



GOVERNMENT OF THE  
**VIRGIN ISLANDS**  
Premier's Office



**VIRGIN ISLANDS  
RECOVERY AND  
DEVELOPMENT AGENCY**

# Incinerator Dismantling

## Evaluating Value for Money

Project Number: WST.01.26.187

# Incinerator Dismantling

## Value for Money (VfM) Assessment Report

### 1) INTRODUCTION

One of the core roles of the Recovery and Development Agency (RDA) is ensuring Value for Money (VfM) in the delivery of programmes and projects aimed toward recovery and development of the Virgin Islands. Section 5(2)(c) and (d) of the Virgin Islands Recovery and Development Regulations outline the value for money mandate of the RDA, specifying that:

The Agency shall be responsible for implementing the Government’s Recovery and Development Plan in partnership with the Ministries and in so doing shall:

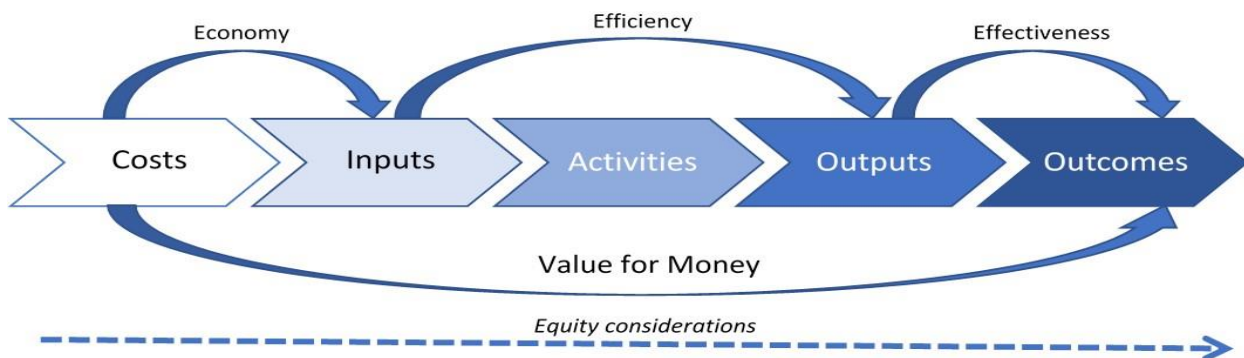
- (c) deliver the intended benefits; [and]
- (d) ensure that each project represents value for money.

To this end, the RDA has developed a Value for Money Framework and Methodology, which uses specific criteria to assess projects’ Value for Money and assigns an overall VfM score for each project.

The VfM score is made up of eight indicators (listed in Table 1) within the four outlined areas of Value for Money, namely Economy, Efficiency, Effectiveness and Equity.

*Table 1: Value for Money Areas within the 4Es*

VALUE FOR MONEY AREA	
<b>Economy</b>	Economy
<b>Efficiency</b>	Output Cost, Output Time, Schedule
<b>Effectiveness</b>	Output Effectiveness, Outcome Effectiveness, Quality
<b>Equity</b>	Equity



The Incinerator Dismantling project began in February 2019, aimed at dismantling the old incinerator in Pockwood Pond, Tortola, freeing required space for implementation of additional, more modern waste management solutions. The old incinerator had been decommissioned since 2011 but was never dismantled and disposed of. As such, the RDA was tasked with dismantling the incinerator through this project, thereby creating space required for additional waste management solutions to be implemented in the Territory. Over a period of 439 days, using \$208,991, this project was able to deliver on its planned outputs, disposing of the old incinerator and thus creating space within the Incinerator Complex in Pockwood Pond.

The following sections of this report assess the overall Value for Money of the Incinerator Dismantling project, using the methodology outlined in the RDA’s VfM Framework Guidelines for Economy, Efficiency, Effectiveness and Equity.

**2) Overview of Overall VfM Score (73.7 out of max 100 points)**

This project was able to achieve full scoring for Cost Efficiency, Output Effectiveness, Outcome Effectiveness and Quality. Being overbudget and not being within its estimated schedule and the benchmark used for time negatively affected the project’s Economy, Time Efficiency and Schedule scores. The project achieved its targeted outputs and contributed to a broader outcome within the cost benchmark used, with no valid defects reported, resulting in full scores for Cost Efficiency, Output Effectiveness, Outcome Effectiveness and Quality.

