end of the year.	$\$68,000 (1 - 0.265) = 49,980$ END PMT = \$49,980 I/Y = 3.2% N = 6 CPT PV =	\$268,966
Insurance	Per Jennifer's email, \$25,000 will be paid by RMZ if purchased; paid by lessor if leased. Paid at the beginning of the year.	$\$25,000 (1 - 0.265) = \$18,375$ BEGINNING PMT = \$18,375 I/Y = 3.2% N = 6 CPT PV =	\$102,049
Lease payments	Per draft lease agreement, lease payment is \$20,000 per month for six years (72 months).	BEGINNING PMT = $\$20,000 (1 - 0.265) = \$14,700$ I/Y = $3.2\% \div 12 = 0.2667\%$ N = 72 CPT PV =	(\$964,387)

<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
	<b>Calculation of Amount</b>	<b>Present Value Factor</b>	<b>Amount × Present Value Factor</b>
CCA tax shield	The equipment qualifies for Class 53, which is eligible for full write off in the year of purchase.	Tax benefit = $\$750,000 \times 26.5\%$	(\$198,750)
Salvage proceeds	Per quote \$65,000	$1 \div (1.032)^6 \times \$65,000 =$	(\$53,807)
Lost tax shield	Full amount will have to be recovered.	Tax cost on disposal $\$65,000 \times 26.5\% \times 1 \div (1.032)^6$	\$14,259
Total net value to leasing (NVL)			(\$81,670)

The net value to leasing is negative, which means that RMZ is better off borrowing to purchase the machines rather than leasing.

#### **Advantages and Disadvantages of Leasing with Respect to This Specific Lease**

- RMZ may not otherwise be able to find financing for the full value of the equipment. For example, if RMZ approaches Confederation Bank for financing and it will fund only 80% of the value of the equipment, RMZ will need to finance/raise the difference of \$150,000 through alternate sources.
- With leasing, the only security required is the equipment itself. With bank financing, there may be other covenants in addition to the equipment collateral that are required to be met, such as the debt-to-asset covenant.
- The full amount of the lease payment is deductible for tax purposes. However, in this case, the full cost of the equipment is immediately deductible because it qualifies for Class 53, giving RMZ a very favourable tax benefit in 2021.
- However, the cost of the equipment is only fully deductible to the extent there is sufficient income against which the deduction can be made. If that is not the case, a portion of the equipment cost would need to be deferred until a future year and would become deductible once RMZ has sufficient income.
- With the lease arrangement, the lessor has agreed to pay for the ongoing maintenance and insurance costs. If these are higher than expected, RMZ would have been better off leasing than owning the equipment. Annual costs would have to increase by an after-tax amount of \$17,995 to be equal to the net benefit of purchasing versus leasing (i.e.,  $PV = \$96,838$ ;  $I/Y = 3.2\%$ ;  $N = 6$ ;  $CPT\ PMT = \$17,995$ ). This represents an increase of 26% ( $\$17,995 \div \$49,980 + \$18,375$ ), which is quite high.
- Although six years is the expected life of the equipment, RMZ may be able to use it for a longer period if it purchases the equipment. If RMZ leases it, the equipment would be returned to the lessor at the end of the lease even if it was still useful to RMZ.



### Recommendation

RMZ should purchase the equipment rather than lease it. Purchasing increases the shareholder value more than with the leasing option and allows RMZ to take a large deduction of tax purposes in the year of purchase.

For Assessment Opportunity #9 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to calculate the benefit of leasing versus purchasing the equipment and attempts to discuss some qualitative factors associated with the lease-versus-buy decision.

**Competent** – The candidate calculates the benefit of leasing versus buying, discusses some qualitative factors associated with the lease-versus-buy decision, and provides a recommendation.

**Competent with distinction** – The candidate calculates the benefit of leasing versus buying, thoroughly discusses some qualitative factors associated with the lease-versus-buy decision, and provides a recommendation.

### Assessment Opportunity #10

The candidate assesses the impact of an arrangement with a new customer on RMZ's days in receivables and inventories, working capital, and bank covenant.

*The candidate demonstrates DEPTH in the Finance role.*

CPA Map Technical Competency:		Core	E2 FIN
5.2.1	Evaluates the entity's cash flow and working capital	A	A

### CPA Map Enabling Competencies:

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors

2.1.3.4 Chooses and applies appropriate analysis techniques

Percy's will purchase per month 10,000 units of Drug A at \$30 per unit. Total annual sales will be 120,000 units. They will agree to pay within 90 days. Since Percy's manages its inventories as just in time, it wants RMZ to hold a minimum of 100 days of sales in inventory.

The cost of each unit before selling commission is \$10.50.

With these new terms, RMZ will increase its sales by \$3.6 million ( $120,000 \times \$30$ ). Costs of goods sold will be \$1.26 million ( $120,000 \times \$10.50$ ).

### **Impact on Days in Receivables**

Currently the days in receivables is  $\$2,589,610 \div \$22,751,200 \times 365 = 41.5$  days.

Generally, receivables are collected in 41.5 days. This contract will extend the receivables to 90 days. This net increase in receivables is calculated as follows:

New proposal at 90 days:  $\$3,600,000 \times 90 \div 365 = \$887,671$

Receivable would have been at 41.5 days:  $\$3,600,000 \times 41.5 \div 365 = \$409,315$

Net increase in receivables = \$478,356

### **Impact on Overall Days in Receivables**

Assuming the company can sell the same level of revenue with the same terms as in 2020, with this contract in 2021:

2021 sales:  $\$22,751,200$  (2020 total) +  $\$3,600,000 = \$26,351,200$

2021 receivables:  $\$2,589,610$  (2020 balance) +  $\$887,671 = \$3,477,281$

2021 days in receivable:  $\$3,477,281 \div \$26,351,200 \times 365 = 48.2$  days

As a result of the new contract with Percy's, the days in receivables will increase from 41.5 days to 48.2 days.

### **Impact on Days in Inventory**

Currently, the days in inventory is  $\$1,486,410 \div \$7,037,800 \times 365 = 77$  days.

However, Percy's uses a just-in-time inventory system. Therefore, for the units to be sold under this contract, RMZ will have to hold inventory for 100 days.

This increases the inventory as follows:

Balance in inventory for contract if held for 100 days:  $\$1,260,000 \times 100 \div 365 = \$345,206$

Currently, the balance in inventory for contract is held for 77 days:  $\$1,260,000 \times 77 \div 365 = \$265,808$

Net increase in inventory: \$79,398

### Impact on Overall Days in Inventory

Assuming the company will have the same level of inventory for its existing customers:

2021 cost of goods sold:  $\$7,037,800$  (2020 total) +  $\$1,260,000$  =  $\$8,297,800$

2021 inventory:  $\$1,486,410$  (2020 balance) +  $\$345,534$  =  $\$1,831,944$

2021 days in inventory:  $\$1,831,944 \div \$8,297,800 \times 365$  = 80.6 days

As a result of the new contract with Percy's, the days in inventory will increase from 77 days to 80.6 days.

### **Impact on Working Capital**

The contract with Percy's requires that RMZ hold additional receivables and inventory of  $\$1,232,877$  ( $\$887,671$  +  $\$345,206$ ) and results in an increase in RMZ's days in receivables and inventory. The increased working capital requirements will need to be funded through existing cash or through additional payables and accrued liabilities.

Given that RMZ only has approximately  $\$1.4$  million of cash on hand at year end, a portion of which is likely required for its ongoing operations, the additional receivables/inventory will likely need to be funded through an increase in accounts payable/accrued liabilities by stretching the days in payables. Depending on the terms that RMZ has with its creditors and how quickly RMZ is currently turning over its payables, RMZ will need to assess whether it has the ability to stretch its payables or whether it needs to consider alternate methods of financing (such as a line of credit, for example).

### **Impact on Bank Covenant**

RMZ's long-term debt with Confederation Bank carries a debt-to-EBITDA covenant. The contract with Percy's will result in an increase in debt (through either an increase in payables or new debt to fund the working capital required) and also an increase in EBITDA (related to the increase in sales to Percy's). Depending on the profit margin of the contract with Percy's relative to the increased debt load, this could result in either an increase or decrease to the covenant and should be further assessed to determine if the covenant would be breached.

For Assessment Opportunity #10 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to assess the impact of the new customer on the days in receivables or days in inventory, attempts to discuss the impact on working capital, or attempts to discuss the impact on the bank covenant.

**Competent** – The candidate assesses the impact of the new customer on the days in receivables or days in inventory, discusses the impact on working capital, or discusses the impact on the bank covenant.

**Competent with distinction** – The candidate thoroughly assesses the impact of the new customer on the days in receivables and days in inventory and thoroughly discusses the impact on working capital and the bank covenant.

### Assessment Opportunity #11

The candidate quantifies the amount that RMZ would want to hedge and discusses the implications of the two proposed hedging options by considering the impact of exchange rate movements at August 1, 2021.

*The candidate demonstrates DEPTH in the Finance role.*

CPA Map Technical Competencies:		Core	E2 FIN
5.5.1	Develops or evaluates financial risk management policies	B	A
5.5.2	Analyzes the use of derivatives as a form of financial risk management	C	B

### CPA Map Enabling Competencies:

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

*2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

The net exposure to U.S. dollars is as follows:

	<b>CAD</b>	<b>USD using USD 1 = CAD 1.30 (the 2020 average rate)</b>
Sales – 60% of sales	60% × \$ 22,751,200 = \$13,650,720	\$10,500,554
COGS – 10% of COGS	10% × \$7,037,800 = \$703,780	(\$541,369)
Selling and marketing costs 20%	20% × \$4,373,000 = \$874,600	(\$672,770)
	Net exposure	\$9,286,415

If RMZ wants to hedge 30% of its net exposure, then the annual amount to hedge would be:

$$30\% \times \text{US } \$9,286,415 = \text{US } \$2,785,925$$

As the derivatives expire in six months, RMZ would only hedge half of the annual exposure, or US \$1,392,962.50 in 2021.

Since the financial derivatives are written to the nearest US \$100,000, this would be US \$1,400,000 to be hedged.

Because this is a net cash inflow, the company will be looking to sell USD and buy CAD.

To help with this discussion, assume that the spot rate at the end of the derivative term is either USD 1.00 = CAD 1.40 or USD 1.00 = CAD 1.20.

### 1. A Forward Contract

The forward rate for a six-month contract will be USD 1.00 = CAD 1.35. The contract matures August 1, 2021. RMZ will enter a forward contract to sell US \$1,400,000 for CA \$1,890,000. This represents 14 contracts (US \$1,400,000 ÷ US \$100,000).

Therefore, on the maturity date of August 1, 2021, RMZ will pay US \$1,400,000 and receive CA \$1,890,000. Using the forward contract, the company has fixed the exchange rate on US \$1,400,000. It does not matter what the spot price is on the maturity date, since this contract must be satisfied.

If the spot rate is USD 1.00 = CAD 1.40 at the maturity date, the company will have lost the opportunity to sell the USD at the higher exchange rate of USD 1.00 = CAD 1.40. At this rate, the amount of USD would have been exchanged into CA \$1,960,000; therefore, there is a lost opportunity gain of CA \$70,000. Conversely, if the spot rate was only USD 1.00 = CAD 1.20, the USD would have been exchanged into only CA \$1,680,000, which is CA \$210,000 less than under the forward contract.

With hedging, the sole purpose is to mitigate the risk, which the company has fully covered with the forward contract. Using the forward contract, the company has eliminated any downside risk but also eliminated any potential for upside gains.

## 2. Put Option

For this derivative, the company will enter a put option to sell US \$1,400,000 for CA \$1,848,000 ( $\text{US } \$1,400,000 \times 1.32$ ). This represents 14 contracts ( $\text{US } \$1,400,000 \div \text{US } \$100,000$ ). Since there is a premium to be paid of CA \$500 per contract, RMZ will have to pay CA \$7,000 ( $14 \times \text{CA } \$500$ ) immediately on agreeing to the option. The options expire August 1, 2021.

When the put options expire on August 1, 2021, the company has the right but not the obligation to sell the USD.

If the spot price is  $\text{USD } 1.00 = \text{CAD } 1.40$ , RMZ will let the option expire and will sell the US \$1,400,000 at the current spot price and receive CA \$1,960,000.

If the spot price is  $\text{USD } 1.00 = \text{CAD } 1.20$ , then RMZ will exercise the option and sell the US \$1,400,000 and receive CA \$1,848,000.

By using the option, the company has eliminated any downside risk but left the potential for any upside gain. However, this potential has cost the company CA \$7,000 up front.

For Assessment Opportunity #11 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to calculate the net income statement exposure or attempts to discuss the implication of either the forward contract or the put option.

**Competent** – The candidate attempts to calculate the net income statement exposure and discusses the implications of the forward contract and the put option.

**Competent with distinction** – The candidate calculates the net income statement exposure and thoroughly discusses the implications of the forward contract and the put option.

### Assessment Opportunity #12

The candidate assesses the nature and quality of the data provided, its applicability in valuing Drug F, and whether additional data should be considered.

*The candidate demonstrates DEPTH in the Finance role.*

CPA Map Technical Competency:		Core	E2 FIN
5.1.3	Assesses reporting systems, data quality and the analytical models used to support financial analysis and decision-making	B	A

**CPA Map Enabling Competencies:**

*1.2.3 Maintains objectivity, independence in mental attitude, and professional skepticism*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.2.3 Verifies/corroborates/tests information and evaluates the quality of information sources, as needed, to satisfy the purpose of the analysis*

*2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis*

**Probability of Success Data**

Three sources of data can be looked at to assess Drug F's probability of success:

- Randy's expectations (Phase II: 100%; Phase III: >75%)
- Regulatory authority data — all drugs (Phase II: 31%; Phase III: 58%)
- Regulatory authority data — drugs similar to Drug F (Phase II: 36%; Phase III: 46%)

Data Quality

**Randy's expectations:** Although most relevant (being directly related to the Phase II clinical trials for Drug F) and timely (having been made available to RMZ a week ago), this data is likely biased by Randy's view of Drug F, given that he is the R&D manager. It is potentially unreliable since it is preliminary in nature, the data analysis is incomplete, and the Phase II approval application has not been prepared and filed yet.

**Regulatory authority data — all drugs:** This represents the largest data set (with more than 1,000 drugs considered at Phase III), but the level of aggregation may not be appropriate to the analysis given that it includes all drugs, not just drugs similar to Drug F. It is also based on data collected over a 10-year period. Shifts in regulations, the quality of drugs, and the mix of drug types could impact success rates and make the data less relevant. However, as this data is published by a regulatory authority, it is likely to be highly reliable.

**Regulatory authority data — drugs similar to Drug F:** This is a more relevant data set than the "all drugs" data set provided by the regulatory authorities as it has less aggregation. However, it has the timeliness issue, and further, it is a small sample. These drugs have a significantly lower Phase III success rate than the aggregated group of "all drugs." It is not clear whether this is due to the small sample size, nor is it clear if this reflects a lower probability of success for Drug F.

### Applicability to Drug F Valuation

In valuing Drug F, an appropriate rate with respect to the probability of success should be applied to the expected future cash flows to reflect the risk that Drug F may never be commercialized.

Based on the above assessment, we believe the appropriate probability factor to apply to Phases II and III is the percentage of success for all drugs, given that the information provided by Randy has limited reliability and may be biased by his role. The data for drugs similar to Drug F is also not appropriate due to the small size of the data set.

### Additional Data

If available, the following data could be helpful for assessing Drug F's probability of success:

- Data from the regulatory authorities:
  - Probability rates for all drugs segmented by year of success to determine if there are trends in success rates over time
  - Broader scope of drugs similar to Drug F to increase the sample size of drugs and, therefore, the reliability of the probability factor
- Data from Phase II clinical trials:
  - More complete data analysis and perspectives from other researchers to verify Randy's suggested probability levels
  - Any other drugs developed in the past with similar types of results to Drug F's Phase II results

### **Sales Forecast Data**

The sales forecast data provided by Randy represents minimum future sales levels.

### Data Quality

It is not clear how Randy estimated the minimum future sales figures provided, although he notes that they are based on the current market for similar drugs. Therefore, the reliability of the data is unknown. However, we know that the data does not consider potential sales in Asia and the impact of additional competition to Drug F, which would exist, given Debon Pharmaceutical's parallel drug development.

Because of the absence of information, we have applied the minimum future sales in valuing Drug F but suggest that additional data be collected (e.g., an analysis of the market) to provide a more accurate assessment of the future sales.

### Additional Data

If available, the following could be helpful to assess the minimum future sales:

- Data on the market for Drug F:
  - Size of market (i.e., number of patients) and historical/forecast growth rates, by geography. This will provide context for the size of the total market.



- Number of drugs in the market and their penetration rates, by geography. This will provide context for the amount of competition.
  - Information regarding the drugs in development that would compete against Drug F and their development stage. This would allow us to assess the amount of competition that would likely exist when Drug F is commercialized.
- Data specific to Drug F:
    - Projected penetration rate of Drug F to assess whether it is reasonable given the amount of competition
    - Researchers' views on Drug F's competitiveness against the other drugs to assess the projected penetration rate

For Assessment Opportunity #12 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the nature and quality of either the data provided on the success of drugs in development or the sales forecast data, as well as its applicability in valuing Drug F, or identifies additional data that could be considered.

**Competent** – The candidate discusses the nature and quality of either the data provided on the success of drugs in development or the sales forecast data, as well as its applicability in valuing Drug F, or identifies additional data that could be considered.

**Competent with distinction** – The candidate thoroughly discusses the nature and the quality of the data provided on the success of drugs in development and the sales forecast data, as well as its applicability in valuing Drug F, and identifies additional data that could be considered.

### Assessment Opportunity #13

The candidate determines the value of Drug F (an intangible asset that RMZ is looking at selling) and provides a recommendation on whether it should be sold.

*The candidate demonstrates DEPTH in the Finance role.*

CPA Map Technical Competency:		Core	E2 FIN
5.4.3	Estimates the value of an intangible asset	C	B

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

*2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*



	<b>2030</b>	<b>2031</b>	<b>2032</b>	<b>2033</b>	<b>2034</b>	<b>2035</b>	<b>2036</b>	<b>2037</b>
Sales	25,000,000	30,000,000	40,000,000	50,000,000	60,000,000	70,000,000	80,000,000	80,000,000
Royalty earned	15%	15%	15%	15%	15%	15%	15%	15%
Royalty income	3,750,000	4,500,000	6,000,000	7,500,000	9,000,000	10,500,000	12,000,000	12,000,000
Less: research costs								
Pre-tax income	3,750,000	4,500,000	6,000,000	7,500,000	9,000,000	10,500,000	12,000,000	12,000,000
Taxes at 26.5%	(993,750)	(1,192,500)	(1,590,000)	(1,987,500)	(2,385,000)	(2,782,500)	(3,180,000)	(3,180,000)
After-tax income	2,756,250	3,307,500	4,410,000	5,512,500	6,615,000	7,717,500	8,820,000	8,820,000
<i>Probability Factor</i>								
- Phase II								
- Phase III	31%	31%	31%	31%	31%	31%	31%	31%
- Commercial production	58%	58%	58%	58%	58%	58%	58%	58%
Cumulative probability	18%	18%	18%	18%	18%	18%	18%	18%
Discount factor @ 8%	0.4632	0.4289	0.3971	0.3677	0.3405	0.3152	0.2919	0.2703
Present value	229,547	255,052	314,879	364,443	404,937	437,431	462,890	428,602

Therefore, the offer of \$1.5 million is significantly higher than the fair value calculated.

In addition to the quantitative assessment, the following qualitative points should be considered:

- RMZ will receive cash for the drug now — more than the estimated fair market value — which it could use to fund the development of the remaining drugs or research for new potential drugs. This could be beneficial for RMZ if the other drugs are successful.
- The drug might be worth significantly more than has been estimated, since the sales forecast is based on minimum sales and does not include sales in Asia, where data on potential patients is incomplete.
- RMZ does not have many drugs in the pipeline. If this drug is sold, it could result in RMZ needing to lay off staff if they cannot be deployed to other projects, and it also reduces the number of potentially successful drugs.
- The drug is a biologic, which is the type of drug the company wants to develop.
- The development of this drug is expected to be useful for other R&D. By selling it, RMZ will lose the opportunity to gain experience that could result in more successful projects.

### Recommendation

RMZ should continue to develop the drug and not sell it. Although the value of the drug is lower than the price Debon Pharmaceutical has offered, the qualitative assessment indicates that RMZ could benefit substantially from continuing to develop the drug. The current valuation does not fully consider these additional growth factors.

For Assessment Opportunity #13 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to calculate the value of Drug F (an intangible asset) and discuss some qualitative factors regarding whether the company should sell the asset.

**Competent** – The candidate calculates the value of Drug F (an intangible asset), discusses some qualitative factors regarding whether the company should sell the asset, and provides a recommendation.

**Competent with distinction** – The candidate accurately calculates the value of Drug F (an intangible asset), thoroughly discusses some qualitative factors regarding whether the company should sell the asset, and provides a recommendation.

**DAY 2 – MARKING GUIDE – PERFORMANCE MANAGEMENT ROLE  
RMZ PHARMACEUTICALS INC. (RMZ)**

In the Performance Management role, the candidates are expected to perform a SWOT analysis for RMZ and suggest ways to mitigate some of the risks. They are also expected to analyze options enabling RMZ to increase the capabilities of the R&D department to further develop biologic drugs, analyze the possibility of bringing the clinical testing back in-house, and analyze the issues associated with the potential sharing of data gathered in clinical trials, as well as suggest what could compromise the integrity of this data. They are also expected to discuss RMZ's organizational structure, assess pricing strategies related to the introduction of a new product, and use quality management principles to analyze issues with the packaging of the company's products.

**See Common Marking Guide for the Common Assessment Opportunities #1 to #6.**

**Assessment Opportunity #7**

The candidate evaluates the current operating environment using a SWOT analysis and suggest ways to mitigate some of the risks RMZ faces.

*The candidate demonstrates DEPTH in the Performance Management role.*

<b>CPA Map Technical Competency (based on the 2019 CPA Competency Map):</b>		<b>Core</b>	<b>E1 PM</b>
2.3.2	Evaluates the entity's internal and external environment and its impact on strategy development	<b>B</b>	<b>A</b>

**CPA Map Enabling Competencies:**

2.1.1.1 *Obtains an initial understanding of the problem and its context*  
 2.1.1.2 *Divides larger problems into appropriate sub-problems to facilitate analysis*  
 2.1.1.3 *Exercises judgment in determining whether an issue requires attention*  
 2.1.3.5 *Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*  
 2.1.4.1 *Explores potentially viable solutions or conclusions*  
 2.1.4.2 *Analyzes cause-and-effect relationships and makes logical inferences*  
 2.1.4.6 *Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

The SWOT analysis is as follows:

Strengths	<ul style="list-style-type: none"> <li>• RMZ has a highly respected research scientist (Francine), suggesting that it has the management experience and skills required to develop new drugs.</li> <li>• The company is a reputable brand name in its niche segment, which is a key success factor because it will help to sell the drugs that are developed.</li> </ul>
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	<ul style="list-style-type: none"> <li>• Because it has focused research on cancer drugs, the company is a niche player and, therefore, can devote all its resources to developing drugs that are specific to certain cancer treatments.</li> <li>• It has two commercially viable drugs and a third one that was just approved, which ensures continued revenues that can be used to finance ongoing development costs for new drugs.</li> <li>• It has state-of-the-art manufacturing facilities that make operations cost efficient, where possible.</li> <li>• It has a strong board of directors with experience in pharmaceutical companies so that informed operating decisions can be made.</li> <li>• Four drugs are currently in its development pipeline, three of which are biologic drugs. Biologics are less easily copied by generic companies, giving commercialized drugs a longer protection period.</li> <li>• Two commercialized drugs are on the approved list for insurance companies. If drugs are on the approved list, then they will be sold more often since the insurance companies will cover a portion of their cost.</li> <li>• Two drugs have been approved for sale in Canada and the U.S. and one for sale in Europe. Having three patented drugs already on the market helps ensure a steady revenue stream.</li> </ul>
Weaknesses	<ul style="list-style-type: none"> <li>• RMZ has a poor pipeline of products, with only four drugs in development. Should one not be successful, the company may have difficulty sustaining revenues.</li> <li>• One drug (Drug E) has had significant delays and setbacks in clinical testing. This means additional funds will be required for its development, taking resources away from another drug's development.</li> <li>• One product's patent expires in 2024 and another in 2026. Once drugs are off-patent, generics can copy and sell at a greatly reduced price, which will cause revenues to fall significantly.</li> <li>• The company is a relatively small player in the industry and lacks economies of scale. For one drug in development, the company is directly competing with three other competitors, two of which are well financed and have a diversity of drugs, making their revenue streams more stable and giving them access to more funds.</li> <li>• It has a centralized management model. All decisions are made by the board of directors. The five board members may not have all the correct information to make fully informed decisions.</li> <li>• Francine is both CEO and chair of the board. This is a weakness in the governance model because as CEO she is responsible for operations and implementing board decisions, and yet as chair she is responsible for making strategic decisions.</li> <li>• Manufacturing capacity is only 60% utilized. This means the per-unit costs are higher than they should be. When cost efficiency is a key success factor, the company should be operating at a higher capacity than 60%.</li> </ul>

	<ul style="list-style-type: none"> <li>• It has limited financial resources. The company has only \$1.4 million of cash on hand, yet it spends more than \$6 million a year for R&amp;D.</li> <li>• No drugs have been approved for sale in Asia, and only one drug is approved for sale in Europe. This limits the geographic regions the company can sell its products to.</li> </ul>
Opportunities	<ul style="list-style-type: none"> <li>• The number of cancer patients requiring RMZ's drug is expected to increase, given the demographics.</li> <li>• There is a trend towards increased outsourcing of manufacturing and research to keep costs contained.</li> <li>• There are several highly qualified and efficient contract manufacturers and contract researchers to which functions could be outsourced.</li> <li>• Drug developers are moving to biologic drugs to lengthen protection periods. Four of RMZ's seven drugs are biologics.</li> <li>• There is a trend towards collaborative partnerships between small competitors to share R&amp;D and combine resources in an effort to get their drugs to market before large global competitors.</li> </ul>
Threats	<ul style="list-style-type: none"> <li>• RMZ is a small niche player with a focus on drugs that are for specific types of cancer. There are three other competitors developing substitute drugs for the same cancers. If competitors' drugs come to market first, then RMZ will lose revenue.</li> <li>• The two global competitors that are researching drugs to treat the same cancers as RMZ are well financed and have diverse ranges of products.</li> <li>• Large competitors are consolidating to reduce operating costs and gain specialization in certain therapies.</li> <li>• The industry is highly competitive, with a focus on cutting costs.</li> <li>• Government regulation is increasing at all levels: product development, manufacturing, marketing, and pricing.</li> <li>• Pricing and buying pressure from insurance companies and governments is increasing as coverage only extends to drugs on approved lists.</li> <li>• There is increasing pressure from the Patented Medicine Prices Review Board to reduce prices to set maximums.</li> <li>• More time is required to get drugs approved, causing delays in bringing products to market. This may reduce future revenues if competitors are first or generics can sell their substitute drugs.</li> <li>• There is an overall trend of increasing costs to develop and bring products to market.</li> <li>• Competition from generic brands has increased, as currently 70% of all drug sales are by generics. Generics sell their drugs at a price up to 40% less than brand-name drugs.</li> <li>• There are increasing concerns about the cost of health care, putting added pressure on selling prices for brand-name drugs.</li> <li>• Increased technological advances will bring different types of competing therapies to market more quickly.</li> </ul>



The following are ways RMZ could mitigate some of the risks:

- As selling prices are reduced, operating costs must be reduced. Currently, RMZ is using only 60% of its state-of-the-art manufacturing facility. Since outsourcing of manufacturing is a trend, the company could offer to manufacture for others to use the excess capacity. As RMZ already meets the stringent government regulations for drug manufacturing, manufacturing third-party products would help to lower its unit costs of production.
- Another method of lowering costs is outsourcing more R&D. RMZ already outsources clinical testing for one of its drugs. Outsourcing more of its R&D could further reduce costs. However, there are drawbacks to outsourcing in that the company loses control over the clinical testing.
- The longer it takes for a drug to be developed, the higher the risk that a competitor will come to market first, causing a reduction in future revenues. RMZ must ensure that the development of each drug is properly managed and that the most skilled researchers are involved in its development.
- Changing government regulations could cause delays in development or approval of drugs. RMZ must engage with government officials to ensure it is aware of potential changes in regulatory requirements so it can then plan to address these changes.
- RMZ could lose its approved status for coverage under insurance plans. RMZ must gather information on how effective its drug is and compare its results to competitors' drugs treating the same types of cancer. Interaction with medical professionals is important to ensure its information is up to date and to act on it as quickly as possible.
- To avoid being removed from approved lists for payer coverage, RMZ must market its products to insurance companies and ensure that the payers are aware of why each one is the best product on the market for the cancer it is designed to treat.

For Assessment Opportunity #7 (Performance Management), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts a SWOT analysis, but the analysis lacks key elements.

**Competent** – The candidate prepares a SWOT analysis, along with an analysis of some of the risks that RMZ faces and related mitigation recommendations.

**Competent with distinction** – The candidate prepares a SWOT analysis containing numerous valid elements, along with an analysis of several of the risks that RMZ faces and related mitigation recommendations.

**Assessment Opportunity #8**

The candidate assesses alternatives (an alliance or acquisition) as a way for RMZ to improve its skills in biologics research and evaluates whether increasing its investment in biologics R&D is a good strategy.

*The candidate demonstrates DEPTH in the Performance Management role.*

CPA Map Technical Competency:		Core	E1 PM
2.3.3	Evaluates strategic alternatives	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyses cause-and-effect relationships and makes logical inferences*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

Randy, the R&D manager, is concerned the R&D department lacks experience in biologic drug development. RMZ needs to decide how to increase its capabilities in this research area.

The first step is to assess the alternatives that have been proposed and make a recommendation. The second step is to assess whether the strategy of increasing focus on biologics is appropriate.

**The Alternatives**

The R&D manager has provided three suggestions:

1. Hire Some Skilled Staff and Train Existing Staff

*Advantages*

- RMZ maintains control and ownership of the in-process R&D development, and this proprietary knowledge does not have to be shared with other parties. RMZ will own and retain all the rights related to any new biologic drug.
- When a drug gets to market, RMZ will not have to share in any profits earned from the sale.
- This option is likely cheaper than acquiring MRC.

*Disadvantages*

- There is high demand and lack of supply for this skill set. Therefore, RMZ may not be able to hire staff with the necessary skills.
- It may take a long time to train the existing staff and get them to a point where their skills can be used.
- If RMZ hires skilled workers, there will be a learning curve for them regarding RMZ's methods, etc.
- This option increases annual R&D costs due to the salaries and benefits of new hires.
- RMZ bears all the risk of developing this drug and being first to market.
- Development may take longer than if collaborating with MRC. If the development is delayed in any way, this could give MRC the opportunity to get the drug approved sooner (by either working on their own or with someone else).

2. Strategic Alliance: Form a Collaborative Partnership with MRC to Share R&D Capabilities*Advantages*

- RMZ would immediately access the skill set it needs.
- This drug is only in Phase I of clinical testing, so RMZ would not be giving away too much knowledge.
- Randy believes the skills of the employees of the two companies would complement each other and, therefore, RMZ employees could learn from MRC employees and vice versa.
- Combining technical expertise and building on MRC's advanced progress would allow the drug to reach the market more quickly.
- RMZ will have access to new technology and equipment that it has not purchased yet. This will save funds used for capital investment in RMZ.
- Since MRC does not manufacture, RMZ would be the manufacturer of the drug once it reached commercialization stage.
- Both companies share in the risk of developing the drug and getting it first to market, rather than solely carrying the risk.
- The arrangement is for a limited period (development of a single drug), allowing for an exit should the relationship not work.
- There is a trend in the industry for small companies to use collaborative partnerships to share R&D, allowing them to combine resources in an effort to get their drugs to market before large global competitors. The trend seems successful and may benefit RMZ.
- The structure is simple and flexible and can be changed if required. For example, if RMZ and MRC found this partnership to be beneficial, it could lead to collaborations on other drugs. At the same time, if it is not successful, it is easily terminated.
- This type of arrangement can be quickly put into place, which is important since time is critical in this industry.
- If RMZ decides to bring the clinical testing back in-house for Drug E, then MRC could perhaps assist, since it has skills in this area. (This would require a separate agreement.)

*Disadvantages*

- There is a risk that other of RMZ's proprietary knowledge would become available to MRC, which could impact RMZ's competitive advantage.
- RMZ would share its R&D knowledge for this one drug with MRC, a competitor. MRC could then access information/data and start to develop other drugs to compete with RMZ's drugs. (The agreement should address this risk with confidentiality clauses.)
- RMZ and MRC would share the ownership of this drug. Therefore, RMZ would have to pay MRC a portion of the profits earned once the drug is sold.
- There might be corporate culture differences that arise in managing the staff from two different companies.
- Technology and other systems will have to be integrated, which will take time and resources.

3. Acquire the Shares and Control of MRC*Advantages*

- RMZ would get full access to all of MRC's R&D resources, not just for a single drug. This could help with the development of the other biologic drugs in RMZ's pipeline, reducing development costs and/or getting the drugs more quickly to market.
- MRC's other development projects would increase the number of drugs in RMZ's pipeline, which is a weakness right now.
- RMZ would not have to share the ownership of Drug G with MRC. It would retain all profits earned.
- Randy believes the skills of the two companies would complement each other; therefore, RMZ employees could learn from MRC employees and vice versa.
- RMZ will have access to new technology and equipment that it has not purchased yet. This will save capital investment for the company.
- There may be other synergies RMZ could achieve in other departments or administration.
- RMZ will have control over operating, financing, and strategic decisions of MRC.
- The increased size of RMZ's R&D department and its pipeline may make it more appealing for a strategic buyer.
- If RMZ decides to bring the clinical testing back in-house for Drug E, then MRC staff could assist since they have skills in this area.

*Disadvantages*

- To purchase the shares of MRC and pay for legal costs will require significant up-front cash. Currently, RMZ does not have a lot of cash on hand, so it would have to raise these additional funds.
- There could be integration issues related to different cultures, information systems, management, etc.
- There would also be income tax implications and regulatory issues to address.
- An acquisition would take longer to accomplish than a collaborative partnership. This could cause further delays in the development of Drug G, if not others.

- This would be a permanent arrangement and could not be reversed, unlike the alliance discussed above.

### **Strategic Fit of Focusing on Biologic Drugs**

RMZ's strategy is a differentiated product leadership strategy. The goal of this strategy is to develop unique or higher-quality products than competitors and to get to market sooner with these products. The key to accomplishing this is R&D.

Since biologic drugs are more difficult to replicate, the threat from generic brands is reduced. Having biologic drugs in the pipeline helps diversify RMZ's offering on the market and does it in a way that ensures a sustainable source of revenue that is not put in jeopardy once the patent expires, as is the case with chemical drugs.

Therefore, we recommend RMZ focus R&D on biologic drugs in the future, as this provides a good fit with the company's strategic direction, as well as with its external and internal environment.

### **Recommendation**

RMZ should start with a collaborative partnership with MRC. This will ensure that R&D sharing can begin immediately. If this arrangement is successful, then RMZ can consider the next step and suggest an acquisition.

For Assessment Opportunity #8 (Performance Management), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to analyze the options related to the need to increase the R&D department's ability to develop biologic drugs or attempts to analyze the strategic appropriateness of focusing on biologic drugs.

**Competent** – The candidate analyzes the three options related to the need to increase the R&D department's ability to develop biologic drugs and provides a recommendation, as well as analyzes the strategic appropriateness of focusing on biologic drugs.

**Competent with distinction** – The candidate analyzes in depth each of the three options related to the need to increase the capabilities of the R&D department to develop biologic drugs and provides a recommendation, as well as analyzes the strategic appropriateness of focusing on biologic drugs.

**Assessment Opportunity #9**

The candidate analyzes whether the company should continue to outsource clinical trials to QRI or bring clinical trials back in-house.

*The candidate demonstrates DEPTH in the Performance Management role.*

CPA Map Technical Competency:		Core	E1 PM
3.3.2	Evaluates and applies cost management techniques appropriate for specific costing decisions	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

The decision is whether to bring the clinical testing of Drug E back in-house or continue the outsourcing contract with QRI.

**Quantitative Analysis**

Based on the information provided, only the incremental costs that are relevant to bringing the clinical testing back in-house should be included. Fixed costs that do not change with this additional work should not be included in the cost comparison.

Incremental costs will be those related to clinical testing only:

Research scientist supervisor	1 × \$150,000	\$150,000
Senior scientists	2 × \$120,000	\$240,000
Lab technicians	7 × \$45,000	\$315,000
Direct materials	Assume \$350,000 ÷ 4 drugs	\$87,500
Small tools and equipment	Assume \$210,000 ÷ 4 drugs	\$52,500
Administration costs (case fact–QRI)		\$300,000
Total estimated costs		\$1,145,000

The total is greater than the \$900,000 currently paid to QRI. However, additional milestone payments of \$100,000 are due to QRI at the end of each of Phase II, Phase III, and Phase IV and upon approval to sell the drug.

Although the quantitative analysis suggests it is better to retain the contract with QRI on an annual cost basis, several qualitative factors should also be considered.

### **Qualitative Assessment**

The following are the pros and cons of staying with the QRI contract:

#### Pros

- The company already has a current contract with QRI to provide these services until March 2027. The costs are fixed and predictable for the period 2021 to March 2027. If the clinical testing is brought in-house, costs could be significantly higher since estimated costs of clinical testing depend on the number of tests that must be conducted and the number of patients who are tested. These numbers vary significantly depending on the previous testing results.
- The current contract provides flexibility for RMZ: it can be renewed at the option of RMZ if the collaboration winds up being successful.
- RMZ could use the cash savings of \$245,000 (\$1,145,000 – \$900,000) to invest in other initiatives.
- The milestone payments provide QRI with incentive to reach milestones in order to earn the bonus payments. Therefore, QRI should be motivated to complete each phase as quickly as possible, meaning the drug would reach the market quicker.
- QRI is supposed to have expertise in this area since it has specialized in these services. Therefore, this may mean QRI is able to complete each phase more quickly and efficiently, getting the drug to market quicker.
- RMZ can terminate the contract at any time, enabling it to keep some control over QRI's performance. This clause significantly reduces the risk of dealing with an outsourced entity.
- RMZ converts its clinical testing costs for this drug from variable to fixed. This helps with managing its operating leverage.
- QRI is responsible for ensuring testing is performed by highly qualified staff with special expertise and skills. If there is a skill shortage, it is QRI's risk and responsibility and not RMZ's.

#### Cons

- QRI's results to date are worrisome; there have been significant delays and setbacks, some of the trials have had to be redone due to poor management, and controls and reports are incomplete. QRI staff may not be as committed to ensuring commercialization of the drugs as RMZ's in-house staff are.
- There is an increased possibility of loss of confidentiality or protection of intellectual property to QRI staff. RMZ cannot really control what knowledge is gained by QRI staff or what they do with it.
- If the QRI staff turns over during the testing phases, there will be loss of continuity and delays as new staff is hired.

- RMZ does not control the data. The testing data is gathered and reported by QRI, which is supposed to prepare these reports for RMZ in a timely manner. However, RMZ has had difficulty getting the reports on time and accessing the data as needed.
- There is a risk that QRI could terminate the contract prior to completion of the research and commercialization of the products.

### Recommendation

We recommend that RMZ bring the services back in-house. The clinical testing of drugs is a critical step. Since the company depends on getting these drugs to market as soon as possible, it is imperative that delays and other problems are avoided. To date, QRI does not appear to have adequately met the requirements of RMZ. Therefore, the contract should be terminated.

For Assessment Opportunity #9 (Performance Management), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to analyze the decision to transfer the clinical testing in-house, but the analysis lacks depth.

**Competent** – The candidate analyzes the decision to transfer the clinical testing in-house and provides a recommendation.

**Competent with distinction** – The candidate performs an in-depth analysis of the decision to transfer the clinical testing in-house and provides a recommendation.

### Assessment Opportunity #10

The candidate describes what causes data integrity to be compromised and how to prevent it. The candidate also assesses the suggestion of sharing this information.

*The candidate demonstrates DEPTH in the Performance Management role.*

CPA Map Technical Competencies:		Core	E1 PM
3.1.2	Documents and assesses business processes, systems and data requirements	B	B
3.1.4	Identifies ethical and privacy issues related to information technology and its use	B	A



**CPA Map Enabling Competencies:**

- 1.1.1 Identifies situations involving existing or potential ethical issues*
- 1.1.2 Clarifies and uses appropriate professional values for choosing or recommending an ethical course of action*
- 2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*
- 2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis*
- 2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*
- 2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*
- 2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

You have requested the following be addressed as it relates to the data that is collected by RMZ as part of its research:

1. Describe what could cause data integrity to be compromised and ways to prevent that from occurring.
2. Assess the suggestion to share collected patient information.

**What Could Cause Data Integrity to Be Compromised**

Data integrity relates to ensuring that information entered is accurate and complete. This is particularly important for the clinical testing results, since they will be forwarded to the regulatory bodies as proof that the phase tests have been done correctly and have been successful.

For the clinical trial data, the following could occur to affect data integrity:

- **Unintentional errors.** This could be due to human entry error, or it could happen in the system as it accepts and stores the data.
- **Intentional errors.** This is fraudulent manipulation of the data, which could be done internally or externally.
- **Unlawful access.** This is where an external user “hacks” into the system either to manipulate the data or to copy or take it for malicious reasons (e.g., to resell personal information). This would breach privacy laws (see later discussion).

