



Owen Roberts International Airport (ORIA) Terminal Redevelopment Project-Progress Update as at August 2018





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TABLE OF CONTENTS

Preamble.....1

Executive Summary.....2

Key Messages 2

Introduction5

About the Audit..... 6

Findings.....7

A separate business case for the project was not prepared 7

Project governance has improved 9

Project management has been hampered by the performance of the lead consultant 13

The project is being funded through a mix of CIAA funding and a cash injection from the Cayman Islands Government 16

The estimated project cost has changed over time and it is now estimated to cost \$64.37 million, almost 20 per cent more than contract prices 17

The project is estimated to be largely complete by the end of 2018 but not fully complete until February 2019..... 19

Conclusion21

Appendix 1 – About the Audit23

PREAMBLE

The Office of the Auditor General (OAG) first reviewed the Owen Roberts International Airport (ORIA) Terminal Redevelopment project (the project) in 2017. We included commentary on the project in our report *Major Capital Projects – Follow-Up* in October 2017. However, we did not report separately on the project at that time because of some of the difficulties that were being experienced with the lead consultant, the sensitive nature of these and the potential implications for the project should these concerns be made public.

In April 2018, the Public Accounts Committee (PAC) requested the OAG to prepare a progress update on the ORIA project and report back to them.

This report includes a number of issues that are confidential and sensitive and that could, if reported in the public domain, lead to significant challenges in successfully completing the project in the short term and in additional costs to the public purse. Specifically paragraphs 35 to 40, which conclude that the lead consultant has not performed well, and the latest estimated costs at paragraphs 47 to 55, are sensitive in nature and need to be held in confidence at this stage.

30 August 2018

The Auditor General issued the report to the PAC members and the Speaker of the Legislative Assembly on 30 August 2018 as a private report, with a view to the publishing at a later date. The PAC was briefed on the report at an Administration meeting on 11 September 2018 and agreed to come back to the report later. The OAG has kept the project under review and has now decided to publish the report with certain sections redacted as these remain commercially sensitive.

The report has not been amended and so, please read it with the issue date of August 2018 and not January 2019 in mind.

18 January 2019

EXECUTIVE SUMMARY

In October 2017, the Office of the Auditor General (OAG) published the report *Major Capital Projects – Follow-Up*. As part of that audit we reviewed the Owen Roberts International Airport (ORIA) Terminal Redevelopment project (the project) as a case study. The project was selected for a detailed review because it was further advanced than other major capital projects and in construction. This meant that most of the key milestones should have been completed at the time of our review although the project was still ‘live’. In April 2018, the Public Accounts Committee (PAC) asked the OAG to prepare a progress update on the ORIA project and report back to them.¹

Our reviews of the project, in 2017 and 2018, highlighted a number of concerns. Some of these are ‘live’ issues that are being managed by Cayman Islands Airport Authority (CIAA), the Project Steering Group and the Senior Project Manager and are commercially sensitive and may be contentious. We believe that it would not be in the public interest to report our findings publicly at this stage as it could risk the successful completion of the project, result in further contractual problems, increase costs or cause further delays. We have therefore prepared this private report for the PAC and shared it with the Speaker of the Legislative Assembly and key stakeholders responsible for the project, including the Senior Responsible Officer (Chief Officer, Ministry of District Administration, Tourism and Transport (DATT)), CIAA Chief Executive Officer (CEO) and Board and the Project Steering Group.

KEY MESSAGES

An Outline Business Case (OBC) was prepared in 2014 for the redevelopment of all three airports and identified and assessed a range of options, which included expanding the current ORIA Terminal and building a new terminal. The OBC was prepared before the Major Projects Office (MPO) governance framework was developed and so does not fully comply with the requirements that are now in place. The OBC was approved by Cabinet in August 2014. No Final Business Case was ever prepared for the project, which clearly set out updated cost and time estimates and the benefits to be delivered, after the decision was made to invest in redeveloping the ORIA Terminal.

The Cabinet direction in 2013 that initiated the project stated, among other conditions, that the funding for the project should be from existing airport revenues. To meet this criterion, the OBC stated that the project would take eight years to complete. However, it was decided that the project should be delivered in a faster timescale (three years) to avoid unnecessary disruption for passengers. The

¹ Report of the standing Public Accounts Committee on the report of the Office of the Auditor General on the Major Capital Projects Follow Up – October 2017.

Government provided an additional \$15 million funding to fast-track the project. The remainder of the project was to be funded by CIAA from its Passenger Facilities Charges (PFC).

The procurement process to pre-qualify potential consultants to design the project, manage costs and administer the construction contracts started before Cabinet approved the OBC for the project to proceed. The company that eventually won the tender was not listed as the lead consultant (applicant) during the prequalification process. We have been told that during this process it became apparent that the applicant did not have the experience or capability to lead the project but one of the consortium companies (RS&H) did have this experience. After further discussion and clarification with the consortium, the tender assessment committee recommended a swap in lead consultant to RS&H. The change in lead consultant delayed the signing of the contract by three months (to January 2015) while RS&H obtained the necessary registrations and licenses to trade in the Cayman Islands.