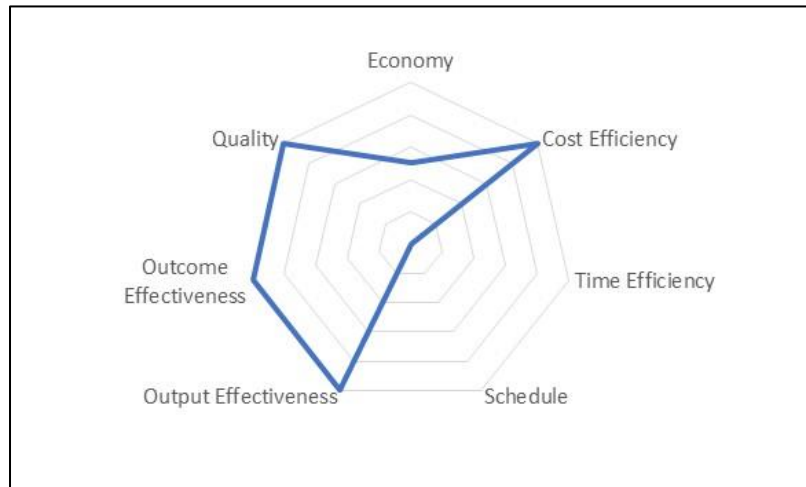
<b>Incinerator Dismantling – VfM Scoring</b>			
<b>Economy</b>	Economy	5/10	5/10
<b>Efficiency</b>	Cost Efficiency	20/20	20/40
	Time Efficiency	0/10	
	Schedule	0/10	
<b>Effectiveness</b>	Output Effectiveness	20/20	45/45
	Outcome Effectiveness	15/15	
	Quality	10/10	
<b>Equity</b>	Equity Goals	NA/5	NA/5
<b>Overall VfM Score</b>		<b>70/95</b>	
<b>Total Adjusted VfM Score</b>		<b>73.7/100</b>	

The overall VfM score was 73.7 out of 100. There was some scope for improving overall Value for Money of this project, specifically as it relates to time management.

As part of an effort to continuously improve, the RDA has implemented more detailed planning efforts and improved time management to help propel efficiency gains.



**Figure 1: Overall Value for Money Scoring – Radar Chart**



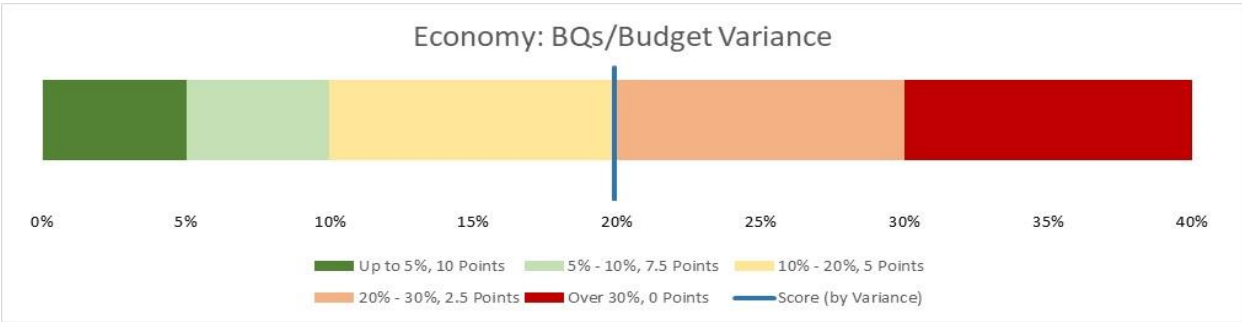
The overall Value for Money Scoring Chart (Figure 1) demonstrates the excellent scores received for Cost Efficiency, Output Effectiveness, Outcome Effectiveness and Quality; while assessment of Economy led to a middling score, and Time Efficiency and Schedule resulted in no points being assigned for these aspects of Value for Money. Equity was not scored for this project.

**3) ECONOMY (5 out of max 10 points)**

The economy of the Incinerator Dismantling project has been assessed based on the original budget for the project of \$175,000, referenced from the Phase One Business Case. The total spend for the Incinerator Dismantling project as at end of September 2020 is approximately \$209,886 which is 19.9% above the original Phase One Business Case Budget. As such, this project has been assigned 5 out of 10 points for Economy (Table 2). It is important to note that a total budget of \$222,841 was handed over to Operations/Delivery for execution of this project following detailed project planning and procurement.