**Preventing Compromise**

Several parties have access to the data: the RMZ and QRI lab assistants who enter it during clinical trials, and the doctors and pharmacists who input information on RMZ’s drugs. Data integrity controls must be put in place to ensure the right data is entered and that it then remains untouched.

There are various levels of protection that can and should be put in place:

- Validity checks should be built into the software programs. For example, where possible, patient medical data inputs could have predefined criteria or controls to reduce input errors. There should also be an acceptance required before the data is processed as a last check that it is correct.
- Access should be limited to only authorized users. For example, all the R&D staff, QRI staff, and doctors and pharmacists should have individual user IDs and passwords, or fingerprint or retinal scans should be required to access the system. The strongest access controls would be the fingerprint or retinal scans since these cannot be easily duplicated. Ideally, since this information is very sensitive, with significant privacy issues, the company should consider using a random-password-generating device that provides a random password to be used each time an individual logs into the system.
  - The doctors' access is particularly troublesome. How does RMZ ensure a doctor is a legitimate healthcare provider entering information on a legitimate patient? The credentials of the doctor must be checked, including medical licence, for example. There should be an additional check to ensure the patient is truly receiving the drug. The information provided by the doctor should be cross-checked against the inventory ID number on the drug and the patient it was prescribed to.
- Encrypting the data and adding in firewalls and virus protection will help ensure the information systems cannot be breached or infected in any way. This is critical as the system is being accessed remotely and information is being entered and transmitted back to RMZ remotely.

### **Sharing Data**

There are several issues related to sharing the data:

- Each patient has authorized that data can be collected for RMZ's use only (i.e., personal information is necessary to properly analyze the data). Does RMZ even have the right to share this data, which is private? It appears that under the terms and conditions under which this data was collected, there was no indication that the data could be shared or used by any external users.
- The data is attached directly to a patient name. It is not anonymous. Therefore, to share the data, any patient-related information, such as name and address, would have to be permanently deleted. There is a risk of the deleted information somehow being restored using sophisticated software tools and, as a result, the patient being identified.
- Even if the individual information is safely deleted, it is unethical to use this information for this unauthorized use. If RMZ wants to share any of the data, it would have to obtain patient authorization to release it.

Additional considerations relate to privacy legislation:

- The most critical issue is that all this data is linked to private and personal patient information that can be used to specifically identify a person. Legislation under Canada's Privacy Act ensures this information remains private. If there were a breach, RMZ would have to immediately notify both the Privacy Commissioner and each affected individual.
- A data breach arises when private information has been released to unauthorized users. These users can be internal or external. A breach would seriously impact RMZ's reputation and its ability to complete future clinical trials. Therefore, it needs to ensure the data is protected.
- The legislation requires RMZ to take the necessary steps to secure and protect the data. RMZ should review its protocols to ensure they comply with the rules and legislation around protecting this data. Is the deletion of information permanent or is it possible to recover deleted personal information? How securely is confidentiality and the private information protected?

### Conclusion

RMZ currently does not appear to have authorization to use this patient information for any use but its own. If it wants to provide information externally, the information would have to be "cleansed" extensively, and patient authorization would still likely have to be obtained.

For Assessment Opportunity #10 (Performance Management), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to describe what could cause data integrity to be compromised or ways to prevent it being compromised, or the candidate attempts to discuss the implications of sharing this information.

**Competent** – The candidate describes what could cause data integrity to be compromised or ways to prevent it being compromised, and discusses the implications of sharing this information.

**Competent with distinction** – The candidate describes what could cause data integrity to be compromised, suggests ways to prevent it being compromised, discusses the implications of sharing the information, and concludes on whether to share the information.

**Assessment Opportunity #11**

The candidate discusses the advantages and disadvantages of RMZ's current governance structure and provides a recommendation on how to improve it.

*The candidate demonstrates DEPTH in the Performance Management role.*

CPA Map Technical Competencies:		Core	E1 PM
2.1.1	Evaluates the entity's governance structure (policies, processes, codes)	B	A
2.1.3	Evaluates mechanisms used for compliance purposes	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyses cause-and-effect relationships and makes logical inferences*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

A recent restructuring of head office reduced the number of managers, resulting in the board of directors making more of the operational decisions than previously. Hannah, one of the directors representing Star, has some concerns about the board making these operating decisions. As requested, the following is a discussion of the advantages and disadvantages of RMZ's current governance structure and recommendations on how to improve it.

**Centralized Structure**

Currently, RMZ uses a centralized functional structure. The board of directors makes most of the operating decisions across the four functional areas: R&D, production, accounting and legal, and marketing and sales.

Advantages

- The members of RMZ's board are very experienced across all functional areas and, therefore, could be considered the best people to make the decisions. In particular, the representatives from Star and Tatum have likely been in many other pharmaceutical companies they can use for comparison.
- With the board making decisions, there is clarity as to who makes the key decisions and who is accountable for them.

- The centralized structure is cheaper from a personnel and salary perspective since fewer levels of management are required. In this industry today, cost reduction is a key success factor, so reducing the number of managers is important to keeping salaries manageable. RMZ restructured the head office during the year, which reduced the number of managers and reduced salary expense.
- The board sets the goals and objectives of RMZ. Star and Tatum are both hoping to find a strategic buyer for their shares in RMZ shortly. They will want to get as high a price as possible for their shares when they sell, so their board representatives will make decisions with these objectives in mind.
- A standard set of policies and procedures is in place for all functional departments, ensuring further consistency. This also keeps cost low.
- The board also has knowledge and information about all the departments, which are highly interconnected. This means the board can make decisions with an understanding of the implications for all departments affected. This is particularly important for patient outcomes and regulatory compliance.

### Disadvantages

- The weekly board meetings are currently five hours long. These meetings are too frequent and too long and indicate that far too much time is spent on operational issues. In addition, if all the time is spent on operational issues, there is no time for the board to deal with strategic issues.
- Having fewer managers increases the number of operational decisions the board has to make. This is exactly what has happened at RMZ.
- The decision-making may be slowed if not all the board members are available to attend a meeting and make decisions. It took the board two months to decide to change suppliers on packaging when this decision likely should have been made sooner. Training for production employees was approved in December but had been on the board's agenda since June. The delay in the decision might have impacted the cost of training (i.e., perhaps training could have occurred at a more strategic time at a lower cost). The board is making decisions on items the functional manager should be able to, such as training.
- The same group of people making decisions (in this case, the board) can lead to "group think." However, in the case of RMZ, the directors representing Star and Tatum can bring in experience and ideas from other pharmaceutical companies they are invested in.
- The same directors making all the decisions may have biases that enter their decisions, which may not be in the best interest of the entire company. Star and Tatum, for example, are looking to sell their ownership in the company within the next two years. As a result, their representatives may make different decisions than if they were investing in the company for a longer term.
- A centralized governance structure does not allow for other employees to provide input and voice their opinions and suggestions. This can cause employees to become frustrated, less motivated, and demoralized to the point they may leave the company. We see that a long-time marketing manager, Andrea Chan, left the company because she was not being given enough responsibility and her ideas were not being considered.

- RMZ has year-end bonuses for its managers, but if most decisions are made by the board, then managers are not being fairly compensated since they are not responsible for the decisions that have been made.

### **Decentralized Structure**

In a more decentralized organization, many individuals could be making key decisions in the company. In this structure, the managers of each of the functional areas could react immediately to any changes (environmental, regulatory, employees, etc.) without having to provide the board with all the details and then wait for their decision. The board would function at a more strategic level than at an operations level.

#### Advantages

- This kind of structure “empowers” individuals so that their individual contributions and suggestions are acknowledged and used to make decisions. This leads to more motivated employees and higher job satisfaction, which causes employees to want to stay with the company.
- This structure could be tied to RMZ’s bonus and compensation plans and reward employees based on decisions they are now responsible for.
- Managers could set policies and standards that are relevant and specific to their departments, rather than using standardized policies that may be too general. Specifically, RMZ’s R&D and production managers likely understand more about the regulatory requirements and their impacts on their departments than the directors.
- With more and different people having input into decisions, this could lead to different and better solutions and innovative ideas.
- This would give the board more time to focus on strategic issues.

#### Disadvantages

- The board would have less control and would rely on the functional managers to carry out RMZ’s overall goals and objectives. The board might not find out until too late that a decision had been made that might be contrary to their goals and objectives. This is particularly important right now for RMZ as Star and Tatum are looking to sell their shares.
- There may be destructive competition between the functional managers as they would become focused solely on making decisions to enhance their own department without consideration of the impact on other departments.

### **Recommendation**

RMZ should change to a more decentralized structure that maintains functional departments and cross-functional teams.

The board should still make the final decisions after hearing suggestions from the cross-functional teams. This is necessary to ensure that the entire organization is working towards common goals and objectives, including preparing RMZ for purchase by a strategic buyer.

For Assessment Opportunity #11 (Performance Management), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the issues with RMZ’s current organizational structure.

**Competent** – The candidate analyzes the issues related to RMZ’s current organizational structure and provides a recommendation to improve it.

**Competent with distinction** – The candidate performs an in-depth analysis of RMZ’s current organizational structure, exploring several options, and provides a recommendation.

### Assessment Opportunity #12

The candidate analyzes and discusses each proposed pricing strategy and makes a recommendation.

*The candidate demonstrates DEPTH in the Performance Management role.*

CPA Map Technical Competencies:		Core	E1 PM
3.3.2	Evaluates and applies cost management techniques appropriate for specific costing decisions	B	A
3.4.1	Evaluates sources and drivers of revenue growth	B	A

### CPA Map Enabling Competencies:

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.4 Differentiates problems having a single viable solution/conclusion from problems having multiple potentially viable solutions/conclusions*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.3.6 Performs and interprets sensitivity analysis*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

We have been asked to analyze and discuss each pricing strategy Trevor has proposed and to make a supported recommendation.

### Calculation (Cost and Pricing)

RMZ is looking to introduce a new product line of vitamin and mineral supplements. Based on the information provided by management, the full absorption cost is estimated as follows:

To manufacture and sell 400,000 bottles

Direct materials	\$	870,000
Direct labour		610,000
Variable manufacturing overhead		250,000
Fixed manufacturing overhead		790,000
Sales commission		650,000
Fixed selling and administrative costs		<u>350,000</u>
	\$	<u>3,520,000</u>

Absorption cost per bottle                      \$            8.80    =  $\$3,520,000 \div 400,000$



Using the information provided from the marketing department for prices and volumes, the following calculations show the estimated profits to be realized annually for each pricing strategy:

	<u>Strategy 1</u>		<u>Strategy 2</u>		<u>Strategy 3</u>		
	Year 1	Years 2+	Year 1	Years 2+	Year 1	Years 2+	
Price	\$9.50		\$9.00	\$9.00		\$11.00	
Volume	200,000	\$10.20	400,000	800,000	100,000	600,000	
Annual sales (price × volume)	1,900,000	709,000	3,600,000	7,200,000	\$11.00 1,100,000	6,600,000	
	\$	\$	\$	\$	\$	\$	
<i>Variable Costs</i>							
Direct materials per bottle	\$ 2.175						
Direct labour per bottle	\$ 1.525						
Variable manufacturing overhead per bottle	\$ 0.625						
Sales commission per bottle	\$ 1.625						
Variable costs	<u>\$ 5.95</u>	\$ 1,190,000	\$ 4,165,000	\$ 2,380,000	\$ 4,760,000	\$ 595,000	\$ 3,570,000
Fixed manufacturing overhead	\$ 790,000	\$ 790,000	\$ 790,000	\$ 790,000	\$ 790,000	\$ 790,000	\$ 790,000
Fixed selling and administrative costs	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000	\$ 350,000
Total costs	<u>\$ 2,330,000</u>	<u>\$ 5,305,000</u>	<u>\$ 3,520,000</u>	<u>\$ 5,900,000</u>	<u>\$ 1,735,000</u>	<u>\$ 4,710,000</u>	
Operating profit	\$ (430,000)	\$ 1,835,000	\$ 80,000	\$ 1,300,000	\$ (635,000)	\$ 1,890,000	

The current cost to manufacture one bottle of vitamin supplements using full absorption costing would be \$8.80. Currently, similar competing products sell for \$10.00 per bottle.

As shown above, in the initial year only, the price of \$9.00 results in a small profit; the two other pricing strategies have operating losses. However, the price of \$11.00 yields the highest profit, on an ongoing annual basis by a small margin over the option of an \$10.20 price. Note that there will be additional start-up costs that have not been included in these calculations, so losses will be initially higher than forecasted above.

### **Pricing Considerations**

We are told the demand curve in this industry is elastic. An elastic demand curve indicates that a small change in the price can lead to a large change in sales volume. This is generally the fact when the industry is very competitive, which this one is. We are also told the industry is in the mature stage of the product life cycle for vitamin supplements in general. Therefore, competitors are trying to increase market share by enhancing their products to make them more specialized for certain age segments or ailment/treatment segments. The marketing department believes the product life cycle specifically for supplements targeted to cancer patients is in its growth phase.

### **Pricing Options**

These considerations become relevant in deciding which pricing strategy to adopt.

Below we discuss each of the pricing strategies proposed and how they would work for RMZ's new product. Each policy is a demand-based pricing model, which sets the price considering two factors: the value to customer and the amount of demand (as well as the competition that exists to meet that demand). We have already identified that small price changes will result in large volume changes because the demand is elastic. Demand-based pricing models use the demand by the customer to test how volumes change as selling prices change.

#### 1. Set the Price at \$9.50 for an Introductory Period, then Increase to \$10.20

Using this strategy, RMZ initially sets a low price for its new product. The low price should attract customers since customers are price sensitive and, therefore, will purchase products that are lower priced. This increases RMZ's share of this segment of the market. Once the targeted market share is reached, RMZ would then increase the price to slightly higher than average.

The key factors of this strategy are as follows:

- A low price is set to penetrate the market and sell higher volumes initially.
- The intent is to lower costs over the long term by achieving economies of scale in manufacturing and distribution channels with higher production and sales volumes.
- This is a common strategy used when launching a new product you want customers to try.
- This is suitable for products with a long product life. Vitamin supplements generally expire after 12 months.

This strategy could work for RMZ. At \$9.50, there is still a small loss initially, but the lower price allows customers to try the product and become familiar with it. However, the company would have to quickly increase its selling price to earn an adequate profit. At \$10.20, with costs of \$8.80, the company is making \$1.40 per bottle sold, which results in an operating profit of \$1,835,000 annually at a volume of 700,000 bottles.

## 2. Set the Price at \$9.00 for a Long Period

The low price is maintained in the hopes that existing competitors will not be able to compete over the long term and will be driven out of this niche market. A company using this strategy will require significant financial resources to be able to sustain these low profits for a long enough period to drive out competitors. Once competitors are out of the market, the company would increase its prices to a more sustainable level. This strategy results in short-term losses but profits over the long term once prices can be increased.

The key factors of this strategy are as follows:

- Prices are set very low deliberately. At the low price, the product is attractive to customers, driving up sales volumes.
- The low price forces competitors that cannot compete to withdraw from this segment, and it also prevents new entries to the market.
- RMZ will suffer losses from this pricing strategy initially. The cost of the product is \$8.80, so a price of \$9.00 affords a margin of only \$0.20 per bottle.
- This strategy could be found to be anti-competitive and illegal, but it must be proven to be so, which is often difficult to do.

RMZ requires profits and cash inflows so that it has sufficient funds to spend on its R&D costs, which is the focus for the company. We would not recommend this strategy.

## 3. Set the Price at \$11.00

In this pricing strategy, the price is generally set to break even when initial new product costs are high. This strategy is used when companies want to quickly recover the costs of investment in new product development and marketing.

The key factors of this strategy are as follows:

- It targets early adopters who are willing to pay a higher price to have a new or updated product they believe is better than anything currently on the market.
- The high price is set for only a short period of time. Once initial start-up costs are recovered, the price would be lowered, resulting in higher sales volumes.
- At this price, the company would be making \$2.20 per bottle, but volumes would be low. Under this strategy, the initial losses are the highest of the three proposals, but annual profits are the highest on an ongoing basis.

This strategy may be possible for RMZ. The company has claimed it has a better product than anything currently on the market. Selling at a higher price will suggest to customers this claim is credible. RMZ has set a price 10% higher than competitors, so the company would have lower sales volumes, but this strategy results in higher profits once target volumes are achieved. As noted earlier, the company needs all of its resources to support its R&D in new drugs and cannot afford to have losses from the sale of the vitamin supplements.

### Recommendation

RMZ should employ the third strategy. At the higher price, more profits can be earned and used to help fund the R&D required by the company. The higher price reflects and suggests higher quality to consumers.

For Assessment Opportunity #12 (Performance Management), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to calculate the profits of the pricing strategies or attempts to discuss each proposed pricing strategy.

**Competent** – The candidate calculates the profits of the pricing strategies and discusses each proposed pricing strategy.

**Competent with distinction** – The candidate calculates the profits of the pricing strategies, provides an in-depth discussion of each proposed pricing strategy, and makes a recommendation.

### Assessment Opportunity #13

The candidate uses the five quality management principles to provide suggestions for packaging improvements.

*The candidate demonstrates DEPTH in the Performance Management role.*

CPA Map Technical Competency:		Core	E1 PM
3.3.3	Recommends changes identified by applying process improvement methodologies	B	A

**CPA Map Enabling Competencies:**

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.4 Differentiates problems having a single viable solution/conclusion from problems having multiple potentially viable solutions/conclusions*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

There have been many complaints about the product packaging.

“The package is difficult to open” was the most common complaint in 2020. “Dosage unclear” and “Expiry date illegible” also increased from the previous year. “Storage not noted” only increased slightly.

The company needs to better understand why there were large increases in complaints since it changed suppliers for the packaging material.

- Is the new material at fault?
- Design changes were also suggested by the marketing department. Why were the design changes made? Were they due to customers’ requests?
- Did the design changes impact how the package is opened?
- Were these design changes made without producing prototypes to see what the impact might be?

As a result of the high number of complaints, RMZ would like to improve the quality of its packaging. The five principles highlighted by Hannah, and how RMZ should implement them, are outlined below.

## **1. Customer Focus**

On an ongoing basis, RMZ should always obtain information on what customers find important before making any decision related to the packaging of its products. This could be done through customer surveys or focus groups, for example. RMZ would have avoided customer complaints and dissatisfaction had this been put in place prior to making the decision to change suppliers. In general, RMZ seems to address quality issues after the fact, rather than being proactive and trying to anticipate potential issues. Since the customer is the ultimate user of the product, the definition of “quality” is highly dependent on what customers find important.

Customer complaints related to packaging concerned numerous features. Complaints were high for “Dosage unclear” in 2020, and customers expected legible dosage instructions, storage instructions, expiry dates, and ingredients. In addition, the packages should be both easy to open and childproof. All these features will have to be addressed and corrected in the short term, since they represent the customers’ expectations.

## 2. Top-Level Management Involvement and Commitment

It is important that RMZ's executives be committed to quality management. The board of directors should announce that quality management will become a priority and ask for input from the various departments on how to improve it.

Since the recent restructuring of head office reduced the number of managers, the board of directors has been making the operational decisions. This might explain why quality control was not made a priority. Quality management should be clearly included in the responsibilities of one of RMZ's managers, and this individual should be evaluated based on key performance indicators linked to product quality. This will ensure that clear policies are developed to ensure that quality is a concern up and down the organization. The fact that upper management is clearly focused on quality will have a trickledown effect in all departments.

## 3. Clear Definition of Quality and Understanding of the Risks of Non-quality

Upper management must define what quality is. RMZ needs to determine what is meant by quality packaging for quality-control process to work well. The customer feedback can be a starting point to this determination.

For example, quality packaging must ensure

- that the packaging maintains the integrity of the medication; that is, it does not let light or humidity penetrate, which could cause the medication to lose its effectiveness; and
- that a package can be opened easily by an adult but not a child.

RMZ needs to clearly identify the risks related to poor-quality packaging. This will help highlight the importance of quality control throughout the organization. The risks of non-quality packaging could include the following:

- The medication could become contaminated or lose its effectiveness as a result of the packaging material used. New packaging materials should be tested beforehand to ensure they meet quality requirements.
- If dosage instructions are not clear, then patients may take the incorrect dosage. If too little is taken, the medication will not be effective. If too much is taken, it could lead to negative medical side effects for the patient. If these side effects are dangerous, the company could be held liable for providing improper instructions.
- If patients take the medication after its expiry date because the date is illegible, this could lead to similar complications as above: if the medication breaks down over time, it could either be ineffective or cause serious side effects.
- If the drug is not stored properly because storage instructions are not noted on the packaging, the effectiveness of the medication will likely change. For example, we were told it should be kept out of the light and high humidity. If these storage conditions/requirements are not noted, users will not be aware that changes to the quality of the medication may occur if it is stored improperly.

Adequate controls should be implemented and could include the following:

- To ensure the packaging redesign is acceptable, RMZ may want to have a focus group of potential customers test the packaging. Quality control should also test to ensure the package can be easily opened and dosage instructions, expiry dates, and storage conditions are legible.
- The company should also test whenever a new supplier is being used for the raw packaging materials. What is different about the material? Is it safe to use for storing medication for a long period? Does it break down over time?

#### **4. Continuous Monitoring**

Currently, quality control is performed on the medication as required. This also seems to be the case with the packaging, considering the customer complaints noted.

Once the systems and processes have been updated to ensure the quality of packaging, they need to keep evolving. Any customer-related complaint about packaging should be reviewed and improvements made. Periodic audits should also be completed to ensure compliance with standards. Quality-control testing results and customer complaints should be reported regularly to the board to ensure that quality is being maintained. Addressing this issue also helps the board to show leadership.

As mentioned in point 2, the presence of key performance indicators linked with quality will help ensure that RMZ is proactive in trying to prevent quality issues, rather than reacting after the fact.

#### **5. Supplier Involvement in Quality Management**

RMZ should ensure the supplier of the packaging materials also complies with the same quality-assurance processes that RMZ does. Any new supplier should be made aware of all the quality characteristics determined (see point 3), and samples should be obtained and tested before RMZ makes any purchasing commitments.

Suppliers could be consulted when designing packaging for new products, such as the new vitamin supplements considered. Their expertise in the field could enhance the quality of the packaging and potentially prevent issues in the future.

For Assessment Opportunity #13 (Performance Management), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts an analysis of the packaging issue using the five principles mentioned by Hannah.

**Competent** – The candidate performs an analysis of the packaging issue using the five principles mentioned by Hannah and provides some suggestions to improve packaging.

**Competent with distinction** – The candidate performs an in-depth analysis of the packaging issue using the five principles mentioned by Hannah and provides several suggestions to improve packaging.



**DAY 2 – MARKING GUIDE – TAXATION ROLE  
RMZ PHARMACEUTICALS INC. (RMZ)**

In the Taxation role, the candidate is expected to discuss the association of several corporations with common ownership with RMZ. The candidate is also expected to perform a calculation of RMZ's taxes payable for the year, considering the impact of the accounting adjustments, as well as the capital cost allowance (CCA) and the various components of corporate taxes payable for a Canadian-controlled private corporation (CCPC). The candidate is also expected to discuss several taxable benefits. The candidate is further expected to discuss the data management for capital assets and how it pertains to the tax compliance systems. Finally, the candidate is expected to discuss the differences between private and public corporations from a tax perspective.

**See Common Marking Guide for the Common Assessment Opportunities #1 to #6.**

**To:** Thomas, CPA LLP Partner  
**From:** CPA  
**Subject:** Consulting on various income tax matters

**Assessment Opportunity #7**

The candidate explains whether any of the three corporations are associated with RMZ and the implications for each corporation.

*The candidate demonstrates DEPTH in the Taxation role.*

CPA Map Technical Competencies (based on the 2019 CPA Competency Map):		Core	E4 TAX
6.2.1	Evaluates general tax issues for a corporate entity <i>(Note: Knowledge List Item of Association is Level B at Elective)</i>	B	A
6.2.2	Advises on taxes payable for a corporation	B	A

**CPA Map Enabling Competencies:**

2.1.1.1 Obtains an initial understanding of the problem and its context  
 2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis  
 2.1.3.4 Chooses and applies appropriate analysis techniques  
 2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis  
 2.1.4.7 Explicitly articulates and justifies assumptions

During the year, Francine inherited a third of the shares of a CCPC, Zora Inc. At the same time, her brother, Rob, and cousin, Ellie, also inherited a portion of the shares.

In addition, Francine's daughter, Elizabeth, owns a corporation called Hip Hop Inc. (HHI), and Francine invested in this corporation.

The rules of association have been designed specifically to prevent taxpayers from creating additional corporations that would allow each to be able to use the small business deduction (SBD) individually. Therefore, any corporations that are “associated” must share the \$500,000 annual small business limit. This is agreed upon annually amongst the associated corporations.

The relationships between the individual shareholders come into play in determining whether two corporations are associated or not. Paragraph 251(2)(a) of the Income Tax Act states that related persons include individuals connected by blood relationship, marriage, common-law partnership, or adoption. For purposes of deciding if corporations are associated, Francine is related to her grandparents, parents, siblings, children, spouse, and in-laws, but not nieces, nephews, cousins, aunts, or uncles.

### **Control**

Control of a corporation is considered to exist when a person or group of persons holds more than 50% of the shares, measured in terms of votes or of value.

Control can be within a group. A group includes two or more persons, each of whom owns shares in the same corporation. A group may be made up of related or unrelated members.

Francine owns 55% of RMZ and, therefore, controls it. Similarly, Elizabeth controls HHI by virtue of owning 80% of the shares. Zora’s Retail Inc. is controlled by Zora Inc., which owns 100% of its shares. Zora Inc. could be controlled in several different ways, which are discussed further below.

Paragraph 256(1.2)(d) of the Income Tax Act states that where shares of a corporation are held by another corporation, a shareholder of the corporation is deemed to own the shares in the held corporation in proportion to their interest in the holding corporation. This means that Francine, Ellie, and Rob are deemed to own 33.3%, 33.3%, and 33.4%, respectively, of Zora’s Retail Inc. for the purposes of these rules.

### **Association**

#### Zora Inc. and Zora’s Retail Inc.

Paragraph 256(1)(a) states that a corporation is associated with a corporation that controls it; therefore, Zora Inc. and Zora’s Retail Inc. are associated with one another.

#### RMZ and Zora Inc.

Paragraph 256(1)(d) states that two corporations are associated if one of the corporations is controlled directly or indirectly in any manner whatever by a person, that person is related to each member of a group of persons that controls the other corporation, and that person owns, in respect of the other corporation, not less than 25% of the issued shares of any class of the capital stock thereof, other than a specified class.

Francine controls RMZ and is also related to herself and her brother Rob, who as a group control Zora Inc. (by owing 66.7% of the shares). Francine also owns 33% of Zora Inc., which is greater than the 25% prescribed ownership. Therefore, RMZ is associated with Zora Inc.

RMZ and Zora's Retail Inc.

The same logic applies to Zora's Retail Inc., as the ownership is deemed to flow through Zora Inc., as mentioned earlier. Therefore, RMZ is also associated with Zora's Retail Inc.

RMZ and HHI

Francine owns 20% of HHI and her daughter, Elizabeth (25 years of age), owns the other 80%.

Francine controls RMZ, as mentioned earlier. Elizabeth, who is not a minor, owns 80% and controls HHI.

Even though Francine and Elizabeth are related (according to paragraph 251(2)(a)), the related group itself does not control each corporation. Francine on her own controls RMZ, and Elizabeth on her own controls HHI.

Paragraph 256(1)(c) states that two corporations are associated if each corporation is controlled directly or indirectly in any manner whatever by a person, a person who controlled one of the corporations was related to the person who controlled the other, and either of them owned in respect of the other corporation not less than 25% of the issued shares of any class of the capital stock thereof, other than a "specified class."

Even though Francine and Elizabeth are related, Francine only owns 20% of HHI, which is less than the prescribed amount of 25%. Elizabeth has no ownership in RMZ. Therefore, RMZ and HHI are not associated.

**Allocation of the Small Business Limit**

Because RMZ, Zora Inc., and Zora's Retail Inc. are all associated with one another, the amount of the small business limit must be shared by all three corporations.

The amount that a corporation can claim depends on its taxable capital employed in Canada at the end of the previous taxation year. In addition, where corporations are associated, the taxable capital employed in Canada includes the amounts for all of the associated corporations.

For RMZ, Zora Inc., and Zora's Retail Inc.

RMZ's taxable capital is employed in Canada. At December 31, 2019, it was calculated as follows:

Long-term loan	\$ 10,000,000
Share capital	22,571,800
Retained earnings	<u>4,501,605</u>
 Total	 <u>\$ 37,073,405</u>

The taxable capital employed by the associated corporations (Zora Inc. and Zora's Retail Inc.) is \$14 million in total, and it was all employed in Canada. Taxable capital, therefore, totals \$51,073,405.

To determine the reduction in the small business limit for large CCPCs, the following calculation is performed:

$$\text{Reduction} = A \times (B \div 11,250)$$

A = amount of the annual business limit = \$500,000

B = 0.225% of the corporation's taxable capital (including taxable capital of associated corporations) employed in Canada in the previous year, exceeding \$10 million

$$= (\$51,073,405 - \$10,000,000) \times 0.225\% = \$92,415$$

Since this is greater than \$11,250, the full reduction is \$500,000.

Therefore, there is no SBD available for RMZ, Zora Inc., or Zora's Retail Inc.

#### For HHI

The same formula applies for HHI.

$$\text{Reduction} = A \times (B \div 11,250)$$

A = amount of the annual business limit = \$500,000

B = 0.225% of the corporation's taxable capital employed in Canada in the previous year, exceeding \$10 million

$$= (\$10,780,000 - \$10,000,000) \times 0.225\% = \$1,755$$

The reduction in the 2020 annual business limit will then be

$$\$500,000 \times \$1,755 \div \$11,250 = \$78,000$$

For HHI, the SBD for 2020 would be limited to 19% of the least of

Active business income	\$490,000
Taxable income	\$520,000
Reduced annual business limit (\$500,000 – \$78,000)	\$422,000

Therefore, HHI will have an SBD for 2020 equal to \$80,180 (\$422,000 × 19%).

For Assessment Opportunity #7 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Not competent** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to determine which corporations are associated with one another or attempts to recalculate the small business limits.

**Competent** – The candidate determines which corporations are associated with one another or recalculates the small business limits.

**Competent with distinction** – The candidate determines which corporations are associated with one another and recalculates the small business limits.

### Assessment Opportunity #8

The candidate calculates taxable income.

*The candidate demonstrates DEPTH in the Taxation role.*

CPA Map Technical Competency:		Core	E4 TAX
6.2.2	Advises on taxes payable for a corporation	B	A

### CPA Map Enabling Competencies:

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis

2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors

2.1.3.2 Determines whether precise calculations, estimates, forecasts, or projections are required

2.1.3.3 Uses information technology to support and improve analysis

2.1.3.4 Chooses and applies appropriate analysis techniques

<b>Earnings Before Taxes from Financial Statements</b>	\$ 1,514,670
<i>Revisions from Common</i>	
AO#1 Revenue adjustment	(90,000)
AO#2 Development costs	(199,000)
AO#3 Investment property – depreciation	(34,500)
Fair value adjustment to OCI	0
Fair value year-end adjustment	320,800
Revised earnings before taxes	<u>1,511,970</u>
<i>Tax Adjustments Related to Financial Accounting Issues (discussed later)</i>	
Reserve denied – Sheppard	90,000
Deduct reserve allowed for undelivered goods	(90,000)
Add back expensed development costs (will be claimed as SR&ED)	199,000
Add back depreciation on investment property	34,500
Deduct the fair value adjustment	(320,800)
Depreciation and amortization (Note 1)	5,211,500
Loss on disposal (Note 2)	256,000
Charitable donations (Note 3)	204,000
R&D expenditures deducted in financial statements (Note 4)	7,300,000
Software expensed (Note 5)	465,000
Meals and entertainment in G&A (50% × \$810,000) (Note 6)	405,000
Meals and entertainment in selling & marketing (50% × \$2,500,000) (Note 6)	1,250,000
Fitness club dues (Note 7)	240,000
Bad debt expense per financials (Note 8)	120,000
Bad debt reserve allowed under ITA (Note 8)	(120,000)
Capital cost allowance (Note 1)	(3,595,022)
Taxable capital gain (Note 9)	31,115
Net income for income tax purposes (before SR&ED)	<u>13,192,263</u>
Deductible SR&ED pool (Note 4)	(5,400,000)
Net income for income tax purposes	<u>7,792,263</u>
Charitable donations (Note 3)	(204,000)
Taxable income	<u>\$ 7,588,263</u>

**Notes:**

1. Depreciation and amortization are added back because they are not deductible as items on account of capital. Instead, CCA is calculated and deducted (detailed calculation is shown later).
2. The loss on disposal is added back since this is an item on account of capital. Proceeds of disposition are used in the calculation of CCA, shown later.
3. Charitable donations are added back to net income for tax purposes. A deduction from taxable income is allowed, up to 75% of the net income for tax purposes. This threshold is clearly met, so the full amount is deducted.
4. As discussed later, R&D expenditures that qualify for SR&ED (scientific research and experimental development) are fully added back. The amount in the SR&ED pool is deductible against income, as discussed later.
5. Software that has been expensed is added back since it is a capital cost and must be included in the Class 12 pool.
6. Only 50% of meals and entertainment are allowed as a deduction and, therefore, 50% are added back.
7. Fitness club dues are not deductible and are fully added back.
8. Bad debt incurred during the year is on a specific account, so a reserve is allowed under the Income Tax Act.
9. Capital gains are only included in net income for tax purposes at 50%. Addition is  $50\% \times \$62,230$ , calculated below.

In addition, consideration should be given to whether restructuring costs are simply a current expense (and thus deductible in full for the year) or whether they contain any capital elements. Further information is required to conclude on this issue.

For Assessment Opportunity #8 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to calculate the taxable income.

**Competent** – The candidate provides a reasonable calculation of the taxable income.

**Competent with distinction** – The candidate provides a thorough calculation of the taxable income.

**Assessment Opportunity #9**

The candidate discusses the implications related to the accounting changes and calculates the impact of capital transactions.

*The candidate demonstrates DEPTH in the Taxation role.*

CPA Map Technical Competency:		Core	E4 TAX
6.2.2	Advises on taxes payable for a corporation	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.2 Determines whether precise calculations, estimates, forecasts, or projections are required*

*2.1.3.3 Uses information technology to support and improve analysis*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.4.7 Explicitly articulates and justifies assumptions*

**Tax Implications of Financial Accounting Adjustments**Revenue

In this contract there is the possibility that RMZ will have to ship product for “free” after a certain volume has already been shipped and sold. For accounting purposes, \$90,000 is deferred, representing an unearned portion of the revenue already billed. For income tax purposes, a reserve for undelivered goods is allowable as a deductible reserve. Any accounting reserve is initially denied, and then a reasonable reserve is deductible for goods and services that will be provided in the future. Since the reserve has been included as unearned income for accounting purposes, the adjustment in the calculation of net income for tax purposes is, first, to add back the full amount of the unearned revenue.

The question is whether the reserve is reasonable. In this case, we have assumed that it is a reasonable estimate since it is based on reasonable assumptions. Therefore, the unearned amount will have to be added back into income, but then a tax reserve can be deducted under paragraph 20(1)(m). This tax reserve will be added back to income in 2021, when a new one can be claimed if any undelivered goods remain.



### R&D Costs

Research and development costs are deductible for income tax purposes through the SR&ED program. We first back out any deductions that were in net income and then deduct the allowable amounts for tax purposes. R&D costs of \$7.3 million were deducted in the financial statements and thus must be added back, in addition to the \$199,000 of additional amounts expensed.

Certain R&D expenditures qualify to be deducted from net income for tax purposes under the SR&ED program. This may include development costs that have been capitalized for accounting purposes. As given, the SR&ED deduction is \$5.4 million.

Investment tax credits (ITCs) are available on SR&ED expenditures and can be used to reduce income tax payable or can, in some cases, provide a refund. The amount of the ITC available for 2020 is given to us as \$810,000.

For CCPCs only, SR&ED ITCs may be refundable if they have not been used to reduce Part I tax payable. Any amount not used to eliminate taxes and not refunded would be available to carry forward against taxes incurred in future years.

### Investment Property (Gloucester)

The investment property is now designated as a rental property and subject to the rules around rental properties.

For the accounting adjustments made, the depreciation is added back to calculate net income for tax purposes, since amounts on account of capital are generally denied for income tax purposes, and CCA will be claimed.

For the fair value adjustment that was included in OCI, there is no impact since the taxable income calculation starts with net earnings before taxes, not comprehensive earnings.

In addition, for tax purposes the gains are only taxed at the time of actual disposition of the property. Therefore, the fair value adjustment recognized in earnings is also excluded from the net income for tax purposes, and there will be a deduction in the reconciliation of accounting income to net income for tax purposes.

Gloucester was used in operations until April 30, when RMZ moved out and started to look for a new tenant. On June 1, the tenants moved in.

This has changed the use of Gloucester from a property used in active operations to a rental property on May 1, 2020. Since the property still produces income, and it is a change from income-producing to income-producing, this is not a change-in-use for tax purposes. The only impact of this change is that, since it is now a rental building, the amount of CCA on the building will be limited to the amount of net rental income earned. A rental loss cannot be created (or increased) with CCA.

During 2020, rental income of \$140,000 was earned and rental costs of \$54,200 were incurred, for net rental income of \$85,800.

The undepreciated capital cost (UCC) of the building, which was kept in a separate class, was \$2,158,910 as at December 31, 2019.

Therefore, the CCA would have been  $\$2,158,910 \times 4\% = \$86,356$ . However, the CCA is limited to \$85,800, so this is the amount that has been used.

### Capital Transactions

The CCA schedule and the calculation of capital gains is provided here:

	CI 1	CI 1	CI 8	CI 12	CI 50	CI 44	CI 53	Total
	<b>Building – Gloucester</b>	<b>Building – Pendrell</b>	<b>Other Equipment</b>	<b>Software &amp; Tools</b>	<b>Computer Hardware</b>	<b>Patents</b>	<b>M&amp;P Equipment</b>	
	4%	4%	20%	100%	55%	25%	50%	
UCC opening balance	\$2,158,910	\$7,562,300	\$6,289,400	\$15,980	\$14,960	\$5,745	\$2,423,000	
Additions		4,798,930	245,900					
Software expensed				465,000				
Proceeds of disposition (Note 1)							(230,000)	
Adjustment for Accelerated Investment Incentive		2,399,465	122,950					
Base for CCA	2,158,910	14,760,695	6,658,250	480,980	14,960	5,745	2,193,000	
CCA (Note 2)	(85,800)	(590,428)	(1,331,650)	(480,980)	(8,228)	(1,436)	(1,096,500)	(3,595,022)
Reverse Accelerated Investment Incentive adjustment		(2,399,465)	(122,950)					
UCC closing balance	\$2,073,110	\$11,770,802	\$5,203,650	\$0	\$6,732	\$4,309	\$1,096,500	

**Notes:**

## 1. Disposals of manufacturing equipment

Equipment ID#	Original Cost	Net Book Value	Proceeds	Gain/ (Loss)	Lower of Cost and Proceeds	Capital Gain
#8763	\$2,587,200	\$176,200	\$ 0	\$(176,200)	\$ 0	
#9602	210,000	137,000	272,230	135,230	210,000	\$62,230
#5470	698,000	235,030	20,000	(215,030)	20,000	
	<u>\$3,495,200</u>	<u>\$548,230</u>	<u>\$292,230</u>	<u>\$(256,000)</u>	<u>\$230,000</u>	<u>\$62,230</u>

## 2. Net rental income

Rental revenue	\$140,000
Rental expenses	<u>(54,200)</u>
	<u>\$ 85,800</u>

CCA for rental property cannot exceed this amount.

In calculating CCA for the year, the lesser of original cost and proceeds of disposition is deducted from the UCC of the applicable CCA pool. In this case, there were three disposals related to manufacturing equipment — two in which the proceeds were less than the original cost and one in which the proceeds exceeded the original cost and resulted in a capital gain.

Foreign Exchange

We have assumed for the purposes of these calculations that the foreign exchange gains and losses shown on the financial statements are on account of income, not on account of capital, and that they have been realized. In this case, no adjustment is required for tax purposes.

For Assessment Opportunity #9 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate discusses some of the tax impacts of the financial reporting issues or calculates the CCA deduction.

**Competent** – The candidate discusses some of the tax impacts of the financial reporting issues and calculates the CCA deduction.

**Competent with distinction** – The candidate discusses some of the tax impacts of the financial reporting issues, including the impact of the investment property, and calculates the CCA deduction.

**Assessment Opportunity #10**

The candidate calculates the 2020 income taxes payable.

*The candidate demonstrates DEPTH in the Taxation role.*

CPA Map Technical Competency:		Core	E4 TAX
6.2.2	Advises on taxes payable for a corporation	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.2 Determines whether precise calculations, estimates, forecasts, or projections are required*

*2.1.3.3 Uses information technology to support and improve analysis*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

**Calculation of Taxes Payable**

Taxable income is made up of:

Taxable capital gain	\$	31,115
Rental income		0
Interest income (Note 1)		106,680
Total investment income		<u>137,795</u>
Active business income		<u>7,450,468</u>
Total taxable income	\$	<u><u>7,588,263</u></u>

**Part I Tax Payable**

Base rate at 38%	38%	\$ 2,883,540
Federal tax abatement	10%	(758,826)
SBD (Note 2)	19%	0
Additional refundable tax (Note 3)		14,698
General rate reduction (Note 4)		<u>(968,561)</u>
Part I taxes payable		<u>1,170,851</u>
Less SR&ED ITC	Max amount: \$810,000	<u>(810,000)</u>
Net amount of taxes payable		<u><u>\$ 360,851</u></u>

**Notes:**

1. The employee paying the interest on the loan receivable works in the corporation's business and is helping to generate its active business income. Therefore, the interest income related to their loan is active business income, as it is incidental to earning the business income of the corporation. The amount of passive interest income is, therefore,  $\$108,930 - 2,250 = \$106,680$ .