The lead consultant (RS&H) has not performed well and many of the performance issues have caused delays, resulting in elements of the project having to be re-phased, overall delays in the timescale, and cost increases. The sub-consultants have recently claimed that RS&H is slow to communicate with them, which has resulted in critical information not being updated or presented to the Senior Project Manager and Project Steering Group. Since September 2016, the Project Steering Group meetings have included a standing item to discuss RS&H's performance. The CIAA and the Senior Project Manager from the MPO have also been actively managing RS&H. [REDACTED]

Governance and oversight arrangements are generally in line with the MPO governance framework. The Project Steering Group provides the main governance and oversight for the project. However, as outlined in *Major Capital Projects – Follow-Up* the MPO governance framework does not currently take account of the additional complexities in governance arrangements where a project is being delivered by a SAGC. The project is being delivered by CIAA, which means that the CIAA Chief Executive Officer (CEO) and Board have clear roles to play. A pragmatic approach has been taken for the project with both the CEO and Board being given some clear roles. For example, the CEO chairs the Project Steering Group. However, we found some weaknesses in practice. The CIAA Board has requested changes to the scope of the project after contracts were awarded, which have resulted in the cost of the project increasing. The Project Steering Group has met monthly since August 2016. However, we found significant gaps in the frequency of Project Steering Group meetings between July 2014 and August 2016, at times when key procurement processes were ongoing and contracts were being signed.

We were told that the Project Steering Group had input to all decisions and some of this was done virtually. However, there is no formal record of approvals provided outside of meetings.

The project was initially estimated to be complete by the end of March 2018. A number of delays resulted in re-phasing and the overall project completion date has moved a number of times. The revised completion date is officially December 2018. However, the project schedule as at May 2018 estimates the final completion date as February 2019. It is expected that the terminal redevelopment will be substantially complete and the airport fully operational by December 2018.

The original estimated cost of the project specified in the OBC was \$51.9 million. At the time of procuring the lead consultants the project budget was set at \$55 million, which included a contingency of around 6 per cent of estimated construction costs (\$2.5 million). In August 2015, the cost estimate increased to \$56.62 million as a result of design changes requested by the CIAA Board. At the time of our audit, most of the contracts were signed and the estimated project cost based on contract values was \$53.8 million. As at August 2018 the project was estimated to cost almost \$64.4 million; \$10.6 million (almost 20 per cent) more than the contracted values. Around \$5 million of this cost increase is because of changes requested by the CIAA Board. The CIAA, MPO and Senior Project Manager continue to look for options to minimise the overspend.

INTRODUCTION

1. Owen Roberts International Airport (ORIA) in Grand Cayman has a planned capacity level of 500,000 passengers a year. It has been operating well beyond this capacity for a number of years, with statistics from 2000 onwards reporting that around a million passengers a year were flowing through the airport. In 2005 a project was started for a major enhancement to the airport. This led to the procurement of a design for the project that was later cancelled in September 2010 before construction started because it was then considered to be unaffordable. By that time, Cayman Islands Airport Authority (CIAA) had spent \$5.5 million on the project, which was subsequently written off in 2012-13.
2. On 1 October 2013, Cabinet issued a policy direction to further enhance the existing facilities at all three airports to improve the travel experience for passenger arrivals. The policy direction was intended to support the then outcome goal of 'Setting the stage for success in the tourism industry' and develop further tourism opportunities. The Cabinet direction stated that:
 - the existing facilities should be enhanced;
 - the project should be completed as soon as possible;
 - funding for the project should be from existing airport revenue sources;
 - the CIAA should retain ownership of the three airports;
 - master plans for each of the three airport sites, to include detail on medium to longer-term needs based on projected passenger growth, were to be agreed; and
 - the projects should be completed through a phased implementation approach because of the limits to existing revenue sources.
3. The ORIA Terminal Redevelopment project has two main phases:
 - Phase 1 – Enabling works – including the western extension to the airport terminal building and the new baggage handling area.
 - Phase 2 – Main works – renovation and extension of the main terminal building. Phase 2 is made up of a number of smaller phases, which are summarised in Exhibit 1.

Exhibit 1 – ORIA Phase 2 construction

Phase	Covering
2 North A	New ticketing area
2 North B	Refurbishment of old ticketing area
2 South	New departures area and food hall
3	Immigration, Customs and Arrivals
4 (South and North)	Arches and partial refurbishment of existing terminal
5A	Refurbishment of old departures area
5B	Duty free area
Level 2 South	New offices
Level 2	Refurbishment of old offices

Source: CIAA

- In addition to these phases, CIAA is implementing a new Baggage Handling System; a Common Use Passenger Processing System (CUPPS) to improve passenger check-in experience (including self-check-in kiosks); and a range of airside developments, including strengthening the runway to accommodate larger aircraft. The Baggage Handling System and CUPPS are being implemented at the same time as the renovation and extension of the ORIA Terminal and are integral to the project. The CUPPS project has a separate budget. The airside developments are a separate project, which is currently in the early stages of development.
- Our original review in 2017 and our progress update in 2018 focused on Phase 2 of the project, which was ‘live’ while we were completing our audits.

ABOUT THE AUDIT

- We carried out this audit at the request of the Public Accounts Committee of the Legislative Assembly. We aimed to assess the progress being made with the ORIA Terminal Redevelopment project in relation to time, cost and quality. Specifically, we attempted to answer the following audit questions:
 - How effective is project management and governance?
 - Is the project on track to be completed by December 2018?
 - What is the latest cost estimate and how will it be funded?
- In carrying out this audit, we used evidence that we had gathered during our audit *Major Capital Projects Follow Up* and updated this by: interviewing key officials, reviewing a range of documents and completing site visits. Our audit did not cover the awarding of concessions or the CUPPS project, which were run as separate parallel projects. More information about the audit can be found in Appendix 1.