2. No SBD is available, as discussed earlier.

3. Additional refundable tax is 10 2/3% of the lesser of:

Investment income	\$ 137,795
Taxable income less income eligible for SBD	<u>7,588,263</u>
Lesser amount	<u>137,795</u>
Rate	10.67% <u>\$ 14,698</u>

4. General rate reduction

Taxable income	\$7,588,263
Amount eligible for SBD	0
Aggregate investment income	<u>(137,795)</u>
Full rate taxable income	<u>7,450,468</u>
Rate	13% <u>\$968,561</u>

**Refundable Dividend Tax on Hand (RDTOH)**

RMZ started 2020 with no balance in the RDTOH accounts, but accumulated \$42,257 during the year, being 30 2/3% of aggregate investment income of \$137,795. This would all be considered non-eligible RDTOH (NERDTOH) as it is derived from investment income earned inside the corporation and not from Part IV tax on dividends that triggered refunds of eligible RDTOH (ERDTOH).

For Assessment Opportunity #10 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts a calculation of taxes payable.

**Competent** – The candidate prepares a reasonable calculation of taxes payable.

**Competent with distinction** – The candidate prepares a reasonable calculation of taxes payable and RDTOH balances.

**Assessment Opportunity #11**

The candidate discusses the tax impact of the various benefits that RMZ provides to Carole from both the employer's and the employee's perspectives.

*The candidate demonstrates DEPTH in the Taxation role.*

<b>CPA Map Technical Competencies:</b>		<b>Core</b>	<b>E4 TAX</b>
6.2.2	Advises on taxes payable for a corporation	B	A
6.3.2	Evaluates income taxes payable for an individual	B	A

**CPA Map Enabling Competencies:**

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

**Employee Benefits**

The Income Tax Act provides that any benefit received as part of employment is taxable unless an exception exists. The courts have generally ruled that the determination of how to treat a benefit depends on whether the employee or employer is the primary beneficiary of the benefit. The Canada Revenue Agency has published its administrative policies in *T4130 Employers' Guide – Taxable Benefits and Allowances*, which informs the discussions that follow.

Moving Expenses

This is an eligible relocation because Carole was required to move at least 40 kilometres closer to her new work location to take this employment.

*Implication for RMZ*

RMZ has reimbursed all of Carole's moving expenses and has recorded this as an expense for the year. For income tax purposes, these expenditures may be expensed by RMZ because they were laid out for the purposes of earning income. However, only 50% of the meals of \$1,170 will be deductible for income tax purposes. We have assumed that these are already included in the total meal expenditure recorded in the financial statements.

*Implication for the Employee*

Reimbursements of moving expenses that would normally be deductible by the employee if they had incurred the cost themselves will not be taxable to the employee.

All the items listed by Carole qualify as moving expenses except the loss on the sale of her home. Under the specific rules related to housing loss reimbursements, one-half of the reimbursed loss in excess of \$15,000 must be reported as a taxable benefit. For all the other expenditures, since they are reimbursements of expenses that would qualify as moving expenses, there is no taxable benefit to Carole. Of course, she will also not be allowed to claim any deductions either.

The portion of the reimbursement of the loss on the sale of her home that needs to be reported as a taxable benefit is  $\frac{1}{2} (\$51,000 - \$15,000) = \$18,000$ .

#### Employee Loan to Carole and Her Spouse, Frank

The loan for \$600,000 was advanced on April 1, 2020, and bears interest at 0.5% annually. Interest is payable annually, starting March 31, 2021.

The loan has been advanced to help Carole's spouse start up his new business.

#### *Implication for RMZ*

RMZ should accrue interest for the period of April 1 to December 31, 2020, and include this as interest income (which it has done). The amount of accrued interest is  $\$600,000 \times 0.5\% \times 9/12 = \$2,250$ .

#### *Implication for the Employee*

Since the loan is not a relocation loan, there will be a taxable benefit for the difference between the interest at the prescribed rate and the interest paid by Carole.

The prescribed rates during 2020 are 2% for the first two quarters and 1% for the last two quarters:  $\$600,000 \times 2\% \times 91/366 + \$600,000 \times 1\% \times 184/366 = \$6,000$  taxable benefit. Therefore, for the interest, Carole will have a taxable benefit of \$6,000 included in her income for 2020, since she has not paid any interest to date.

Deemed interest benefits are treated as interest paid by the individual, so if Carole invests this money in shares or debt of Frank's business, she will be able to claim a deduction equal to the amount of the deemed interest benefit as an investment expense.

#### Overtime Meals or Allowances

#### *Implication for RMZ*

The cost of these overtime meals is deductible at 50%, consistent with all other types of meals. We have assumed that these costs are already included in the meals expense recorded in the financial statements.

*Implication for the Employee*

If overtime meals are provided or an allowance is given for overtime meals, there is no taxable benefit if all the following conditions apply:

- The allowance, or the cost of the meal, is reasonable.
- The employee works two or more hours of overtime right before or right after their scheduled hours of work.
- The overtime is not frequent and is occasional in nature (usually less than three times a week).

The provision of the overtime meals will not be a taxable benefit for Carole due to the following:

- The allowance is reasonable, since \$20 appears to be a reasonable amount.
- It is the case that Carole must work at least two hours or more of overtime.
- It appears that the overtime is infrequent.

Fitness Club Memberships*Implication for RMZ*

Fitness club memberships are not deductible under the Income Tax Act and, therefore, are added back in calculating net income for tax purposes.

*Implication for the Employee*

Generally, since the club dues are incurred as a benefit for the employee, they would be a taxable benefit for Carole.

For Assessment Opportunity #11 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate attempts to discuss the tax consequences of the employee benefits.

**Competent** – The candidate discusses the tax consequences of the employee benefits to both the employer and the employee.

**Competent with distinction** – The candidate discusses in depth the tax consequences of the employee benefits to both the employer and the employee.



**Assessment Opportunity #12**

The candidate assesses whether the data available for capital assets meets the tax compliance requirements and recommends improvements to the system.

*The candidate demonstrates DEPTH in the Taxation role.*

CPA Map Technical Competency:		Core	E4 TAX
6.1.2	Assesses reporting systems, data requirements, and business processes to support reliable tax compliance	B	A

**CPA Map Enabling Competencies:**

- 2.1.1.1 Obtains an initial understanding of the problem and its context
- 2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis
- 2.1.1.3 Exercises judgment in determining whether an issue requires attention
- 2.1.1.4 Differentiates problems having a single viable solution/conclusion from problems having multiple potentially viable solutions/conclusions
- 2.1.2.1 Identifies the purpose and type(s) of information to be gathered
- 2.1.2.2 Uses appropriate methods to gather or develop relevant information
- 2.1.2.3 Verifies/corroborates/tests information and evaluates the quality of information sources, as needed, to satisfy the purpose of the analysis
- 2.1.3.3 Uses information technology to support and improve analysis
- 2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis
- 2.1.5.3 Develops implementation plans for recommendation(s)
- 2.1.6.2 Uses brainstorming or other techniques to search for alternatives, issues, perspectives, and implications not already identified

RMZ keeps track of its equipment using a spreadsheet. When new equipment is purchased that is capitalized for accounting purposes, it is entered into the spreadsheet. A sequential ID number is linked to the equipment, along with a description of the equipment, the supplier name, invoice number, date of purchase, amount of purchase, depreciation method, annual depreciation amount, and accumulated depreciation.

From an income tax perspective, the corporation requires information that will help it to prepare the Schedule 8 of the T2 Corporation Income Tax Return, as well as to calculate any gains or losses at the time of disposition.

**Additions During the Year**

RMZ appears to only track items that are capitalized for accounting purposes. However, it also needs to track items that were expensed for accounting purposes but are capital for income tax purposes, such as software, since they will need to be included in the CCA calculations. It is unclear where these details are currently accumulated.

In addition, in order to claim CCA, it is important to know not only when an asset is acquired, but also when it has become available for use, so this information should be tracked.

It is also important to know whether the assets have been acquired from related parties, since adjustments to their costs for tax purposes may be required as a result.

### **Type and Usage of Assets**

The type of tools needs to be tracked in detail, since small tools are placed in a different CCA class than large tools.

Assets used for different purposes have different treatments. For example:

- Assets used in R&D may have different CCA classes and may have implications for the SR&ED program, and should be separately identified.
- Assets used in rental operations are subject to CCA limitations.
- Certain buildings used in manufacturing and processing activities are eligible for a higher rate of CCA.

These types of assets are treated differently than other administration assets, so an additional field should be created that tracks the activity that uses each asset.

The department, location, and use of the assets should be tracked. The worksheet does not keep track of where or how the equipment is being used and should be modified to include this information.

### **Specific Identification**

Where applicable, the serial number and model numbers should also be tracked. This will make it easier to keep track of each asset. This is necessary for income tax purposes so that we can correctly dispose of an asset and identify the correct original cost for that particular asset.

This is particularly important when there is more than one asset of the same type. For example, if there are 10 heat sealers from AGA Manufacturing Equipment that all have different original costs, it is necessary to be able to specifically identify each of the 10 separately so when one is disposed of it is possible to find the correct original cost and date of purchase.

We see that an ID number is given to each new addition in the list, but is this ID number attached to the equipment in any way to be able to track where it is? There is no indication that this has been done. If the ID number is not attached to a piece of equipment and RMZ has more than one of that type of equipment, the particular asset that has been disposed of and what its original cost was cannot be properly tracked. Each asset should have a tag with a unique ID number that matches the system so that when it is disposed of, the correct information on that asset can be readily found.

## **Tax Categorization**

The specific CCA pool used for the addition should also be noted so that the assets can be added to the proper classes and removed from them as well.

While this was not obvious from the tracking system extract, it appears that investment property is being tracked as a single asset based on the capital asset continuity provided for 2020. Even if this is correct for financial accounting purposes, for tax purposes investment property is not treated differently from other capital and depreciable assets (as discussed earlier). Accordingly, the land and building should be tracked separately in the system, so that the building can be depreciated and capital gains/losses can be calculated correctly on eventual sale.

## **Disposals**

There is no information on disposals. For income tax purposes, when an asset is disposed of, it is necessary to have the date of disposition, the reason for the disposal, the amount of proceeds received on disposal, and the gain or loss realized on the sale for accounting purposes (in order to reverse it in the calculation of net income for income tax purposes). RMZ should institute a process whereby disposals are properly noted in the tracking report.

## **Depreciation**

The total depreciation recognized for each specific year must also be known. This is an adjustment that is made to calculate the net income for tax purposes and often might be buried in a variety of different places (i.e., cost of goods sold, selling, R&D, administration costs). Currently, a generic annual depreciation is tracked, which may not be sufficient.

## **Impairment Losses**

Any impairment losses that have been recognized against the asset should also be tracked, as such losses may obscure the initial cost when dealing with an eventual disposal. This would also be another add-back required in the calculation of net income for tax purposes.

## **Repairs and Maintenance**

There should also be a detailed list of repairs and maintenance to ensure that an item was not mistakenly expensed when it should have been treated as capital for income tax purposes. The treatment of expense versus capital for income tax purposes is not always the same as for financial reporting, especially if a materiality threshold has been applied for financial reporting. This may be available in an existing general ledger account, but we should confirm.

## **Recommendation**

RMZ should consider using a more sophisticated software that is tied to the accounts payable system to track additions. With the Excel worksheet, there is a high risk that something will be missed due to the manual nature of the process. The new system should incorporate all the suggestions identified above.

For Assessment Opportunity #12 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate identifies some weaknesses of the current capital asset system from an income tax compliance perspective.

**Competent** – The candidate discusses some weaknesses of the current capital asset system from an income tax compliance perspective.

**Competent with distinction** – The candidate discusses several weaknesses of the current capital asset system from an income tax compliance perspective and provides an overall recommendation.

### Assessment Opportunity #13

The candidate discusses the tax issues related to being a public versus a private corporation and applies this information to RMZ.

*The candidate demonstrates DEPTH in the Taxation role.*

CPA Map Technical Competencies:		Core	E4 TAX
6.2.1	Evaluates general tax issues for a corporate entity	B	A
6.2.2	Advises on taxes payable for a corporation	B	A
6.3.2	Evaluates income taxes payable for an individual	B	A
6.3.3	Analyzes specific tax-planning opportunities for individuals	B	B

### CPA Map Enabling Competencies:

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.2.2 Uses appropriate methods to gather or develop relevant information*

RMZ is a private corporation that is not controlled by non-residents (Francine is a Canadian resident and owns a majority share in RMZ) and is, therefore, a CCPC. If RMZ goes public, it will cease to be a CCPC.

## Characteristics of a CCPC

### Small Business Deduction

CCPCs are eligible for the SBD up to the small business limit of \$500,000, which is not available to public corporations. This means that RMZ could save up to \$95,000 ( $19\% \times \$500,000$ ) in income taxes payable. This must be shared across associated corporations.

However, in this case, RMZ's taxable capital is too high to be eligible for the SBD on its taxable income, so if it became a publicly traded corporation, there would be no change in this aspect.

### Immediate Expensing of Assets

From April 19, 2021, CCPCs are eligible to immediately expense up to \$1.5 million per year of asset additions in most CCA classes, rather than being required to add them to CCA classes and claim CCA on them over time. Losing access to this deduction could lead to significantly higher taxes if RMZ were to go public.

*Note: This provision was not substantively enacted at December 31, 2020, so is not expected of candidates. However, those who provided this relevant discussion received credit for it, as candidates are always permitted to apply new legislation should they choose to do so.*

### Capital Dividend Account (CDA)

A CCPC also accumulates a CDA that includes the non-taxable portion of capital gains (and other amounts), which may be paid out as dividends on a tax-free basis. The CDA at the end of December 2020 is as follows:

Opening balance	\$ 568,000
Add 50% (non-taxable portion) of capital gain in 2020	<u>31,115</u>
Closing balance	<u><u>\$ 599,115</u></u>

Therefore, RMZ could, as a CCPC, pay total dividends of \$599,115 out of its CDA, and these would be received tax free by the shareholders.

If RMZ did not pay the balance in the CDA before going public, the balance would be lost. If it were to go public, we would recommend paying out non-taxable dividends from the CDA before doing so.

### SR&ED ITCs

CCPCs can be eligible for preferential treatment with respect to SR&ED ITCs. The rates used for the ITC can vary depending on the size of the corporation. For a small CCPC, the ITC rate is 35%, and on large CCPCs and public corporations, the ITC rate is 15%.

In the case of RMZ, the ITC related to the SR&ED is 15% because RMZ is a large CCPC. The ITCs are refundable only to CCPCs; non-CCPCs must wait until they have sufficient taxes payable to claim ITCs.

### Tax on Investment Income & RDTOH

Unlike public corporations, a CCPC must pay an additional refundable tax on investment income. This generally makes income tax rates on investment income earned in a CCPC higher than if an individual earned the income directly or if the income had been earned by a non-CCPC.

However, when the corporation distributes dividends, some of this tax is refunded. This is done under the RDTOH mechanism.

Dividend refunds can be received equal to 38 1/3% of dividends paid. The RDTOH accounts are not available to public corporations and would be lost at the time RMZ went public.

As with CDA, we recommend paying out dividends other than eligible dividends equal to the NERDTOH balance of \$42,257 divided by 38 1/3%, or \$110,236, before going public.

### Part IV Tax

All private corporations (including CCPCs) are subject to Part IV tax on dividends they receive from portfolio investments. CCPCs also pay Part IV tax on dividends from private corporations to which they are connected. This results in, effectively, the prepayment of income tax on dividends that are otherwise not taxable in the corporation.

Part IV tax is also added to the RDTOH accounts. Therefore, as long as RMZ pays sufficient dividends, the Part IV is refunded anyway.

Public corporations are not subject to Part IV tax.

### Lifetime Capital Gains Deduction

An individual shareholder can qualify for the lifetime capital gains deduction on the sale of qualified small business corporation (QSBC) shares. Part of the definition of QSBC shares requires that the corporation be a CCPC at the time the shares are sold. This is particularly important for Francine, as her shares will have appreciated in value from the time of incorporation.

If RMZ were to go public, planning should be undertaken to crystallize the capital gain inherent on Francine's shares as it is possible to make an election for a deemed disposition. Further analysis would be necessary at that time.

### Stock Options

Stock options granted by CCPCs are not taxed to the employee until they dispose of the shares, and have preferential access to the stock option deduction. In a public corporation, the individual is taxed on the benefit when the stock option is exercised and may (depending on the specific situation of the employer) lose access to the stock option deduction. Currently, RMZ has no stock options outstanding, so this may not make a difference.

On transition to a public corporation, any stock options retain the attributes in place when the options were granted.

#### Ability to Use Shares in Tax Planning

Securities (such as shares) that are listed on a designated stock exchange can be held in a RPP, RRIF, RRSP, RESP, RDSP, or TFSA. The shares of CCPCs may only be qualified for these types of investment vehicles in very limited circumstances.

#### General Rate Income Pool (GRIP) and Low-Rate Income Pool (LRIP)

CCPCs can only pay eligible dividends (which are taxed at a lower rate to individual shareholders who receive them) when they have a balance in the GRIP. Given that RMZ is not benefitting from the SBD due to its taxable capital, it probably has enough balance in its GRIP to pay eligible dividends. However, due to having aggregate investment income, it is possible that some dividends will be other than eligible dividends, which are taxed at a higher rate.

After the change of status to a public corporation, dividends will be eligible automatically. However, if any amount has accumulated in the LRIP, dividends other than eligible dividends must first be paid. After the LRIP pool (which is calculated at the time of changing status) has been exhausted, all future dividends will be eligible.

#### **Conclusion**

In terms of income tax, there are both advantages and disadvantages to CCPC status. If RMZ ever becomes a publicly traded entity, prior planning should be done to make use of the advantages before they are lost and to mitigate or eliminate any of the disadvantages.

For Assessment Opportunity #13 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not attain the standard of reaching competence.

**Reaching competence** – The candidate identifies some of the tax differences between CCPC and public corporation status.

**Competent** – The candidate discusses some of the tax differences between CCPC and public corporation status.

**Competent with distinction** – The candidate discusses several of the tax differences between CCPC and public corporation status.

**APPENDIX D**

**MAY 28, 2021 – DAY 3 SIMULATIONS,  
SOLUTIONS AND MARKING GUIDES**



**COMMON FINAL EXAMINATION  
MAY 28, 2021 – DAY 3**

**Case #1**

**(Suggested time: 85 minutes)**

Sally Byrd is the owner of Sally's Good Furniture (SGF), an Alberta-based furniture manufacturing and retail company. SGF's vision is for every home in Calgary to have access to affordable and distinctive furniture collections, rather than generic furniture typically sold at big box retailers. Sally believes in making SGF's collections accessible to all, in a customer-friendly manner that prioritizes customer service.

It is March 10, 2021, and Sally has hired you, CPA, to consult on several matters.

Sally has provided you with a costing data summary (Appendix I). SGF unintentionally accepted some unprofitable orders, and Sally wants you to assess the quality of data used in SGF's costing, and how it could be improved to help her decision-making.

She also asks you to assess whether the proposed technology solution is aligned with SGF's strategic direction (Appendix II).

SGF recently expanded and Sally is struggling to oversee certain processes (Appendix III). She asks you to discuss the internal control weaknesses, and provide recommendations for improvement.

New Era Furniture (NEF), an Ontario-based furniture retailer, approached SGF with a potential order (Appendix IV). Sally wants you to analyze whether SGF should accept the order, and if so, in total or in part. She also asks you to describe the decision factors to be considered, and make a recommendation.

Finally, SGF is considering purchasing Summer Living Inc. (SL), a British-Columbia-based furniture company. To assess whether the asking price of \$2.78 million is fair, Sally wants you to perform a capitalized earnings valuation. Sally's research determined that a business of this nature is typically valued using an after-tax-earnings multiple of 11. She would like you to explain the limitations of using this approach in this situation. Sally received an unaudited income statement from SL for the year ended December 31, 2020. In case SGF proceeds with the purchase, Sally wants you to suggest audit procedures that would be part of a due diligence for the areas of concern that she has noted (Appendix V).

## **APPENDIX I COSTING DATA SUMMARY**

Management uses SGF's software to automatically generate future manufacturing budgets. The software uses the following four main categories of costing data in its planning algorithm.

### **Direct Labour**

The labourers record the time they spend on each unit produced in the software; however, to not interrupt their work, they often wait until the end of the day, relying on their memory. Several years ago, to keep costs down, Sally instituted a bonus for the labourer with the lowest average time spent per unit.

### **Direct Materials**

As direct materials are used, labourers manually scan a barcode from a list of barcodes they keep at their workstation, and the software tracks what materials are used for what units.

### **Indirect Labour**

To allocate indirect labour, the software analyzes historical data and identifies a set of factors that correlates with the indirect labour used. Sally does not know how this works but is happy not to have to do it herself.

### **Indirect Materials**

The labourers say they use indirect materials, such as screws and nails, in roughly the same proportion, no matter what they are making. Sally is skeptical, but since the labourers seemed frustrated when she questioned them further, she did not press the issue. Therefore, SGF allocates indirect materials using direct labour hours at a rate of \$8.50 per labour hour.

## **APPENDIX II PROPOSED TECHNOLOGY SOLUTION**

Aleisha Ting, one of SGF's vice presidents, has put forth a proposed technology solution.

It includes the implementation of a new online platform to manage customer interactions. Currently, SGF spends significant resources dealing with customers in person and by phone. This new platform would automate customer requests using artificial intelligence. As a consequence, SGF would no longer employ a customer service team.

The solution also addresses what Aleisha believes is a slow and costly product design phase. SGF has specialty designers who create original furniture designs for each of its collections. However, new technology is available that automatically generates furniture designs using a simple set of inputs. For example, designers choose the type of furniture and material, and choose from a few generic style options. According to Aleisha, if SGF transitions to this new technology, the margins would increase significantly.

Aleisha also plans to implement a smart pricing system that would use an algorithm that evaluates external market data and internal product details, to set an optimal price for each product. Typically, SGF prices its furniture at what it thinks is reasonable in order to build its brand reputation. This new pricing system would allow SGF to extract maximum value from each transaction and identify high-margin products to promote. Aleisha's analysis supports that this new pricing system, paired with the design and customer service cost savings, could significantly increase SGF's margins.

### **APPENDIX III SGF PROCESSES**

SGF's software tracks the manufacturing and sale of inventory and is relied on for reporting and planning, which has saved the effort of manually tracking or counting inventory. However, SGF ran into trouble last year when it agreed to a bulk sale of tables that the software incorrectly showed as being in stock.

Sales representatives record the sales in the software, which automatically reduces inventory. They also collect payments. While most customers pay by credit card, SGF also accepts cash.

SGF allows its labourers to order directly from suppliers. If they stay within their monthly budget, no approvals are required. Sally has noted that many orders go through at the end of the month and sometimes include wood and materials that she does not recognize as being used in SGF products.

Supplies are stored in a secured room. Labourers and certain other staff have access cards for the room. Supplies sometimes go missing but Sally is unable to identify who took them.

Sally recently realized that the year-end cash balance in the general ledger was slightly different than on the bank statement. When she inquired, the bookkeeper told Sally not to worry, saying, "We don't bother reviewing the differences because they usually clear out shortly after year end."

**APPENDIX IV  
NEF ORDER**

NEF has offered to purchase the following pieces, all part of the same collection created by NEF, in separate orders:

<b>Order (s)</b>	<b>Quantity</b>	<b>Price</b>
Coffee tables	1,200	\$220
Dining tables	800	\$335
Dining chairs	1,500	\$145

NEF will only accept the exact quantity stated for each order but SGF has the option to fill one, two or all three orders. The designs for each are standard and generic, intended to be mass marketed in Ontario. SGF has one year in which to fill the order(s).

A condition of the offer is that all customer support will be provided by NEF. However, NEF will have the right to market itself as “an official SGF partner and seller of SGF furniture,” and to use the SGF trademark on all three products of the collection, regardless of the order(s) SGF decides to fill.

SGF’s labour costs are \$45 per hour without a rate increase for overtime hours, which is permitted by provincial regulations. SGF expects to incur 1.5 hours per coffee table, 2.5 hours per dining table and 1.0 hour per chair. For indirect labour, SGF’s software calculated a cost of \$12.60 per coffee table, \$15.80 per dining table and \$9.40 per chair.

SGF will use pine planks, and expects to use 4.5 planks per coffee table, 7.0 planks per dining table, and 2.5 planks per chair.

SGF has 400 planks of pine in inventory, purchased for \$19 each. SGF had planned to use these planks in upcoming regular orders but more planks can be ordered at a cost of \$22.50 each.

As SGF has some excess capacity, management believes this order can be filled. However, because there is a shortage of labourers, and it takes too long to train them, management does not want to hire additional labourers for this order. SGF employs 10 full-time labourers who work a standard 38 hours per week, 49 weeks a year. Their overtime is capped at six (6) hours per week per labourer. Some of the labourers have expressed their reluctance to work overtime hours. SGF’s current production requires 17,140 hours of labour per year.

**APPENDIX V**  
**INCOME STATEMENT**

*Summer Living Inc.*  
*Income Statement*  
*For the year ended December 31, 2020*  
*(Unaudited)*

		Note
Sales	\$ 2,480,000	
Cost of goods sold	1,642,000	
Gross margin	838,000	1
Salaries and wages	329,000	2
Fixed overhead	83,000	
Rent	26,000	3
Professional fees	10,000	
Other expenses	39,000	
Net income before tax	351,000	
Income tax	94,770	
Net income	\$ 256,230	

**Notes:**

1. In 2020, SL had a larger-than-normal sale with a gross margin of \$36,000, which is unlikely to recur.
2. Sally believes that SGF could save \$45,000 in management salaries through synergies between SGF and SL.
3. SL is renting its current space at a discount. After the purchase, Sally believes that rent would be \$30,000 for the year.

Sally is particularly concerned with whether:

- all the 2020 sales have actually occurred.
- there are any significant outstanding liabilities against SL.
- SL's inventory is correctly reported, and whether any items are obsolete and should be written off.

**MARKING GUIDE 3-1**  
**SALLY'S GOOD FURNITURE (SGF)**  
**ASSESSMENT OPPORTUNITIES**

**MEMO**

To: Sally Byrd  
 From: CPA, Consultant  
 Subject: Various Matters

**Assessment Opportunity #1 (Depth and Breadth Opportunity)**

The candidate assesses the quality of data used in SGF's costing and discusses how it can be improved.

*The candidate demonstrates competence in Management Accounting.*

**CPA Map Competencies (based on the 2019 CPA Competency Map):**

*Technical:*

*3.2.1 Develops or evaluates data and information inputs for operational plans, budgets, and forecasts (Core – Level A)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.3.3 Uses information technology to support and improve analysis*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

SGF's software uses four main categories of costing data to automatically generate manufacturing budgets. While some of the data appear to be from quality sources, there is serious concern about the accuracy and relevance of some of the data sets.

**1. Direct Labour**

To create future budgets, SGF's software uses the inputted hours of its labourers to track historical direct labour usage. However, while time tracked by staff is a typical data source, there seem to be significant issues with the quality of this data:

- Labourers often do not enter their data until the end of the day to avoid disrupting their work. They could be tracking their hours inaccurately since they are going from memory.

- You have incentivized the labourers by providing a bonus to the labourer with the lowest average time spent per unit. Although this incentive may reduce costs, it risks compromising data quality since labourers may be motivated to manipulate their reported hours to be less than actual. The likelihood of this happening depends on the size of the bonus.

### Recommendation

One way to ensure the labourers enter all the hours worked on each piece of furniture would be to compare the number of hours spent working on furniture in a day to the number of hours paid to each labourer and confirm they add up. Some downtime for meetings and other general tasks may need to be considered. Having such a comparison would confirm that all hours worked on furniture are recorded by the labourers and, therefore, would ensure the data used by the software are of good quality.

In addition, you could use the barcode-scanning feature already in place in SGF's software. Labourers could "scan in" the furniture when they start working on it and "scan out" when they are done. This would result in much more accurate and relevant data on labour hours per unit without significantly disrupting their work.

Also, you should review the bonus structure so that it is aligned with SGF's best interests. For example, the quality of each piece produced should be taken into account, so that the emphasis is removed from the speed at which the piece was produced and placed on quality. Part of the bonus could also be linked to the accuracy of the time tracking done by the employee, to encourage them to diligently track their time.

## **2. Direct Materials**

You appear to use a sophisticated system to source data for the cost of direct materials. Labourers scan the materials they use and match them to the unit they are working on, providing precise data on what material was used for what units. In theory, this is a strong data set.

It does, however, have limitations and weaknesses. The data are reliant on a human scanning the materials. Since the barcode is not taken directly from the material, but rather from a list of barcodes the labourers keep at their workstations, there is a risk that the barcode scanned is not the one related to the material used. There does not appear to be any validation of the data after scanning.



### Recommendation

While this issue applies to all data sets you use, you should consider implementing a “data review” step to review the materials data for any gaps or anomalies. For example, if a labourer forgets to scan in materials, their units would show no wood being used, which would be a clear anomaly. Another solution could be to have an inventory clerk at the warehouse scan each material before handing it out to the labourers. It would serve as a control in the process and ensure better-quality data are used.

It is unclear whether there is excess material from each unit produced and whether it is significant enough to be worth tracking. Also, if there is excess material, it is unclear what is being done with it (e.g., returned to the inventory, used in the next unit, etc.). If the amount of excess material is significant, it would be worth tracking it to improve the accuracy of the cost of direct materials per unit.

### **3. Indirect Labour**

The indirect labour data appears to be created from a compilation of historical data that is analyzed for statistical correlation. Again, in theory, this appears to be a valid approach to collecting the data set in order to produce data that are accurate and relevant.

It does, again, have limitations and weaknesses. SGF is reliant on the program’s algorithm and, if SGF management does not review the algorithm, they may not understand the underlying correlation or meaning of the data. You stated that you do not know how it works. While the software is able to use the data in its current environment to produce budgets, what happens if a significant change occurs that does not fit with its algorithm? In addition, the algorithm may have made some incorrect assumptions, or it may just contain programming errors, so SGF may be relying on incorrect data.

### Recommendation

Management needs to understand the algorithm, use discretion as to what data are input for this component, and, in exceptional circumstances, be able to manually update or change the drivers the software is using to collect costing data.

### **4. Indirect Materials**

As discussed above, the collection of direct labour hour data appears to be flawed. The software simply uses a straight-line correlation with direct labour hours to impute indirect material usage data. For the same reasons stated related to direct labour hours, as well as the likelihood there are different factors to consider when determining usage of indirect materials, the indirect material data are likely not accurate.

### Recommendation

You should consider using a process similar to that for indirect labour to identify the relevant correlations of indirect material so SGF can source more accurate data on indirect material usage. Further, while it is likely too cumbersome to track indirect materials such as nails and screws, SGF could analyze select pieces of furniture on a sample basis to determine the extent of indirect materials usage and corroborate it against the software-created data to assess the software's data accuracy.

For Assessment Opportunity #1 (Management Accounting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to assess the quality of data used in SGF's costing.

**Competent** – The candidate assesses the quality of data used in SGF's costing and discusses how it can be improved.

**Competent with distinction** – The candidate thoroughly assesses the quality of data used in SGF's costing and discusses how it can be improved.

### **Assessment Opportunity #2 (Breadth Opportunity)**

The candidate provides an analysis of the proposed technology solution to assess whether it is strategically aligned.

*The candidate demonstrates competence in Strategy and Governance.*

**CPA Map Competencies:***Technical:*

*2.2.1 Assesses whether management decisions align with the entity’s mission, vision, and values (Core – Level B)*

*Enabling:*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

*2.1.5.3 Develops implementation plans for recommendation(s)*

*2.1.6.2 Uses brainstorming or other techniques to search for alternatives, issues, perspectives, and implications not already identified*

Aleisha, a VP at SGF, has proposed a technology solution. However, the proposed plan appears to significantly conflict with SGF’s vision and values since it appears to be exclusively focused on improving profit margins.

**Customer Interaction**

The first component of the plan is automated customer service. Aleisha believes introducing this will free up time and save customer service employee costs. Having customer service available online will meet your objective of having the collections accessible to all, since customers will not need to go to a store in person to make customer service requests.

However, there are a few areas of concern. First, friendly customer service appears to be a core value of SGF. This may be compromised by providing an impersonal algorithmic response.

Further, it is unclear how automated customer service could handle all customer inquiries. While basic inquiries may be fine, more complex inquiries, or customers simply demanding to talk to a person, could result in lost customers.

If this plan goes forward, I recommend that the artificial intelligence platform for customer service be limited to “front-line” duty, while customer service staff remain behind the scenes to talk to any customers who want personal service or require more specific information. This could reduce customer service costs while partially automating the process.

## **Design Phase**

The second component of the plan is a restructuring of SGF's product design phase. Aleisha wants to transition from a fully manual specialist design process to a primarily automated design system. This new system would allow designers to choose from a few generic style options, materials, and colours to automatically generate designs.

Again, this appears to be a cost-saving measure, since Aleisha believes it will significantly increase SGF's margins. However, this design process would likely significantly affect how distinctive SGF's collections are. SGF's vision is to provide customers with access to affordable and distinctive furniture collections. So far, it appears the designers have worked to meet this standard. However, the proposed change in the design phase would limit creativity and make the furniture less distinctive. Under this approach, SGF would start producing and selling more generic furniture, like the big-box retailers you do not want it to be. In addition, SGF would not have the volume to realize economies of scale that would allow it to compete successfully with big box retailers. Finally, eliminating the creativity the designers are currently allowed to practise may result in some designers leaving SGF.

SGF could consider partially implementing this technology for basic items or use it as a starting point only for future collection designs. In either scenario, however, SGF's primary focus should be on the distinctive designs that meet its vision and values. This technology is not in line with SGF's vision and values.

## **Pricing System**

Lastly, the plan proposes to implement a "smart pricing" system. The system would use an algorithm that evaluates external market and internal product details to generate an optimal price for each product. It appears that currently SGF manually sets prices at what management believes is reasonable in order to build the brand's reputation.

There are several considerations for this system. First, there are benefits to analyzing internal and external data to determine an optimal price. Since you want SGF's products to be affordable and its prices to be reasonable to build strong customer relationships, it would be beneficial to use internal and external data to support pricing decisions. Optimal pricing would help identify products that could be priced more affordably than management's current pricing.

However, there is a risk of becoming overly reliant on the pricing system. It appears this system would identify high-margin products to promote. It would be easy for SGF to lose focus of its values and start selling products at higher prices due to the short-term financial benefit.

There are benefits to the smart pricing system, as indicated by the VP's analysis, which supports the hypothesis that margins could significantly improve when paired with the design and customer-service cost savings. However, if SGF were to implement it, the smart pricing system should not be the only part of the price-setting phase. You or SGF management should review proposed pricing, gain insights from the data analysis, and then compare the proposed price to the initial price point. A price should be picked based on a balance between the optimal pricing and SGF's strategic price to allow the product to be affordable to customers and build brand reputation. Also, given some of the data integrity issues outlined in the previous discussion, the processes for inputting data would have to be changed to ensure the data are more robust before it can be relied upon.

### Conclusion

In conclusion, there are significant pros and cons to each element of the technology solution. I would not recommend accepting the plan without adjustments because there are significant conflicts with SGF's vision. SGF could phase in certain elements of the plan, as described in this discussion, so that the company benefits from automation and new "smart" technology, but you should not let the technology automate SGF's entire processes, so that management retains strategic control over operations.

For Assessment Opportunity #2 (Strategy and Governance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate discusses a few strategic aspects of the technology solution.

**Competent** – The candidate discusses some strategic aspects of the technology solution.

**Competent with distinction** – The candidate discusses several strategic aspects of the technology solution.

### Assessment Opportunity #3 (Breadth Opportunity)

The candidate discusses SGF's internal control weaknesses and recommends improvements.

*The candidate demonstrates competence in Audit and Assurance.*

**CPA Map Competencies:***Technical:*

4.1.1 Assesses the entity's risk assessment processes (Core – Level A)

4.1.2 Evaluates the information system, including the related processes, using knowledge of data requirements and risk exposures (Core – Level B)

*Enabling:*

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis

2.1.1.3 Exercises judgment in determining whether an issue requires attention

2.1.4.1 Explores potentially viable solutions or conclusions

2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences

2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives

2.1.5.3 Develops implementation plans for recommendation(s)

As SGF's operations continue to expand, there are several areas where control weaknesses exist.

**Inventory**

*Weakness:* Currently, it appears SGF relies entirely on its software to keep records and track its inventory. SGF does not appear to perform any inventory counts or other controls regarding inventory, since you state that SGF has "saved the effort of manually tracking or counting inventory."

*Implication:* Without any other controls surrounding inventory records, if an error is made along the way, it can lead to erroneous operating decisions (e.g., agreeing to a sale when items are not in stock) that could be costly to SGF (e.g., lost sales, damaged relationships, etc.). It can also lead to erroneous financial reporting.

*Recommendation:* SGF should immediately implement an inventory count procedure where, annually or semi-annually, the company reconciles actual inventory on hand to inventory records in the system. Management should also investigate why SGF's software records did not match its actual inventory to identify whether there is an issue with the software's recording of inventory sales and creation.

**Sales Cash Collection**

*Weakness:* Currently, SGF sales representatives are responsible for recording sales in the software, which automatically records the reduction in inventory, and for collecting payments. The company allows cash payments. It does not appear there are any controls to prevent the misappropriation of cash received.

*Implication:* Without any controls, sales representatives could collect cash and give the inventory to the customer, but not record the sale or the reduction in inventory. Sales representatives could, accordingly, steal the cash, and the theft would be difficult to identify. In fact, this appears to have occurred in the previous year, with the bulk sale of inventory that was not in stock, although the software indicated it was.

*Recommendation:* SGF should segregate the duties of cash collection and inventory recording. A warehouse or other staff member should distribute and record inventory for all sales, especially cash sales. Then, daily or weekly, these inventory records could be reconciled to sales records, which could then be reconciled to cash and credit card sales reports. You should also consider ceasing the practice of accepting cash, which inherently has a higher risk of theft.

### **Supplies Purchases**

*Weakness:* SGF allows its labourers to make supply orders within a monthly budget. There is no oversight or authorization that occurs if the labourers stay within their budget. You have noticed that many orders are going through at the end of the month and that wood products and other materials you do not recognize are being ordered.

*Implication:* SGF's labourers could be ordering supplies directly from suppliers through their SGF budget for personal use, since there is no oversight over what they purchase. Accordingly, SGF will be losing money on these personal, non-business orders. In addition, since the labourers are given a monthly budget, they could be ordering a lot at the end of the month when they have budget leftover in fear of not having sufficient budget in future busier months, which has a negative impact on cash flows.

*Recommendation:* SGF needs to implement an ordering authorization process and should lower the monthly budget and per-order dollar amounts for which labourers can make orders without requiring an authorization. These orders should also be limited to common wood products and materials. Any orders above a significant dollar threshold, above monthly budget, or for speciality or unique wood products should require approval from you or senior management.

### **Supplies Storage**

*Weakness:* To control access to supply inventory on hand, SGF provides labourers and select staff with access cards to prevent unauthorized access to the supply room. However, when supplies go missing, you are unable to identify who took them because there does not appear to be any monitoring or record-keeping system in place.

*Implication:* Without a monitoring or record-keeping system, SGF could end up paying for excess supplies that go missing due to theft.

*Recommendation:* SGF can implement several measures. First, a camera system would allow you to identify who entered and exited the supply room with what material. Second, you could implement a detailed record-keeping system that requires staff to log inventory in and out, using their access card to identify them (to prevent fraudulent recording of who took out supplies). A reconciliation could be done between this log and the material used for each unit produced. With these measures, you should be able to identify exactly who took out inventory when and for what project, thereby preventing employees from stealing supplies. As previously mentioned, an alternative would be to have an inventory clerk at the warehouse who would scan each piece of material before handing it out to the labourers, who would enter the warehouse using their access cards. It would serve as a control in the process and ensure better quality of data.

### **Bank Reconciliation**

*Weakness:* It appears the year-end cash balance in the general ledger was slightly different than on the bank statement. While this is expected, it does not appear SGF has any process to reconcile these differences.

*Implication:* While the differences may be due to normal timing delays, without a reconciliation process there could be differences due to error or fraud that are going undetected. Undetected errors and fraud related to bank transactions could result in erroneous financial reporting and the misappropriation of cash.

*Recommendation:* SGF should implement a weekly or monthly bank reconciliation process immediately. All differences between bank statements and cash ledger balances should be investigated and explained to identify whether any instances of error or fraud have occurred. The reconciliation process should be prepared and reviewed by separate parties.

For Assessment Opportunity #3 (Audit and Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate identifies some of SGF's control weaknesses and provides some recommendations for improvements.

**Competent** – The candidate discusses some of SGF's control weaknesses and provides some recommendations for improvements.

**Competent with distinction** – The candidate discusses several of SGF's control weaknesses and provides recommendations for improvements.



**Assessment Opportunity #4 (Depth and Breadth Opportunity)**

The candidate quantitatively assesses the NEF order.