FINDINGS

A SEPARATE BUSINESS CASE FOR THE PROJECT WAS NOT PREPARED

8. A Project Steering Group was set up in mid-2013 to take the project forward. The Project Steering Group together with Cayman Islands Airport Authority (CIAA) management prepared the Strategic Outline Case (SOC). This covered all three airports and set out the high-level needs and objectives. Cabinet approved the SOC on 22 October 2013.
9. On 18 December 2013, the CIAA engaged independent consultants (PwC), after a competitive selection process, to complete a master plan and Outline Business Case (OBC) for the redevelopment of the three airports in the Cayman Islands. PwC submitted the draft OBC on 9 May 2014. The OBC provides a masterplan for the development of all three airports, outlining five priorities and proposing developments over the period 2014 to 2032.
10. The preparation of the OBC pre-dates the new MPO governance framework so we would not expect it to fully meet the requirements that are now in place. However, the Framework for Fiscal Responsibility (FFR), which has been in place since 2011, requires that all projects are suitably appraised before the procurement stage to ensure value for money and that a robust cost-benefit analysis has been carried out.² The FFR also states that business cases should be prepared that demonstrate the economic need; include costed risk and impact assessments; and specify the benefits to be delivered to ensure that informed decisions can be made on whether or not to proceed to procurement. We were informed that, to meet FFR requirements, Government was applying the United Kingdom (UK) Green Book approach at the time.³
11. The OBC covers many of the aspects we would expect. For example, it includes:
 - A clear strategic need for investment in the ORIA terminal. As well as confirming that the airport was handling significantly higher volumes of passengers than it had been designed for, it identified a number of areas where the terminal building fell short of International Air Transport Association (IATA) standards (such as capacity, security screening and check-in space). Although the OBC clearly states the shortfalls to be addressed it does not set out any additional benefits that may be achieved from the investment.

² The *Framework for Fiscal Responsibility* was agreed between the Cayman Islands Government and the UK Government in November 2011. It introduced a range of measures to contain spending and improve governance and management arrangements across the public sector, including those related to major capital projects. The FFR was incorporated into the *Public Management and Finance Law* in November 2012.

³ The UK Government HM Treasury Green Book requires projects to be assessed using a five-case model. Business cases are expected to set out the case for change (strategic); how the intervention represents public value (economic); that the deal is attractive and can be procured (commercial); that it is affordable (financial); and that what is required is achievable (management).

- A financial case, including assessing the affordability of the project within the money available. The OBC estimated the cost of the project as \$51.9 million. ⁴
- An option analysis which assesses five options for ORIA including: ORIA terminal expansion; ORIA new construction; runway extension; boarding bridges and US pre-clearance (and two options for Little Cayman). The options are assessed using the five CIAA priorities and other criteria including affordability, environmental considerations, execution risk and the likely impact on operations. ⁵ However, none of the five options for ORIA are assessed against CIAA priorities 1 (safety and regularity compliance) or 3 (ORIA airside capacity).
- A procurement strategy, which assesses a range of procurement options, including Public Private Partnerships, and recommends the most appropriate procurement method for the project.
- Risk identification and potential mitigation.
- Project management approach, including making recommendations on the need for strong project governance, management and controls environment. The OBC specifically recommended that an experienced project manager be appointed to oversee the project with the support of technical advisors such as architects, structural and civil engineers, construction cost consultants and environmental consultants. The OBC also recommended that CIAA build its capacity in areas such as finance and commercial and concession management.

12. Cabinet approved the OBC on 5 August 2014, after public consultation, subject to the UK Government Foreign and Commonwealth Office's (FCO) approval. The FCO approved the project on 15 August 2014.

13. Under the project management approach being used at the time a Final Business Case (FBC) should have been prepared for the project prior to committing to the construction contract(s). The FBC should provide more precise information about the preferred option based on the procurement process for the approved and fully-costed design and as a result provide more certainty over cost, time and quality (benefits to be delivered). This is an important step as the FBC is the final stage before the contract is signed and significant spending is committed. A separate FBC for the ORIA Terminal Redevelopment project was never completed. The Project Steering Group discussed the preparation of a FBC between January and March 2017, although by then the construction contracts had already been signed and the project was in Phase 2 of construction.

⁴ The cost estimates in the OBC were stated at 2014 prices and not adjusted for inflation.

⁵ The OBC identifies the five priorities as (1) Safety and regularity compliance (2) ORIA terminal capacity shortfall (3) ORIA short/medium term airside capacity (4) Little Cayman, publically owned airport (5) Long term capacity building

PROJECT GOVERNANCE HAS IMPROVED

GOVERNANCE ARRANGEMENTS FOR THE PROJECT ARE IN LINE WITH THE MPO GOVERNANCE FRAMEWORK BUT HAVE NOT ALWAYS OPERATED AS INTENDED

14. The governance arrangements and roles and responsibilities are in line with the new MPO governance framework, including:
- The Senior Responsible Owner (SRO) for the project is the Chief Officer from the Ministry of DATT.
 - The Project Steering Group provides the main governance and oversight for the project. The membership of the group has changed over time. It originally included representatives from the Government (including Ministry of DATT, Public Works Department and Department of Environment); the CIAA (including the CEO and two board members); and the consultants that developed the airport masterplan and OBC. After the OBC was approved the membership changed to the Chief Officer from the Ministry of DATT, the CIAA Chief Executive Officer, the Senior Project Manager, representatives from the Major Projects Office and members of the CIAA management team.
 - The Senior Project Manager (SPM). The SPM is secretary to the Project Steering Group and carries out project management functions as described in *Major Capital Projects Follow Up*.⁶ The first SPM was appointed to the project in November 2014 and retired in July 2016; a new SPM was appointed at that time. The current SPM has project management experience of major airport projects.
15. There are added complexities in the governance of the project as it is the responsibility of CIAA (a SAGC), which are not covered by the MPO governance framework. The CIAA CEO and Board have critical roles to play as they are accountable for spending the CIAA's money and ensuring that the project helps deliver the CIAA's vision and strategy. We raised this issue in our report *Major Capital Projects Follow Up* in October 2017.
16. All of those involved have adopted a pragmatic approach to this, which is generally working well. For example, the Project Steering Group is expected to be chaired by the SRO. The SRO for the project (Chief Officer of Ministry of DATT) transferred this responsibility to the CIAA CEO in January 2015.
17. From our review of Project Steering Group minutes we identified that governance and oversight arrangements were discussed early in the life of the project. In June 2014, the Project Steering Group agreed that it would make recommendations on priorities and funding to the CIAA Board for