*The candidate demonstrates competence in Management Accounting.*

**CPA Map Competencies:**

*Technical:*

*3.2.2 Prepares, analyzes, or evaluates operational plans, budgets, and forecasts (Core – Level A)*

*3.5.2 Evaluates sustainable profit maximization and capacity management performance (Core – Level A)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

In considering whether to accept the whole NEF order or some combination of the three individual orders, we must consider that there appears to be a constrained resource of labour hours:

**Capacity (in hours)**

	<u>Hours</u>	<u>Labourers</u>	<u>Weeks</u>	<u>Total</u>	
Regular	38	10	49	18,620	A
Overtime	6	10	49	2,940	
Total capacity				21,560	
Current hours in production				17,140	B
Available for NEF order				4,420	C
Available regular time (A-B= 18,620 – 17,140)				1,480	D
Available overtime (C-D= 4,420 – 1,480)				2,940	

Accordingly, we have access to only 4,420 extra labour hours, 2,940 of which are overtime hours. We can calculate how many labour hours the entire NEF order requires:

	<b>Coffee Tables</b>	<b>Dining Tables</b>	<b>Dining Chairs</b>	<b>Total</b>
Labour hours	1.5	2.5	1.0	
Number of units	1,200	800	1,500	
Total labour hours	<u>1,800</u>	<u>2,000</u>	<u>1,500</u>	<u>5,300</u>

Accordingly, SGF does not have enough labour hours to meet the entire NEF order. The order exceeds SGF's capacity by 880 (5,300 – 4,420). However, SGF could fill two of the orders. Therefore, the two orders with the highest total margin should be selected.

Since NEF will only accept the exact quantity stated for each order, the contribution margin per unit or per labour hour will not be helpful. We must look at the total contribution of each order to assess which ones are the most profitable.

	<b>Coffee Tables</b>	<b>Dining Tables</b>	<b>Dining Chairs</b>
Labour hours	1.5	2.5	1.0
Labour hourly rate	\$45	\$45	\$45
Labour unit cost	<u>\$67.50</u>	<u>\$112.50</u>	<u>\$45.00</u>
Pine planks	4.5	7.0	2.5
Pine planks cost (Note 1)	\$22.50	\$22.50	\$22.50
Pine planks unit cost	<u>\$101.25</u>	<u>\$157.50</u>	<u>\$56.25</u>
Indirect labour (Note 2)	\$12.60	\$15.80	\$9.40
Indirect materials (\$8.50 per direct labour hour) (Note 2)	<u>\$12.75</u>	<u>\$21.25</u>	<u>\$8.50</u>
Cost per unit	\$194.10	\$307.05	\$119.15
Price	\$220.00	\$335.00	\$145.00
Contribution margin per unit	<u>\$25.90</u>	<u>\$27.95</u>	<u>\$25.85</u>
Number of units per order	<u>1,200</u>	<u>800</u>	<u>1,500</u>
Total contribution margin	<u>\$31,080</u>	<u>\$22,360</u>	<u>\$38,775</u>

**Notes:**

1. Since the inventory in stock is intended for upcoming regular orders, SGF will have to order more planks. Accordingly, the marginal cost of accepting the order should be based on the new cost.
2. The allocations used are the ones currently calculated by the software. Given our comments in a previous discussion about the quality of the data used, these could change.

Per the analysis above, SGF should choose the coffee table order (which would require 1,800 direct labour hours) and the dining chairs order (which would require 1,500 direct labour hours) to maximize profits. This is all that can be done with the constraint on direct labour hours of 4,420 hours. The total incremental profit of choosing these two orders would be \$69,855.

For Assessment Opportunity #4 (Management Accounting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to prepare a quantitative analysis of the NEF order.

**Competent** – The candidate prepares a quantitative analysis of the NEF order.

**Competent with distinction** – The candidate prepares a thorough quantitative analysis of the NEF order.

**Assessment Opportunity #5 (Breadth Opportunity)**

The candidate discusses the qualitative decision factors for the NEF order and provides a recommendation.

*The candidate demonstrates competence in Strategy and Governance.*

**CPA Map Competencies:***Technical:*

2.1.1 Evaluates the entity's governance structure (policies, processes, codes) (Core – Level B)

2.2.1 Assesses whether management decisions align with the entity's mission, vision, and values (Core – Level B)

*Enabling:*

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors

2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences

2.1.4.3 Considers alternative interpretations of quantitative and qualitative information

2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications

While the order appears to provide positive financial benefit to SGF, there are several qualitative considerations we must consider.

**SGF Brand and Reputation**

If SGF opts to fulfill one or two orders, the remaining order(s) will likely be manufactured by a third party, but SGF's name and brand will still be attached to the product. There is a risk that the public would perceive SGF as responsible for any defects or flaws in the furniture built by another firm, especially since every item would be part of the same collection. Without the ability to perform quality control on the work being done by the third party, this presents a significant reputational risk for SGF.

**Overtime**

You may decide you do not want SGF to use overtime hours. It appears to be a sensitive issue, since some labourers are reluctant to work overtime, presumably because SGF does not pay a higher rate for overtime. Accordingly, while more investigation is required, imposing significant overtime on the labourers for the remainder of the year could cause significant employee-employer relationship strain and potentially cause labourers to quit or seriously damage employee morale. This turnover could prove very costly, especially considering the lack of labour in the industry.

SGF has the option to complete just the dining chair order (1,500 hours compared to 1,480 regular hours available) and use only 20 overtime hours. The coffee table order would require 320 overtime hours (1,800 hours compared to 1,480 regular hours available), which is more than for the chairs, and it has a lower contribution. The dining table order alone would require the most overtime, with 520 overtime hours (2,000 hours compared to 1,480 regular hours available), and it provides the lowest contribution. The dining chair order is the one that would be the most palatable for workers and the better option since it provides the highest total contribution.

## SGF Vision & Values

While profitable, the NEF order potentially conflicts with SGF’s vision and values.

- SGF’s vision is to provide affordable and distinctive furniture collections. SGF has created its brand around this vision. The pieces of furniture proposed for NEF appear to be generic and intended for mass marketing, going against SGF’s values and potentially damaging its brand reputation. This could be mitigated by offering the products under a different brand name to differentiate from SGF’s distinctive furniture.
- NEF will provide all customer support. SGF values strong customer relationships. Not being able to provide this customer service for SGF products goes against its values.
- Once NEF has purchased the furniture, it will brand itself as “an official SGF partner and seller of SGF furniture.” Again, acting/selling as a generic mass market retailer could damage SGF’s brand reputation.

## Other

SGF is based in Alberta, and the NEF order would target the Ontario market. This order would provide SGF with exposure to a new market and could open doors for future opportunities.

## Recommendation

Overall, SGF should not accept NEF’s order as is. You should first evaluate how significant the impact of necessary overtime will be on the workforce. You should also renegotiate with NEF on the “strategic” terms of the deal (e.g., retain customer service, not allow NEF to market itself as an official SGF partner, etc.). Since the order goes against SGF’s vision, you must evaluate whether the additional profits are worth straying from the company’s current vision and values.

For Assessment Opportunity #5 (Strategy and Governance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate identifies some of the qualitative factors related to the NEF order.

**Competent** – The candidate discusses some of the qualitative factors related to the NEF order and provides a recommendation.

**Competent with distinction** – The candidate discusses several of the qualitative factors related to the NEF order and provides a recommendation.

**Assessment Opportunity #6 (Breadth Opportunity)**

The candidate performs a valuation of SL, assesses whether the purchase price is fair, and discusses the limitations of the capitalized earnings approach in this particular situation.

*The candidate demonstrates competence in Finance.*

**CPA Map Competencies:**

*Technical:*

*5.4.2 Applies appropriate methods to estimate the value of a business (Core – Level B)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.7 Explicitly articulates and justifies assumptions*

*2.1.5.2 Determines whether the information collected and the work performed are sufficient to support conclusions*

To calculate the value using the capitalized earnings approach, the net income needs to be normalized. Therefore, the gross margin of the larger-than-normal sale needs to be removed from income, and the discount on the rent also needs to be taken out. Lastly, the salary savings that would be achieved need to be taken into account since they influence the value SL has to SGF.

Using the capitalized earnings valuation approach, we can calculate the following value of SL using the 2020 financial information provided:

Net income	\$ 256,230
Income tax	94,770
Net income before tax	<u>351,000</u>
<i>Normalizing Adjustments</i>	
Gross margin – one-time sale	(36,000)
Saved salary	45,000
Additional rent expense	<u>(4,000)</u>
Normalized net income before tax	356,000
Tax (at 27%)	<u>(96,120)</u>
Normalized net income after tax	<u>\$ 259,880</u>
Value (using multiplier of 11)	\$ 2,858,680

The value is higher than the asking price of \$2.78 million by about \$70,000. While this indicates the purchase price would be fair for SL, \$70,000 is a very small difference when compared to the asking price. Given the limitations discussed below, we advise gathering more information to make an informed decision.

### **Limitations of the Capitalized Earnings Approach in this Situation**

The use of the capitalized earnings valuation is limited in this situation because it relies on only one year of data and assumes that this level of income will continue. While we have adjusted for an irregular sale, it is unlikely that sales will remain perfectly stable and at these 2020 levels. We should determine if the level of income is “normal” or if 2020 was an exceptional year. Otherwise, the calculated value may not reflect SL’s future earning ability.

The calculation comprises key estimates and assumptions. For example, you assume there will be savings on the management salaries due to synergies between SGF and SL. The increase to \$30,000 in rent expense is also an estimation of what the rent would be without the discount. Changes in these assumptions could result in a significantly different valuation.

The calculation uses an earnings multiple of 11. If this is not an appropriate multiple for SL (e.g., the multiple is based on larger or smaller companies, companies with more or less future growth, a different geographic region, etc.), the valuation could be incorrect.

If SGF can obtain the appropriate forecasts, a preferable approach for valuing SL would be the discounted cash flow approach. This approach considers SL’s forecast cash flows and, therefore, better reflects its future earning potential.

For Assessment Opportunity #6 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to prepare a valuation of SL.

**Competent** – The candidate prepares a valuation of SL, compares it with the asking price, and attempts to discuss the limitations of the capitalized earnings approach in this particular situation.

**Competent with distinction** – The candidate prepares a valuation of SL, compares it with the asking price, and discusses the limitations of the capitalized earnings approach in this particular situation.

**Assessment Opportunity #7 (Breadth Opportunity)**

The candidate provides audit procedures that would be part of a due diligence for the three areas of concern (SL purchase).

*The candidate demonstrates competence in Audit and Assurance.*

**CPA Map Competencies:**

*Technical:*

*4.3.6 Develops appropriate procedures, including Audit Data Analytics (ADA), based on the identified risk of material misstatement (Core – Level B)*

*Enabling:*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.2.2 Uses appropriate methods to gather or develop relevant information*

*2.1.2.3 Verifies/corroborates/tests information and evaluates the quality of information sources, as needed, to satisfy the purpose of the analysis*

*2.1.2.4 Gathers additional relevant information, as needed, to explore unexpected or inconsistent findings*

*2.1.5.2 Determines whether the information collected and the work performed are sufficient to support conclusions*

You asked for due diligence audit procedures over several areas of concerns with the acquisition and valuation of SL.

**Revenue**

You are concerned about whether all the 2020 revenue occurred. The following procedures could be performed:

- Obtain a revenue listing from SL and, on a sample basis, select revenue entries to agree to cash collection, invoices, and shipping documents to substantiate the sales occurred.
- Using a revenue listing covering the end of 2020 and beginning of 2021, perform the same testing as above over sales occurring at the end of 2020 and beginning of 2021 to substantiate that they occurred in the correct period (cut-off). Also, this procedure should be performed for the beginning of 2020 and end of 2019 to substantiate that beginning-of-year revenues have been reported in the correct period as well.
- If you are concerned that SL is fabricating some of its sales, you could ask permission to contact a sample of SL's customers to confirm the sales occurred, at the stated amounts, and that the customers are not related parties who entered into related-party transactions to boost 2020 sales.
- Obtain an understanding of SL's revenue recognition policy to ensure SGF is aware of the choices made by SL, and while performing the above procedures, ensure the revenue is recognized according to the policy and relevant financial reporting standards.



- Select a sample of returns from the source documents (e.g., return slips) from the month prior to year end and ensure that items that have been returned have been deducted from revenue. Also, select a sample of returns after year end from the general ledger and ensure that the provision made for returns at year end was sufficient.

### **Outstanding Liabilities**

You are concerned about whether there are any significant outstanding liabilities that are not recorded. The following procedures could be performed:

- Ask permission to send legal confirmations to all legal firms or lawyers engaged by SL to verify their opinion on whether there are any outstanding legal liabilities facing SL.
- Obtain a listing of legal expenses during the year. Select invoices with significant dollar amounts and review these invoices to determine whether work was done on significant potential legal liabilities.
- Ask permission to send confirmations to SL's large vendors and banks to identify any trade payables or other liabilities that SL is not currently reporting.
- Perform a search for unrecorded liabilities:
  - Obtain a listing of cheques issued in 2021. Select a sample of items (likely the high-dollar-value ones) and for each, review the invoice to determine whether it relates to 2020. If so, ensure it has been recorded in the accounts payable subledger or accrued at year end.
  - Look for unprocessed invoices in the accounts payable department and review these to determine whether any items relate to 2020.
- To determine whether any significant unrecorded tax liabilities exist, review notices of assessment for the past several years to ensure there are no significant re-assessments that have not yet been recorded.
- Ensure a proper vacation accrual has been recorded by performing analytical procedures around the amount accrued (number of days outstanding, average pay rate, number of employees). Vouch the assumptions used for the vacation accrual calculation to the supporting documentation (e.g., number of days outstanding to Human Resources reports, etc.).
- Inquire about whether SL has any other employee future benefit plans. If any exist, examine the relevant agreements and related actuarial reports to determine if unrecorded net liabilities exist.

### **Inventory**

You are concerned about whether SL's inventory is correctly reported and if any inventory items are obsolete and should be written off. The following procedures could be performed:

- Depending on the significance of SL's inventory balance, it may be worthwhile to go to its site and perform an inventory count. An inventory count would substantiate the inventory recorded on SL's books to test inventory existence. If the purchase is as of December 31, 2020, rollback procedures will have to be done in order to reconcile the items counted to the amounts in inventory at year end.

- The cost of the inventory will have to be verified as follows:
  - For raw materials, a sample of items should be selected and the unit cost in the subledger be compared to the most recent purchase invoice, which will give an indication of net realizable value.
  - For work-in-progress and finished goods, the cost for the inventory should be reviewed to ensure that only appropriate costs (e.g., those directly attributable to the inventory) have been capitalized to the inventory balance and that any allocation of indirect costs is appropriate. For materials and labour cost capitalized, a sample should be vouched to supporting documentation such as invoices and timesheets.
  - For finished goods in inventory, obtain a summary of the various models/collections of furniture, and review sales history to determine if recent sales have occurred and what the sales trend has been for various models/collections.
- A team member with appropriate expertise should evaluate the condition and value of SL's inventory. Physical inspection, analysis of outstanding time in SL's warehouse, etc., could be used to substantiate the inventory's value.
- In addition, ask to review SL's audited financial statements for the previous year to ensure the auditor's report was not modified. While this would not be sufficient on its own as a due diligence procedure, it may provide a base level of confidence and/or insight into problems that existed.

For Assessment Opportunity #7 (Audit and Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate provides a few audit procedures for the due diligence.

**Competent** – The candidate provides some audit procedures for the due diligence.

**Competent with distinction** – The candidate provides several audit procedures for the due diligence.

**Case #2****(Suggested Time: 85 minutes)**

Kitchen Apparel Inc. (KAI), located in Vancouver, British Columbia, sells kitchen accessories through several retail locations. KAI's year end is December 31, and it reports under ASPE.

It is January 15, 2021, and you, CPA, have been hired by KAI as a consultant. You are meeting with KAI's chief executive officer, Jill Sarangi.

Jill starts: "On March 1, 2020, KAI implemented a new system (Appendix I). Because the vendor for the old system had been sold and would soon stop providing security updates, implementation of the new system was rushed. We are having issues with the new system, and the Board of Directors would like you to document the broader operational risks the new system exposes the company to and recommend ways to mitigate them.

"One of the issues we are having with the new system is related to foreign currency (Appendix II). I am wondering how the foreign currency transactions should be reported in the financial statements.

"Also, please explain how the changes made this year, including the new system implementation, will affect the auditor's assessment of the risk of material misstatement for the 2020 audit. In 2019, our auditors relied on our controls.

"Finally, the board regularly monitors working capital. They would like you to provide a ratio analysis on working capital and each of its components, and to suggest ways to better manage working capital (Appendix III)."

During the engagement, you meet Kane, a consultant for KAI. You accept a separate engagement to prepare his 2020 income tax return (Appendix IV).

**APPENDIX I**  
**INFORMATION ON NEW SYSTEM**  
*(Provided by Jill Sarangi)*

All the information recorded into the new system is also recorded, in summarized form only, in the old system. When the new system was implemented, no training was provided to staff and many mistakes were made initially. No one on staff fully understood the new system, or reconciled the information to the old system. However, most staff now seem to know what they are doing.

We did not test the security of the new system before its implementation. We are not aware of any hacking attempts on it, but we did hear of a competitor's system being compromised earlier this year.

Manual steps are taken to deal with modules that do not function as expected. As a result, our staff are experiencing increased stress and decreased morale. I also need to review the financial statements on a weekly basis, which is the only report the system can generate.

We discovered that the new system mixes up customers who have the same name. The system will override the original customer's address with the new customer's address. When customers with the same name order items online, they are shipped to the newest customer's address.

**APPENDIX II**  
**FOREIGN CURRENCY ISSUES**

KAI has a separate bank account for each currency it uses. In November 2020, a new account was opened in a foreign currency, the SUN. We noticed that the new system was recording the SUN currency transactions without converting the amount to Canadian dollars (CAD).

Only one sale occurred in SUN, as follows:

	<b>Sale, Nov. 15, 2020</b>	<b>Bank Account Balance, Dec. 31, 2020</b>
Amount	SUN 100,000	SUN 100,000
Amount per G/L	\$100,000	\$100,000
Exchange rate	CAD 11 = SUN 1	CAD 10 = SUN 1

The sale proceeds were received in SUN by electronic transfer on November 15, 2020. On January 13, 2021, KAI exchanged the SUN it received to Canadian dollars at a rate of CAD 20 = SUN 1.

KAI also has a small investment of 0.5% of the common shares in one of its suppliers, Niseko Corporation (NC), a Japanese company. On November 1, 2020, NC declared a dividend. KAI has not yet received its share, which is 2.5 million Japanese Yen (JPY). The investment income and dividend receivable were originally recorded using the November 1, 2020, rate of CAD 0.020 = JPY 1, and were both subsequently adjusted using the year-end rate of CAD 0.012 = JPY 1.

**APPENDIX III**  
**INTERNALLY PREPARED FINANCIAL STATEMENTS**

*Kitchen Apparel Inc.*  
*Balance Sheet*  
*As at December 31*  
*(in thousands of Canadian dollars)*

	2020	2019
<b>Assets</b>		
Cash (Note 1)	\$ 5,000	\$ 4,500
Accounts receivable	1,200	1,000
Inventory	6,000	7,000
Dividend receivable	30	0
Long-term investment	10	10
Property, plant, and equipment	7,020	7,000
	\$ 19,260	\$ 19,510
<b>Liabilities and equity</b>		
Accounts payable	\$ 150	\$ 100
Current portion of long-term debt	1,100	1,100
Long-term debt	5,800	6,900
Total liabilities	7,050	8,100
Common shares	1	1
Retained earnings	12,209	11,409
	\$ 19,260	\$ 19,510

Note 1 – Sales generate a high volume of cash each year. We use some of it to ensure that we are well stocked and never turn customers down due to out-of-stock items. We can do this because our items do not usually go out of style.

**APPENDIX III (continued)**  
**INTERNALLY PREPARED FINANCIAL STATEMENTS**

*Kitchen Apparel Inc.*  
*Income Statement*  
*For the years ended December 31*  
*(in thousands of Canadian dollars)*

	2020	2019
<b>Revenue</b>		
Sales (Note 1)	\$ 10,000	\$ 8,000
Cost of goods sold (Note 2)	4,000	3,200
	6,000	4,800
<b>Expenses</b>		
Selling and administrative	4,380	3,480
Salaries and wages	650	520
	5,030	4,000
Operating income	970	800
Investment income	30	0
Net income	\$ 1,000	\$ 800

**Notes:**

1. Sales are made to retail consumers and corporate customers. 90% of sales are on credit and 10% are in cash. KAI does not have a credit policy for its corporate customers.
2. KAI pays its suppliers as soon as possible, even when the suppliers extend payment deadlines at no additional cost.

**APPENDIX IV  
INFORMATION PROVIDED BY KANE**

I am a widower and live with my two-year-old son in British Columbia. I paid \$12,000 in childcare expenses in 2020. I earned employment income of \$134,000, with deductions of \$856 for employment insurance, \$2,898 for Canada Pension Plan, and \$50,000 for income tax.

In addition to my employment income, I provide consulting services as a sole proprietor to several clients. During the year, I collected \$150,000 in revenue from different consulting engagements, including KAI. This amount excludes \$50,000 that I invoiced another customer on January 3, 2021, for consulting services provided in 2020. I expect to receive the funds tomorrow. One client owes me \$30,000 from two years ago, but as they went bankrupt during 2020, I doubt that I will receive it.

Business expenses are as follows:

Advertising	\$3,000
Business insurance	\$2,200
Memberships	\$1,200
Travel expenses	\$22,000

Memberships include dues to professional bodies related to my consulting work, as well as my online video gaming account (\$800) that I use to entertain myself during travel.

Travel expenses include hotels (\$14,000), flights (\$6,000), and meals (\$2,000).

My employment and business income are all used to cover my living expenses.

Please calculate my federal personal income taxes payable for 2020. Also, please tell me, if I had incorporated my business before January 1, 2020, what the corporate federal income taxes payable for 2020 would have been. I would also like to know the benefits and drawbacks of incorporating.



**MARKING GUIDE 3-2**  
**KITCHEN APPAREL INC. (KAI)**  
**ASSESSMENT OPPORTUNITIES**

**MEMO**

To: Jill Sarangi  
From: CPA  
Subject: Consulting Advice

**Assessment Opportunity #1 (Breadth Opportunity)**

The candidate assesses the operational risks of the new system and makes recommendations to mitigate the risks.

*The candidate demonstrates competence in Strategy and Governance.*

**CPA Map Competencies (based on 2019 Competency Map):***Technical:*

*2.5.2 Assesses the impact of IT/IS risks on enterprise risk and recommends appropriate risk management strategies (Core – Level B)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.3.3 Uses information technology to support and improve analysis*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.4 Analyzes and synthesizes the views of others to develop a more complete understanding of issues and/or implications of alternatives*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

You have asked for an assessment of the operational risks of the new system and for ways to mitigate those risks.

<b>Risk</b>	<b>Implication</b>	<b>Recommended Mitigation</b>
No security testing has been completed.	<p>The customers' financial and personal information may not be properly safeguarded.</p> <p>If the system is hacked and the information is stolen, there is a chance that KAI may be held liable. This will incur financial costs and reputational damage.</p> <p>If customers find out that KAI is not securely storing their information, even if the system is not hacked, they may refuse to purchase items.</p> <p>If the system is hacked and the data manipulated, any reports using that data may not be reliable for decision making.</p>	Security testing should be performed immediately so that KAI can confidently assure its customers that their information will be properly safeguarded.
The only report that can be obtained from the system are a set of financial statements.	The lack of additional reports may cause you to make decisions that are not well supported (because you don't have the data that you are used to having at your disposal for your day-to-day decisions).	Contact the supplier to see if the reports you need are available in the system, and if so, find out how to enable them.
Foreign exchange transactions have not been properly recorded.	<p>Although the entries can be manually corrected, the system has not been fixed to prevent a similar occurrence.</p> <p>Having to correct this error manually is time consuming (see next point). Also, you may face the same problem when adding new currencies in the future. Inaccurate information may have a significant negative impact on decision-making, specifically on whether to purchase products from a specific foreign supplier.</p>	<p>Ensure a report is produced that contains foreign currency transactions; this report is to be reviewed regularly (e.g., quarterly).</p> <p>Contact the supplier of the new system to see if they have a solution for this problem. Perhaps there is a foreign currency module that can be added to deal with these types of transactions.</p>

<b>Risk</b>	<b>Implication</b>	<b>Recommended Mitigation</b>
The number of manual processes has increased.	<p>Manual processes increase the risk of error because they are more prone to errors than automated processes.</p> <p>They also decrease efficiency and increase administrative costs because staff take more time to complete manual processes.</p>	<p>Focus on fixing the new system so that manual processes will no longer be needed.</p> <p>Ensure that, until the manual processes can be automated, proper reporting systems are implemented and reports are produced to enable supervisors to review data that have been manually entered.</p> <p>In addition, since no training was provided to the users, it is possible there are processes in the software the users are not aware of and that could be used instead of manual processes. Training should be provided to the users to identify all functions within the system that could be useful to them, which should decrease the risk of errors overall.</p>
The increase in manual processes has put increased stress on staff and decreased morale.	<p>Key staff may quit; KAI may lose entity knowledge and expertise.</p> <p>KAI may not be able to hire talented new staff members if it gains a reputation as an employer with a poor work environment.</p> <p>Staff are more likely to perform poorly due to stress and decreased morale, and this increases the likelihood of errors, added review time, and costs.</p>	The system should be redesigned to reduce the manual processes and decrease stress on staff.
Staff was not provided with training, and no one completely understands the system	<p>Although it appears that many of the mistakes were caught, staff may still be using the new system improperly.</p> <p>If no one completely understands the system, there may be implications throughout the</p>	<p>Proper training should be provided to staff.</p> <p>Training manuals and process flow charts should be kept and updated as required to help train new staff and maintain critical entity system knowledge.</p>

Risk	Implication	Recommended Mitigation
	organization that no one is currently aware of.	
Information is recorded in summarized form in the old system and not reconciled to the new system. In addition, there appears to be no reconciliation at all performed between the two systems.	<p>If information is entered only in summarized form in the old system, it will not be possible to compare that information to the new system to ensure that it is operating properly and recording items correctly, or to determine where the issue is, should any discrepancies arise. As a result, management may be relying on incorrect information when making decisions.</p> <p>Also, data from the old system may not have been transferred correctly to the new system, again resulting in decisions that are based on erroneous information.</p>	While it is too late to go back and re-enter several months of data into the old system, at a minimum, there should be a reconciliation performed of the new system to the summarized information in the old system, as well as a reconciliation of the data transferred from the old system to the new system.
Customer information is inaccurate/overridden.	Customers are not receiving the items they ordered or are receiving items they did not order. This frustrates customers and creates additional costs for KAI.	The database rules in the new system should be reviewed to ensure the system does not override existing customers with the same names.

For Assessment Opportunity #1 (Strategy and Governance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to discuss some of the operational risks or makes recommendations to mitigate them.

**Competent** – The candidate discusses some of the operational risks and makes recommendations to mitigate them.

**Competent with distinction** – The candidate discusses several operational risks and makes recommendations to mitigate them.

**Assessment Opportunity #2 (Depth and Breadth Opportunity)**

The candidate discusses how the foreign currency transactions should be reported in the financial statements.

*The candidate demonstrates competence in Financial Reporting.*

**CPA Map Competencies:***Technical:*

1.2.2 Evaluates treatment for routine transactions (Core – Level A)

1.4.2 Evaluates financial statements including note disclosures (Core – Level A)

*Enabling:*

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis

2.1.1.3 Exercises judgment in determining whether an issue requires attention

2.1.2.2 Uses appropriate methods to gather or develop relevant information

2.1.3.4 Chooses and applies appropriate analysis techniques

2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences

2.1.4.5 Integrates information and the result of quantitative and qualitative analyses to evaluate alternative solutions/conclusions

**Sale in SUN**

The system did not translate the sale in SUN to Canadian dollars. Therefore, the sale and the bank account balances are not presented in Canadian dollars at year end. For the bank account, the balance as at December 31, 2020, must be adjusted as per ASPE 1651 – *Foreign Currency Translation*. Per paragraph 16, “At each balance sheet date, monetary items denominated in a foreign currency shall be adjusted to reflect the exchange rate in effect at the balance sheet date.”

Account	Balance	Exchange Rate	Adjusted
Cash	SUN 100,000	CAD 10 = 1 SUN	\$1,000,000 CAD

The cash balance in SUN should have been presented in Canadian dollars at an amount of \$1 million; therefore, an adjustment of \$900,000 needs to be made to increase cash (\$1,000,000 – \$100,000).

The amount of the sale also needs to be adjusted to reflect the exchange rate between SUN and Canadian dollars. As per ASPE 1651, paragraph 14, “At the transaction date, each asset, liability, revenue or expense arising from a foreign currency transaction of the reporting enterprise shall be translated into Canadian dollars by the use of the exchange rate in effect at that date.” Therefore, the sale should have been recorded using the rate as of November 15, 2020, for an amount of \$1.1 million (SUN 100,000 × 1.1), but it was recorded at \$100,000. An adjustment for the difference of \$1.0 million needs to be made to increase sales.

The following correcting entry needs to be made as of December 31, 2020:

Cash	\$900,000	
Foreign exchange loss	\$100,000	
Sales		\$1,000,000

The foreign exchange loss represents the unrealized devaluation of the cash of SUN 100,000 that was originally worth \$1.1 million but that had declined to \$1.0 million by December 31, 2020 (from \$11 to \$10 for 1 SUN).

### Dividends in JPY

The dividend declared on November 1, 2020, has been recorded using the November 1, 2020, exchange rate and subsequently adjusted with the December 31, 2020, rate. As stated above, as per ASPE 1651, the exchange rate used should be the one on the date of the transaction.

Therefore, dividends declared were correctly recorded initially, using the exchange rate on the date they were declared, and should not have been subsequently adjusted. The investment income in the income statement must be adjusted by \$20,000 to reflect that the declared dividend is \$50,000 (2,500,000 JPY at 0.020 CAD = 1 JPY), instead of \$30,000 (2,500,000 JPY at 0.012 CAD = 1 JPY).

However, the dividend receivable is a monetary asset and, therefore, should be translated on the balance sheet using the year-end exchange rate. The dividend receivable balance is already using the year-end rate; therefore, no adjustment is required. The following entry should be made at year end:

Foreign exchange loss	\$20,000	
Investment revenue		\$20,000

The foreign exchange loss represents the unrealized devaluation of the dividend receivable of 2,500,000 JPY that was originally worth \$50,000 but that had declined to \$30,000 by December 31, 2020 (from \$0.020 to \$0.012 CAD for 1 JPY).

### Increase in Value of Foreign Currency after Year End

The increase in value of the SUN is considered a subsequent event. Per ASPE 3820 – *Subsequent Events*, paragraph 7, “Financial statements shall be adjusted when events occurring between the date of the financial statements and the date of their completion provide additional evidence relating to conditions that existed at the date of the financial statements.” In addition, paragraph 9 states: “Financial statements shall not be adjusted for those events occurring between the date of the financial statements and the date of their completion that do not relate to conditions that existed at the date of the financial statements.”

The increase in value of the SUN did not relate to conditions that existed at year end, as the currency had a much lower value only several days prior, at \$10 for 1 SUN. Therefore, it is an event where financial statements do not need to be adjusted.

However, a subsequent event note disclosure will be required, as per ASPE 3820.10:

*Disclosure shall be made of those events occurring between the date of the financial statements and the date of their completion that do not relate to conditions that existed at the date of the financial statements but:*

- (a) cause significant changes to assets or liabilities in the subsequent period; or*
- (b) will, or may, have a significant effect on the future operations of the enterprise.*

ASPE 3820.13 states:

*Examples of subsequent events that would not require adjustment of the financial statements but, if significant in their effect, would require disclosure in notes to the financial statements include:*

- (a) an event such as a fire or flood that results in a loss;*
- (b) a decline in the market value of investments;*
- (c) purchase of a business;*
- (d) commencement of litigation when the cause of action arose subsequent to the date of the financial statements;*
- (e) **changes in foreign currency exchange rates;** and*
- (f) the issue of capital stock or long-term debt.*

The change in foreign exchange rate after year end has a significant effect on the value of cash (SUN  $100,000 \times (\$20 - \$10) = \$1,000,000$ , which is 20% of the year-end cash balance) and, therefore, requires note disclosure.

ASPE 3820.11 provides the minimum requirement for the note disclosure:

*At a minimum, the disclosure shall include:*

- (a) a description of the nature of the event; and*
- (b) an estimate of the financial effect, when practicable, or a statement that such an estimate cannot be made.*

In addition, given the drastic fluctuation of the SUN currency, there appears to be a currency risk to KAI. ASPE 3856.A66 states:

*A66 Transactions in financial instruments may result in an enterprise assuming or transferring to another party one or more of the financial risks described below. The required disclosures provide information that assists users of financial statements in assessing the extent of risk related to financial instruments.*

*(...)(b) **Currency risk** is the risk that the fair value or future cash flows of a financial instrument will fluctuate because of changes in foreign exchange rates.*

Therefore, an additional note that would include the following information should be added to the financial statements, according to ASPE 3856.53:

*For each significant risk (see paragraph 3856.A66) arising from financial instruments, including derivatives, an enterprise shall disclose:*

- (a) the exposures to risk and how they arise; and*
- (b) any change in risk exposures from the previous period.*

For Assessment Opportunity #2 (Financial Reporting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to discuss the financial reporting for the foreign currency transactions.

**Competent** – The candidate discusses the financial reporting for the foreign currency transactions.

**Competent with distinction** – The candidate thoroughly discusses the financial reporting for the foreign currency transactions.

### **Assessment Opportunity #3 (Breadth Opportunity)**

The candidate discusses how changes this year, including the new system implementation, will affect the auditor's assessment of the risk of material misstatement.

*The candidate demonstrates competence in Audit and Assurance.*



**CPA Map Competencies:***Technical:*

*4.3.5 Assesses the risks of the project, or, for audit engagements, assesses the risks of material misstatement at the financial statement level and at the assertion level for classes of transactions, account balances, and disclosures (Core – Level B)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.3.7 Considers whether data are sufficiently complete, valid, and reliable for the purpose of the analysis*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.5.3 Develops implementation plans for recommendation(s)*

The new system implementation will have an impact on the risk assessment, as will the new foreign currency transaction in SUN.

**New System Implementation**

The implementation of the new system will impact both the inherent and control risks of the audit as follows:

- There is currently no robust reporting system, as the only reports produced are financial statements. This means that financial information may not be properly reviewed, which increases the risk of material misstatement, since errors that have been made may not be caught.
- The fact that staff perform manual processes to deal with modules that are not functioning as expected indicates there may be errors in the basic recording of transactions. The likelihood that manual processes will be able to detect all errors in the new system is reduced even more by the increased stress and decreased morale of staff. In addition, the fact they were not trained and do not understand the new system decreases their ability to recognize errors that are occurring.
- The new system does not properly record foreign currency transactions. Some mistakes were already found in the recording of the 2020 transactions, which supports the fact that management does not have a lot of experience with these transactions. Though the transactions will be corrected, there are potentially other uncorrected foreign currency transactions in the records. This increases the risk of material misstatement.
- The staff have not been trained and no one completely understands the system. This may be due to the system implementation being rushed. The lack of training as well as the rushed implementation increase the chance of errors and the risk of material misstatement.

- The new system and the old system were not operating in parallel during the implementation phase. Although all the information recorded in the new system is also recorded in the old system, it is recorded in summarized form only in the old system. This new system may, therefore, contain errors that have not been detected, which increases the risk of material misstatement. Also, no one is reconciling the information between the old and new systems, even at a summarized level, probably because the new system cannot produce reports. Therefore, this potential control is not operating and, consequently, does not reduce the risk of material misstatement.
- The new system overrides customer addresses if two customers have the same name. This indicates the system may have inaccurate information and increases the risk of material misstatement, particularly regarding the allowance for doubtful accounts (i.e., for the customers who never received the products they ordered).
- The security of the new system was not tested prior to implementation, and management is aware that a competitor's system had security issues. Even though management is not aware of any hacking attempts on KAI's new system, if the security was not set up properly, it may not actually detect hacking attempts. Therefore, this may also increase the risk of material misstatement.
- Jill has been reviewing the financial statements on a weekly basis since the implementation. She may catch significant errors in this review, but only at a summarized level. This may reduce the risk of material misstatement in the financial statements.

### **Transaction in SUN**

While KAI has had foreign currency transactions in the past, there is a transaction in a new currency, the SUN, in the current year. The currency appears to be quite volatile, as it doubled in value in two weeks (from CAD 10 = 1 SUN at year end to CAD 20 = 1 SUN on January 13, 2021). Operating in a volatile foreign currency is typically a change in the external environment, which would increase inherent risk. However, given that there was only one transaction in the current year, the impact on the risk assessment would be minimal. If there are other foreign exchange transactions in volatile currencies we are not aware of, then the impact on risk will have to be re-assessed.

### **Conclusion**

Overall, the auditors are likely to assess the risk of material misstatement as having increased due to the new system implementation, based on the factors discussed above. The auditors may rely on controls related to the old system from January 1, 2020, to February 28, 2020. However, from March 1, 2020, to December 31, 2020, even though the old system is still being used to a certain extent, it is likely that the auditors will have to do additional substantive testing instead of relying on controls, since only summarized information is entered into the old system, and thus the two systems are not truly being run in parallel. Many controls relate to detailed processing and recording of transactions, which are only being done in the new system, and there are many indications that the new system is not working properly. This increase in substantive testing, as well as the fact that many reports are not available for the auditors, will likely increase the amount of work to be done by the auditors, the audit fees, and the time it takes to complete the audit.

For Assessment Opportunity #3 (Audit and Assurance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to discuss how the changes will affect the assessment of the risk of material misstatement.

**Competent** – The candidate discusses how the changes will affect the assessment of the risk of material misstatement.

**Competent with distinction** – The candidate thoroughly discusses how the changes will affect the assessment of the risk of material misstatement and concludes on how this will impact the audit.

#### **Assessment Opportunity #4 (Breadth Opportunity)**

The candidate performs a ratio analysis on working capital and each of its components, and suggests ways to better manage working capital.

*The candidate demonstrates competence in Finance.*

#### **CPA Map Competencies:**

*Technical:*

*5.2.1 Evaluates the entity's cash flow and working capital (Core – Level A)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.2.1 Identifies the purpose and type(s) of information to be gathered*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions*

*2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

You have asked me to provide a ratio analysis to help you assess working capital and each of its components, as well as to make suggestions on how to better manage working capital. Below is my ratio analysis, along with the suggestions you asked for.

### Current Ratio

You can calculate the current ratio by dividing the current assets by the current liabilities at the end of the period. I calculated the ratio using the figures from your internally prepared financial statements:

Current assets (Note 1)	$\$12,230,000$
Current liabilities (Note 2)	$\$ 1,250,000$
Current ratio	9.78

#### Notes:

1.  $\$5,000,000 + \$1,200,000 + \$6,000,000 + \$30,000 = \$12,230,000$
2.  $\$150,000 + \$1,100,000 = \$1,250,000$

I also calculated the same ratio after the adjustments I am proposing for the foreign currency issues:

Current assets (Note 1)	$\$13,130,000$
Current liabilities (Note 2)	$\$ 1,250,000$
Current ratio	10.50

#### Notes:

1.  $\$5,000,000 + \$1,200,000 + \$6,000,000 + \$30,000 + \$900,000 = \$13,130,000$
2.  $\$150,000 + \$1,100,000 = \$1,250,000$

The current ratio shows whether the short-term liabilities can be covered by the short-term assets. With a ratio of 10.50, there is no doubt that KAI can cover its short-term liabilities with its short-term assets.

**Quick Ratio**

You can calculate the quick ratio by dividing the current assets less the inventory by the current liabilities at the end of the period. I calculated the ratio using the figures from your internally prepared financial statements:

Current assets – inventory (Note 1)	$\frac{\$6,230,000}{\$1,250,000}$
Current liabilities (Note 2)	
Quick ratio	4.98

**Notes:**

1.  $\$12,230,000 - \$6,000,000 = \$6,230,000$
2.  $\$150,000 + \$1,100,000 = \$1,250,000$

I also calculated the same ratio after the adjustments I am proposing for the foreign currency issues:

Current assets – inventory (Note 1)	$\frac{\$7,130,000}{\$1,250,000}$
Current liabilities (Note 2)	
Quick ratio	5.70

**Notes:**

1.  $\$12,230,000 - \$6,000,000 + \$900,000 = \$7,130,000$
2.  $\$150,000 + \$1,100,000 = \$1,250,000$

The quick ratio shows whether the short-term liabilities can be covered by the short-term assets without KAI having to sell its inventory. With a ratio of 5.70, there is no doubt that KAI can cover its short-term liabilities with its short-term assets without counting on inventory.

### Accounts Receivable Turnover

You can calculate the accounts receivable turnover by dividing the annual credit sales by the average accounts receivable balance:

Annual credit sales (Note 1)	<u>\$9,000,000</u>
Average accounts receivable balance (Note 2)	\$1,100,000
Accounts receivable turnover	8.18
Number of days in a year	365
Ratio	<u>÷ 8.18</u>
Days sales in receivables	44.62

#### Notes:

1.  $\$10,000,000 \times 90\%$
2.  $(\$1,200,000 + \$1,000,000) \div 2$

This means that it takes, on average, 45 days to collect accounts receivable.

### Accounts Payable Turnover

You can calculate the accounts payable turnover by dividing the total amount of purchases by the average accounts payable balance during the period.