⁶ See paragraph 20 of *Major Capital Projects Follow Up*, Office of the Auditor General of the Cayman Islands, October 2017

approval. However, in January 2015, this changed to the Project Steering Group making project decisions and the CIAA Board ratifying these. We understand that in practice the CIAA Board:

- Receives regular updates on the project from the CEO (Project Steering Group meetings are generally timed to be before Board meetings). In addition, the Chief Officer from the Ministry of DATT sits on both the Project Steering Group and the CIAA Board. Our review of CIAA Board minutes show that it receives project updates every second month.
- Approves project contracts and major changes above \$50,000.
- Ratifies any key project decisions that could affect CIAA policy.

18. However, the governance and oversight arrangements in place have not always operated as intended. The CIAA Board has requested a number of changes to the scope of the project after contracts have been signed:

- In August 2015, after the contract to design the project was awarded and the procurement for Phase 1 was almost complete, the CIAA Board decided that it wanted to make changes to the scope of the project. These changes include new parking facilities to ensure there was no overall reduction in the availability of parking; land-side canopies to provide protection to passengers from the weather; and bringing forward the planned implementation of the new generators to ensure that full emergency power was available to the whole terminal building earlier in the project. It was decided to defer the improvements to the long-term parking until later. However, making the other changes requested by the CIAA Board resulted in the estimated cost of the project increasing by \$1.62 million (equal to three per cent of the total estimated project cost at that time).
- During Phase 2 of the project, the CIAA Board requested further changes be made to the scope of the project including upgrading the hurricane grade windows to 15lb standard; upgrading the offices on the 2nd floor; and replacing old sections of the roof based on quality inspections. These changes have also had cost implications. For example, upgrading the airport windows to 15lb glass was estimated to cost an additional \$800,000.

19. Making changes to the scope of a project after a contract has been signed is not good practice as it usually leads to increased costs.

THE PROJECT STEERING GROUP DID NOT MEET REGULARLY BETWEEN 2014 AND 2016

20. It is important that oversight groups meet regularly to make decisions; receive regular updates on progress; and assess emerging risks and issues and agree on corrective actions to be taken. The Strategic Outline Case for the project stated that the Project Steering Group would meet monthly and at any other times necessary to coincide with key milestones.

21. The Project Steering Group has met monthly since August 2016 and attended monthly design workshops and project updates in the early design stage of the project. However, our review identified a number of gaps in Project Steering Group meetings. There were:
- No meetings for five months between July and November 2014. During this time, the procurement process for the lead consultant (RS&H) for design, cost and contract administration was carried out.
 - Only seven meetings in the year from March 2015 to February 2016. During this time the contract for Phase 1 construction was signed and the tender documents for Phase 2 construction were issued.
 - No meetings in the six months between March and August 2016. During this period the contract for construction of Phases 2 and 3 was signed.
22. We were told that that the Project Steering Group had input to all decision making although this may have been done through emails rather than meetings. For example, in September 2015, they were asked to virtually approve a change to the procurement for Phase 2; and in July 2016 they were asked to approve the ESTAR report for the procurement process of the Baggage Handling System by email. From our review of Project Steering Group minutes we can see that they were normally updated on key milestones once they have passed e.g. after contracts have been awarded. However, the minutes do not record that the Group approved documents between meetings. In circumstances where virtual approval is sought outside of meetings a formal record of decisions should be retained to demonstrate appropriate governance and oversight and transparent decision making.
23. We discuss later concerns about the lead consultant’s performance. These concerns were first raised during construction of Phase 1 i.e. between October 2015 and September 2016. During this period, the Project Steering Group only met three times – in October 2015, November 2015 and February 2016. It is not clear, if these concerns were elevated to the Project Steering Group before September 2016 when the issue first appeared as an agenda item. It is important that oversight groups are kept aware of any issues or risks that could jeopardise the project in terms of cost, time or quality.
24. In December 2017, the Senior Project Manager highlighted that a number of members were frequently absent from meetings, which created risks for decision making. The Project Steering Group responded quickly to this by removing some members immediately and finding replacements.

25. The Project Steering Group should receive good information that informs it on the project's progress and highlights any issues and risks. After its appointment in January 2015, RS&H was expected to provide monthly status reports. Our review of Project Steering Group minutes found the reference to the first construction phase project update report from RS&H in November 2015, ten months into the contract. RS&H provided update reports on the project until July 2016, when the MPO introduced a standardised format of project status reports for all of the major capital projects that it is overseeing. The SPM has been providing monthly status reports to the Project Steering Group since then.
26. The MPO monthly project status reports provide a good summary of the status of the project, including Red-Amber-Green ratings for key project elements such as schedule, risk, cost, commercial, quality, and health and safety; and an update on key milestones. We reported in *Major Capital Projects Follow Up* that the monthly status reports generally lacked information on costs and risks to the project budget. For example, the monthly status report for January 2017 assessed cost as an amber risk but did not include any cost information in the report. However, the Project Steering Group minutes from January 2017 note that members were told (for the first time) that the contingency fund was almost fully committed and the project may overspend. From our review of more recent project status reports we can confirm that these have improved. For example, the February 2018 report assesses cost as amber risk and provides details of the significant cost risks with estimated values.
27. However, we also noted from our review of the Senior Project Manager's presentations to the Project Steering Group and the minutes of meetings that there were instances where important information was not available. For example, for some meetings updates on the financial position had not been received from the consultants in time and as at May 2018 the risk register has not been updated for five months.
28. It is important that all project information be easily accessible to decision makers to ensure that they have up-to-date, complete and accurate information on projects, particularly in relation to cost, time and quality.
29. We noted that the Project Steering Group minutes also record updates on the CUPPS project as there are inter-dependencies. The Project Steering Group was kept up to date with the CUPPS project, including some concerns about delays and the risk that it may affect Phase 2 of the project. However, the risks have not materialised and the project is ongoing.

PROJECT MANAGEMENT HAS BEEN HAMPERED BY THE PERFORMANCE OF THE LEAD CONSULTANT

THE CONSULTANT APPOINTED WAS NOT LISTED AS A LEAD CONSULTANT AT THE PREQUALIFICATION STAGE

30. The CIAA issued an invitation for consultants to prequalify to tender for design and cost construction services on 25 June 2014. This was before Cabinet approved the OBC in August 2014. The scope of consultancy services included full design, cost management, tendering for the general contractor (construction) and contract administration services for the whole project from concept design through to project close. It excluded the CUPPS project, which was to be managed separately by CIAA's IT department.
31. During July and August 2014, a prequalification process was carried out, which resulted in four companies being prequalified. During the prequalification process the tender assessment committee, which comprised members of the Project Steering Group, noted that one of the applicants (Chalmers Gibbs Architects) had named another company (RS&H) as the prime consultant.⁷ The application involved a consortium of companies and RS&H was identified as the main contractor for most elements of the work.⁸
32. We were told that during the prequalification interviews with applicants it became apparent that RS&H had significantly more experience in airport redevelopment projects than Chalmers Gibbs.⁹ When asked for clarification the applicant stated that the consortium bidding for the work had decided that RS&H should not submit the prequalification application because it was not a Caymanian company and did not have a business trading license for the Cayman Islands at that time. They believed that these factors would have prevented them from prequalifying. After the interviews with all four bidders the tender assessment committee decided that it would be better to ask RS&H to bid for the work rather than Chalmers Gibbs. We have been informed that discussions took place between the Director of Public Works Department, the then Chief Project Manager (MPO) and the Chair of Central Tenders Committee (CTC) to agree this swap. There is an email from the Chief Project Manager stating that the discussion took place but there is no official documentation to support recommending the swap of prime contractor. CTC approved the prequalification of RS&H along with three other applicants on 3 September 2014.
33. A Request for Proposal (RFP) was issued to the four pre-qualified companies on 18 September 2014. All bidders submitted tenders by the due date of 15 October 2014 and all four bids were within the

⁷ The Tender Assessment Committee included Albert Anderson (CIAA CEO), Eimer Powery (CIAA), Max Jones (Director of PWD) and Niasha Brady (Project Manager, MPO)

⁸ The consortium of consultants included Chalmers Gibbs Architects, RS&H Ltd, AMR Consulting Engineers, JEC and ARUP Group

⁹ Our review of RS&H's website found many examples of airport construction and redevelopment projects that they had worked on.

budget of \$5 million. After the tender evaluation, the tender assessment committee submitted its Evaluation Summary and Tender Award Recommendation (ESTAR) Report to CTC on 21 October 2014 recommending the approval of RS&H. CTC approved this recommendation.

34. RS&H were notified on 31 October 2014 that they were to be awarded the contract (at a price of \$4,060,298). The contract award was subject to three conditions being met: registering as a foreign company in the Cayman Islands; procuring a Trade and Business License; and procuring a Local Companies Control License. The contract was signed on 6 January 2015 – three months later than planned - after RS&H demonstrated that it met the conditions.

THE CONSULTANT HAS NOT PERFORMED WELL

35. We were told that the lead consultant performed satisfactorily during the design development stage of the project, from January to October 2015, and that CIAA first raised concerns with RS&H about its performance during Phase 1 of the project i.e. between October 2015 and September 2016. Concerns related to the time taken to respond to contractor requests for information, submitting approvals and pricing; agreeing contract variations; and submitting monthly status reports. We were told that concerns about the lead consultant’s performance were discussed with the CIAA CEO and communicated to RS&H. However, there is no evidence that concerns were escalated to or discussed at Project Steering Group meetings during this time. It is important that key decision makers are kept informed of project risks and issues.
36. As part of the contract, RS&H was to provide a fully coordinated set of tender documents, inclusive of drawings, specifications and bills of quantities. This set of documents was issued to the three pre-qualified bidders for Phase 2 construction in December 2015. During the tender period, bidders raised a number of queries about details and discrepancies in the documents. The volume and nature of the queries raised concerns about the quality and accuracy of the documents produced by the lead consultant and identified risks for the estimated cost and timescale for the project. These concerns and risks have materialised. For example, the electrical drawings prepared by RS&H have proved to be inaccurate. The electrical drawings had to be submitted 14 times before Government inspectors in the Building Control Unit (BCU) approved them. Approval for the electrical drawings was 36 weeks later than planned, which resulted in the start of construction being delayed by eight weeks.
37. RS&H was also responsible for procuring the new Baggage Handling System (BHS). RS&H initially reported to the Project Steering Group that the tender documents for the BHS would be completed by October 2015 and a contract awarded in December 2015. RS&H submitted various iterations of the RFP before CIAA considered the quality of the document to be good enough to issue. The RFP was finally issued on 2 March 2016 – five months late. Tenders were received in April 2016 but further delays were experienced during the tender evaluation period. The contract for the BHS was finally signed on 18 October 2016, after CTC approval, ten months later than planned.