Purchases (Note 1)	<u>\$3,000,000</u>
Average accounts payable balance (Note 2)	\$ 125,000
Accounts payable turnover	24.00
Number of days in a year	365
Ratio	<u>÷ 24.00</u>
Days purchases in payables	15.21

#### Notes:

- |                     |                    |
|---------------------|--------------------|
| 1. Ending inventory | \$6,000,000        |
| Cost of goods sold  | 4,000,000          |
| Beginning inventory | <u>(7,000,000)</u> |
| Purchases           | \$3,000,000        |

2.  $(\$150,000 + \$100,000) \div 2 = \$125,000$

This means that it takes, on average, 15 days to pay suppliers.

## Inventory Turnover

You can calculate inventory turnover by dividing the cost of goods sold by the average inventory balance during the period.

Cost of goods sold	\$4,000,000
Average inventory (Note 1)	<u>\$6,500,000</u>
Inventory turnover	0.62
Number of days in a year	365
Ratio	<u>÷ 0.62</u>
Days in inventory	588.71

### Notes:

1.  $(\$6,000,000 + \$7,000,000) \div 2$

This means that, on average, inventory is kept on hand for 589 days.

### Suggestions to Better Manage Working Capital

With a current ratio of 10.50 and a quick ratio of 5.70, KAI is not facing liquidity issues in the short term. However, a current ratio as high as this one suggests KAI is not using its working capital efficiently and should look for better ways to manage it.

KAI seems to have a high cash balance on hand. Part of it will be needed to cover the current portion of the long-term debt. The cash balance may also be high due to the fact that KAI has different currencies in separate bank accounts, which may require a higher balance in total than if there were only one bank account to manage. Even after taking those items into consideration, there is still a lot of cash on hand, and this cash is not being used efficiently. You should consider investing the remaining cash to avoid it not producing any return at all, or use the cash to pay down a portion of the long-term debt to reduce interest expense. There are also risks related to holding this much excess cash. If not invested, excess cash will not keep pace with inflation. It lowers KAI's overall return on assets (due to an increased asset base that doesn't generate any return) and increases KAI's cost of capital. Having excess cash could also make management complacent, since it potentially removes or reduces their incentive to improve margins through the reduction of expenses. As a whole, the excess cash could result in erosion of company value if not managed appropriately.

There is also room for improvement with the collection of accounts receivable and accounts payable. KAI is slow to collect funds from customers and very quick to pay suppliers. KAI does not have a credit policy with its customers. Customers should be expected to settle their accounts within 30 days. Such a policy would provide KAI with the inflow of cash it needs to purchase inventory and fund operations without putting undue pressure on the customers, since a term of 30 days is standard. In addition, KAI is not taking full advantage of its credit with suppliers. KAI's suppliers are extending payment deadlines at no additional cost. Usually, paying suppliers quickly means a company can receive preferable pricing or avoid additional costs. KAI should hold off making payments to suppliers if they extend the payment deadlines so that it can effectively use its capital.

Lastly, the inventory turnover could also be improved. It takes an average of 589 days for KAI to turn over inventory. This is over a year and a half, which seems to be a very long time. Management likes to keep a lot of inventory on hand in order to have well-stocked shelves. However, that long of a turnover time suggests there is room to improve the movement of inventory without running out of certain items. Perhaps management could perform some analysis around the items that are selling faster than average, and focus on having those items well stocked, while keeping a smaller inventory of the products that are not selling as quickly. Better inventory management would allow KAI to free up some of the working capital currently included in inventory and use it elsewhere.

These suggestions should help KAI manage its working capital in a more efficient way so that it makes the best use of the resources available. This will improve profitability.

For Assessment Opportunity #4 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to provide a ratio analysis on the working capital and each of its components.

**Competent** – The candidate provides a ratio analysis on the working capital and each of its components, and suggests ways to better manage working capital.

**Competent with distinction** – The candidate provides a thorough ratio analysis on the working capital and each of its components, and suggests ways to better manage working capital.

#### **Assessment Opportunity #5 (Breadth Opportunity)**

The candidate calculates federal personal income taxes payable.

*The candidate demonstrates competence in Taxation.*



**CPA Map Competencies:***Technical:*

6.3.2 Evaluates income taxes payable for an individual (Core – Level B)

*Enabling:*

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis

2.1.2.1 Identifies the purpose and type(s) of information to be gathered

2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors

2.1.3.4 Chooses and applies appropriate analysis techniques

2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences

**MEMO**

To: Kane  
 From: CPA  
 Subject: 2020 Taxes

**Business Income Calculation**

Consulting revenue (Note 1)	\$ 200,000
Expenses:	
Advertising	3,000
Bad debt (Note 2)	30,000
Insurance	2,200
Memberships (Note 3)	400
Meals (Note 4)	1,000
Travel (Note 4)	20,000
	143,400
Net business income	\$ 143,400

**Notes:**

1. Although the customer has not paid the \$50,000 invoice, it must be included in income since the income has been earned (\$150,000 + \$50,000).
2. The bad debt is deductible: the revenue was included in income two years ago, the bad debt is attributable to a specific account, and the client is bankrupt so it is unlikely to be collected.
3. The personal portion of the membership expense (video gaming expense) must be removed (\$1,200 – \$800).
4. The meal portion of the travel expenses is only 50% deductible (\$2,000 × 50%). The remaining \$20,000 (\$6,000 + \$14,000) is fully deductible.

**Net Income for Tax Purposes and Taxable Income Calculation**

Employment income	\$	134,000
Business income		143,400
Total income		<u>277,400</u>

*Deductions:*

Enhanced CPP		166
Childcare expenses (Note 1)		<u>8,000</u>

Net income for tax purposes and taxable income	\$	<u><u>269,234</u></u>
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**Notes:**

- The allowable deduction for childcare expenses is the lesser of
  - the amount of childcare expenses incurred (\$12,000);
  - the childcare expense limit (\$8,000, as Kane's child is two years old and not disabled); and
  - the earned income limit.

Kane's earned income is \$277,400 (employment income \$134,000 + business income \$143,400), which is multiplied by two-thirds to obtain the limit (\$184,933) in c).

The least of these three amounts is \$8,000.

**Taxes Payable Calculation**

Federal tax is calculated as follows:

$$\$49,644 + [(\$269,234 - 214,369) \times 33\% = \$18,105] = \$67,749$$

Tax is reduced by personal tax credits:

Basic personal amount	\$	12,298
Eligible dependant amount		12,298
Canada Employment Amount (lesser of \$1,245 and total employment income of \$134,000)		1,245
CPP		2,732
EI		856
		<u>29,429</u>
Credit rate		<u>15%</u>
	\$	<u><u>4,414</u></u>

Net federal tax = \$67,749 – \$4,414 = \$63,335.

## Conclusion

Based on the information provided, you must pay \$63,335 in personal federal income taxes. Because \$50,000 was withheld from your employment income, this leaves you with a balance owing of \$13,335 (plus provincial taxes).

Depending on the balance you owed for the prior year, you may be required to make instalment payments.

For Assessment Opportunity #5 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to calculate Kane’s federal personal income taxes payable.

**Competent** – The candidate calculates Kane’s federal personal income taxes payable.

**Competent with distinction** – The candidate prepares a thorough calculation of Kane’s federal personal income taxes payable.

## Assessment Opportunity #6 (Breadth Opportunity)

The candidate calculates corporate federal income taxes payable if Kane had incorporated his business and discusses some benefits and drawbacks of incorporation.

*The candidate demonstrates competence in Taxation.*

## CPA Map Competencies:

### *Technical:*

6.1.1 *Discusses general concepts and principles of income taxation (Core – Level B)*

6.2.1 *Evaluates general tax issues for a corporate entity (Core – Level B)*

6.2.2 *Advises on taxes payable for a corporation (Core – Level B)*

### *Enabling:*

2.1.1.1 *Obtains an initial understanding of the problem and its context*

2.1.1.2 *Divides larger problems into appropriate sub-problems to facilitate analysis*

2.1.2.1 *Identifies the purpose and type(s) of information to be gathered*

2.1.3.1 *Identifies the purpose of computations and analyses, and considers qualitative factors*

2.1.3.4 *Chooses and applies appropriate analysis techniques*

2.1.4.2 *Analyzes cause-and-effect relationships and makes logical inferences*

2.1.5.1 *Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

Since you reside in British Columbia, your business would be a Canadian-controlled private corporation (CCPC) if it were incorporated. It would, therefore, be eligible for the small business deduction in calculating the taxes payable on its active business income.

### Corporate Income Tax Calculation

Taxes (Note 1)	\$ 54,492
Small business deduction (Note 2)	(27,246)
Federal tax abatement (Note 3)	<u>(14,340)</u>
Part I federal taxes payable	<u>\$ 12,906</u>

Your corporation would owe \$12,906 if you had incorporated your business before January 1, 2020.

### Notes:

1. Net business income (see “Business Income Calculation”) is the taxable income. Taxable income is multiplied by the tax rate ( $\$143,400 \times 38\%$ ).
2. The small business deduction is the least of
  - a) active business income multiplied by the small business deduction rate ( $\$143,400 \times 19\% = \$27,246$ );
  - b) taxable income multiplied by the small business deduction rate ( $\$143,400 \times 19\% = \$27,246$ ); or,
  - c) the business limit multiplied by the small business deduction rate ( $\$500,000 \times 19\% = \$95,000$ ).
3. Federal tax abatement is taxable income multiplied by the federal tax abatement rate ( $\$143,400 \times 10\%$ ).

### Qualitative Considerations

Choosing to incorporate your business is a significant decision, and it comes with benefits and drawbacks.

#### Benefits

A benefit to incorporation is that it may limit your personal liability. Should an incident occur in your business, the affected parties cannot take legal action against your personal property except in certain circumstances. However, you would not be able to shelter yourself from liability for your own actions, even with a corporation, and since you are the only worker in the business, this would, therefore, not be a significant advantage.

Another benefit to incorporation is the ability to do some additional tax planning. You can pay less tax overall by planning the timing of when you withdraw funds from your company to defer taxation to years where you have lower income.

A third benefit is that CCPCs are eligible to immediately expense up to \$1.5 million of asset purchases per year, starting on April 19, 2021, rather than treating them as capital and claiming capital cost allowance over time. This temporary rule allowing immediate expensing is not available to individuals who are self-employed. This may not benefit you right now since you do not seem to have any capital property used in your business, but it is likely to be of benefit in the future when you do have some (such as computer equipment). [Note: This provision was not substantively enacted at December 31, 2020. However, valid discussions of this topic were rewarded since candidates may always apply newer rules.]

Finally, when an incorporated business is sold, the shareholder can avail themselves of the lifetime capital gains exemption; however, this might not be applicable since it may be difficult to sell a business where all its income seems to be derived from the consulting work you do personally. You can always incorporate later should you decide to sell the business.

### Drawbacks

The main drawback to incorporation is the added cost, such as the cost to file corporate taxes on an annual basis in addition to completing your personal income taxes.

There is potentially no tax benefit to incorporation if a reduced withdrawal plan is not followed. The income tax system is integrated in such a way that income earned through a corporation and fully paid out immediately will attract a similar amount of tax as if it were earned directly.

As you currently require all the money you have earned to cover your living expenses, you will need to have the corporation pay out the cash that remains, after paying for business expenses, either as salary or dividends to you:

- If you are paid a salary, the corporation would deduct the salary as a business expense and pay no income taxes; you would pay the same tax on the employment income as calculated earlier, as if you had earned it directly.
- If you are paid a dividend, the corporation would not deduct the dividend and would still pay corporate income taxes on its income, as calculated here. I would require information about the provincial taxes to be paid to perform detailed calculations, but the remaining cash, after paying the corporate income taxes, would be paid as a dividend. The dividend would be grossed up, and you would receive a dividend tax credit. The net effect of this, as mentioned, would be that you would end up with approximately the same amount of cash after tax as if you had earned the income directly.

In addition, any losses incurred by the business (if it were to lose money in the future) would not be deductible against your other personal income for the year if the business were incorporated. These losses could only be applied against the corporation's income for other years.

### **Recommendation**

I advise against incorporating. I would suggest incorporation once you have grown your business, or reduced your cash flow needs, to a point where you would not need to take all the money out of the business each year. At that point you would be able to use the tax-deferral benefit of incorporating.

For Assessment Opportunity #6 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to calculate the corporate federal income taxes payable and discuss incorporation.

**Competent** – The candidate calculates the corporate federal income taxes payable and discusses incorporation.

**Competent with distinction** – The candidate calculates the corporate federal income taxes payable, discusses incorporation, and makes a recommendation.

**COMMON FINAL EXAMINATION  
MAY 28, 2021 – DAY 3**

**Case #3****(Suggested time: 70 minutes)**

Wicked Water Sarnia Inc. (WWS) is a kayak and canoe manufacturer located in Sarnia, Ontario. You, CPA, work for WWS in its finance and accounting department, but have been temporarily assigned to the kayak manufacturing division after your boss received the following email.

From: Carolyn.Babatundé@WWS.ca  
To: Alex.Yang@WWS.ca  
Subject: Help!

I am the new manager of the kayak manufacturing division. Although I enjoy challenges, this division is struggling more than I realized when I accepted the job. Can you send a CPA to help me? I have prepared some background and other information for them (Appendix I).

We are experiencing some human resource issues. Morale is low, the retention rate is below industry average, and recruiting skilled labour has been difficult lately. I have some ideas for ways to attract and retain staff (Appendix II). I would like CPA's thoughts on whether they address the employees' needs and concerns, and are in the best interest of the company. I would also like to understand the income tax consequences of each idea, from the company's and the employees' perspectives. I am also seeking other suggestions for improving labour relations.

The previous manager neglected numerous tasks. Due to a lack of maintenance, the fibreglass vacuums used in production are slower than normal. As this is creating safety issues, they will need to either be repaired or replaced. I have received quotes for repairing or replacing the vacuums (Appendix III); hopefully, CPA can recommend which option to choose. Because repaired vacuums will still be slower than new vacuums, the number of kayaks we can produce will be affected by the option we choose. I am concerned that repairing the equipment will not allow us to meet demand.

Thanks in advance!  
Carolyn

You spent a week at the manufacturing division; during that time, you overheard certain discussions between employees (Appendix IV).

**APPENDIX I**  
**BACKGROUND AND OTHER INFORMATION**  
*(Prepared by Carolyn Babatundé)*

### Manufacturing Processes

WWS's kayaks are made of fibreglass, polyester gel coating, and polyester resin. These direct materials are laid into kayak moulds designed by WWS, one for the hull and one for the deck. A vacuum is then used to merge both parts of the kayak together, hardening the materials and forming a seal. In their current state, each of the six (6) vacuums has the capacity to process one (1) kayak in two (2) hours, and can operate for 2,000 hours per year.

Costs per kayak are as follows:

Direct materials	\$665
Direct labour hours	4 hours
Direct labour rate	\$60/hour
Variable overhead allocation	\$250/direct labour hour
Fixed overhead allocation	\$50/direct labour hour

Annual market demand for our kayaks is 10,000 units and is growing. Kayaks sell for \$2,400 each.

Each vacuum could currently be sold for \$45,000 but would have no material value at the end of its original useful life.

### Equipment Exchange

We exchanged a piece of equipment with a third party, so that all our moulding equipment comes from the same supplier. This makes repairs and maintenance easier, but not cheaper, and has no real impact on production capacity. Here is the information on the equipment:

	<b>Cost</b>	<b>Net Book Value</b>	<b>Fair Value</b>
Equipment transferred out	\$160,000	\$84,000	\$124,000
Equipment transferred in	\$190,000	Unknown	\$126,000

We paid \$2,000 to compensate for the difference in the fair values. We recorded the equipment transferred in at \$126,000 and recorded a gain of \$40,000 on the exchange. Alex asks that you explain the accounting treatment of this exchange in accordance with ASPE.



**APPENDIX II**  
**IDEAS FOR IMPROVING LABOUR RELATIONS**  
*(Prepared by Carolyn Babatundé)*

As WWS pays well in comparison to industry standards, I am not concerned about wage rates. I am, however, considering improving employee benefits, using some of the following options.

**Private Health Services Plan**

Currently, only office staff has access to WWS's private health services plan. WWS could expand the plan to include its manufacturing employees, providing coverage for prescription drugs, dental, vision care, physiotherapy, chiropractic services, and massage therapy.

**Service Gifts**

WWS could provide gifts to recognize employees' years of service, such as for one, two, five, 10, and 15 years. The gifts could be items such as watches or tablets. Or, if you think it would be more enticing, cash.

**Training**

WWS could pay for manufacturing staff to attend school part time. We encourage, and already pay for, additional training for our office staff. Given the nature of the manufacturing jobs, there is little additional training necessary, but manufacturing staff could also take courses in other subjects.

**Subsidized Cafeteria Meals**

I have noticed that the manufacturing staff frequent our onsite cafeteria often. WWS could provide the meals at a discounted price, or for free.

**Recreational Facilities**

Labour laws require us to provide staff with breaks, including an hour for lunch, but they look bored during that time. WWS could establish a games room or fitness centre so they would have something to do on their breaks.

**APPENDIX III  
VACUUM QUOTES**

<b>Per Vacuum</b>	<b>Repaired Vacuum</b>	<b>New Vacuum</b>
Upfront cost	\$50,000	\$200,000
Ongoing annual maintenance costs	\$5,000	\$1,000
Remaining life	5 years*	12 years*
Hours per kayak	1.3 hours	1.1 hours

\*Whether the vacuums are repaired or replaced, new vacuums will be bought in five years, to keep up with technology.

Each repaired or new vacuum would still operate for 2,000 hours per year.

If WWS purchases new vacuums, it would also purchase a five-year warranty, for an additional \$10,000 per vacuum. New vacuums will have a resale value of \$40,000 each after five years.

WWS's pre-tax required rate of return is 10%.

**APPENDIX IV**  
**DISCUSSIONS OVERHEARD IN MANUFACTURING DIVISION**

“My back hurts from leaning over the moulds all day. Feel this knot! That’s not going to help my performance in my kayak race this weekend!”

“The new manager seems okay. Better than Ralph. I got so tired of him eyeing the clock as we went on breaks and counting the tools each night to make sure we didn’t steal them. What am I going to do at home with a roller for polyester gel? And I hate that he installed video cameras in the warehouse. They make me feel like a criminal.”

“How’s Jimmy? I can’t believe he got a concussion from slipping on spilled paint! No one remembered to mark off the area as a hazard, or knew where to find the pylons. When was the last time we updated our health and safety training? Aren’t those required annually? Ralph probably thought they were a waste of time and money. Jimmy is pretty upset that there is no disability coverage.”

“A few employees have been talking about forming a union. I know we get paid well, but I’m concerned about our safety. We ran out of work gloves a while back. I bring my own now since I wouldn’t dare touch the polyester resin.”

“Those were some nice-looking kayaks that you and Toni made yesterday! I’m not sure why you bother making them so perfect. No one around here cares anyway. We get our wage increase each year regardless. We never receive feedback on how we are doing.”

**MARKING GUIDE 3-3**  
**WICKED WATER SARNIA INC. (WWS)**  
**ASSESSMENT OPPORTUNITIES**

**MEMO**

To: Carolyn Babatundé, Manager, Kayak Manufacturing Division  
Cc: Alex Yang, Finance & Accounting  
From: CPA

Carolyn,

Please find my answers to your questions in this memo.

CPA

**Assessment Opportunity #1 (Breadth Opportunity)**

The candidate discusses the alignment of Carolyn's ideas to improve labour relations with the employees' needs and concerns, concludes on whether they are in the best interest of the company, and provides other suggestions for improving labour relations.

*The candidate demonstrates competence in Strategy and Governance.*

**CPA Map Competencies (based on the 2019 CPA Competency Map):**

*Technical:*

*2.4.1 Analyzes key operational issues including the use of information assets and their alignment with strategy (Core – Level B)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors*

*2.1.4.1 Explores potentially viable solutions or conclusions*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.4.3 Considers alternative interpretations of quantitative and qualitative information*

*2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

*2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

You suggested ideas to attract and retain employees. You wonder whether they will address the employees' needs and concerns and whether they are in the best interest of the company. You also mentioned that you are open to other ideas for improving labour relations. Since pay rates are competitive, I will focus on the other issues you noted.

## **Benefits**

### Private Health Services Plan

Based on what I heard the manufacturing employees discussing, because the job involves manual labour that is hard on the body, they would enjoy health benefits (especially massage, physiotherapy, and chiropractic services). Extending the plan to them would also eliminate the difference in treatment between the office staff and the labourers, which might be causing a feeling of injustice in the manufacturing employees. This idea aligns nicely with the employees' concerns. Healthy employees will also be more productive, which is in WWS's best interest.

### Service Gifts

Offering awards for long service can help retain employees, which is of value to WWS because it operates in an environment that requires skilled tradespersons, its retention rate is below average, and it is having difficulty attracting employees. Receiving a 10-year service gift, for example, may motivate employees who wish to reach a personal goal or be recognized for reaching a milestone to stay longer. Offering gifts for shorter terms, such as five years, would establish attainable goals for newer employees.

### Training

Offering to pay employees for courses in subjects other than those related to their jobs could be a benefit, from their perspective. However, from the company's perspective, if the courses are not related to skills they need for their work, it would not help them perform better at their current jobs. It could also motivate them to acquire other qualifications that would reorient their career, and you would risk losing them in the future as they develop other interests.

### Subsidized Cafeteria Meals

Employees who frequent the cafeteria often would appreciate this initiative, and it likely aligns with their needs. I recommend subsidizing the meals but keeping the price above cost to disincentivize waste.

### Recreational Facilities

It is unclear whether the employees would use these facilities. However, if it is attractive to them, employees may choose to spend their breaks on site and feel better about their workplace, which could help with employee retention. To assess whether it fits their needs, you could survey the employees to find out if they would appreciate and use such a facility.

## **Other Suggestions**

### Safety Concerns

The employees have some justifiable safety concerns. The company has not provided mandatory annual safety training, and there are no safety gloves available for employees to use to protect their hands from hazardous materials. This not only leaves WWS open to fines and penalties from the government, but also puts WWS at risk of being sued by an employee for lost wages, especially since there is no disability coverage to make up for lost income. Jimmy has already been hurt on the job. Given the difficulty in retention and recruiting, WWS cannot afford for any other employees to be injured.

In addition, the employees are considering unionizing due to the lack of safety. A union could boost employees' morale since it would ensure they are working in a safe environment. However, having to deal with a union can be expensive and time consuming. This could be avoided if your workforce is satisfied their work environment is safe and rewarding. I recommend that you verify what safety training is required and offer it as soon as possible. Gloves should be ordered immediately, and you should offer to reimburse employees who purchased their own gloves when they were not available on site. You should also interview the employees and assess the manufacturing environment for things that could be done to make the workplace safer. The employees need to understand you care about their welfare. Measures like these would align with their concerns and needs.

### Performance Evaluation

There is very little incentive for the employees to do a good job. Pay raises occur automatically every year, without consideration for performance. In addition, it does not seem employees receive any feedback, informal or formal, regarding their work. For employees to stay motivated, they need to feel their work matters and is appreciated. Since WWS specializes in kayaks, it is presumably important for the kayaks to remain of good quality or else profitability will suffer.

I recommend you implement a performance review program and meet with the employees annually (at a minimum) to discuss performance. This does not have to be cumbersome. Employees could be rated on such things as attendance, punctuality, completing mandatory trainings, time to produce kayaks (based on the average number per day), and quality of the kayaks (based on the number returned or complaints received). While some pay increment could remain for seniority, the other portion could be based on performance. Informal feedback could also be implemented. Demonstrating that management takes an active interest in what is happening on the manufacturing floor, as well as verbally communicating appreciation for good craftsmanship, can be a big morale booster.

### Pension Plan

A good option to help retain employees is a pension plan that includes an annual contribution. Implementing a vesting requirement for employees to access the employer's contributions would encourage them to stay until the vesting period is over and remain with WWS to keep adding to their pension plan.

Previous Manager

It is possible that some of the problems you are facing with retention stem from practices used by the previous manager and that they will correct themselves with time now that you are managing. It sounds like the previous manager tended to micromanage the employees and showed a serious lack of trust: he tracked time employees spent on breaks, counted the tools to make sure they weren't stolen, and installed video cameras to watch the employees at work. These actions likely caused employee resentment. In an act of good faith, you could remove the video cameras (or turn them on only at night as a security measure), and, if you haven't already done so, cease the practice of counting tools in the evening, since most of the tools seem to be of low value relative to other items, such as large equipment like the vacuums and the kayaks themselves. Performing regular inventory counts of the high-value items may be a better practice to ascertain items have not been stolen.

**Conclusion**

These recommendations address the employees' needs and concerns and will, therefore, be in the best interest of WWS. I believe they will help to boost morale and to recruit and retain skilled workers.

For Assessment Opportunity #1 (Strategy and Governance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate discusses the alignment of some of Carolyn's ideas to improve labour relations with the employees' needs and concerns, concludes on whether they are in the best interest of the company, or provides recommendations for improvements.

**Competent** – The candidate discusses the alignment of several of Carolyn's ideas to improve labour relations with the employees' needs and concerns, concludes on whether they are in the best interest of the company, and provides recommendations for improvements.

**Competent with distinction** – The candidate discusses the alignment of most of Carolyn's ideas to improve labour relations with the employees' needs and concerns, concludes on whether they are in the best interest of the company, and provides recommendations for improvements.

**Assessment Opportunity #2 (Breadth Opportunity)**

The candidate discusses the taxation consequences for both employees and WWS of Carolyn's ideas for improved labour relations.

*The candidate demonstrates competence in Taxation.*

**CPA Map Competencies:***Technical:**6.2.2 Advises on taxes payable for a corporation (Core – Level B)**6.3.2 Evaluates income taxes payable for an individual (Core – Level B)**Enabling:**2.1.1.1 Obtains an initial understanding of the problem and its context**2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis**2.1.1.3 Exercises judgment in determining whether an issue requires attention**2.1.2.1 Identifies the purpose and type(s) of information to be gathered**2.1.3.4 Chooses and applies appropriate analysis techniques*

I have looked at the proposed options for improving labour relations from a tax standpoint, from the perspective of both the employees and the employer (WWS). I do not know the cost of the various options, so I have not commented on them from that perspective, but cost should be considered for the recommended options below.

**Private Health Services Plan**

Per paragraph 6(1)(a) of the Income Tax Act, premiums paid for a private health services plan by an employer on behalf of employees are not a taxable benefit. In addition, these payments would be deductible for tax purposes by WWS, so this option has preferential tax treatment.

**Service Gifts**

Gifts and awards can be non-taxable to an employee, in certain circumstances, and would typically be deductible by WWS as a cost of doing business (unless unreasonable). You suggested that gifts would be based on years of service and provided examples of one, two, five, ten, and fifteen years of service. Long-term service awards can be non-taxable if worth less than \$500 but must be for at least five years of service (or at least five years of service since the last award). As such, the awards for five, ten, and fifteen years of service would qualify, but not the awards for one and two years of service.

In addition, WWS could provide employees with gifts for such things as birthdays, holidays, weddings, etc., valued at up to \$500 without being taxable, so long as they are not related to performance.

If you wish them to be non-taxable, the gifts and awards cannot be cash or near-cash (e.g., gift cards or certificates). The other examples you provided (watch, tablet) would qualify as non-cash and would be non-taxable if they were worth less than \$500. The value of an item above \$500 would be taxable to the employee.



## Training

As long as the employer is the primary beneficiary of the training, it would be non-taxable to the employees. However, given the nature of their work (for which they already have the necessary skills), it is unlikely that the training they would choose to undergo would be primarily for the benefit of the company, and would therefore be taxable to them. The decision as to whether the training benefits the company will need to be made on a course-by-course basis. Regardless of whether the training benefits the company, WWS could claim a deduction because it would be considered a form of employee compensation.

## Subsidized Cafeteria Meals

You mentioned that the manufacturing employees frequent the onsite cafeteria and that you are considering providing discounted or free meals. Subsidized meals are not considered taxable benefits to employees if they are still required to pay at least the cost of the food. If you offer the meals for free or below cost, the difference would be taxable. Any income derived from the sale of this subsidized food would be taxable to WWS (as it is now, when sold at a higher profit).

## Recreational Facilities

Employees would generally be permitted to use in-house recreational facilities (games room or fitness centre) provided by the employer at no (or low) cost without incurring a taxable benefit. On the other hand, recreational facilities are not deductible by WWS as per paragraph 18 (1)(l). As a result, this is not as attractive an option as some of the others.

For Assessment Opportunity #2 (Taxation), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to discuss the tax consequences of some of the potential employee benefits.

**Competent** – The candidate discusses the tax consequences of some of the potential employee benefits.

**Competent with distinction** – The candidate discusses the tax consequences of several of the potential employee benefits.

## Assessment Opportunity #3 (Breadth Opportunity)

The candidate compares the options of repairing or replacing the vacuums.

*The candidate demonstrates competence in Finance.*

**CPA Map Competencies:***Technical:*

5.3.1 Develops or evaluates capital budgeting processes and decisions (Core – Level B)

*Enabling:*

2.1.1.1 Obtains an initial understanding of the problem and its context

2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis

2.1.3.1 Identifies the purpose of computations and analyses, and considers qualitative factors

2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis

2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences

2.1.4.5 Integrates information and the results of quantitative and qualitative analyses to evaluate alternative solutions/conclusions

2.1.5.3 Develops implementation plans for recommendation(s)

I performed a net present value calculation to compare the cost of repairing to that of replacing the vacuums. As you can see from my calculations below, from a quantitative standpoint, the preferable option is to replace the vacuums rather than repair them, by a difference of almost \$1 million. This large difference is due to the increased production capacity the new vacuums would provide, given WWS has the demand to support it.

<i>Repair</i>	<b>Year 0</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	<b>Note</b>
Cost to repair	\$ (300,000)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	
Maintenance	0	(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	
Opportunity cost – lost contribution margin	0	(380,655)	(380,655)	(380,655)	(380,655)	(380,655)	1
	(300,000)	(410,655)	(410,655)	(410,655)	(410,655)	(410,655)	
Net present value (10%)	(1,856,706)						
<i>Replace</i>	<b>Year 0</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>	<b>Year 5</b>	
Purchase price	(1,200,000)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	
Sale of old vacuums	270,000	0	0	0	0	0	
Warranty	(60,000)	0	0	0	0	0	
Maintenance	0	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	
Salvage value	0	0	0	0	0	240,000	
	(990,000)	(6,000)	(6,000)	(6,000)	(6,000)	234,000	
Net present value (10%)	<u>(863,724)</u>						
Difference in present values	<u>\$ (992,982)</u>						

Note 1 – See contribution margin calculation farther on in this report.

From a qualitative standpoint, the repaired equipment also poses additional risk. The repair work does not come with a warranty (which is available with the new equipment). Despite being repaired, the vacuums may not be as reliable as new vacuums or able to meet their intended capacity.

Furthermore, the new vacuums allow you to sell more kayaks per year than you otherwise could. While this has been considered quantitatively, it might have a greater impact than these numbers show. The customers you turn away over the course of the next five years will go elsewhere to buy their kayaks. The next time they head out to buy a new one, they may continue to go to the other merchant. You could lose these customers not only for the five-year life of the repaired vacuums, but potentially forever. However, it should be noted that the new vacuums will only allow you to produce 9% more than the current demand (10,909 versus 10,000 kayaks), as calculated further in this report. If demand increases or goes above the estimates, you might not be able to meet it even with new vacuums.

My recommendation is to buy the new vacuums as soon as possible.

For Assessment Opportunity #3 (Finance), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to prepare a quantitative analysis of the options to repair and to replace the vacuums.

**Competent** – The candidate prepares a quantitative analysis of the options to repair and to replace the vacuums.

**Competent with distinction** – The candidate prepares a thorough quantitative analysis of the options to repair and to replace the vacuums.

#### **Assessment Opportunity #4 (Depth and Breadth Opportunity)**

The candidate calculates the opportunity cost of repairing the vacuums instead of replacing them.

*The candidate demonstrates competence in Management Accounting.*

**CPA Map Competencies:***Technical:**3.5.1 Performs sensitivity analysis (Core – Level A)**3.5.2 Evaluates sustainable profit maximization and capacity management performance (Contribution margin analysis Core – Level A, Production planning in a scarce resources environment Core – Level B)**Enabling:**2.1.1.1 Obtains an initial understanding of the problem and its context**2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis**2.1.1.3 Exercises judgment in determining whether an issue requires attention**2.1.2.1 Identifies the purpose and type(s) of information to be gathered**2.1.3.4 Chooses and applies appropriate analysis techniques**2.1.3.5 Explains how trends, relationships, or other patterns affect conclusions or lead to the need for further analysis**2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences**2.1.4.5 Integrates information and the result of quantitative and qualitative analyses to evaluate alternative solutions/conclusions**2.1.4.6 Extends analyses beyond immediate, short-term effects to evaluate longer-term, indirect implications*

There is a difference between the number of kayaks that can be processed by the repaired vacuums and the number repaired by the new vacuums. Therefore, it is important to compare the number that can be produced under each scenario with the number that can be sold to determine whether WWS can meet demand under each option.

<b>Number of hours available per year</b>	
Number of hours available per vacuum per year	2,000
Number of vacuums	6
Number of hours available per year	12,000

<b>Number of kayaks that can be produced per year</b>	<b>Repair</b>	<b>Replace</b>
Number of hours available	12,000	12,000
Number of hours needed per kayak	1.3	1.1
Number of kayaks that can be produced	9,231	10,909
Annual demand	10,000	10,000
Annual demand in excess of production	769	0
Number of additional kayaks produced if vacuums are replaced	769	

With the above calculation, we see that vacuum capacity is a constraint if the vacuums are repaired. However, the deficit disappears if the vacuums are replaced instead. Having new vacuums will allow WWS to meet the full demand and will, therefore, increase profits.

The additional capacity generated by the new vacuums would enable WWS to manufacture and sell 769 additional kayaks. Since each kayak brings a contribution margin of \$495, this equates to an opportunity cost of \$380,655, as shown in the table below:

<b>Contribution margin</b>	
Price	<u>\$2,400</u>
<i>Variable costs</i>	
Direct materials	665
Direct labour	240
Variable overhead	<u>1,000</u>
	<u>1,905</u>
Contribution margin per kayak	<u>\$ 495</u>
Number of additional kayaks produced if vacuums are replaced	<u>769</u>
Opportunity costs – lost contribution margin	<u>\$380,655</u>

Unless the vacuums are replaced or space is made available to install more vacuums, WWS will not be able to completely meet the demand for kayaks. Senior-level management should be made aware that opting for new vacuums would be beneficial, since demand is greater than capacity and is still growing.

For Assessment Opportunity #4 (Management Accounting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to calculate the opportunity cost of repairing the vacuums instead of replacing them.

**Competent** – The candidate calculates the opportunity cost of repairing the vacuums instead of replacing them.

**Competent with distinction** – The candidate thoroughly calculates the opportunity cost of repairing the vacuums instead of replacing them.

**MEMO**

To: Alex Yang, Finance & Accounting  
Cc: Carolyn Babatundé, Manager, Kayak Manufacturing Division  
From: CPA

Alex,

As you requested, here is the information I gathered on the accounting treatment of the current vacuums.

CPA

**Assessment Opportunity #5 (Depth and Breadth Opportunity)**

The candidate discusses the accounting treatment of the exchange of moulding equipment.

*The candidate demonstrates competence in Financial Reporting.*

**CPA Map Competencies:**

*Technical:*

*1.2.2 Evaluates treatment for routine transactions (Core – Level A)*

*Enabling:*

*2.1.1.1 Obtains an initial understanding of the problem and its context*

*2.1.1.2 Divides larger problems into appropriate sub-problems to facilitate analysis*

*2.1.1.3 Exercises judgment in determining whether an issue requires attention*

*2.1.2.2 Uses appropriate methods to gather or develop relevant information*

*2.1.3.2 Determines whether precise calculations, estimates, forecasts, or projections are required*

*2.1.3.4 Chooses and applies appropriate analysis techniques*

*2.1.4.2 Analyzes cause-and-effect relationships and makes logical inferences*

*2.1.5.1 Develops appropriate decision criteria and uses the criteria to select and justify a preferred solution/conclusion or to rank potential solutions*

*2.1.6.2 Uses brainstorming or other techniques to search for alternatives, issues, perspectives, and implications not already identified*

Per ASPE 3831 – *Non-monetary transactions*, paragraph 5 (f)(i):

*Non-monetary transactions are either:*

- (i) *non-monetary exchanges, which are exchanges of non-monetary assets, liabilities or services for other non-monetary assets, liabilities or services with little or no monetary consideration involved; or*
- (ii) *non-monetary non-reciprocal transfers, which are transfers of non-monetary assets, liabilities or services without consideration. Non-reciprocal transfers include, but are not limited to:*
  - *donations of non-monetary assets or services;*
  - *payments of dividends-in-kind;*
  - *stock dividends when the shareholder has the option of receiving cash or shares; and*
  - *the distribution of assets to owners in the liquidation of all or part of an entity.*

*The issue of shares in a stock split and the payment of non-optional stock dividends are not non-reciprocal transfers.*

WWS exchanged moulding equipment with a third party, which is an exchange of a non-monetary asset for another non-monetary asset. There was also an exchange of \$2,000 cash, but that would be considered “little monetary consideration,” given the fair value of the equipment is \$124,000 from WWS’s perspective and the cash represents 1.6% of the transaction value.

Then, per paragraph 6:

*An entity shall measure an asset exchanged or transferred in a non-monetary transaction at the more reliably measurable of the fair value of the asset given up and the fair value of the asset received, unless:*

- (a) *the transaction lacks commercial substance;*
- (b) *the transaction is an exchange of a product or property held for sale in the ordinary course of business for a product or property to be sold in the same line of business to facilitate sales to customers other than the parties to the exchange;*
- (c) *neither the fair value of the asset received nor the fair value of the asset given up is reliably measurable; or*
- (d) *the transaction is a non-monetary non-reciprocal transfer to owners to which paragraph 3831.14 applies.*

Paragraph 11 helps determine whether the transaction has commercial substance:

*A non-monetary transaction has commercial substance when the entity's future cash flows are expected to change significantly as a result of the transaction. The entity's future cash flows are expected to change significantly when:*

- (a) the configuration of the future cash flows of the asset received differs significantly from the configuration of the cash flows of the asset given up (see paragraph 3831.12); or*
- (b) the entity-specific value of the asset received differs from the entity-specific value of the asset given up, and the difference is significant relative to the fair value of the assets exchanged.*

For criterion (a) above, paragraph 12 states:

*The configuration of future cash flows is composed of the risk, timing and amount of the cash flows. A change in any one of these considerations is a change in the configuration.*

The configuration of the future cash flows of the equipment received would be very similar to that of the equipment given up, since there is no real impact on capacity. It was mentioned that the repairs and maintenance will be easier but not cheaper, so it does not seem that it will have a significant impact on the cost of maintenance and repairs.

As for criterion (b), paragraph 13 states:

*Entity-specific value, resulting from entity-specific measurement, differs from fair value. It attempts to capture the value of an item in the context of the reporting entity. The entity uses its expectations about its use of the asset rather than the use assumed by marketplace participants. When a transaction has commercial substance, it is measured at fair value rather than entity-specific value.*

In this case, there is no impact on production capacity; therefore, the entity-specific value of both assets seems to be similar for WWS.

Since neither of those two criteria are met, the transaction lacks commercial substance, and we do not need to look at the rest of the criteria.

According to paragraph 7:

*An entity shall measure an asset exchanged or transferred in a non-monetary transaction that is not measured at fair value in accordance with paragraph 3831.06 at the carrying amount of the asset given up (after reduction, when appropriate, for impairment) adjusted by the fair value of any monetary consideration received or given.*



Therefore, WWS should record the equipment received at \$86,000, which is the carrying amount of the equipment transferred out (\$84,000) adjusted by the fair value of the monetary consideration (\$2,000). The journal entry for this transaction should have been as follows:

DT New equipment	\$86,000	
CT Old equipment		\$84,000
CT Cash		\$2,000

The correcting entry should be:

DT Gain	\$40,000	
CT New equipment		\$40,000

For this Assessment Opportunity #5 (Financial Reporting), the candidate must be ranked in one of the following five categories:

**Not addressed** – The candidate does not address this assessment opportunity.

**Nominal competence** – The candidate does not meet the standards of reaching competence.

**Reaching competence** – The candidate attempts to discuss the accounting treatment of the exchange of moulding equipment.

**Competent** – The candidate discusses the accounting treatment of the exchange of moulding equipment.

**Competent with distinction** – The candidate thoroughly discusses the accounting treatment of the exchange of moulding equipment.

**APPENDIX E**

**RESULTS BY ASSESSMENT OPPORTUNITIES FOR DAY 2 AND DAY 3**

**THE LEVEL 2 DEPTH TEST (DAY 2 and DAY 3)****Financial Reporting:**

		NA	NC	RC	C	CD	C+CD
<b>Day 2 Common</b>							
<b>AO1</b>	<b>Revenue recognition (IFRS)</b>	1%	22%	36%	38%	3%	<b>41%</b>
<b>AO2</b>	<b>Research &amp; development costs</b>	1%	6%	29%	62%	2%	<b>64%</b>
<b>AO3</b>	<b>Investment property</b>	4%	36%	21%	38%	1%	<b>39%</b>
<b>AO4</b>	<b>Non-GAAP measures</b>	14%	20%	43%	22%	1%	<b>23%</b>
<b>Day 3 – Q2 Kitchen Apparel</b>							
<b>AO2</b>	<b>Foreign exchange &amp; subsequent event</b>	1%	17%	54%	28%	0%	<b>28%</b>
<b>Day 3 – Q3 Wicked Water</b>							
<b>AO5</b>	<b>Non-monetary transaction</b>	6%	31%	23%	29%	11%	<b>40%</b>

**Management Accounting:**

		NA	NC	RC	C	CD	C+CD
<b>Day 2 Common</b>							
<b>AO5</b>	<b>Variance analysis</b>	6%	15%	43%	34%	2%	<b>36%</b>
<b>AO6</b>	<b>Target sales/break-even</b>	10%	17%	24%	47%	2%	<b>49%</b>
<b>Day 3 – Q1 Sally's Good Furniture</b>							
<b>AO1</b>	<b>Quality of data used</b>	1%	10%	39%	39%	11%	<b>50%</b>
<b>AO4</b>	<b>NEF order (Quant)</b>	3%	12%	46%	23%	16%	<b>39%</b>
<b>Day 3 – Q3 Wicked Water</b>							
<b>AO4</b>	<b>Opportunity cost</b>	13%	36%	21%	26%	4%	<b>30%</b>

**THE LEVEL 3 DEPTH TEST ROLES (DAY 2)**

<b>Audit and Assurance</b>		<b>Papers</b>	<b>NA</b>	<b>NC</b>	<b>RC</b>	<b>C</b>	<b>CD</b>	<b>C+CD</b>
<b>AO7</b>	<b>Independence</b>	478	1%	19%	31%	47%	2%	<b>49%</b>
<b>AO8</b>	<b>Audit plan revisions</b>	478	0%	12%	37%	45%	6%	<b>51%</b>
<b>AO9</b>	<b>Procedures – acctg issues</b>	478	4%	30%	26%	33%	7%	<b>40%</b>
<b>AO10</b>	<b>Procedures – CAATs queries (DAIS)</b>	478	7%	26%	21%	42%	4%	<b>46%</b>
<b>AO11</b>	<b>Impact of sampling errors</b>	478	3%	43%	26%	27%	1%	<b>28%</b>
<b>AO12</b>	<b>Internal control weaknesses</b>	478	1%	14%	38%	42%	5%	<b>47%</b>
<b>AO13</b>	<b>Income statement forecast</b>	478	2%	34%	26%	33%	5%	<b>38%</b>

<b>Finance</b>		<b>Papers</b>	<b>NA</b>	<b>NC</b>	<b>RC</b>	<b>C</b>	<b>CD</b>	<b>C+CD</b>
<b>AO7</b>	<b>Preferred shares</b>	120	1%	9%	41%	46%	3%	<b>49%</b>
<b>AO8</b>	<b>Germany expansion financing</b>	120	0%	2%	36%	59%	3%	<b>62%</b>
<b>AO9</b>	<b>Lease vs. buy</b>	120	1%	13%	37%	46%	3%	<b>49%</b>
<b>AO10</b>	<b>New customer arrangement</b>	120	5%	23%	39%	33%	0%	<b>33%</b>
<b>AO11</b>	<b>Hedging</b>	120	6%	17%	53%	24%	0%	<b>24%</b>
<b>AO12</b>	<b>Data quality (DAIS)</b>	120	12%	19%	28%	40%	1%	<b>41%</b>
<b>AO13</b>	<b>Valuation of Drug F</b>	120	6%	37%	30%	27%	0%	<b>27%</b>

**THE LEVEL 3 DEPTH TEST ROLES (DAY 2)**

Performance Management		Papers	NA	NC	RC	C	CD	C+CD
AO7	SWOT and risk mitigation	380	0%	1%	27%	68%	4%	<b>72%</b>
AO8	Biological drugs (alliance or acquisition)	380	1%	4%	31%	62%	2%	<b>64%</b>
AO9	In-house or outsourcing of clinical testing	380	2%	9%	39%	50%	0%	<b>50%</b>
AO10	Data integrity and sharing (DAIS)	380	1%	11%	43%	45%	0%	<b>45%</b>
AO11	Governance structure	380	1%	29%	43%	27%	0%	<b>27%</b>
AO12	New vitamin product pricing strategy	380	5%	9%	52%	34%	0%	<b>34%</b>
AO13	Quality management (TQM)	380	3%	37%	38%	22%	0%	<b>22%</b>

Taxation		Papers	NA	NC	RC	C	CD	C+CD
AO7	Association	50	2%	34%	48%	10%	6%	<b>16%</b>
AO8	Calculate taxable income	50	2%	4%	26%	48%	20%	<b>68%</b>
AO9	Acctg issues (Qual) & CCA (Quant)	50	2%	22%	30%	42%	4%	<b>46%</b>
AO10	Calculate taxes payable	50	6%	18%	32%	32%	12%	<b>44%</b>
AO11	Employee benefits	50	2%	8%	28%	60%	2%	<b>62%</b>
AO12	Asset tracking (DAIS)	50	12%	28%	40%	20%	0%	<b>20%</b>
AO13	CCPC status	50	6%	20%	32%	28%	14%	<b>42%</b>

**THE LEVEL 4 BREADTH TEST (DAY 2 AND DAY 3, BY COMPETENCY AREA)****Financial Reporting:**

		NA	NC	RC	C	CD	RC+C+CD
<b>Day 2 Common</b>							
AO1	Revenue recognition (IFRS)	1%	22%	36%	38%	3%	77%
AO2	Research & development costs	1%	6%	29%	62%	2%	93%
AO3	Investment property	4%	36%	21%	38%	1%	60%
AO4	Non-GAAP measures	14%	20%	43%	22%	1%	66%
<b>Day 3 – Q2 Kitchen Apparel</b>							
AO2	Foreign exchange & subsequent event	1%	17%	54%	28%	0%	82%
<b>Day 3 – Q3 Wicked Water</b>							
AO5	Non-monetary transaction	6%	31%	23%	29%	11%	63%

**Management Accounting:**

		NA	NC	RC	C	CD	RC+C+CD
<b>Day 2 Common</b>							
AO5	Variance analysis	6%	15%	43%	34%	2%	79%
AO6	Target sales/ break-even	10%	17%	24%	47%	2%	73%
<b>Day 3 – Q1 Sally's Good Furniture</b>							
AO1	Quality of data used	1%	10%	39%	39%	11%	89%
AO4	NEF order (Quantitative)	3%	12%	46%	23%	16%	85%
<b>Day 3 – Q3 Wicked Water</b>							
AO4	Opportunity cost	13%	36%	21%	26%	4%	51%

**THE LEVEL 4 BREADTH TEST (DAY 2 AND DAY 3, BY COMPETENCY AREA)**

<b>Strategy and Governance</b>		<b>NA</b>	<b>NC</b>	<b>RC</b>	<b>C</b>	<b>CD</b>	<b>RC+C+CD</b>
<b>III-1 AO2</b>	<b>Technology solution strategic alignment</b>	1%	9%	53%	33%	4%	<b>90%</b>
<b>III-1 AO5</b>	<b>NEF order (Qualitative)</b>	7%	18%	29%	37%	9%	<b>75%</b>
<b>III-2 AO1</b>	<b>Operational risks</b>	1%	4%	31%	61%	3%	<b>95%</b>
<b>III-3 AO1</b>	<b>Improving labour relations</b>	2%	9%	34%	37%	18%	<b>89%</b>

<b>Audit and Assurance</b>		<b>NA</b>	<b>NC</b>	<b>RC</b>	<b>C</b>	<b>CD</b>	<b>RC+C+CD</b>
<b>III-1 AO3</b>	<b>Control weaknesses</b>	1%	6%	35%	47%	11%	<b>93%</b>
<b>III-1 AO7</b>	<b>Audit procedures (due diligence)</b>	5%	17%	35%	34%	9%	<b>78%</b>
<b>III-2 AO3</b>	<b>Risk of material misstatement</b>	2%	32%	36%	28%	2%	<b>66%</b>

<b>Finance</b>		<b>NA</b>	<b>NC</b>	<b>RC</b>	<b>C</b>	<b>CD</b>	<b>RC+C+CD</b>
<b>III-1 AO6</b>	<b>Business valuation</b>	2%	12%	27%	42%	17%	<b>86%</b>
<b>III-2 AO4</b>	<b>Working capital ratios and management</b>	3%	24%	38%	32%	3%	<b>73%</b>
<b>III-3 AO3</b>	<b>Repair or replace</b>	4%	35%	19%	27%	15%	<b>61%</b>

<b>Taxation</b>		<b>NA</b>	<b>NC</b>	<b>RC</b>	<b>C</b>	<b>CD</b>	<b>RC+C+CD</b>
<b>III-2 AO5</b>	<b>Personal taxes payable</b>	3%	8%	17%	66%	6%	<b>89%</b>
<b>III-2 AO6</b>	<b>Corporate taxes payable and incorporation</b>	14%	22%	30%	32%	2%	<b>64%</b>
<b>III-3 AO2</b>	<b>Employee benefits</b>	2%	10%	32%	42%	14%	<b>88%</b>

**APPENDIX F**

**BOARD OF EXAMINERS' COMMENTS ON DAY 2 AND DAY 3 SIMULATIONS**



**APPENDIX F  
BOARD OF EXAMINERS' COMMENTS ON DAY 2 SIMULATION**

<b>Paper/Simulation:</b>	<b>Day 2 (RMZ) – Role Case Common</b>
<b>Estimated time to complete:</b>	300 minutes
<b>Simulation difficulty:</b>	Average to Hard
<b>Competency Map coverage:</b>	Financial Reporting (4); and Management Accounting (2).

**Evaluators' comments by COMMON Assessment Opportunity (AO) for all roles**

**AO#1 (Revenue Recognition-IFRS) (Fin Rep)**

Candidates were asked to discuss how to account for the revenue under RMZ's new contract with Sheppard General Hospital. General information regarding the new contract was provided in Appendix I, and further details were provided in Appendix III in the form of an excerpt from the contract. In addition, a note was found in Appendix III indicating that the free units would have to be provided by RMZ based on purchases to date. To demonstrate competence, candidates were expected to analyze the various steps of *IFRS 15 Revenue from contracts with customers*, using appropriate case facts, and allocate the revenue from the contract appropriately, based on having identified two separate performance obligations, and to provide a supported conclusion that was consistent with their analysis.

Given that revenue recognition is considered a fundamental area of financial reporting, candidate performance was not as strong as expected on this AO. Most candidates correctly identified the five relevant steps in IFRS 15, and attempted to analyze the transaction using these criteria and some of the case facts. Most allocated the transaction price across all units correctly, regardless of whether they properly analyzed the performance obligations. Where candidates struggled was in applying the performance obligation criteria. Many concluded that a portion of the revenue should be deferred, or stated that the criteria had been "met," without analyzing the number of performance obligations or explaining why. Other candidates' conclusions were inconsistent with their analysis of the performance obligations and allocation of the contract price, often stating that there was only one performance obligation but then allocating the transaction price as if there were two distinct obligations, thus forming an overall conclusion that was inconsistent with other aspects of their analysis.

Strong candidates discussed the performance obligation criteria in more depth by clearly stating that there were two distinct obligations, and explaining why. These candidates recognized that Sheppard's ability to receive the free units was an additional right under the contract, as Sheppard could benefit from those additional units on their own, regardless of whether they were purchased at full price or received for free. Strong candidates were also likely to conclude consistently with their analysis and provide appropriate journal entries, often integrating the impact of their adjustment with the user's debt-to-EBITDA ratio.

Weak candidates often confused the free units under the new contract with a contingency, and discussed the need for recording a provision to account for them. Other weak candidates attempted to bring in less relevant sections of IFRS 15, such as variable consideration, and were generally confused with how to apply the five steps. These candidates were also more likely to discuss step 1 (identify the contract with the customer) at length and to allocate the transaction price inappropriately, either by allocating inconsistently with their conclusion regarding performance obligations or with a calculation that contained significant errors.

### **AO#2 (R&D Costs) (Fin Rep)**

Candidates were asked to address the accounting treatment of the expenditures that were capitalized as intangible assets for Drug C. Relevant details were presented in Appendix IV, which provided information regarding the research and testing phases of drug research, the status of RMZ's drugs in development, and details regarding the costs currently capitalized. To demonstrate competence, candidates were expected to identify the correct Handbook section, *IAS 38 Intangible assets*, and apply various case facts to each relevant criterion to support their conclusion as to which costs to expense or capitalize.

Candidates performed well on what was the easiest Common financial reporting AO. Most candidates identified the correct section of the Handbook with which to assess the situation, and applied case facts to the six criteria of internally-generated intangible assets. Most candidates then assessed several of the costs listed in the appendix and suggested an adjustment based on which costs should be expensed rather than capitalized.

Strong candidates brought in additional case facts to assess the six development criteria and discussed each of the capitalized costs presented in detail, often linking their eligibility to be capitalized to specific guidance from the Handbook. Strong candidates were also able to link the impact of the adjustments to the user's loan covenants.

Most weak candidates identified *IAS 38* as the right Handbook section to apply, but often simply pasted Handbook criteria, at length, with limited application of case facts to those criteria. Weak candidates often repeated the same case fact several times in response to each criterion (i.e., that the drug has been approved), where they could have used other, more relevant, case facts to support the criteria. Weak candidates often inappropriately concluded that all the costs should be expensed or capitalized without supporting their conclusion. Some weak candidates only attempted to apply the first part (identification) of the intangible asset Handbook section.

**AO#3 (Investment Property) (Fin Rep)**

Candidates were asked to assess the accounting treatment of RMZ's investment property at 732 Pendrell Street, and to comment on the available options for recording the carrying value. Information regarding this property was provided in Appendix I, and further details regarding the two appraisal reports were provided in Appendix V. To demonstrate competence, candidates were expected to identify and discuss the accounting policy choices available to RMZ under *IAS 40 Investment property* (i.e., cost model or fair value model). Using the case facts provided, candidates were also expected to discuss how implementing one of the two methods would impact the financial statements, and to make a supported conclusion as to which method to choose. Candidates could also have discussed the impact on the debt covenants.

Candidates performed below expectation on this AO, which was considered a more difficult AO. While some candidates recognized IAS 40 was the correct Handbook section to apply and identified the two options available for recording the carrying value, most candidates were unable to take their discussion any further. Many candidates simply concluded which option should be chosen without further analysis, for example, concluding that the cost method needs to be chosen without explaining what impact this choice would have on the financial statements or the user. Others appeared confused as to how to apply the guidance of IAS 40, as some candidates began their responses using the correct section, but after being directed to IAS 16 in paragraph 40.62 of IAS 40 (the transition rules from PPE to investment property), attempted to use IAS 16 for the remainder of their response, often leading them to discuss impairment or revaluation adjustments.

Strong candidates discussed at least one of the cost model or fair value model in greater depth, often by identifying the adjustments to fair value that were necessary at either the May 1, 2020, "change of use" date or the December 31, 2020, year-end date. Other strong candidates correctly indicated the amount of depreciation that would need to be taken when employing the cost model. Strong candidates were likely to conclude on which option made the most sense in the context of the scenario by referring to the user's needs, often linking the choice to the debt-to-EBITDA covenant.

Weak candidates did not identify the two options available for recording the carrying value as they incorrectly assumed that the investment property was to be assessed using *IAS 16 Property, plant and equipment*. Other weak candidates attempted to discuss the accounting treatment of the property using *IAS 36 Impairment of assets*, which was incorrect as there was no indication that the property was impaired, and candidates were told that no impairment losses had ever been recognized on the asset. Some weak candidates also discussed the treatment of the lease, even though the case clearly stated that the lease was properly accounted for.

**AO#4 (Non-GAAP Measures) (Fin Rep)**

Candidates were asked to respond to several questions posed by RMZ's controller regarding non-GAAP measures, including: what are the drivers of the increased use of non-GAAP measures; what are the concerns related to externally reporting such measures; what are the non-GAAP reporting needs of RMZ's shareholders and lenders; and what types of adjustments would be required if RMZ reported non-GAAP net income? To demonstrate competence, candidates were expected to address some of these questions as a way of demonstrating an understanding of non-GAAP measures. Candidates should have integrated information provided in the introduction to the case with respect to the users and their needs.

Candidates struggled with this AO more than expected. The BOE considered this a more difficult AO, but was surprised that many candidates did not know what non-GAAP measures were, often confusing these measures with non-GAAP reporting frameworks, such as cash and tax bases of accounting. While many candidates attempted to discuss the users' needs, they often framed their discussion in the wrong context, for example, by discussing the users' needs for IFRS financial statements, rather than what non-GAAP information these users might look for. Some candidates noted drivers and concerns for non-GAAP reporting frameworks, such as reasons why organizations would choose to use a cash or a tax basis of accounting, or the concerns associated with doing so. Other discussions were generic in nature or did not apply to the context of the questions raised, addressing, for example, the cost or complexity of preparing IFRS financial statements, which did not answer the controller's questions or demonstrate knowledge of non-GAAP measures.

Strong candidates demonstrated an understanding of non-GAAP measures, often linking these measures to the lender's use of the debt-to-EBITDA covenant or to profit information that would be useful to current or potential shareholders. Strong candidates provided discussions regarding the drivers and concerns of non-GAAP measures that were both tailored to the simulation and demonstrated an understanding of non-GAAP measures, by clearly explaining the additional useful information that could be provided by non-GAAP measures, while acknowledging and discussing the concerns regarding their comparability.

Weak candidates often did not address this AO, or skipped some of the questions posed to them by the client. Weak candidates who attempted the AO typically discussed reporting frameworks, such as cash and tax bases of accounting, demonstrating a lack of understanding of non-GAAP measures. Those who attempted to discuss the users' needs or concerns usually did so from the perspective of IFRS statements, such as noting the shareholders' need for IFRS statements in order to determine the profitability of their investment.

**AO#5 (Variance Analysis) (Mgmt Acct)**

Candidates were asked to quantify and explain the variances for the packaging costs for Drug B for the month of January. Appendix VI provided detailed information about the price and volume of packaging used in January for Drug B, as well as the budgeted and actual units produced. The notes to the Statement of Income and Comprehensive Income in Appendix II also provided information regarding the reasons behind the potential variances. To demonstrate competence, candidates were expected to calculate both the quantity and rate variances with reasonable accuracy, and provide some explanation for why the variances occurred, using the case facts provided.

Candidates had a more difficult time than expected on this AO. Some candidates calculated the price variance correctly, but many made several errors in their calculation of the efficiency variance. These errors often included mixing the number of units between the price and efficiency variances, and only including two of the three relevant variables in the calculation. Most candidates concluded appropriately on the nature and direction of the variances, but often did not use case facts, such as the government regulations, to support why these variances might have arisen.

Strong candidates calculated both the price and efficiency variances with only minor errors, and concluded appropriately. Strong responses discussed the variances using case facts, such as the simplified government regulations for packaging requirements and the new supplier of high-quality material.

Weak candidates had significant errors in their calculations of the price and efficiency variances, demonstrating limited technical understanding of variances. These candidates did not offer an explanation as to why the variances might have occurred, and often misinterpreted the results of their calculations, failing to link the direction of the variances with obvious case facts, such as the increase to the average price of materials, thereby labelling an unfavourable variance as favourable.

**AO#6 (Target Sales/break-even) (Mgmt Acct)**

Candidates were asked to calculate how many units of Drug B RMZ would need to sell at a new price in order to earn the same profit as was earned in the previous period. Information about the previous period sales and costs for Drug B was provided in Appendix VI in the form of a memo from the production manager. Competent candidates were expected to perform a calculation that is similar to a breakeven analysis, with the added adjustment of incorporating the previous level of profit and removing any costs that were not relevant to the analysis, to determine the number of additional units to be sold in order to achieve the same level of profit with the new, lower price. Competent candidates were expected to distinguish fixed from variable costs, and to use a reasonable approach in order to determine an appropriate number of units to be sold.

Candidates performed well on this AO. Most candidates performed a reasonable breakeven calculation and adjusted for a few variable and fixed costs, such as adding the commissions to variable costs or removing the CEO's salary from fixed costs, to arrive at a reasonable total number of units to be sold. Most candidates calculated the target profit correctly and used the appropriate new price of \$51 in their target sales calculation. However, most candidates did not explain the rationale behind their adjustments, making it difficult to understand where their logic was flawed.

Strong candidates refined the adjustments to the variable and fixed costs, such as considering other manufacturing costs to be fixed costs instead of variable costs. The approach used by strong candidates clearly demonstrated their understanding of how to perform a proper breakeven/target calculation, and was typically a more efficient approach, one that focused on a calculation of contribution margins.

Weak candidates had significant deficiencies in their calculations, such as calculating a previous period profit that was incorrect, using revenue instead of profit, or not using the updated price in their calculation for 2021 sales. These responses often did not make any adjustments to variable or fixed costs; instead, the figures from Appendix VI were often simply copied. Weak candidates were also likely to use convoluted approaches to the calculations and did not show their formulas or explain their rationale for their chosen approach.

<b>Paper/Simulation:</b>	<b>Day 2 (RMZ) – Role Case ASSURANCE</b>
<b>Estimated time to complete:</b>	<b>300 minutes</b>
<b>Simulation difficulty:</b>	Average
<b>Competency Map coverage:</b>	Audit and Assurance (7 Assessment Opportunities)

### **Evaluators' comments by Assessment Opportunity (AO) for the ASSURANCE ROLE**

#### **AO#7 (Independence)**

Candidates were asked by Doreen to document any potential independence threats that have arisen related to the current and following years' audits, as a result of information that she recently received regarding the firm's and audit team members' dealings with RMZ. Additional details on the audit team members' and firm's dealings were provided in Appendix VII (Assurance). To demonstrate competence, candidates were expected to provide a reasonable discussion of two of the three potential threats, and provide at least one adequate safeguard to address any of the potential threats identified.

Candidates performed adequately on this AO. Most candidates attempted to discuss two or three of the potential threats presented, and provided safeguards to address those threats. Candidates performed best on the issue related to RMZ having a temporary contract position available for the assistant controller role. Candidates generally identified and adequately explained why there would be a self-review threat if Samantha, an AS employee, accepted the position, and they provided an adequate safeguard. Most candidates also identified that the married relationship of a new manager on the audit team and an RMZ senior scientist could create a potential independence issue, but many could not articulate the implications, or explain how Doug's behaviour might change. However, most candidates provided an adequate safeguard for this issue. Candidates struggled the most with the retired partner issue; many simply repeated the case facts and concluded that no threat to independence existed, without further explanation. Although the conclusion was correct, candidates were expected to explain why there would be no self-interest threat.

Strong candidates generally provided better discussions of the three potential threats, either by more clearly explaining what the potential threat would be, supported by case facts, or by discussing multiple aspects of each issue presented. For example, for the temporary assistant controller role, strong candidates explained what types of work Samantha might be performing as assistant controller, to justify why there would be an increased likelihood that she would review her own work once she returned to the audit, or they recognized that there is also a potential familiarity threat. Strong candidates were also more likely to recognize that there is a difference between the impact on the 2020 audit and the 2021 audit. For the audit manager being married to an RMZ senior scientist issue, strong candidates were more likely to recognize that, despite Laura being a senior scientist, the type of work she is performing would need to be considered to determine whether a significant threat to independence existed, and strong candidates were able to better explain what a familiarity threat is and how it would apply in this situation.

Weak candidates often identified the type of threat that existed, but did not go further to use case facts to explain why the threat would be relevant in this particular situation. Other times, candidates did not show an understanding of the various types of threats to independence, suggesting, for example, that there was an advocacy threat as Doug and Laura were married. Some weak candidates jumped directly to providing safeguards without discussing what the threats to independence were. Without adequately explaining how each situation presented could potentially create a threat to independence, the response was of limited value to the user.

### **AO#8 (Audit Plan Revisions)**

Candidates were asked by Doreen to review the preliminary audit plan prepared by a student on the team. The preliminary audit plan was provided in Appendix VII (Assurance). In addition, information relevant to audit plan revisions, such as risk factors not considered, users of the financial statements, and internal control weaknesses, was provided throughout the case, both in the Common and Assurance sections. Candidates were expected to understand the situation related to RMZ and to use specific case facts in their discussion of the audit plan revisions. To demonstrate competence, candidates were expected to provide a revised audit planning memo that included a reasonable discussion of risk, materiality, and approach.

Although most candidates performed adequately on this AO, the BOE expected to see more strong responses, given the typical nature of this AO. Most candidates provided a reasonable risk discussion that included several risk factors that were not considered by the student, explained how each factor impacted the risk of material misstatement, and concluded on the overall financial statement risk. The most commonly discussed risk factors were management having a bias to manipulate financial results (due to Star and Tatum wanting to sell their ownership in RMZ, the bonus for managers, and employees being dependent on departmental net income, or the debt-to-EBITDA covenant on the existing loan with Confederation Bank), the controller's absence for four months of the year, and that there were already errors found in the financial statements. Most candidates also provided a reasonable materiality analysis by discussing multiple users of the financial statements and choosing an appropriate basis that would address their needs, calculated a planning materiality using updated financial statement amounts, and applied an appropriate percentage, given their selected benchmark. Candidates generally also adjusted their benchmark before calculating materiality, with either the adjustments required, due to the financial reporting errors noted, or adjusting for any expenses that would not have been reflective of normal operations, such as the amount related to abnormal waste. Finally, most candidates suggested a reasonable audit approach, using specific case facts to support their recommendations.



Strong candidates provided more risk factors in their risk assessment and often provided better explanations for the impact that each of those factors would have on the risk of material misstatement. Strong candidates also identified more of the relevant users of the financial statements and provided a more in-depth discussion of them in their materiality discussions. They discussed each user's needs in greater detail and often justified both the basis they chose, that would reflect the user's needs, as well as why they chose a specific percentage within the acceptable range, by linking their choice to the sensitivity of the users. Some strong candidates also provided a discussion and calculation of performance materiality. In addition, strong candidates' audit approach discussions were in more depth, as they often considered all aspects of the factors that would impact the audit approach, such as recognizing that Harry's absence would weaken the overall control environment, but also that his absence was for four months and controls might not have been impacted the rest of the year.

Weak candidates generally did not provide an adequate risk assessment, either because they identified an insufficient number of risk factors or simply listed risk factors without explaining how they would impact the overall financial statement risk. Some weak candidates also provided business risk factors instead of focusing on financial statement risk factors, and therefore had difficulty providing a useful analysis. Weak candidates often had materiality discussions that were vague and did not incorporate relevant case facts. For example, weak candidates often mentioned "shareholders" and "lenders" as users, without specifying who these users are, and their unique, specific needs that make them different from typical shareholders and lenders: that specific shareholders, Star and Tatum, are looking for a strategic buyer; and that an outstanding loan with the Confederation Bank contains a specific covenant. In addition, some weak candidates based their choice of materiality percentage on the overall financial statement risk instead of basing it on the sensitivity of the users, which demonstrated a technical weakness. Weak candidates also often had technical weaknesses in their discussion of the audit approach. For example, they sometimes concluded that the audit approach suggested by the student and the accompanying rationale was appropriate, and provided no further discussion, even though there were clear indications that a combined approach would likely be inappropriate in some areas, such as the equipment and tools purchase processes, while other weak candidates did not consider the control risk at all in their assessment of what audit approach to take.

### **AO#9 (Procedures – Accounting Issues)**

Candidates were asked by Doreen to develop audit procedures for the IFRS accounting issues raised by Harry. To demonstrate competence, candidates were expected to provide a number of procedures that would address the specific risks related to the accounting issues identified.

Candidates struggled on this AO. Overall, most candidates provided sufficient breadth, by providing several procedures for each of the three IFRS accounting issues raised by Harry, but did not provide sufficient depth when describing the suggested procedures. The quality of the procedures provided was often poor, either because they lacked detail, were not effective, or did not address the most significant risks for each accounting issue.

Strong candidates clearly demonstrated that they understood the significant audit risks of each transaction. For example, for the new revenue contract, strong candidates recognized that the contract term related to the number of units to be delivered before the customer would be eligible for the free units, the number of additional free units offered in the contract, and the likelihood of the customer qualifying for the free units, were all critical in assessing whether the transaction has been recorded properly. Strong candidates also understood, for the research and development issue, that the capitalization criteria being met was a significant risk, and provided audit procedures for each of the six criteria. They were also more likely to recognize that, because management had incorrectly capitalized certain expenses based on their nature (e.g., training of the sales force), there was a significant risk of error, and therefore provided additional procedures to address those risks. For the investment property, strong candidates understood that the significant risk was related to whether the property qualified as an investment property, and designed procedures to audit this risk. Strong candidates were also able to provide precise and well-described procedures, clearly noting what external evidence would be obtained and what the auditor should do with that evidence.

Weak candidates tended to only address the typical risks for the accounts that were impacted by the accounting issue identified. For example, many weak candidates proposed reviewing whether there were other errors in the accounts impacted by the financial reporting issues raised, such as suggesting that AS look at RMZ's other buildings to determine whether there are other investment properties, instead of auditing the Gloucester building classification. In addition, weak candidates were more likely to simply rely on management inquiry, instead of trying to provide procedures that would obtain third-party evidence. For example, weak candidates often suggested discussing with management whether the six research and development capitalization criteria were met, without noting what external evidence they could use to corroborate management's claim. Weak candidates also often provided vague procedures, which made it difficult to determine exactly what they were proposing to do, and what risk they were trying to address.

### **AO#10 (CAATs Queries)**

Candidates were asked by Doreen to discuss what CAATs queries to perform on the general ledger for journal entry testing in order to address the risk of management override of controls due to RMZ's year-end bonus. Information on the fields available for query in RMZ's general ledger was provided in Appendix VII (Assurance). To demonstrate competence, candidates were expected to provide a reasonable number of well-explained CAATs queries that would address the risk of management override of controls due to the bonus.

This was the first time for testing CAATs, and candidate performance was very divided: candidates either performed strongly on this AO or not well at all. Most candidates provided several appropriate CAATs queries to perform on the general ledger, demonstrating an understanding of what queries could be performed with CAATs. However, most candidates struggled to explain how the query could address the risk specifically identified by Doreen (i.e., how the queries could detect an overstatement of revenue or an understatement of expenses, as that is how management would manipulate the financial statements to improve their bonus).

Strong candidates not only provided queries that were sufficiently detailed, but also explained why the query would be required or what risk the query would address. For example, strong candidates first suggested that AS should query entries that are outside of business hours, and went on to explain why this is relevant (i.e., if fraudulent entries were to be inputted, they would likely be when fewer employees would be around, which would likely occur outside of business hours). Some strong candidates also integrated analysis from other requireds in responding to this AO, for example, suggesting that, since there are weaknesses in the equipment and tools purchasing processes, financial statement accounts impacted by those processes were more likely to contain fraudulent entries.

Weak candidates generally did not appear to understand what CAATs entailed. Many weak candidates simply provided a heading for the required but did not attempt to answer the request, indicating a potential area of technical weakness. Other weak candidates attempted to address the required, but provided discussions that were not relevant to the request. For example, some weak candidates discussed what internal controls management could put in place in the accounting system to prevent fraudulent entries from being inputted, or how an auditor could test whether the system had appropriate controls, for example, by testing the system with a dummy entry.

### **AO#11 (Impact of Sampling Errors)**

Candidates were asked by Doreen to discuss the impact of the errors found during the substantive testing of sales, on both the audit and the audit report. Information on how sales are inputted into the system, how the sample was selected, and the errors that were found during testing was provided in Appendix VII (Assurance). To demonstrate competence, candidates were expected to discuss some of the things to consider in assessing the next steps to be completed. This could include an analysis of the nature of the errors themselves, such as whether the errors appeared to be isolated or systemic, how the errors would extrapolate to the entire population, and how the errors should be considered in the context of other financial reporting errors already found. Candidates could have also discussed how the errors found would impact the audit or the audit opinion.

Candidates struggled with this AO. The concepts of sampling, and how to treat any errors found, are considered fundamental audit concepts that Assurance candidates are expected to understand, and performance on this AO was disappointing. Most candidates did not demonstrate a good understanding of what to do when errors are found in a sample. They typically recognized that something had to be done with the errors found, and often identified one or two key concepts, such as that additional testing would be required, but did not explain these concepts in any detail. Most candidates also provided a generic discussion of the different types of audit opinions, but did not try to discuss how the errors found would impact the audit opinion to be provided. Very rarely did candidates attempt to extrapolate the errors found in the sample to the full (or a portion of the full) sales population, as most candidates treated the errors as stand-alone and did not consider that the errors, being from a sample, likely suggest that other errors would exist in the full population.

Strong candidates discussed several of the elements that would be important to consider when errors are found in a sample, and adequately applied appropriate case facts to their discussions. For example, in discussing the nature of the errors found, strong candidates incorporated relevant case facts, such as recognizing that all the errors found occurred during Harry's absence, or that the errors found both increased and decreased sales. When discussing the impact of the errors on the audit and audit opinion, strong candidates tended to be more specific in explaining what the impact would be, such as providing details on what the additional testing would look like in terms of sample size and the period covered.

It was difficult for weak candidates to demonstrate any competence on this AO, as they failed to grasp that these were sampling errors. Many weak candidates simply took the total of the errors found, compared it to their calculated materiality, and concluded that, since the amount was not material, no further work was necessary. They also typically provided a generic audit opinion discussion without any application of the current situation to the discussion, and at times the discussions contained technical errors, such as concluding that, if errors are material and pervasive, a qualified (rather than adverse) opinion should be issued.

#### **AO#12 (Internal Control Weaknesses)**

Candidates were asked by Doreen to discuss any weaknesses in internal controls related to the equipment and tools purchase processes, and to recommend improvements. A process description was provided in Appendix VII (Assurance). Candidates were expected to note some of the significant internal control weaknesses related to these processes, which could have included a discussion of the lack of approval for certain purchases, the policy surrounding quotes, the coding of invoices, the lack of tracking of equipment and tools, the deficiencies in the security over the equipment tracking spreadsheet, or the insufficiency of the information tracked. To demonstrate competence, candidates were expected to identify several of the internal control weaknesses, explain the implication of each weakness, and provide a reasonable recommendation to address each weakness.

Candidates performed slightly below expectation on this AO. The most commonly identified weaknesses were that there was no approval for purchases under \$10,000, only one quote was required for purchases over \$50,000 and that quote is not reviewed, and there is a lack of security surrounding the equipment tracking spreadsheet. While most candidates identified several internal control weaknesses in the equipment and tools purchasing processes, they struggled to adequately explain the implication of the weakness in sufficient detail or did not provide a specific recommendation. Candidates often used vague language in their discussions of implications and recommendations, making it difficult to determine whether they understood the issue at hand. For example, they would note that fraud might occur without explaining how fraud could be perpetrated, or suggested that "tools should be tracked" without giving any additional detail on how the tracking should take place.

Strong candidates were able to better explain the implications of each weakness identified. For example, instead of simply stating that the implication of the lack of security around the equipment tracking spreadsheet is that errors can be made, they better explained how the error would occur (e.g., managers may not be aware of how the formulas in the spreadsheet work, or they may make changes to the spreadsheet to cover up any theft). They also provided sufficiently specific recommendations, and provided a broad coverage of areas instead of focusing on only one area.

Weak candidates often did not explain the implications of the internal control weaknesses identified, or did so in very vague terms, for more issues. In addition, the recommendations they provided were often not sufficiently specific. Weak candidates typically spent more time discussing processes that were not problematic, and as a result provided a lot of discussions with limited value to the user.

In addition, many weak candidates tried to find weaknesses in parts of the processes that were functioning well, which reduced their time to address the more significant issues presented. For example, some candidates discussed the fact that the manager signs the packing slip upon receipt of the shipped items, suggesting it is problematic as managers would have access to the goods. However, it would be unrealistic for managers to not be the ones to receive the items they ordered, and the fact that the signed packing slip is then matched to the purchase order and the invoice before payment is issued would be the control that sufficiently addresses any risk of fraud.

### **AO#13 (Income Statement Forecast)**

Candidates were asked by Doreen to assess whether the assumptions used in the income statement forecast for prospective investors are reasonable, and to document the procedures required to audit the assumptions. Information on the assumptions used to prepare the forecast was provided in Appendix VII (Assurance). Some of the case facts required to interpret whether the assumptions used were reasonable were provided in the Common section of the case. To demonstrate competence, candidates were expected to discuss a reasonable number of assumptions used in the forecast, and/or the procedures required to audit the assumptions.

Candidates struggled with this AO. While most candidates attempted to determine whether the assumptions used were reasonable by comparing them to historical trends, and concluding, they did not support their conclusions with case facts. For example, most candidates determined that the increase in sales from 2019 to 2020 was approximately 7% (based on the draft 2020 financial statements), and compared that with the assumption used of 20% in 2021, 2022, and 2023, and 10% in 2024 and 2025, concluding that the increase was unreasonable, simply because the percentage is different. However, there were case facts that could have been used to provide a supported analysis, such as that Drug C has not yet started commercial production, there are patents expiring within the forecast period, or that the Patent Medicine Prices Review Board could impact future drug prices. Also, while most candidates understood the risks related to the assumptions to be tested, they had difficulty with the future-oriented context of this AO, and often provided procedures that were historic in nature. For example, candidates suggested that a sample of sales invoices be taken and vouched to supporting documentation to confirm the increase from 2019 to 2020, when they should have suggested looking at signed sales contracts that extend past this fiscal year, to determine whether the future growth percentages were

reasonable. While historic evidence might provide adequate support for some of the assumptions, this was not the case for many of the others.

Strong candidates integrated the appropriate case facts in their analysis of whether the assumptions used by management were reasonable, and recognized that, rather than look at some of the assumptions (such as the percentage increase in selling and marketing, and general and administration expenses) as one blanket assumption, the elements within these line items should be analyzed separately. Strong candidates also provided precise and well-described procedures that clearly considered the future-oriented context of this request. Strong candidates also provided more procedures that covered the full range of the assumptions provided.

Weak candidates attempted to discuss the assumptions used by management, but often stopped at simply calculating the historical trend, and did not provide analysis or conclude on whether the assumptions were reasonable. Weak candidates also provided procedures that were vague and not well described. They were often unable to determine what external documents could help with the auditing of assumptions, only suggesting that the assumptions be discussed with management. These candidates did not seem to understand that, since management provided the forecast and determined the assumptions, corroborating these assumptions with management is of limited use. Weak candidates, when they did provide audit procedures outside of inquiry with management, focused almost exclusively on procedures that would verify historical information rather than the future-oriented assumptions. Some weak candidates also spent time discussing what a CSAE 3000 report was, or alternatives to this report. This was unnecessary, given that the partner of the engagement had already determined the appropriate report to use, and would be unlikely to suggest an inappropriate report.

<b>Paper/Simulation:</b>	<b>Day 2 (RMZ) – Role Case FINANCE</b>
<b>Estimated time to complete:</b>	300 minutes
<b>Simulation difficulty:</b>	Average
<b>Competency Map coverage:</b>	Finance (7 Assessment Opportunities)

### **Evaluators' comments by Assessment Opportunity (AO) for the FINANCE ROLE**

#### **AO#7 (Preferred Shares)**

Candidates were asked to discuss the advantages and disadvantages of issuing cumulative preferred shares to Star. Details regarding the preferred shares were provided in Appendix VII (Finance). To demonstrate competence, candidates were expected to discuss several advantages and disadvantages of issuing cumulative preferred shares, based on the terms of the preferred shares presented in the appendix, and to conclude on whether RMZ should issue these shares. Financial information from the candidate's response to the Common assessment opportunities could have been integrated into the calculation of RMZ's debt-to-equity ratio.

Candidates performed as expected on this AO. To support whether RMZ should issue the cumulative preferred shares, most candidates discussed the debt-to-equity ratio, voting control, change in control provisions, and dividends (such as the advantages of being able to defer dividend payments). Many candidates also concluded on whether RMZ should issue these shares from a qualitative perspective.

Strong candidates discussed various advantages and disadvantages of issuing the preferred shares, often recalculating the debt-to-equity ratio and discussing the cumulative nature of the dividend in detail. Strong candidates demonstrated good integration by using the balance sheet information presented in the Common appendices when calculating the revised debt-to-equity ratio. Some strong candidates also discussed Star's perspective and whether they would be interested in the preferred shares, and whether a venture capitalist would want preferred shares without voting control.

Weak candidates identified some advantages and disadvantages but often lacked depth as they restated the terms of the preferred shares but did not explain the impact of those terms on RMZ. Some weak candidates provided a technically weak analysis by recalculating the debt-to-equity ratio, assuming that the preferred shares would be treated as debt although the required clearly indicated they should be treated as equity, or indicating that preferred share dividends would impact EBITDA.

**AO#8 (Germany Expansion Financing)**

Candidates were presented with information regarding a proposed expansion and purchase of a manufacturing facility in Germany. Candidates were asked to discuss the financial risks of this project, analyze two financing options, and recommend which financing option RMZ should accept. Candidates were provided with information regarding the proposed expansion and the financing options in Appendix VII (Finance). To demonstrate competence, candidates were expected to address a few financial risks, based on the description of the proposal, discuss some advantages and disadvantages of both loan options, and conclude on which financing option RMZ should pursue. In discussing the loan options, candidates were expected to compare the terms of the loans (such as the interest rate, covenants, term, fees, and annual payments) in order to explain why one loan would be more beneficial to RMZ than the other.

Candidates performed as expected on this AO. Most candidates discussed some financial risks (typically exchange rate risk and operational risk), compared the various aspects of the two financing options, and concluded on the financing option that RMZ should pursue.

Strong candidates provided more depth in their analysis, using case facts to support their discussion of the risks and their comparison of the financing options. For example, they explained the types of operational risks that RMZ could face when operating in a new country and selling to countries where RMZ does not currently have approvals. Strong candidates also integrated the cash flow information provided in the appendix into their assessment of whether RMZ could repay the two financing options by calculating the annual loan payments for each option and comparing to the cash flows.