38. As contract administrator, RS&H was expected to:

- Oversee and coordinate the work of the sub-consultants (such as architects and cost management). The sub-consultants have not been providing regular updates and been slow to respond to requests from the Project Steering Group and Senior Project Manager. We have been told that the sub-consultants have started to raise concerns about RS&H, including lack of communication.
- Be the main link between CIAA and the contractors (for construction of Phases 1 and 2). This means that RS&H should have been onsite regularly to have discussions with the contractor and reporting back on progress and issues identified. We were informed that RS&H had not been doing this regularly. We also noted that there is no reference in the Project Steering Group minutes to RS&H providing updates on discussions with contractors.

39. Since September 2016, the Project Steering Group has had an agenda item to discuss concerns about the quality of RS&H's work. Concerns about RS&H's performance continue. For example, in April 2017 the Project Steering Group was informed that of the 92 variations made by the contractors over 60 of these related to design errors and omissions made by the consultant. We noted that RS&H have been asked to provide explanations and solutions in relation to these concerns at various points but we were told that the explanations were not wholly satisfactory. To mitigate some of the risks associated with the consultants' poor performance the Senior Project Manager has:

- Regular discussions with RS&H about its performance. This led to the local contract administrator being changed.
- Requested that a risk register for the project be developed that identifies all of the risks, mitigating actions and potential cost implications. As at May 2018, this had not been updated for five months.
- Been dealing directly with the main contractor i.e. stepped in to take on some of the contract administration functions that the consultant should have been doing.

40. [REDACTED]

PROJECT MANAGEMENT HAS BEEN DIFFICULT DUE TO A RANGE OF FACTORS

41. As outlined in our report *Major Capital Projects – Follow Up* the Cayman Islands Government asked the Public Works Department to oversee the airports development project in 2013 and set up the Major Projects Office (MPO) in 2014. A Senior Project Manager (SPM) for the ORIA Terminal Redevelopment project was appointed in 2014 and a new Senior Project Manager, with significant experience of airport projects, was appointed in July 2016.
42. However, the Senior Project Manager has picked up a number of other responsibilities in addition to managing the project. For example:
- Due to the problems experienced with the lead consultant appointed to design the project, manage costs and administer the construction contracts, the Senior Project Manager has had to play a more hands-on role than anticipated. This has included overseeing the contractors and progressing the Baggage Handling System, which was delayed by ten months.
 - Overseeing other projects that were not originally within the scope of the ORIA Terminal Redevelopment, including the CUPPS project, and the airside developments project (which started in early 2018). The CUPPS project was initially being managed separately by the CIAA IT Manager who resigned in December 2017. The Acting IT Manager had no prior experience of the CUPPS system, which meant that the Senior Project Manager had to get involved.
43. Together these additional responsibilities have resulted in the Senior Project Manager being under pressure, at times, and not being able to focus his attentions on the project. Some of these pressures have now been alleviated. For example, the Baggage Handling System project is now complete. However, a number of elements of the project are still to be completed at the same time as related projects are commencing. It is important that the Senior Project Manager is able to provide focused project management for the remainder of the project to ensure its successful completion.

THE PROJECT IS BEING FUNDED THROUGH A MIX OF CIAA FUNDING AND A CASH INJECTION FROM THE CAYMAN ISLANDS GOVERNMENT

44. When Cabinet considered the OBC in 2014, it decided that taking eight years to complete the project was not acceptable as it would cause prolonged disruption for passengers. The CIAA was asked to identify options to shorten the timescale and the Government committed to provide some capital funding to fast-track the project.
45. In December 2014, the CIAA CEO reported to the Project Steering Group that the 2015/16 Strategic Policy Statement included \$15 million in government funding for the project - \$8 million in 2016/17

and \$7 million in 2017/18. In May 2016, just before the CIAA signed the contract for the construction of the main works (Phases 2 and 3) the Government confirmed in writing that it would provide \$15 million of financial support for the project. This was to be paid in two tranches of \$7.5 million in July 2016 and January 2018.

46. The remainder of the funding for the project was to come from CIAA's Passenger Facilities Charge (PFC), which is to be used for capital projects.¹⁰ When the project started in 2014, CIAA had PFC of \$15 million.¹¹ The amount of revenue generated from PFC varies with the level of passengers flying through the airport and is estimated at around \$6 million a year. Outbound passengers on international flights in 2015 and 2016 were just over 500,000 each year, generating approximately \$6.5 million a year in PFC. This means that by the end of December 2018, CIAA should have around \$42 million in PFC to fund the project.