Weak candidates did not address the financial risks, or only did so briefly, typically only identifying or briefly discussing the exchange rate risk without explaining why this should be of concern to RMZ. Weak candidates often listed case facts in their analysis of the two financing options, for example, creating a table that listed the terms of the two loans, but did not go further to compare them or explain which option was more advantageous to RMZ. Although candidates were not provided with sufficient information to prepare a net present value assessment of the proposed expansion and were told that a capital budgeting analysis had already been performed, suggesting that such an analysis was not required, some weak candidates still attempted a net present value of the loan payments for the proposed expansion.

**AO#9 (Lease versus Buy)**

Candidates were asked to determine whether RMZ should lease or buy new sealing machines, based on lease and purchase information for the machines presented in Appendix VII (Finance). To demonstrate competence, candidates were expected to prepare a quantitative net present value analysis that incorporated many relevant items, discuss some advantages or disadvantages of leasing, and provide a conclusion on whether RMZ should lease or buy the equipment.

Candidates performed well on this AO. Most candidates attempted a net present value analysis, incorporating several relevant factors (such as the equipment and delivery cost, annual costs, and salvage proceeds), and also discussed some qualitative factors (such as the life, and upfront cost, of the equipment) to support their conclusion.



Strong candidates incorporated more relevant factors into their quantitative analysis, including taxes on the lease, delivery, maintenance and other costs, and tax shield on the upfront cost and the salvage value. Some strong candidates also supported their position in greater depth by discussing several qualitative factors, including the risks associated with bearing maintenance and insurance costs.

Weak candidates provided a brief quantitative analysis that did not include a net present value analysis (for example, by calculating total costs without a present value element, or calculating annual costs without a present value element), or they omitted, or incorrectly incorporated, elements such as the annual costs when they attempted a net present value analysis. Weak candidates typically omitted tax calculations, or misinterpreted the costs (for example, by assuming that the delivery costs were irrelevant). Some weak candidates also did not provide a qualitative analysis or restated case facts without explaining why they would impact RMZ's decision.

### **AO#10 (New Customer Arrangement)**

Candidates were presented with information regarding a new Canadian customer and asked to assess the impact of this transaction on RMZ's working capital (including days in receivables and inventory for 2021), and to discuss any impact on the existing bank covenant. Information on the new customer was provided in Appendix VII (Finance). To demonstrate competence, candidates were expected to address some of the following: quantify the impact of the new customer on days in receivables; quantify the impact of the new customer on days in inventory; discuss the impact of the new customer on the bank covenant; and discuss the impact of the new customer on working capital. Candidates were expected to integrate financial information from the Common role in calculating the ratios.

Candidates found this AO challenging. Most candidates attempted the days in inventory and/or days in receivables calculations, but often had difficulty calculating the revised ratios, incorporating the new customer arrangements. Some candidates calculated the ratios without attempting to revise them, while others calculated the new balances for sales, receivables, inventory, or cost of goods sold, but did not attempt to recalculate the ratios. Some candidates attempted a discussion of working capital, recognizing that additional working capital was needed by RMZ, or discussed the impact of the additional income on the covenant. However, candidates found it difficult to integrate the two discussions and recognize that RMZ needed additional working capital funding, which impacted their outstanding debt (and therefore, the bank covenant).

Strong candidates correctly calculated the days in inventory and days in receivables before and after the transaction, and the increase in the days resulting from the transaction. Some strong candidates recognized that RMZ would need to fund the additional working capital, and provided suggestions for funding it.

Weak candidates did not attempt the days in receivables or days in inventory calculation, or attempted to adjust either receivables, sales, inventory, or cost of goods sold for the new transaction without calculating the ratios. Some weak candidates attempted to discuss the impact of the new transaction on receivables, sales, inventory, or cost of goods sold without calculating the revised balances. Weak candidates also often did not consider the impact of the transaction on working capital or the bank covenant.

**AO#11 (Hedging)**

Candidates were asked to quantify the amount that RMZ would want to hedge and, for each hedging option, discuss the implications if the August 1, 2021, exchange rate is: (i) USD 1.00 = CAD 1.40; or (ii) USD 1.00 = CAD 1.20. Candidates were provided with options to hedge the exchange risk in Appendix VII (Finance). To demonstrate competence, candidates were expected to calculate the amount that RMZ would want to hedge and discuss the forward and put options. Candidates were expected to integrate information in the Common section of the case regarding the percentage of sales, cost of goods sold, and sales and marketing expenses, denominated in US dollars.

This AO required candidates to integrate certain case facts (by calculating the gain or loss under the two scenarios presented for each of the derivatives) with their understanding of forward and put options, making it a slightly more challenging AO. Candidates generally attempted to calculate the amount that RMZ would want to hedge, incorporating the percentage of sales, cost of goods sold, and selling costs, denominated in US dollars, and the percentage of exposure RMZ wants to hedge. Most candidates discussed the forward contract and put option, but some candidates found it challenging to differentiate between the two derivatives. Some candidates attempted to calculate the financial impact of the derivatives on RMZ at the specified exchange rates; however, many found it challenging to quantify the impact as they did not always recognize that, for an option, the holder does not have to exercise the option if it is not in the money.

Strong candidates incorporated the timing of the derivatives to calculate the amount that RMZ would want to hedge. Some strong candidates were able to provide technically correct calculations of the derivative options, recognizing the differences between the forward contract and put option. These candidates correctly recognized when RMZ would want to exercise the put option, which limited RMZ's losses.

Weak candidates did not attempt this AO, or missed elements in their calculation of the amount that RMZ would want to hedge, such as the conversion to US dollars. Some weak candidates did not demonstrate an understanding of the differences between the forward contract and put option, either in their discussion or calculations, by assuming that both derivatives would need to be exercised at maturity, or not recognizing that there is a cost to the options whether they are exercised or not.

**AO#12 (Data Quality)**

Candidates were provided with information on the probability of success, and sales forecast, for Drug F in Appendix VII (Finance), and were asked to assess the nature and quality of the data provided, its applicability in valuing Drug F, and to discuss any additional data RMZ should consider in valuing Drug F. To demonstrate competence, candidates were expected to discuss the nature and quality of the data for either the probability of success data or the sales forecast data, or to identify additional data that would be useful.

This is the first CFE in which candidates were assessed on data analytics, and candidates struggled with this AO. Candidates attempted to address the data quality of either the probability of success or sales forecast data, often appropriately discussing Randy's bias as the R&D manager to provide more optimistic sales forecasts or probabilities of success. Some candidates suggested additional data that RMZ could consider in their valuation, such as additional data from the trials, regulatory authority data that had a bigger sample size but was still relevant to Drug F, or market data from Asia.

Strong candidates discussed additional factors in assessing the data quality, such as the applicability and similarity of the data sets to Drug F. These candidates considered the data provided by the regulatory authorities, such as the size of the data set and the relevance of information on "all drugs." Some strong candidates also commented on the applicability of the data to the valuation of Drug F.

Weak candidates either did not attempt this AO, or discussed the valuation assumptions generally, without commenting on the nature and quality of the data (for example, stating that the sales forecasts appeared too optimistic). Although some weak candidates recognized that additional data would be helpful, they generally did not go further to suggest specific sources that RMZ could consider.

**AO#13 (Valuation of Drug F)**

Debon Pharmaceuticals offered to purchase the full rights to Drug F for \$1.5 million. Candidates were asked to determine the fair market value of the rights to Drug F, discuss whether RMZ should sell the rights, and provide a recommendation on whether RMZ should accept the offer. Candidates were provided with information on Drug F (including a development timeline, development costs, and sales forecast) in Appendix VII (Finance). To demonstrate competence, candidates were expected to prepare a quantitative net present value analysis, incorporating several relevant items, discuss some qualitative considerations, and provide a conclusion on whether RMZ should sell Drug F. Candidates were expected to integrate their analysis in AO#12, and apply appropriate probabilities of success in their valuation. However, many candidates found the concept of probabilities to be challenging and did not incorporate them in their valuation analysis.

This AO was challenging for candidates and they generally performed the weakest on it, compared to the other Finance role AOs. Valuation, using a net present value analysis, has been tested before and has typically been a challenging topic for candidates. Most candidates attempted a valuation analysis, incorporating sales, royalties, research costs, and a reasonable discount rate. However, candidates struggled with the royalty adjustment, often deducting it from sales rather than recognizing that it was a proxy for the net revenues to RMZ. Candidates also struggled with the timing of cash flows, sometimes applying R&D costs to all years, or not discounting the sales back to the present. Candidates generally also discussed qualitative factors, such as the learnings from this project and the future sales potential, to support their recommendations.

Strong candidates provided a more complete and technically accurate valuation. They considered taxes and the probability of success in their valuation of Drug F, and appropriately discounted cash flows based on when R&D was expected to be completed and sales would begin. Some strong candidates also discussed additional qualitative considerations, such as the benefits of receiving upfront cash for Drug F.

Weak candidates did not attempt, or attempted very minimally, a quantitative analysis, incorporating only one or two elements, and often did not consider the discount rate. Weak candidates sometimes stopped at the royalty calculation, or prepared a contribution margin analysis, or added the total cash flows without considering the time value of money. Some weak candidates also did not attempt the qualitative discussion, or identified some qualitative factors without explaining why they would support (or not support) a sale of Drug F.

<b>Paper/Simulation:</b>	<b>Day 2 (RMZ) – Role Case PERFORMANCE MANAGEMENT</b>
<b>Estimated time to complete:</b>	300 minutes
<b>Simulation difficulty:</b>	Average
<b>Competency Map coverage:</b>	Performance Management (7 Assessment Opportunities)

### **Evaluators' comments by Assessment Opportunity (AO) for the PERFORMANCE MANAGEMENT ROLE**

#### **AO#7 (SWOT and Risk Mitigation)**

Candidates were asked by Thomas to prepare a SWOT analysis, to better understand where RMZ is positioned, knowing that a strategic buyer would probably perform such an analysis. Thomas also mentioned that RMZ's board would like an explanation of how to mitigate the risks that RMZ faces. The relevant information for this analysis was presented in various sections throughout the background section of the Common information, as well as in the Background Information section of Appendix VII (Performance Management). To demonstrate competence, candidates were expected to provide a reasonable discussion of several elements of RMZ's external and internal environment, and to suggest ways to mitigate a few of the external risks that RMZ is facing.

Candidates performed very well on this AO. Most candidates identified many strengths, weaknesses, opportunities, and threats, provided a reasonable explanation of the elements identified, and correctly segregated the elements internal to RMZ (strengths and weaknesses) from the external elements (opportunities and threats). Most candidates identified and explained the strengths associated with RMZ's reputable brand name, its experienced board, the presence of numerous well-known scientists, and its excellent track record with respect to government regulations. Most also pinpointed the weaknesses associated with the board's heavy involvement in the day-to-day operations, the available production capacity, and the quality issues associated with packaging. Most candidates identified the opportunities associated with the development of biological drugs, and with the potential partnerships that RMZ could enter that would save costs and get drugs to market faster, a key success factor in the industry. They also identified the main threats to RMZ's success, such as the numerous large competitors and the reliance on lengthy governmental approvals to get a product to market. While most candidates also attempted to explain ways to mitigate the risks RMZ is facing, they were not as good at providing practical and clear suggestions, as they were often too vague or overly simplistic. For example, candidates suggested mitigating the risk generated by generic drugs by "having more drugs approved" without mentioning how this could be achieved.

Strong candidates generally provided better discussion of the elements identified in their SWOT analysis. They clearly explained the causes, or consequences, of the environmental elements identified, making links to various elements of the case. They did not necessarily discuss a greater number of elements, but usually provided more depth in each one that they addressed. They also consistently showed that they clearly understood the difference between the external and internal environments. Finally, strong candidates provided a few risk mitigation strategies that were clear and practical, and linked to risks specific to RMZ and the pharmaceutical industry.

Weak candidates generally either did not analyze a reasonable number of elements of RMZ's environment, limiting their analysis to the most obvious ones, or merely restated case facts as their way of analyzing the various elements they had identified. Weak candidates did not attempt to expand on the case facts to provide a useful, value-added analysis for Thomas, presuming that the case facts were self-explanatory.

### **AO#8 (Biological Drugs- Alliance or acquisition)**

Candidates were asked by Thomas to discuss whether increasing the focus on biological drugs is a good strategy, and supports further investment. More specifically, candidates were asked by Thomas to analyze three alternatives for increasing the skills in the area of biological drug R&D, and to provide a recommendation. The three options were described in Randy's memo about the research department issues in Appendix VII (Performance Management). Other relevant information was presented in the Common section, as well as in the Background Information section of Appendix VII (Performance Management). Candidates were expected to integrate the general information about the industry and the company in order to determine if an increased focus on biological drugs was a good idea strategically, and to assess which one of the three options suggested would be the most appropriate. To demonstrate competence, candidates were expected to provide a reasonable discussion of the general strategic fit, as well as a reasonable comparative analysis of the three options presented.

Candidates performed adequately on this AO. Most candidates provided a reasonable discussion of the overall strategic risks and rewards of increasing the development activities linked with biological drugs. They correctly noted that biological drugs were more difficult to replicate, which provided a natural protection against the competition from generic drug manufacturers. They noted that the patents for two of RMZ's current three drugs on the market would expire in the next few years, and that the revenues generated by these drugs would then be significantly reduced due to the presence of generic drugs. They pointed out that biological drugs would provide a more durable and stable source of revenues. Most candidates also performed a reasonable analysis of the three options presented. Since options #2 and #3 involved the same competitor (MRC), most candidates repeated many common arguments for or against these two options under both options, rather than focusing on the important differences between them. Most candidates ultimately recommended option #2, which consisted of a partnership with MRC in order to share the costs and the revenues generated for a single drug currently in development, to get it to market faster. They noted that MRC had the necessary skills in biological drugs, which are scarce in the market, and that speed in getting the drugs to market was a key success factor in the industry.

Strong candidates provided numerous, well explained arguments for and against each option presented, and identified the specific elements that differentiated options #2 and #3. They noted that option #3 would allow RMZ to benefit from MRC's expertise for numerous drugs, that RMZ would have full control of the biological drug development, and that the profits would not have to be shared with a third party. They also noted that the acquisition would generate a large cash outflow, creating additional financial risk at a point in time when two patents were about to expire, jeopardizing RMZ's future cash flows. Strong candidates also provided a deeper analysis of the overall strategic merits of increasing the focus on biological drugs, linking their comments to several elements they had identified in their SWOT analysis (AO#7).

Weak candidates generally did not provide a reasonable analysis of the overall strategic decision to focus on biological drugs. They either ignored that required altogether, or simply recommended pursuing biological drugs without providing a reasonable analysis to support that conclusion. When presenting their analysis of the three options, weak candidates generally repeated case facts presented in the description of the options, simply labeling them as "pros" or "cons" without providing additional explanations of why or how these facts supported their position. They also often repeated the same pros or cons for options #2 and #3, as both involved MRC. Their response generally lacked the depth required to support a meaningful strategic decision for the client. Some weak candidates misunderstood the concept of the "partnership" described in option #2, mistakenly thinking that RMZ's employees would become MRC's employees, or that RMZ would have to acquire additional equipment to "match" the equipment that MRC would be providing, not realizing that RMZ was already currently involved in biological drugs. Another common misunderstanding of option #2 by weak candidates was to think that MRC's lack of manufacturing facilities would be detrimental to RMZ, when it was in fact an opportunity to use RMZ's current unused capacity and increase RMZ's income. Other weak candidates misunderstood option #3 and thought that, because shares of MRC were purchased instead of assets, RMZ would not have access to MRC's equipment.

#### **AO#9 (Clinical Testing In-house or outsourcing)**

Candidates were asked by Thomas whether the clinical testing for a drug that had been outsourced to a third party (QRI) should be brought back in-house. Thomas asked for an analysis of the options, and for a recommendation. Most of the information necessary to address this AO was presented in the same section of Appendix VII (Performance Management), but candidates could also integrate information about the company and the industry, provided elsewhere in the case, in their response. To demonstrate competence, candidates were expected to provide reasonable quantitative and qualitative analyses of the decision, and to provide a recommendation consistent with their analysis.

Candidates performed as expected on this AO. Overall, most candidates provided an adequate qualitative analysis; however, their quantitative analysis was weaker. Most candidates provided several arguments for and against the decision. They generally went beyond restating the facts presented in the case, and adequately supported their conclusion. Most candidates discussed the various flaws in QRI's work and, foremost, the impacts of these flaws on RMZ's operations going forward. They also highlighted QRI's expertise, the trend in the industry to cut costs by outsourcing activities, the inability to access data in real time, as well as the security issues associated with QRI personnel being able to access RMZ's potentially confidential information. However, the candidates' performance on the quantitative portion of the analysis was not as strong. Most candidates understood the need to calculate the incremental costs of bringing the outsourcing back in-house, and to compare it to the fees charged by QRI for the work, but their ability to use the information presented in the table varied. Typically, the quantitative analysis contained several errors. Generally, candidates realized that many costs associated with the R&D department would be the same, regardless of the decision, and correctly excluded them from their analysis. They attempted to identify the costs associated with the personnel involved in the testing process that would be relevant to the analysis, but often ignored direct materials and small tools rather than correctly including them in their analysis as variable costs.

Strong candidates provided a qualitative analysis that expanded on the case facts and explained the consequences of these for RMZ going forward. Strong candidates made links with other AOs: they used components of their SWOT analysis to argue for or against the proposed change (AO#7); they made links with the security and integrity of RMZ's data (AO #10); or they linked their analysis with the board making several operational decisions (AO#11). They also provided a complete quantitative analysis, sometimes containing minor calculation errors, but clearly demonstrating their ability to segregate relevant costs from non-relevant costs in a comparative analysis of the options. Their quantitative analysis was also enhanced by the fact that they realized that the contract with QRI included milestone payments that were relevant, despite being paid over many years. They generally excluded all non-relevant costs, such as the salary of the principal research scientists and the equipment depreciation, and made reasonable assumptions on the allocation of variable costs (materials and tools) among the different activities and drugs, rather than excluding them. They also correctly ignored the accounting treatment of the R&D costs in their analysis, recognizing that the cash flows involved were not impacted by the fact that development costs were, or were not, capitalized for financial reporting purposes.

Weak candidates tended to repeat case facts, labelling them as "pros" or "cons" as their qualitative analysis. As the case clearly mentioned some shortcomings in QRI's work, they merely repeated them as cons without providing any added value to the client. For the qualitative component of the analysis, their response was generally very short. In their quantitative analysis, they either made numerous mistakes, making the overall calculation unreasonable, or did not fully understand the content of the table that was presented to them in the case. Many weak candidates made calculations that were difficult to understand because they did not seem to have a "game plan" before starting the analysis; what they were trying to compare, and the overall purpose of the calculation, was unclear, and the various costs included in the table were used in a way that did not seem to follow a logical thought process.



**AO#10 (Data Integrity and Sharing of Confidential Information)**

Candidates were asked by Thomas to describe what could compromise data integrity at RMZ and recommend ways to prevent such issues. Candidates were also asked to provide an opinion on the idea of sharing patient information, knowing that the manager of the R&D department is considering sharing patient information with other pharmaceutical companies. The information relevant to this AO was presented in a specific paragraph in Appendix VII (Performance Management). Candidates were also expected to integrate the more general information on the industry and the company presented in other sections of the case into their analysis.

Considering that data integrity and confidentiality was being tested for the first time, candidates performed as expected on this AO. Most candidates provided a reasonable analysis of the second component of the required (data sharing), but struggled with the first component (data integrity). Most candidates realized the more obvious dangers of sharing patients' confidential information with third parties without their consent, and reasonably articulated the potentially dire consequences to RMZ of such an action. They reasonably discussed the potential ethical and legal complications, and often suggested alternative ways to mitigate these risks while achieving the same objectives. However, their analysis of the factors potentially compromising data integrity at RMZ was weaker. The response was either overly focused on more generic data security issues associated with remote access to databases, or was so vague that it was difficult to determine what specific risk was being discussed. Average candidates seemed to equate the integrity of the data itself with the potentially fraudulent use of the data, and treated them as one risk to be addressed. They generally did not specifically highlight the potential risk of errors (unintentional or planned) in the database, and typically focused their response on the usage of this data (containing errors or not) by third parties afterwards. Overall, candidates did not sufficiently differentiate the issues associated with the data itself, and the use of this data by third parties afterwards.

Strong candidates not only provided a reasonable analysis of the issues associated with the sharing of confidential patient information with third parties, but also analyzed the specific risks associated with data integrity, considering that numerous users already had access to the data. They noted that unintentional entry errors by doctors and pharmacists could compromise data integrity, and suggested valid controls to prevent them. They also noted that, because some of the data was being used as KPIs for performance evaluations, some RMZ personnel could be tempted to falsify data intentionally, and suggested valid mitigating controls, such as read-only access to particular users. They also discussed the more generic risks of unlawful access to the data caused by the presence of remote access, and provided useful recommendations. Some strong candidates also integrated analysis from other requireds in responding to this AO, by linking, for example, the data integrity issue to the outsourcing of clinical testing to QRI (AO#9), and pointing out the integrity risk of having an additional third party accessing the data.

Weak candidates generally limited their discussion to generic statements that could apply to any business allowing remote access to their systems, and limited their analysis of the data integrity component to suggesting increased generic controls such as data encryption and firewalls. They also generally concluded that sharing patient information was not a good idea, but did not articulate the specific reasons for their conclusion.

### **AO#11 (Governance Structure)**

Candidates were asked by Thomas to analyze the advantages and disadvantages of RMZ's current governance structure, and suggest improvements. The request was made in response to a board member raising concerns about the fact that the board was making most of the operational decisions. Unlike the other six assessment opportunities, where much of the relevant information was presented to the candidates in Appendix VII (Performance Management). Instead, the entirety of the relevant information was located in the Common section of the case: the current composition of the board and movements in upper management personnel was in Background Information; information on delays in the change of a faulty packaging supplier caused by the lengthy board approval process was in Appendix II in the notes to the income statement, and information on training courses for the production personnel being delayed because of the lengthy board approval process was in Appendix VI. Therefore, this AO required candidates to integrate information interspersed throughout the case. To demonstrate competence, candidates were expected to discuss RMZ's current governance structure by highlighting the arguments for and against having the board involved in the day-to-day operations, and suggest improvements flowing from the discussion.

Candidates' performance on this AO was disappointing. Candidates found integrating the case facts into their analysis challenging. Most candidates chose to provide a general (and often generic) description of ideal governance structures, and discussed the main topic of the centralization of decisions as one of many points within those structures. They often included some relevant elements in their discussion, but it lacked depth as it did not address the main issue of the case—the centralization of the operational decisions. Most candidates claimed that boards should not be involved in day-to-day operations, and presented this statement as a fact rather than attempting to explain why, or linking the discussion to the specific context of RMZ and its operations. Rarely did candidates make the centralization of the operational decisions in the hands of the board the focus of their discussion.

Strong candidates discussed several of the elements that would either support or argue against the current structure at RMZ, where the board is responsible for most operational decisions. They raised the issues related to delays in the decision-making process, and made links to the detrimental consequences on RMZ of delaying a personnel training seminar, which resulted in packaging issues. They also raised issues linked with management's inability to fully play their role and the lack of motivation that can ensue, and again linked this to the case fact, where this led to the loss of a key manager. In general, strong candidates stated the general, theoretical principles, but backed them up with explanations, often linking them to specific events that have occurred at RMZ.

Weak candidates were generally not able to provide any discussions of value on the topic of the board being involved in operations. Their response was often theoretical, generally focused on board composition (e.g., an odd number of members, independence, the majority shareholder being chair, varied competencies), and overly generic; it could have applied to any board in any company. Many weak candidates also ignored the issue of the centralization of operational decisions in the hands of the board altogether, focusing their response instead on topics they seemed more comfortable with, such as the board composition, even though there were no case facts to suggest that board composition in itself was an issue at RMZ.

### **AO#12 (New Vitamin Product Pricing Strategy)**

Candidates were asked by Thomas to perform a quantitative and qualitative analysis of the pricing strategies that Trevor from the marketing department has proposed for a new product, a vitamin supplement aimed at cancer patients, and to make a supported recommendation. The information useful to the candidates was presented on a specific page of Appendix VII (Performance Management), which contained a table showing the impact of pricing on quantities sold for three pricing scenarios, as well as qualitative information on the product. Candidates were expected to perform a reasonable quantitative analysis of the three pricing scenarios presented and to rank them, based on the expected operating income or on the contribution margin. They were also expected to perform a reasonable qualitative and strategic analysis of the pricing decision, and provide a recommendation flowing from the analysis.

Candidates performed slightly below expectation on this AO. While most candidates performed an adequate quantitative analysis of the impact of each option on contribution margin or operating income, their qualitative analysis was generally weaker. The discussion was often brief, and usually involved only one idea: the fact that demand was elastic, and that higher prices would deter customers. Their qualitative discussion generally lacked depth and was often not sufficiently linked to the three options presented. Candidates were expected to identify the underlying marketing strategy that was behind each of the three options, and few candidates did so. The three options distinguished themselves by the entry price, and by the ongoing price going forward. On average, candidates failed to discuss these two components of the pricing decision in sufficient depth. In addition, many candidates focused their qualitative decision on the idea of launching the new product, rather than providing a qualitative analysis of the pricing decision, as stated in the required. Although this was not what was requested by the client, candidates who took this approach could still provide a useful analysis that was rewarded. However, it was more difficult to demonstrate competence using this approach as the focus was more often placed on the "go/no go" decision of proceeding with the vitamin rather than on the pricing strategy.

Strong candidates provided a perfect, or near-perfect, calculation of the contribution margin or operating income associated with each of the three options in order to rank them on that basis. Some candidates ignored fixed costs altogether and calculated the contribution margin of all three options. Others deducted the fixed costs in all three, generating the same ranking among options. They also provided a reasonable discussion of the pricing decision, taking into account the high demand elasticity, but also other factors, such as: prices charged by competitors on similar products; the available production capacity at RMZ; the competitive nature of the industry; or the fact that the general vitamin supplement industry is in the mature stage but that the supplement industry aimed at cancer patients is in its growth stage. They also integrated elements of the SWOT analysis they had performed in AO#7, such as RMZ's brand recognition and its overall good reputation in the cancer pharmaceutical segment. They linked their discussion with the three options presented, and provided a recommendation, integrating their qualitative and quantitative analyses.

Weak candidates often did not segregate fixed and variable costs in their quantitative analysis, providing limited value for the client. They also either ignored the pricing issue altogether in their qualitative analysis or provided one or two generic elements that were insufficient to display the required depth. Weak candidates who discussed the idea of launching the new product rather than the pricing issue generally provided a repetition of case facts that were listed as pros and cons of the decision to launch, which was of little value.

### **AO#13 (Quality Management (TQM))**

Candidates were asked by Thomas to use the principles mentioned by Hannah, a board member, to help improve the quality of RMZ's packaging. Thomas asked the candidates to explain which elements RMZ should consider under each principle. The five principles in question, as well as a chart showing the results of a customer survey on the packaging of RMZ's drugs, were presented in a separate section of Appendix VII (Performance Management). To demonstrate competence, candidates were expected to discuss each of the five principles in the context of improving the quality of RMZ's packaging, as well as the quality of RMZ's products in general, on an ongoing basis.

Candidates struggled with this AO. While most candidates attempted to apply the five principles to the packaging issues, most did it on a purely operational basis, and their discussion was overly focused on the customer complaints themselves (e.g., container difficult to open or dosage unclear) rather than on the management principles they were asked to discuss. For example, rather than discussing the management issues that led to that problem in the first place, candidates made several operational recommendations for how to make the cap easier to open. Several other candidates did the opposite and were too theoretical; they explained the theory behind each of the principles without attempting to link the TQM theory to RMZ's packaging issues, or to RMZ in general.

Strong candidates both discussed the five principles from a management perspective, and linked those principles to the specifics of RMZ in general and its packaging issues. They took the time to link each of the five principles to case facts specific to RMZ and its industry. Strong candidates focused less on RMZ's short-term operational packaging problems and more on ensuring that such situations would not happen again. Rather than try to fix the past, they discussed improving quality management going forward by incorporating the five principles in RMZ's way of managing quality. Many strong candidates integrated elements of AO#11 (governance structure) in their discussion, especially for principles #2 (management involvement) and #3 (definition of quality and risks of non-quality).

Some weak candidates attempted to discuss the five principles discussed in the case but their responses showed that they misunderstood many of them. They generally did not attempt to link their explanations of the principles to RMZ or to its packaging issues. Other weak candidates ignored the five principles altogether, and instead focused their response on short-term improvements of the technical operational issues raised by the customers in the survey.

<b>Paper/Simulation:</b>	<b>Day 2 (RMZ) – Role Case TAXATION</b>
<b>Estimated time to complete:</b>	300 minutes
<b>Simulation difficulty:</b>	Average to Hard
<b>Competency Map coverage:</b>	Taxation (7 Assessment Opportunities)

### **Evaluators' comments by Assessment Opportunity (AO) for the TAXATION ROLE**

#### **AO#7 (Association)**

Candidates were asked to determine whether RMZ is associated with any companies for 2020, and if so, to assess the impact on the small business deduction available for each company. An organizational chart was provided in Appendix VII (Taxation), along with a table of information about the taxable capital, active business income, and taxable income for each of the corporations. To demonstrate competence, candidates were expected to discuss association for some pairs of corporations and to explain the implications of association.

Although it was expected to be a more difficult topic, candidates performed below expectation on this AO. Most candidates attempted to discuss association between at least two or three pairings of corporations, usually failing to correctly explain any pairing. Candidates often demonstrated technical errors in determining which corporations were associated, for example, often concluding that HHI and RMZ were associated because their shareholders were related to one another. Candidates usually explained that the implication of association was that the small business limit needed to be shared among associated corporations, although they identified the impact of taxable capital on the small business limit less often.

Strong candidates discussed the association of at least one or two pairs of corporations, usually identifying that RMZ and HHI were not associated, or that Zora Inc. was associated with Zora's Retail. They then explained the sharing of the small business limit, and attempted to determine the impact of taxable capital on the amount of small business limit available for the group.

Weak candidates often answered the wrong question, attempting to determine whether the corporations were affiliated, related, or connected. They did so either explicitly (by using those words) or implicitly (by using the word "associated" and then describing the rules, for example, for connected), but in all cases, they did not identify the rules for association. Weak candidates also often failed to identify the implications of association, or attempted to apply the taxable capital grind incorrectly (often on a corporation-by-corporation basis, even when they concluded that the corporations were all associated).

**AO#8 (Calculate Taxable Income)**

Candidates were asked to calculate RMZ's taxable income for 2020. Information from the financial statements was provided to candidates in the Common section, and additional information about RMZ's expenses was provided in Appendix VII (Taxation). To demonstrate competence, candidates were expected to calculate taxable income, incorporating most of the relevant adjustments for the year, and explaining the significant ones.

Candidates performed very well on this AO. Most candidates calculated taxable income, including many adjustments from the case, and explained several of the ones that required explanation (such as donations, or the expensed software).

Strong candidates calculated taxable income, including most of the adjustments required to adjust from net income to taxable income, and explained most of the ones that required explanation (such as donations, or the expensed software).

Weak candidates calculated taxable income, including some of the adjustments from the case. Some weak candidates were able to include many adjustments, although they sometimes made errors such as using after-tax income as their starting point or including additional, inappropriate, adjustments. Weak candidates usually did not explain any of the adjustments in their calculations.

**AO#9 (Tax Implications of Accounting Issues and Calculation of CCA)**

Candidates were asked to calculate RMZ's taxable income for 2020, and were told that this analysis should include an explanation of the tax implications related to the accounting issues they addressed in their financial reporting discussion. Information for the accounting issues was provided throughout the Common section of the case. In addition, they were provided with detailed information about UCC carryforward balances, as well as capital asset additions for the year, in Appendix VII (Taxation), and candidates were expected to incorporate the information presented into their calculation of taxable income. To demonstrate competence, candidates were expected to discuss the tax implications of some of the accounting issues and calculate CCA, considering some of the items from the case.

Candidates performed below expectation on this AO. Virtually all candidates calculated CCA using the opening balances and a couple of the additions for the year (including software, which had been expensed in the income statement), correctly calculating the accelerated investment incentive, often making errors regarding the disposition of equipment (such as using the total proceeds rather than the item-by-item lesser of cost and proceeds). However, candidates rarely attempted discussions of the tax impact of the accounting issues they discussed, despite being explicitly asked to do so.

Strong candidates calculated CCA using the opening balances and all three additions for the year (including software), correctly calculating the accelerated investment incentive. They often correctly calculated the capital gain on the one piece of equipment that was sold at a gain but often made errors, such as using the total proceeds rather than the item-by-item lesser of cost and proceeds when decreasing the UCC of that class. Strong candidates usually attempted discussions of the tax impact of the accounting issues they discussed, typically by tying the research costs to the SR&ED program.

Weak candidates attempted a calculation of CCA, often making errors, such as misapplying (or not applying) the accelerated investment incentive. If they attempted the disposition of equipment at all, these candidates often deducted the net book value, rather than the lesser of cost and proceeds, when decreasing the UCC of that class.

### **AO#10 (Calculate Taxes Payable)**

Candidates were asked to calculate RMZ's federal income taxes payable for 2020. They were also asked to calculate the year-end balance in the RDTOH accounts. Opening balances in the RDTOH accounts were provided in Appendix VII (Taxation), along with the calculated SR&ED ITC, and candidates were to obtain the rest of the inputs for this calculation from the work performed in AO#8, as well as from the financial statements. To demonstrate competence, candidates were expected to calculate taxes payable on the two different types of income (business versus investment), showing some depth in the calculation by showing the detailed calculation of each component of tax or by bringing in other components, such as the SR&ED ITC or RDTOH.

Candidates performed well on this AO. Most candidates calculated taxes payable for the year, using the long-form method (base rate less abatement less SBD less GRR plus ART). Candidates usually correctly taxed the business and investment income separately, identifying at least one of the components of investment income (interest, rental income, or the taxable capital gain). Many candidates also deducted the SR&ED ITC or calculated RDTOH.

Strong candidates calculated taxes payable for the year, using the long-form method. They usually factored in several of the components into their calculation of investment income, and correctly taxed the business and investment income separately. Strong candidates also often deducted the SR&ED ITC and calculated and categorized RDTOH, as well as integrating the result of their AO#7 (association) analysis when determining the SBD.

Weak candidates took a shortcut and applied a single rate of tax to all the income, often without much explanation for how they determined the rate (or by using the effective tax rate from the income statement). They often made errors with respect to the SR&ED ITC (such as deducting it from income instead of taxes), and rarely addressed the request to calculate RDTOH.



**AO#11 (Employee Benefits)**

Candidates were asked to address the tax implications of some employee benefits offered to a new employee, Carole, from both her perspective and that of RMZ. Appendix VII (Taxation) provided a series of emails containing the details of the benefits, and additional information necessary to determine their tax treatment. To demonstrate competence, candidates were expected to discuss several of these benefits from the perspective of both RMZ and Carole, providing some depth on at least one of them.

Candidates did relatively well on this AO. Most candidates discussed the corporate and personal tax impacts of most of the benefits, focusing mainly on the moving expenses, where there was more detail to be discussed. Candidates usually made some minor errors (such as forgetting that meal expenses are only 50% deductible to the company), but mostly had the basic principles of the benefits correct.

Strong candidates discussed the corporate and personal tax impacts of all four benefits, again focusing mainly on the moving expenses, where there was more detail to be discussed. They usually provided additional depth on the moving expenses and the loan, for example, by analyzing each of the moving expense criteria, calculating the housing loss benefit, or explaining the impact of the interest to be paid by Carole.

Weak candidates discussed the corporate and personal tax impacts of only some of the benefits, often focusing on the more straightforward ones, such as the fitness club and overtime meals. These candidates often failed to provide support for their conclusions, instead simply stating whether something was taxable or deductible, with very little explanation.

**AO#12 (Asset Tracking)**

Candidates were asked to determine whether RMZ's property, plant, and equipment (PP&E) tracking system provides the data necessary for tax compliance with respect to capital assets, and to recommend improvements to the system, if any. In Appendix VII (Taxation), candidates were told that the PP&E is tracked in an Excel spreadsheet, and were given an extract from the spreadsheet to review. To demonstrate competence, candidates were expected to discuss some problems with the system being used to track PP&E, from the perspective of tax compliance.

Candidates performed poorly on this AO. This could have been influenced by the fact that this AO was testing a topic that was recently added to the Competency Map (data analytics and information systems), and was being tested on the CFE for the first time. Most candidates identified some weaknesses in the PP&E tracking system, often focusing solely on the fact that the spreadsheet did not indicate the CCA class to which the asset belonged. Candidates often only attempted to address a couple of weaknesses, or provided less relevant suggestions, such as password protection and other controls.

Strong candidates identified several weaknesses in the PP&E tracking system, such as the fact that the spreadsheet did not indicate the CCA class to which the asset belonged, and that it is missing information surrounding dispositions. Even strong candidates struggled to identify more than a couple of issues. They did, however, often come to an overall conclusion, recommending that a proper system be used for asset tracking purposes instead of an Excel spreadsheet.

Weak candidates either did not address the assessment opportunity at all or provided only superficial commentary. For example, weaker candidates often took an inappropriate perspective on the required, addressing controls (password protection and backups) or financial reporting (calculation of depreciation) rather than focusing on the data that should be tracked for tax compliance purposes.

### **AO#13 (CCPC Status)**

Candidates were told that, if RMZ is unable to find a strategic buyer in the next few years, it will consider going public. They were asked to explain the differences, from a tax perspective, between being a private and a public corporation, and how these differences apply to RMZ. Information to support this discussion was provided throughout the case; for example, candidates were provided with RDTOH and CDA information in Appendix VII (Taxation). They could also integrate from other sections of their response (such as the impact of association and taxable capital on the small business deduction). To demonstrate competence, candidates were expected to discuss some of the differences between being a CCPC and a public company, and to include at least one case-specific fact or recommendation in their discussion.

Candidates performed poorly on this AO. Most candidates were able to identify some differences between public and private corporations from a tax perspective, but only some candidates identified specific impacts to RMZ (such as losing access to the CDA or RDTOH accounts).

Strong candidates identified many differences between a public and a private corporation from a tax perspective, and identified some specific impacts to RMZ (such as losing access to the CDA or RDTOH accounts), or identified that there would be no impact to the SBD because RMZ already does not qualify for the SBD due to its taxable capital.

Weak candidates provided a theoretical list of items that apply to private corporations but not public corporations, without providing any link at all to the case facts.

**BOARD OF EXAMINERS' COMMENTS ON DAY 3 SIMULATIONS**

<b>Paper/Simulation:</b>	<b>Day 3, Case 1 (SGF)</b>
<b>Estimated time to complete:</b>	85 minutes
<b>Simulation difficulty:</b>	Average
<b>Competency Map coverage:</b>	Management Accounting (2); Strategy and Governance (2); Assurance (2); and Finance (1).

**Evaluators' comments by Assessment Opportunity (AO)****AO#1 (Quality of Data Used) (Mgt Acct)**

Candidates were asked to assess the quality of data used in SGF's costing, and discuss how it could be improved to help with decision-making. Candidates were provided with a costing data summary in Appendix I that outlined four categories: direct labour; direct materials; indirect labour; and indirect materials. This information provided details relating to the accuracy and relevance of some of the data sets. To demonstrate competence, candidates were expected to identify the data quality issues, explain the implications, and recommend improvements that would address the issues identified.

Candidates performed as expected on this AO. Most candidates addressed the quality of data in SGF's costing, recognizing the implication these data quality issues would have on SGF, and discussed improvements that SGF could implement. Candidates typically addressed several issues that, in total, touched on most of the four categories presented in Appendix I. Direct labour and direct material were the two categories that candidates addressed the most often. Indirect materials was the category that candidates struggled with the most, as they had difficulty finding practical ways to improve the quality of the data. Many candidates chose to apply a weakness, implication, recommendation approach that proved to be effective in this case.

Strong candidates clearly explained the implication of the issues they identified, and described the consequences of using data of poor quality, recognizing that the use of incorrect data would lead to wrong decisions. They also provided recommendations that were practical, and that not only resolved the issues they identified but also improved the quality of the data used for future costing decisions. In addition, many strong candidates addressed the more difficult issues around the indirect materials, by either making a link between the issues they identified with the direct labour hour data collection and the fact that it is used in the allocation of the indirect materials, or by questioning the validity of the labour hours as a driver of indirect materials used.

Weak candidates struggled to stay focused on the quality of data, and instead provided discussions that addressed operational issues. For example, they discussed the potential for employees to steal materials such as screws, nails, and lumber, rather than suggesting ways to improve the quality of the costing data for these items. They also did not provide sufficient coverage of the four categories, as they only discussed a couple of issues overall. Many weak candidates offered recommendations for improvements without first explaining why a change was necessary, leaving the client without a clear understanding of the implications of using data of poor quality. Other weak candidates provided improvements that did not address the data quality issue they had identified, for example, suggesting that the labourers gather all the materials they needed before scanning them, which would not resolve the issue of them scanning the wrong barcode.

### **AO#2 (Technology Solution Strategic Alignment) (Strat & Gov)**

Candidates were asked to assess whether the proposed technology solution is aligned with SGF's strategic direction. Information related to the proposed technology solution was contained in Appendix II, and addressed three components: customer service; design phase; and pricing system. The first page of the case also outlined SGF's vision. To demonstrate competence, candidates were expected to integrate the case facts in order to assess whether the technology solution is aligned with SGF's strategic direction. Candidates were expected to provide a meaningful analysis of why each component of the proposed solution did, or did not, align in order to help Sally decide whether SGF should go ahead with the technology solution.