THE ESTIMATED PROJECT COST HAS CHANGED OVER TIME AND IT IS NOW ESTIMATED TO COST \$64.37 MILLION, ALMOST 20 PER CENT MORE THAN CONTRACT PRICES

47. The project was initially estimated to cost \$51.9 million in the Outline Business Case (May 2014).¹² In October 2014, when CIAA issued tender documents for the lead consultant to help manage the project, the project was estimated to cost \$55 million.¹³ In line with good practice, the cost estimates included an estimate for contingency. The OBC originally suggested risk allowances of 20 to 30 per cent. However, the allowance for contingency was set at 6 per cent of estimated construction costs for Phases 2 and 3 i.e. around \$2.5 million. By August 2015 the estimated cost had increased to \$56.62 million as a result of scope and design changes to Phase 2 requested by the CIAA Board (outlined in paragraph 18).
48. Once contracts are signed the project costs should become much more certain. All of the contracts for the majority of work, with the exception of furniture and equipment, were signed by August 2016. The total estimated cost at that time, based on signed contracts, reduced to \$53.8 million. This was \$2.8 million (4.9 per cent) less than the revised estimate; and \$1.2 million (2.2 per cent) less than the original estimate.

¹⁰ A Passenger Facilities Charge of \$13 is added to the cost of all outbound international flights (except crew and children under the age of two) from the Cayman Islands with effect from 1 January 2009. The revenue generated by the PFC is intended to fund airport capital improvement projects to enhance safety, security, and capacity at Cayman's airports.

¹¹ PFC held by CIAA as per the CIAA audited financial statements for 30 June 2014. The same audited financial statements report PFC generated in 2012-13 and 2013-14 as \$6.19 million and \$6.60 million respectively (note these are the most recent audited CIAA financial statements).

¹² The cost estimate in the OBC was stated at 2014 prices and was not adjusted for inflation.

¹³ The cost estimate of \$55 million (maximum) was set out in the RFP for lead consultant issued by CIAA.

49. Between October 2016 and June 2018 the CIAA Board requested further enhancements to the project, which were not in the original scope. These changes have resulted in the estimated costs increasing by around \$3.3 million. These changes include the following:
- Upgrading the hurricane impact windows and doors from 9lb to 15lb missile test to withstand stronger hurricanes.
 - Adding canopies to protect passengers and baggage from the weather.
 - Upgrading banners on the roof.
 - Landscaping around the airport.
 - Other design upgrades, including the duty free mall and CIAA offices.
50. In May 2018, the CIAA Chief Executive Officer publicly confirmed that the project would be completed in December 2018 as planned but would be over budget. He was quoted as saying that the project may cost around \$60 million or ten per cent over budget.
51. The latest financial information shows that at August 2018 the project was estimated to cost \$64.37 million - \$10.57 million (19.6 per cent) more than the agreed contract prices. Exhibit 2 sets out how the estimated costs of the project have changed over time.
52. Phase 1 of the project was completed in September 2016 at a cost of \$3.788 million. This was less than earlier cost estimates but 5 per cent more than the contract value.
53. Some of the delays outlined previously have contributed to further cost increases. For example, delays in obtaining appropriate approvals due to poor quality drawings and delays in procuring the Baggage Handling System. The Senior Project Manager and contractor have worked together to re-phase project elements to try to minimise disruption and cost increases but this has not eliminated all cost increases.
54. The former Senior Project Manager for the project was appointed in February 2018 to review the estimated costs of the project with a view to identifying the reason for these. We understand that she has assessed whether variations from the original estimate are as a result of changes in scope as requested by the client (Project Steering Group or CIAA Board) or delays in the project as a result of errors and mistakes in the original plans (many of these may be attributed to RS&H).
55. As highlighted earlier, the CIAA Board has requested and approved a number of changes in the scope of the project from that originally envisaged and contracted (paragraphs 18 and 49). These changes have led to an increase in estimated project costs of around \$5 million.

Exhibit 2 - The estimated project costs have changed over time and an overspend is now forecast

Project element	Initial cost estimate per OBC (May 2014)	Revised cost estimate (Oct 2014)	Revised cost estimate (Aug 2015)	Contract awarded	Estimated cost per contract values (Aug 2016)	Revised cost estimate (Aug 2018)
	\$ million	\$ million	\$ million		\$ million	\$ million
Design, cost and contract administration consultant		5	5	RS&H (January 2015)	4.1	4.32
Phase 1 construction			3.9	Arch & Godfrey (September 2015)	3.6	3.79
Phase 2 and 3 construction			42.58	McAlpine Ltd (May 2016)	42.5	52.40
Baggage Handling System		50	4.01	B&F Airport Systems (August 2016)	2.5	2.81
Total	51.9	55	56.62		53.8	64.37

Source: Various documents – OBC, Financial updates and contracts



THE PROJECT IS ESTIMATED TO BE LARGELY COMPLETE BY THE END OF 2018 BUT NOT FULLY COMPLETE UNTIL FEBRUARY 2019

56. The original schedule was for the project to be completed by March 2018. However, the project has been subject to a number of delays:

- Phase 1 construction was originally planned to start in April 2015. However, two months were lost due to delays in developing and approving the OBC, which resulted in the construction start date moving to 30 June 2015.
- Consultancy services for design, cost and contract administration were originally due to start on 22 October 2014 but due to the delays in RS&H obtaining company registration and licenses the

contract was not signed until January 2015 – almost three months later than planned. As a result of the delay in appointing the consultant, the start of Phase 1 construction was rescheduled from June 2015 to September 2015; to be completed by September 2016. Phase 1 was completed in accordance with the revised schedule.

- Obtaining Building Control Unit approval for electrical works was delayed by around 36 weeks because of deficiencies in the drawings prepared by the lead consultant (RS&H). This resulted in the start of Phase 2 construction being delayed by eight weeks.
- Awarding the contract for the Baggage Handling System was ten months late due to poor quality tender materials (prepared by RS&H). This resulted in Phase 2 having to be completely rescheduled with the aim of minimising delays to the overall timescale.

57. These delays have resulted in the project being rescheduled on more than one occasion and have contributed to increased costs. As a result of these delays, in September 2016, the project completion date was moved to December 2018. The project timeline as at May 2018 indicates that work is underway to complete the majority of works by the end of 2018 but some work will continue into 2019 with an estimated completion date of February 2019.

CONCLUSION

58. The redevelopment of the terminal at Owen Roberts International Airport is essential for the growth of the Cayman Islands economy. Its successful completion will allow an increased number of passengers, both residents and tourists, to flow through the airport and improve their travel experience. It is therefore important that the project is managed well to ensure that it delivers value for money.
59. At this stage, the project is largely complete. However, it likely to cost significantly more and be delivered later than originally estimated. Early project estimates have been revised a number of times. While it is normal with the major capital projects that cost and time estimates become more accurate as the project progresses, by the time contracts are signed the total cost of the project should be certain. By August 2016, most of the contracts had been signed, revising the cost estimate to \$53.8 million. However, as at August 2018 the latest cost estimate was \$64.4 million - \$10.6 million (almost 20 per cent) more than contracted values. The project is estimated to be largely complete by December 2018 but some works will continue in to early 2019.
60. The project pre-dates the new MPO governance framework, which I reported on in *Major Capital Projects Follow Up* in October 2017. However, it was one of the first projects where this approach was used, including the appointment of a Senior Project Manager, oversight by a Project Steering Group and applying more rigour to the project management process. Despite this we identified some weaknesses in governance and oversight. The Project Steering Group has met regularly since August 2016 but there were significant gaps in meetings in the previous two years. Despite being told that the group was involved in all key decisions there were no formal records capturing decisions made outside meetings. Transparent decision making is an essential part of good governance. I previously outlined in *Major Capital Projects Follow Up* that clarity was needed in the governance framework when a SAGC was the main client. For this project, the CIAA Board is the main customer and rightly has an important role to play in the overall design of the project. However, the CIAA Board requested a number of changes to the scope of the project after contracts had been signed, which is not good practice. These changes have added an estimated \$5 million to the cost of the project.
61. Despite having a Senior Project Manager in place and appointing a lead consultant (RS&H) to provide full design, cost management, tendering for contractors and contract administration services, there have been challenges in managing the project effectively. This is largely due to the lead consultant not performing well. I have highlighted a number of the performance issues in my report, including the drawings and specifications for the Phase 2 construction tender documents containing a number of inaccuracies; the tender documents for the Baggage Handling System having to be redrafted a number of times before they were eventually issued five months late; and a lack of

on-site administration of the contractors. Together these performance issues have led to delays and increased costs. Although the Senior Project Manager has provided good project management, he has had to become more involved than intended in the day-to-day running of the project. In addition, he has had to pick up various other parallel projects that are integral to the terminal redevelopment, including CUPPS, the Baggage Handling System, concessions and the new airside project. Being too hands on, and responsible for a number of smaller projects, alongside the main project creates a risk of diluting focus on the overall project management. It is essential that there is strong and focused project management to see the project through to a successful completion.

62. It is important that lessons are learned from this project, particularly as it will be the first project to be completed through the Major Projects Office. The CIAA and Cayman Islands Government should ensure that they carry out a post-project evaluation as soon as possible after the completion of the project and share any lessons that may be applicable for other major capital projects.



Sue Winspear, CPFA
Auditor General
George Town, Grand Cayman
Cayman Islands

30 August 2018

APPENDIX 1 – ABOUT THE AUDIT

OBJECTIVE

1. The objective of this audit was to assess the progress being made with the ORIA Terminal Redevelopment project in relation to time, cost and quality. It will seek to answer the following audit questions:
 - How effective is project management and governance?
 - Is the project on track to be completed by December 2018?
 - What is the latest cost estimate and how will it be funded?

CRITERIA

2. Audit criteria set out the expectations, or standards, against which an audit can assess observed performance in order to develop findings, make recommendations as appropriate, and conclude on audit objectives. We set the following criteria set for this follow-up audit:
 - Realistic milestones are consistently reported and met.
 - The project is organized with clear mandates, delivery arrangements and experienced project teams with the capability to deliver.
 - Updated project costs are developed using appropriate methods.
 - Strong financial management is in place.
 - Sources of funding are clearly identified and sufficient.
 - There are regular meetings and updates to report on progress and new issues.
 - A proper framework is maintained that sets out appropriate processes, roles, authorities and responsibilities.
 - There is good and timely information to inform decision making.

AUDIT SCOPE AND APPROACH

3. The audit reviewed the progress with the ORIA Terminal Redevelopment project. The project was originally reviewed as a case study in our performance audit *Major Capital Projects Follow Up* (published in October 2017). Our review did not cover the awarding of concessions or the CUPPS project, which were run in parallel as separate projects. We carried out further audit work between April and August 2018.

4. The audit was conducted in accordance with International Standards on Assurance Engagements.

Our approach to the audit included:

- Obtaining the agreement of relevant government officials to the audit objective, questions and criteria.
- Researching processes to gain a full understanding of activities.
- Interviewing key individuals.
- Reviewing documents for the project.
- Reviewing minutes and other documents in relation to governance and decision making for the project.
- Analysing financial information.
- Providing a draft report to relevant officials for review of factual accuracy.
- Presenting a final report of the audit to the Legislative Assembly.

AUDIT STAFF

5. The audit was carried out under the direction of Angela Cullen (Director of Performance Audit) and assisted by Julius Aurelio (Audit Manager) and Brittany Bodden (Audit Trainee).

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