Candidates performed below expectation on this AO. Most candidates were able to draw on the information about SGF's vision from the first page of the case and use it to assess the fit with the technology solution, and most touched on the three components of the solution, customer service being the most frequently addressed topic. Typically, candidates presented a discussion of the component, using the case facts presented, identified the portion of the vision that was relevant to that component, and then provided a brief statement on whether the two aligned. Most struggled, however, to provide additional insight and reasoning to support why each component did, or did not, fit with SGF's vision, and what the consequences would be for SGF. For example, candidates noted that the automation of the customer service was not aligned with Sally's belief in prioritizing customer service, but they were unable to provide sufficient explanation as to why this could cause an issue for SGF.

Strong candidates discussed all three technology components presented in Appendix II. They also discussed whether each component aligned with SGF's strategic direction, going beyond just simply restating case facts, to provide additional insight as to why it aligned or did not align. For example, they explained that automating customer service would go against SGF's value of providing friendly customer service, and could result in the loss of customers who are looking for personalized customer service. These candidates provided the necessary amount of information to Sally to allow her to decide whether the technology solution was a good idea. Some strong candidates also suggested ways to better align the technology solution with the strategic direction, such as using the smart pricing system to help guide the pricing of items, without blindly relying on it, or only automating the customer service for basic questions to allow for accessibility, while maintaining a customer service team to deal with more complex questions and inquiries.

Weak candidates generally only discussed a couple of the technology solution components. They often simply restated case facts as a way to support their analysis, and did not go on to explain why the misalignment was an issue for SGF. For example, they would restate the fact that the technology solution would use a smart pricing system to set a price that would extract the maximum value of each transaction, restate SGF's vision to provide affordable furniture collections, and conclude that the two did not match, without explaining what the consequences of the mismatch could be for SGF.

### **AO#3 (Control Weaknesses) (Assur)**

Candidates were asked to identify SGF's internal control weaknesses and provide recommendations for improvement. Candidates were provided with information in Appendix III relating to SGF's processes for inventory, sales, purchases, supplies storage, and reconciling the cash balance. Candidates were expected to identify some of the control weaknesses, explain their implications, and provide recommendations that would address the control weaknesses identified.

Candidates generally performed as expected on this AO. Most candidates were comfortable with this AO and identified some control weaknesses, recognized the implications of these weaknesses, and recommended improvements that SGF could implement. Candidates often chose to apply a weakness, implication, recommendation approach, which proved to be effective. The most frequently discussed weaknesses by candidates were those around the supply purchases, supplies storage, and bank reconciliation.

Strong candidates usually addressed more of the issues, and their discussions were also more complete. They not only discussed the control weaknesses but also clearly explained the impact or implication to SGF of each weakness they identified, and suggested improvements that addressed those control weaknesses, demonstrating a better understanding of the underlying issues. For example, they understood that the issue with the inventory was not necessarily a system issue, but rather that the inventory as per the system was not being reconciled with the physical inventory, and that the cash sales themselves were not the problem, but rather that there was a problem with the segregation of duties.

Weak candidates often identified the weakness, but then jumped to recommending a control without first providing an explanation of the implication of the weakness identified. Other weak candidates discussed the implication first, but suggested controls that were not specific enough. For example, they recommended limiting the access to the storage room without explaining how to do so. Other weak candidates incorrectly identified the real weakness, for example, identifying the acceptance of cash payments from customers as a weakness, when the underlying issue was the lack of segregation of duties between the individual collecting the cash and the one recording the transaction.

**AO#4 (NEF Order – Quantitative) (Mgmt Acct)**

Candidates were asked to analyze whether SGF should accept the order with NEF, as outlined in Appendix IV. Candidates needed to assess two components. The first was the contribution margin, either based on the total order or per labour hour. The second was the capacity constraint, based on the total hours needed to complete the order compared to the available hours. Candidates were provided with case facts relating to the three possible orders for coffee tables, dining tables, and dining chairs. Candidates were advised that they had to accept the exact quantity stated, and that they had the option to fill one, two, or all three orders. Information relating to contribution margin inputs for direct labour, direct materials, and indirect labour was provided in Appendix IV. Candidates also had to refer to Appendix I for the information necessary to calculate the input for indirect materials. To demonstrate competence, candidates were expected to provide a reasonable calculation of the contribution margin and address the capacity constraint, by comparing the capacity in labour hours to the required capacity to fulfil the orders.

Candidates performed below expectation on this AO. Most candidates incorporated the direct and indirect labour costs in their calculation of the contribution margin. However, while most candidates attempted to also include the direct materials component in their calculation, many failed to incorporate the appropriate cost for the planks, using \$19 instead of \$22.50. In addition, very few candidates integrated the information from Appendix I to calculate the cost of indirect materials, or recognized that there was a capacity constraint related to labour hours, which was a key component of this assessment opportunity. Instead, most candidates calculated the number of labour hours required for the order but failed to compare that number to the available capacity. These candidates failed to provide crucial information to Sally to allow her to make an informed decision, knowing the profitability of each order was only useful if she was aware of how much capacity SGF had to fulfill these orders.

Strong candidates provided a reasonable calculation of the contribution margin, correctly incorporating the cost for the planks, and correctly calculating the contribution margin, either per order or per labour hour. They considered the constraint on labour hours in their recommendation. They also realized that each order had to be completed in full, if accepted, and therefore understood that some of the orders were not feasible. Strong candidates also demonstrated depth of understanding of the case facts as they calculated the labour capacity constraint, and the impact it would have on the decision as to which NEF order(s) to accept. They were also conscious of the overtime component of the capacity, often calculating the capacity with and without overtime hours.

Weak candidates provided an incomplete contribution margin analysis by either omitting costs or making many mistakes in their calculation of the individual variable costs. Some weak candidates only calculated the contribution margin on a per-unit basis, which was insufficient, given the capacity constraint on labour hours and the fact that partial orders were not possible. Some weak candidates did not consider the labour capacity constraint at all.

**AO#5 (NEF Order – Qualitative) (Strat & Gov)**

Candidates were asked to describe the decisions factors to be considered related to the NEF order, and to make a recommendation with respect to whether to accept the order. Although the information specific to the order was all in Appendix IV, candidates could also draw on other information, such as the vision and values, provided on the first page of the case. To demonstrate competence, candidates were expected to discuss some of the qualitative decision factors, and provide a recommendation.

Candidates performed as expected on this AO. Most candidates addressed multiple decision factors, the most common being the impact on brand and reputation, and employees not wanting to work overtime. Fewer candidates addressed decision factors related to the vision and values, such as the order not being in line with the distinctive furniture collection that SGF is used to, and only a small number of candidates addressed the potential issue with customer service. Most candidates recommended whether to accept the order.

Strong candidates discussed several decision factors, often recognizing the incompatibility of the nature of the order with SGF's vision and values, specifically related to customer service and distinctive design, the potential risk to the brand and reputation, and the impact on its labourers due to the overtime requirement. Strong candidates also provided a recommendation that was consistent with their analysis.

Weak candidates often discussed factors related to their quantitative analysis, either restating the results of their calculations or their assumptions, or simply stating that the offer was profitable instead of focusing on the additional qualitative decision factors that should be taken into consideration. Other weak candidates provided generic decision factors, for example, stating that the order would expand the business, without detailing how or why, and generally covered fewer of the decision factors overall. Weak candidates tended to put priority on providing a balanced analysis, and the need to note both pros and cons, rather than realizing that the case facts provided should have slanted their discussion toward the negative qualitative considerations of the NEF order, such as the incompatibility of the order with SGF's vision and values, the labour constraint, and the branding and reputational risks.

**AO#6 (Business Valuation) (Fin)**

Candidates were asked to assess whether \$2.78 million is a fair price for Summer Living Inc. (SL). They were advised to perform a capitalized earnings valuation, and to explain the limitations of using this approach in this situation. The income statement for the company was provided in Appendix V, along with notes that contained additional information they could use in their analysis. An after-tax multiple was included on the first page of the case. Candidates were expected to integrate the various sources of information in order to prepare a capitalized earnings valuation of SL, and to compare the results to the asking price, to determine whether it was fair. They were also expected to explain the limitations of using the capitalized earnings approach.

Candidates performed reasonably well on this AO. Most candidates attempted to value SL and demonstrated a good understanding of normalizing adjustments, arriving at a reasonable normalized net earnings after tax. Candidates were most comfortable with the adjustments for the additional sale and the salary savings, and most candidates also addressed the discounted rent. Fewer candidates identified the need to adjust the income tax expense to reflect the adjustments that were made to net income. Candidates often got confused when adjusting net income, sometimes adding instead of subtracting, and vice versa. Most candidates concluded on whether the asking price was fair, and discussed the limitations of the capitalized earnings approach.

Strong candidates demonstrated a clear understanding of the normalization adjustments, and correctly incorporated them into their valuation, explaining the rationale for why there needed to be a normalization adjustment. They were also more likely to consider the tax effect of their adjustments. Strong candidates also discussed whether the asking price was fair, and provided a clear conclusion. In addition, strong candidates usually discussed a greater number of limitations to the capitalized earnings approach.

Weak candidates made multiple mistakes in their valuation. Many weak candidates more frequently made their adjustments in the wrong direction, resulting in a rent differential of \$30,000 rather than recognizing that the net increase would only be \$4,000 after the purchase. Weak candidates also struggled with the discussion of the limitations of the valuation approach, often focusing on the fact that the financial statements had not been audited, instead of the factors that were specific to the capitalized earnings approach. Others lost sight of the client's question and, instead of explaining the limitations of the valuation approach they were asked to use, provided a qualitative discussion on whether SGF should purchase SL.

#### **AO#7 (Audit Procedures (due diligence)) (Assur)**

Candidates were asked to provide audit procedures that would be part of a due diligence for the areas of concern that Sally had identified. Candidates were provided with a list of concerns in Appendix V that focused on sales, outstanding liabilities, and inventory. To demonstrate competence, candidates were expected to provide some valid procedures that were relevant to the areas of concern identified.

Candidates performed as expected on this AO. The areas of concern described to candidates were clearly laid out, and most candidates were therefore able to provide procedures that were relevant to a due diligence situation as they addressed those specific risk areas. Candidates usually provided procedures in all three areas but seemed more comfortable with providing procedures for sales and outstanding liabilities, providing briefer and less complete procedures for inventory. Some candidates struggled to provide a complete procedure, as they often used vague terms such as "check"; therefore, their procedure often lacked the depth required to understand what specific steps would need to be taken, and how those steps would address the identified risk.

Strong candidates suggested procedures that were specific, complete, and clear as to their purpose. They also focused on all three areas of concern, and suggested valid procedures for the risks they identified.



Weak candidates provided only a few procedures. The quality of the procedures suggested was poor, as they were often incomplete, vague, or not useful in assessing the underlying areas of concern. For example, they provided completeness procedures for sales rather than procedures that addressed whether 2020 sales had actually occurred. Others suggested an inquiry with management to see if there were any outstanding liabilities, which was not a sufficient procedure for a due diligence situation. Many candidates also used terms such as “check,” “verify,” and “ensure” in the description of their procedures, without describing the specific steps involved. For example, they would suggest ensuring that the inventory was held at net realizable value, without explaining how to do that.

<b>Paper/Simulation:</b>	<b>Day 3, Case 2 (KAI)</b>
<b>Estimated time to complete:</b>	85 minutes
<b>Simulation difficulty:</b>	Average
<b>Competency Map coverage:</b>	Strategy & Governance (1); Financial Reporting (1); Assurance (1); Finance (1); and Taxation (2).

### **Evaluators' comments by Assessment Opportunity (AO)**

#### **AO#1 (Operational Risks) (Strat & Gov)**

Candidates were provided with information on a new system that was implemented, and were asked to document the broader operational risks that the new system exposes the company to, and recommend ways to mitigate them. Information on the new system was presented in Appendix I. To demonstrate competence, candidates were expected to identify some of the operational risks, explain how they affected operations, and suggest appropriate mitigation strategies.

Candidates performed well on this AO. Most candidates addressed several of the risks presented in Appendix I, the most common of which were those surrounding the lack of training, reconciliation process, customer overrides, and lack of security testing. And, although many candidates also described the implications of those risks, some candidates did not explain how or why those risks should be concerning to KAI. For example, they identified that the security issue meant that the system could be hacked, which was valid, but stopped there. They should have gone on to explain the operational impact to KAI, such as reputational damage, lawsuits, loss of customers, or inaccurate financial data. Most candidates provided a reasonable mitigation strategy for the risks they identified, and the mitigations were generally practical and relevant, aimed at addressing the problems in the system rather than on finding a temporary manual solution. Most candidates used a weakness, implication, recommendation structure for their response, which proved to be effective in this case as it allowed them to provide complete discussions.

Strong candidates demonstrated a depth of understanding of the operational risks created by the new system through a complete and reasonable discussion of the risk, its implication, and mitigation. Strong candidates identified and clearly explained the direct link between the risk and its effect on operations. These candidates also provided great breadth within their analysis by analyzing many of the risks presented in the case.

Weak candidates provided less breadth of analysis, only covering a few risks. They also offered incomplete discussions that either explained the implication of the risk or provided a mitigation to it, but not both. Some weak candidates provided mitigations that were no longer applicable as they involved changing past events, when they should have been focused on actions that could be taken in the future. For example, some candidates suggested that the security should be tested on the new system before its implementation, or that the new system should be run in parallel to the old system until all the issues are resolved. As the new system had already been running for almost a year, this was not a realistic mitigation. Some weak candidates lost sight of the required, and only discussed the impact of the risk on the audit (AO#3), omitting a discussion of the system implementation's impact on KAI's operations altogether. Many weak candidates did not structure their response in a logical way, and often blended many risks together, therefore missing some implications and mitigations, or presenting implications or mitigations that were not tied to a specific risk.

### **AO#2 (Foreign Exchange and Subsequent Event) (Fin Rep)**

The chief executive officer indicated that one of the issues with the new system is related to foreign currency, and wondered how the foreign currency transactions should be reported in the financial statements. Candidates were given specific information regarding two foreign currency transactions (a sale in SUN and a dividend receivable in JPY) in Appendix II. They were also given information on a subsequent change in currency exchange rate for the SUN currency. To demonstrate competence, candidates were expected to provide a reasonable analysis of the accounting treatment, using Handbook guidance from section 1651, *Foreign currency translation*, for both the sale and the dividend transactions.

Candidates performed below expectation, as they struggled with the technical requirements for this AO. Most candidates referred to the appropriate Handbook guidance and attempted to apply it to both the sale and the dividend transactions; however, they tended to put more emphasis on the SUN transaction, only providing a brief discussion of the JPY transaction. Many candidates described the correct accounting treatment at the transaction date, but struggled to provide an accurate analysis at the balance sheet date. However, there were also many who provided an incomplete analysis, either analyzing the accounting treatment at the transaction date and not at the balance sheet date, or only discussing either the monetary items or the non-monetary items. Some candidates attempted journal entries to support their analysis of the two transactions, but were quite confused as to the accounts that were affected and the rate to use, indicating technical weaknesses in their understanding of the accounting for the transactions. Very few candidates identified the subsequent event. Instead, they described how to account for the transaction when recording it, on January 13.

Strong candidates addressed both the SUN and the JPY transactions, and discussed the treatment at both the transaction date and the balance sheet date. Their discussions were usually clearer, since they were explicit in describing the specific accounts being translated, the date at which they would be translated, and the rate to use. They showed an understanding of which accounts were monetary versus non-monetary, and the corresponding accounting treatment. Strong candidates provided an organized and efficient layout for their response. They were also clearer in stating whether they were adjusting what the client had done, or providing the treatment that should have been done. Journal entries were often provided that supported their discussion.

Weak candidates struggled to provide clear discussions, often referencing the "transaction" without specifying which account they were discussing, for example, mentioning that the transaction needed to be adjusted to the year-end exchange rate. This type of statement was unclear, as it could be interpreted as intending to adjust both the monetary and the non-monetary items at year-end. Alternatively, it could be interpreted as adjusting for just one of the two. Weak candidates also attempted to apply Handbook standards that were not relevant, for example, discussing functional currency or whether the cost or the equity method should be used. Some candidates discussed whether the dividend should be recorded when declared or when received, even though the required clearly directed them to discuss only the foreign currency accounting treatment. Weak candidates had more difficulty accounting for the transactions at the balance sheet date. They were unable to differentiate between monetary items that required adjusting to the prevailing foreign exchange rate at the balance sheet date, and non-monetary items that continued to be valued at the foreign exchange rate on the transaction date.

### **AO#3 (Risk of Material Misstatement) (Assur)**

Candidates were asked by the client to explain how the changes made during the year, including the new system implementation, will affect the auditor's assessment of the risk of material misstatement for the 2020 audit. Candidates were expected to pick up on facts that were spread throughout the case, to identify elements that should be considered in the assessment of the audit risk. To demonstrate competence, candidates were expected to identify some risks and explain how they would impact the auditor's assessment of the risk of material misstatement.

Candidates struggled on this AO. Many candidates did not cover a sufficient number of risks. They generally provided sufficient discussion of the risks related to the foreign currency and the lack of training, but often only provided a general discussion of the impact of the new system on the risk of material misstatement. For example, these candidates identified that the new system increased audit risk, without supporting that statement with the specific risks caused by the new system implementation that would result in an increase. Other candidates provided insufficient depth of discussion, as they were able to identify a sufficient number of valid risks but simply listed them, without explaining why they were risk factors in the context of the audit. For example, candidates often indicated that lack of training of employees on the new system increased risk, but did not explain why. They should have expanded their discussion to explain that a lack of training could create errors in the records, which increases the risk of material misstatement. Most candidates provided an overall conclusion on the assessment of the risk of material misstatement.

Strong candidates addressed many of the risk factors that were new to 2020. However, what mainly differentiated their response was a clear explanation of why the factors they identified increased the risk of material misstatement. Strong candidates generally provided a more organized and efficient layout to their response, identifying the risk factor, and providing a discussion as to why it affected the risk of material misstatement. Strong candidates also provided conclusions on the overall increase in the risk of material misstatement.

Weak candidates often concluded that the new system increased the risk of material misstatement without supporting that conclusion with case facts, such as the lack of training, the lack of security testing, the manual processes required, or other detailed causes related to the new system. When weak candidates did list factors, they often lacked an explanation of why these factors caused an increase in risk. Many weak candidates attempted to discuss factors that were not new to the 2020 audit, such as the reduction in risk due to having been previously audited, instead of focusing on the changes that were made during the year, as requested. Other weak candidates went outside the scope of the required and provided an audit plan, in which they discussed the audit approach, touching on how the new system would impact the auditor's ability to rely on controls and the need for more substantive testing, the users of the financial statements and materiality, appearing to apply a templated approach to their audit discussion.

#### **AO#4 (Working Capital Ratios and Management) (Fin)**

Candidates were asked by Jill to provide a ratio analysis on working capital and each of its components, and to suggest ways to better manage working capital. They were provided with a set of financial statements in Appendix III and the footnotes to the financial statements provided information regarding the cash level, inventory levels, credit sales, credit policy, and accounts payable payment timelines. To demonstrate competence, candidates were expected to calculate and explain some working capital ratios, and suggest ways to improve the management of working capital.

Candidates struggled with this AO. Most candidates identified the ratios that are part of the working capital, most frequently calculating the current ratio, the accounts receivable turnover ratio, and the inventory turnover ratio. Candidates were more inclined to make mistakes in their calculation of the turnover ratios, often inverting the numerator and the denominator, but common mistakes were made in other ratios as well, such as excluding the current portion of the long-term debt from the current ratio calculation, using sales instead of credit sales for the accounts receivable turnover ratio, and failing to use average numbers for accounts receivable, accounts payable, and inventory. Candidates also struggled when it came to interpreting the results of their calculation, often concluding the opposite of what the results suggested, demonstrating a misunderstanding of the ratio. For example, candidates would conclude that a low accounts receivable turnover ratio was good, more than likely assuming they had calculated the number of days in accounts receivable instead of the turnover ratio. Most candidates provided ways to improve the working capital management, and discussed the customers' credit policy and the suppliers' payment policies most often. Excess cash and inventory management were also discussed by many candidates.

Strong candidates calculated several working capital ratios and interpreted them correctly. They commonly calculated and discussed the turnover ratios, which seemed more difficult for candidates. Explanations went beyond simple or generic observations that the ratio was high or low, and clearly explained what the ratio meant in the context of KAI, and incorporated case facts as support for their explanations. Strong candidates provided multiple suggestions for improving working capital management, which often included ways to use the excess cash, demonstrating an understanding of working capital.

Weak candidates only calculated a few ratios, often focusing solely on the current ratio. Some weak candidates included ratios that were not relevant to working capital in their analysis, such as the return on assets, debt to equity, or profitability ratios. Weak candidates were also often incorrect in their attempts to calculate the ratios. In addition, their interpretation of the results of the ratios was often poor. For example, they often limited their explanation to whether the ratio increased or decreased from the prior year, or stated that the ratio was "good" or "bad." Some weak candidates did not understand that a ratio analysis was required, and proceeded to do a variance analysis of the balances, year over year. When weak candidates made errors in their calculations and arrived at unrealistic results, such as a ratio of 0.5 days in receivables, or a negative current ratio, they commented on those results, not realizing that the results were not logical in the context of KAI. Although weak candidates usually suggested ways to improve working capital management, they tended to focus on the more obvious suggestions, such as those related to the accounts receivable policy and the accounts payable payment schedule.

#### **AO#5 (Personal Taxes Payable) (Tax)**

Candidates were asked to calculate the federal personal income taxes payable for 2020 for Kane. Candidates were provided with details related to his personal income tax situation in Appendix IV. To demonstrate competence, candidates were expected to provide a reasonable calculation of federal personal taxes payable that included both Kane's employment income and business income.

Candidates performed the strongest on this AO. Most of the candidates incorporated most of the adjustments in their taxable income calculation. Candidates struggled more when it came to the deductions and credits. While most candidates included a childcare deduction, only a portion of them were aware that a cap of \$8,000 applied to that deduction. About half of the candidates correctly incorporated the personal credits into their calculation, but only a small proportion of candidates correctly addressed any of the other credits. Many candidates displayed a misunderstanding of the tax credits, either failing to multiply the amount by 15%, deducting them from taxable income instead of taxes payable, and often incorrectly including childcare as a credit instead of a deduction. Several candidates incorrectly included the child caregiver credit in their calculation, which did not apply in this situation. Candidates did, however, generally apply the graduated rate to calculate taxes payable.

Strong candidates addressed most of the adjustments and provided technically correct explanations for them. They demonstrated an understanding of the structure of the tax calculation, incorporating deductions and tax credits correctly in their tax payable calculation. They also referenced each item they were adjusting to a note that explained the adjustment, which allowed them to demonstrate their technical tax knowledge. For example, strong candidates properly documented why they were making an adjustment to the business income related to the bad debt expense. Strong candidates also demonstrated better technical knowledge with a correct calculation of the maximum deduction of childcare expense, and by including several of the tax credits. Strong candidates clearly understood how the graduated rates worked and provided a reasonable taxes payable total.

Weak candidates only included a few elements of the tax payable calculation, and often did not include explanations for their adjustments. Common mistakes included omitting tax credits, failing to apply 15% to the tax credits, deducting Kane's full childcare expenses, deducting the credits from taxable income, and deducting childcare expenses from taxes payable. Although most candidates recognized that a graduated tax rate was required, weak candidates struggled with the correct application of graduated rates and often added the base amounts from all of the tax brackets.

#### **AO#6 (Corporate Taxes Payable and Incorporation) (Tax)**

Candidates were asked to determine what the corporate federal income taxes payable for 2020 would have been if Kane had incorporated his business before January 1, 2020, and to explain the benefits and drawbacks of incorporating. This required appeared in the last sentence of the case, as part of Appendix IV, which candidates were referred to for the AO#5 (personal tax) required. To demonstrate competence, candidates were expected to provide a reasonable calculation of corporate taxes payable, and discuss some of the qualitative considerations of incorporation.

Candidates struggled on this AO. A high number of candidates did not attempt this AO. Of those who did attempt a response, many did not attempt a calculation and instead qualitatively discussed the lower federal corporate tax rate compared to the federal personal tax rate, often correctly identifying the small business deduction as the reason for the reduction in rates. Those who attempted a calculation often did not provide support for the rate they used. Candidates who provided support or a breakdown of the components of the rate used (i.e., federal abatement and small business deduction) were usually able to demonstrate technical knowledge in that area. Candidates' qualitative discussion of the incorporation option was usually very brief. They provided few qualitative considerations, and these were often considerations that were not tax-related, for example, only addressing personal limited liability and added costs of incorporation. Candidates struggled to identify the more relevant qualitative points for Kane's consideration, such as the possibility of tax deferral and the drawbacks of tax integration.

Strong candidates provided a calculation of federal corporate taxes payable using the business income calculated in AO#5, and applied a reasonable corporate tax rate, which they provided support for. They also discussed several benefits and drawbacks of incorporating. Their qualitative discussions were not limited to personal liability and cost and included more relevant tax concepts, such as tax deferral or tax integration.

Weak candidates did not attempt a calculation or a discussion of the differences in tax rates between the federal personal rate and the federal corporate rate and how it impacts taxes payable. They typically only addressed the non-tax-related benefits and drawbacks of incorporation and often included incorrect or irrelevant factors in their analysis, such as GST registration, audit requirements upon incorporation, or timing of the tax return filing.



<b>Paper/Simulation:</b>	<b>Day 3, Case 3 (WWS)</b>
<b>Estimated time to complete:</b>	70 minutes
<b>Simulation difficulty:</b>	Average to Hard
<b>Competency Map coverage:</b>	Strategy and Governance (1); Taxation (1); Finance (1); Management Accounting (1); and Financial Reporting (1).

### **Evaluators' comments by Assessment Opportunity (AO)**

#### **AO#1 (Improving Labour Relations) (Strat & Gov)**

Candidates were asked whether Carolyn's ideas to attract and retain staff would address the employees' needs and concerns, and are in the best interest of the company. They were also asked for additional suggestions for improving labour relations. Carolyn's ideas for improving labour relations were provided in Appendix II, and additional information regarding the manufacturing employees' concerns was provided in Appendix IV. To demonstrate competence, candidates were expected to discuss how each of Carolyn's ideas for improving labour relations either addressed the employees' concerns or were in the best interest of the company, and to provide additional suggestions for improving labour relations, based on the employees' concerns in Appendix IV.

Candidates performed well on this AO. Most candidates attempted a discussion of all of the benefits that Carolyn presented, and provided suggestions for improvements. Most candidates addressed both sides (i.e., whether Carolyn's ideas addressed the employees' concerns and whether they were in the best interest of the company), although it was often more difficult for some candidates to discuss the company's side, often stating that it would improve employees' morale as the reason, without further explanation of how or why. Candidates performed well in their discussion of the private health plan. They struggled, however, when trying to address the subsidized cafeteria meals and recreational facilities, where their discussions often lacked the necessary case facts to explain whether these benefits would be appropriate. Most candidates provided thoughtful suggestions for improvements, often touching on both the safety issues and the lack of performance feedback. Candidates who provided a structured response generally performed better, as the structure allowed them to address the employees' side, the company's side, and provide suggestions.

Strong candidates had breadth of coverage. They explained how each benefit would impact the company, touching on the key issues of low morale, low retention rate, and the inability to hire skilled workers. They also discussed whether the benefits would address the employees' concerns, integrating information from Appendix IV. Strong candidates also recognized that some of the benefits did not directly address the concerns raised by the employees, as opposed to only looking for how the benefit would be helpful to employees. They also tended to provide practical solutions for some of the biggest concerns raised by the employees, such as the lack of safety training, the lack of performance reviews, and the lack of trust by the previous manager.

Weak candidates struggled to use case facts to explain the impact of the benefit on employees or the company. For example, they would note that the recreation facility should not be implemented because it would be too expensive, ignoring case facts related to the employees being bored during their lunch hour to support how this benefit would address those needs. Some candidates focused only on the tax side of the benefits, forgetting to answer Carolyn's question, or only doing it for the first few items they discussed. Weak candidates also had difficulty distinguishing between the company impact and the employees' concerns. They often used the employees' morale as a benefit for both the employees and the company, missing out on the opportunity to highlight important employee concerns that could have been used to support their analysis.

### **AO#2 (Employee Benefits) (Tax)**

Candidates were asked to provide the income tax consequences of each of Carolyn's proposed ideas, from the company's and the employees' perspectives. The benefits were provided in Appendix II. To demonstrate competence, candidates were expected to provide the correct tax treatment of some of the benefits, for both the employees and WWS.

Candidates performed well on this AO. Most candidates provided enough breadth over the tax treatment of the proposed benefits for the employees and WWS. Most candidates were comfortable addressing the health services plan, the service gifts, the training, and the employees' side of the recreation facilities. Discussions on the service gifts often had multiple criteria discussed, such as the \$500 limit, the cash and near-cash gifts, and the five years of service requirement. Candidates tended to favour discussing the employees' side of the taxable benefits over the company's side.

Strong candidates discussed the taxable benefits at the same time as their analysis of Carolyn's ideas (AO#1), saving themselves time in setting up their response, and organizing it in a way that made sure they were addressing all aspects. These candidates logically followed their benefit analysis with the tax implication from both the employer and employee side. Strong candidates demonstrated a more in-depth analysis of the taxation of these benefits, for example, recognizing that training costs would be deductible to WWS regardless of whether it was for the benefit of the company, since it would be a form of compensation to employees. Strong candidates generally understood the more difficult concepts, such as the taxation of the cafeteria meals and the non-deductibility of recreation centre costs for the employer.

Weak candidates generally attempted many items but provided wrong conclusions on the income tax consequences. These candidates specifically struggled to provide the correct tax treatment when the issues were not as straightforward, for example, with the training courses, where the treatment depends on who is the primary beneficiary of the training, or for the cafeteria meals, where the treatment is different depending on what portion of the meal is covered by the employer. For example, weak candidates often concluded that training costs were only deductible to WWS if the courses were related to the manufacturing employees' jobs, or noted that the cafeteria meals were only 50% deductible, as if they were part of meals and entertainment expenses. Weak candidates also sometimes confused the tax treatment from the employer's perspective with the tax treatment from the employees' perspective. For example, some applied the \$500 and cash gift rules to the employer's expense deductibility, or said the training needed to be for the benefit of WWS to be tax deductible. Weak candidates also focused on the taxable benefits for the employees, neglecting to discuss the tax consequences for WWS.

### **AO#3 (Repair or Replace) (Fin)**

Candidates were asked to recommend whether the fibreglass vacuums used in production should be repaired or replaced. Candidates were advised that, due to the lack of maintenance, the vacuums were slower than normal, creating safety issues. Case facts relating to the quotes received were provided in Appendix III. Additional information that was useful in the calculation was also provided in Appendix I. Candidates were expected to incorporate this information into a five-year net present value calculation in order to determine which option would make the most sense financially.

Candidates performed below expectation on this AO. Although most candidates calculated a net present value of the costs over five years, many candidates struggled to provide a calculation that was free of major errors, or failed to provide an analysis that was comparable between the two options. Candidates also struggled to integrate information provided in Appendix I, such as the sale price of the used vacuums.

Strong candidates saw that the information provided in Appendix I would be useful for the comparison of the two options, and integrated that information into their analysis. They integrated their calculation of the opportunity cost (AO#4) into their analysis, to determine the net present value under each option. These candidates correctly incorporated information from Appendix III with minimal errors, and did their calculation on a comparable basis, such as over five years, and performed their analysis using a comparable number of vacuums. They also correctly calculated the net present value of the two options in order to reach a conclusion on whether Carolyn should repair or replace the vacuums.

Weak candidates generally had an analysis that was not comparable between the two options. Some of those candidates used five years for one analysis and twelve for the other, missing the case fact that the vacuums would need to be replaced in five years regardless of the option chosen. Others used one vacuum for some calculations and six vacuums for others, affecting the usefulness of their analysis. Most of the weak candidates only used the information from Appendix III in their analysis, and failed to incorporate the proceeds from the sale of the old vacuums in Appendix I into their analysis of the replacement option. Some of the weak candidates simply provided a list of costs to determine the total cost under each option, without completing a net present value analysis. Weak candidates often mixed up the recurring costs with the one-time costs, for example, inputting the warranty cost in each of the five years instead of only in the first year. Some weak candidates also treated all of the costs as recurring costs over the five years of their analysis.

#### **AO#4 (Opportunity Cost) (Mgmt Acct)**

Candidates were not specifically directed to this AO in the case. On the first page of the case, Carolyn said that, because repaired vacuums will be slower than new vacuums, the number of kayaks that can be produced will be affected by the option they choose. She is concerned that repairing the equipment will not allow WWS to meet demand. Information regarding the manufacturing processes was provided in Appendix I, including the information required to calculate the contribution margin. Information regarding the production capacity of the repaired and new vacuums was provided in Appendix III. It was expected that candidates would integrate and use the information provided to calculate the opportunity cost of repairing the vacuums versus replacing them.

Many candidates did not address this AO at all, and those candidates who did attempt it, did not perform well. Although they attempted to calculate the kayak production ability of both the repair and replace options, and attempted to calculate a contribution margin, most calculations contained errors. The most common errors were to include fixed overhead, or not multiply the variable overhead costs by labour hours. Most candidates multiplied the production by the contribution margin to get to an opportunity cost, without considering the demand.

Strong candidates clearly understood the concepts of capacity constraints and contribution margins. They correctly calculated the contribution margin, using the information provided in Appendix I. They also calculated the production under each option, and realized that with the repair option, capacity would not be sufficient to meet demand, and that with the replace option, capacity would exceed demand. These candidates incorporated this information into their analysis, capping the production to the demand when analyzing the replace option, to calculate the opportunity cost.

Some of the weak candidates did not see the opportunity cost at all. Other weak candidates calculated the production under each option and concluded on whether demand could be met, without incorporating the production into a calculation of the opportunity cost. Other weak candidates did not attempt a calculation of the contribution margin, and simply multiplied the production by revenue to get to an opportunity cost. Some of the weak candidates calculated the contribution margin without incorporating it into any other analysis, seeming not to know how to use this information. Some candidates were confused between machine hours and labour hours and attempted to calculate a contribution margin based on the decreased number of hours each vacuum would need to produce one kayak, which they multiplied by production to get an opportunity cost. A few candidates attempted to calculate the cost per kayak or provided a breakeven analysis, with little or no meaningful analysis of their results.

#### **AO#5 (Non-monetary Transaction) (Fin Rep)**

In Appendix I, candidates were asked to explain the accounting treatment of an exchange of assets in accordance with ASPE. All necessary information was presented in Appendix I. Candidates were expected to analyze the criteria provided in ASPE guidance, and support their analysis with case facts, such as the fact that the exchange would make repairs easier, but not cheaper, and would have no impact on production. Candidates were expected to provide a conclusion that was consistent with their analysis.

Candidates struggled with this AO. Most candidates identified that the transaction was a non-monetary exchange, but many of them struggled with applying relevant case facts to their analysis of the commercial substance criterion. These candidates seemed to be looking for a way to justify that the transaction had commercial substance, by either making assumptions that went against case facts (e.g., that the easier repairs would reduce labour costs, and make the repairs cheaper), or incorrectly applying case facts, such as concluding that the \$2,000 payment meant that there was a significant difference in the fair values of the two assets. These candidates concluded that the non-monetary transaction can be recorded at the fair value of the asset given up, and that the transaction had been recorded correctly by WWS. Other candidates analyzed commercial substance correctly but came to the wrong conclusion, noting that, because the transaction lacked commercial substance, it should be recorded at the fair value of the asset given up, misinterpreting the wording in the guidance.

Strong candidates applied relevant case facts to the commercial substance criterion. They also applied case facts to the remaining criteria, none of which were met, in order to come to the conclusion that the asset could not be recorded at the fair value of the asset given up, and must be recorded at the carrying value instead. These candidates generally recognized that the current accounting treatment was incorrect, and that the gain recorded should be reversed.

Weak candidates identified the right Handbook section to use but struggled in their application of the criteria to the case facts. Many of these candidates used irrelevant case facts to analyze commercial substance. Some mentioned that the moulding equipment would generate revenue, or that the fair value of both pieces of equipment were different, concluding that the transaction had commercial substance, while others stated that the fair values were similar, concluding that the transaction did not have commercial substance. Other weak candidates simply stated that non-monetary transactions are recorded at the fair value of the asset given up, without attempting to analyze the guidance at all.

**APPENDIX G**

**CPA COMMON FINAL EXAMINATION REFERENCE SCHEDULE**

## CPA COMMON FINAL EXAMINATION REFERENCE SCHEDULE

### 1. PRESENT VALUE OF TAX SHIELD FOR AMORTIZABLE ASSETS

Present value of total tax shield from CCA for a new asset acquired after November 20, 2018

$$= \frac{CdT}{(d+k)} \left( \frac{1+1.5k}{1+k} \right)$$

**Notation for above formula:**

$C$  = net initial investment

$T$  = corporate tax rate

$k$  = discount rate or time value of money

$d$  = maximum rate of capital cost allowance

### 2. SELECTED PRESCRIBED AUTOMOBILE AMOUNTS

	<b>2020</b>	<b>2021</b>
Maximum depreciable cost — Class 10.1	\$30,000 + sales tax	\$30,000 + sales tax
Maximum depreciable cost — Class 54	\$55,000 + sales tax	\$55,000 + sales tax
Maximum monthly deductible lease cost	\$800 + sales tax	\$800 + sales tax
Maximum monthly deductible interest cost	\$300	\$300
Operating cost benefit — employee	28¢ per km of personal use	27¢ per km of personal use
Non-taxable automobile allowance rates		
— first 5,000 kilometres	59¢ per km	59¢ per km
— balance	53¢ per km	53¢ per km

### 3. INDIVIDUAL FEDERAL INCOME TAX RATES

**For 2020**

<u>If taxable income is between</u>	<u>Tax on base amount</u>	<u>Tax on excess</u>
\$0 and \$48,535	\$0	15%
\$48,536 and \$97,069	\$7,280	20.5%
\$97,070 and \$150,473	\$17,230	26%
\$150,474 and \$214,368	\$31,115	29%
\$214,369 and any amount	\$49,644	33%

**For 2021**

<u>If taxable income is between</u>	<u>Tax on base amount</u>	<u>Tax on excess</u>
\$0 and \$49,020	\$0	15%
\$49,021 and \$98,040	\$7,353	20.5%
\$98,041 and \$151,978	\$17,402	26%
\$151,979 and \$216,511	\$31,426	29%
\$216,512 and any amount	\$50,141	33%



**4. SELECTED INDEXED AMOUNTS FOR PURPOSES OF COMPUTING INCOME TAX**

Personal tax credits are a maximum of 15% of the following amounts:

	<b>2020</b>	<b>2021</b>
Basic personal amount, and spouse, common-law partner, or eligible dependant amount for individuals whose net income for the year is greater than or equal to the amount at which the 33% tax bracket begins	\$12,298	\$12,421
Basic personal amount, and spouse, common-law partner, or eligible dependant amount for individuals whose net income for the year is less than or equal to the amount at which the 29% tax bracket begins	13,229	13,808
Age amount if 65 or over in the year	7,637	7,713
Net income threshold for age amount	38,508	38,893
Canada employment amount	1,245	1,257
Disability amount	8,576	8,662
Canada caregiver amount for children under age 18	2,273	2,295
Canada caregiver amount for other infirm dependants age 18 or older (maximum amount)	7,276	7,348
Net income threshold for Canada caregiver amount	17,085	17,256
Adoption expense credit limit	16,563	16,729

Other indexed amounts are as follows:

	<b>2020</b>	<b>2021</b>
Medical expense tax credit — 3% of net income ceiling	\$2,397	\$2,421
Annual TFSA dollar limit	6,000	6,000
RRSP dollar limit	27,230	27,830
Lifetime capital gains exemption on qualified small business corporation shares	883,384	892,218

**5. PRESCRIBED INTEREST RATES (base rates)**

<u>Year</u>	<u>Jan. 1 – Mar. 31</u>	<u>Apr. 1 – June 30</u>	<u>July 1 – Sep. 30</u>	<u>Oct. 1 – Dec. 31</u>
2021	1			
2020	2	2	1	1
2019	2	2	2	2

This is the rate used for taxable benefits for employees and shareholders, low-interest loans, and other related-party transactions. The rate is 4 percentage points higher for late or deficient income tax payments and unremitted withholdings. The rate is 2 percentage points higher for tax refunds to taxpayers, with the exception of corporations, for which the base rate is used.

**6. MAXIMUM CAPITAL COST ALLOWANCE RATES FOR SELECTED CLASSES**

Class 1.....	4%	for all buildings except those below
Class 1.....	6%	for buildings acquired for first use after March 18, 2007 and $\geq 90\%$ of the square footage is used for non-residential activities
Class 1.....	10%	for buildings acquired for first use after March 18, 2007 and $\geq 90\%$ of the square footage is used for manufacturing and processing activities
Class 8.....	20%	
Class 10.....	30%	
Class 10.1.....	30%	
Class 12.....	100%	
Class 13.....	n/a	Straight line over original lease period plus one renewal period (minimum 5 years and maximum 40 years)
Class 14.....	n/a	Straight line over length of life of property
Class 14.1.....	5%	For property acquired after December 31, 2016
Class 17.....	8%	
Class 29.....	50%	Straight-line
Class 43.....	30%	
Class 44.....	25%	
Class 45.....	45%	
Class 50.....	55%	
Class 53.....	50%	
Class 54.....	30%	

The CPA certification program prepares future CPAs to meet the challenges that await them. For more information on the qualification process, the common final examination (CFE), and the specific education requirements for your jurisdiction, contact your provincial/regional CPA body.

## CPA PROVINCIAL/REGIONAL BODIES AND CPA REGIONAL SCHOOLS OF BUSINESS

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