*Table 2: Assessment of Economy*

<b>ECONOMY ASSESSMENT: 5/10 POINTS</b>	
Original Budget	\$175,000
Actual Spend	\$209,886.09
Variance (\$)	-\$34,886.09
Variance (%)	(19.9%)
<b>ECONOMY SCORE</b>	<b>5</b>



**4) ON BENCHMARKS USED**

In calculating VfM Scores for both Cost and Time Efficiency, consideration has been given to performance against relevant benchmarks established for the production of specific outputs. Giving a background of the benchmarks used, and why, provides the necessary context for comparisons made.

In the case of the Incinerator Dismantling project, the following benchmarks for cost and time have been used to assess cost and time efficiency:

Type	Benchmark	Sources	Considerations
<b>Cost</b>	\$64.72 per square foot made available by dismantling and clearing incinerator	Original budget divided by planned outputs (square feet made available by dismantling)	Given difficulty in acquiring a relevant benchmark for this niche activity, original budget divided by planned outputs (square feet made available by dismantling) has been used as a proxy benchmark.
<b>Time</b>	10 square feet cleared per day	Total square feet cleared and now available divided by number of planned project days	Given difficulty in acquiring a relevant benchmark for time taken to clean, planned outputs divided by planned project days has been used as a proxy benchmark.

**Cost Benchmark**

The cost benchmark has been determined based on the planned outputs to be produced with the original budget. The planned outputs were 2,704 square feet made available by dismantling and clearing the old incinerator, and the original budget estimated for this project was \$175,000. The cost benchmark thus used for this project has been calculated as \$64.72 per square foot made available by incinerator dismantling. This benchmark has been used in the absence of a more generalised benchmark sourced from the market, since the activity implemented by this project is particularly niche.

**Time Benchmark**

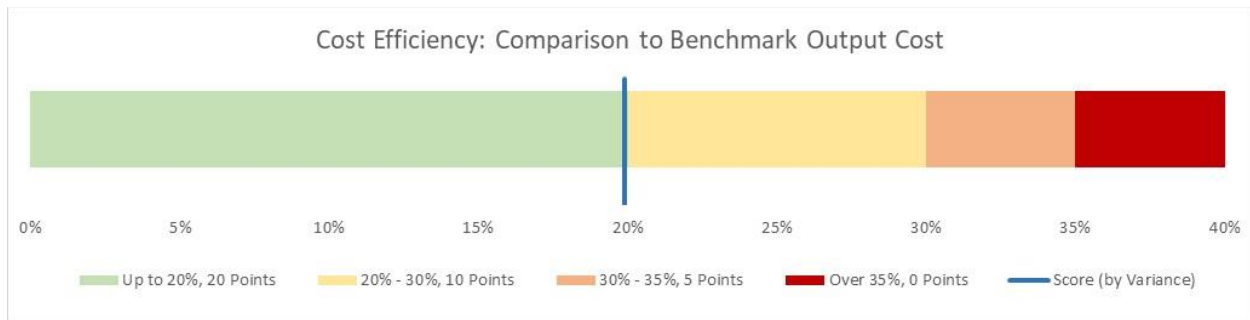
The time benchmark used was determined based on the planned outputs (square feet cleared and now available) divided by the planned project days. This methodology for determining a time benchmark has been used routinely where an external benchmark is unobtainable or impractical to determine.

**5) EFFICIENCY (20 out of max 40 points)**

The efficiency of an intervention considers Output Cost (Cost Efficiency), Output Time (Time Efficiency) and Schedule. In terms of output cost, the project involved dismantling and clearing the old incinerator, such that 2,704 square feet of space managed by the Department of Waste Management has been made available for implementation of the developing waste management strategy, using \$209,886. This translates to an average of \$77.62 per square foot made available by incinerator dismantling. The benchmark was calculated using the original budget and planned outputs at \$64.72, resulting in full points awarded for Cost Efficiency since the output cost came in within the 20% threshold of the benchmark used (Table 3).

Table 3: Cost Efficiency Assessment

<b>COST EFFICIENCY ASSESSMENT: 20/20 POINTS</b>	
Output Unit Cost	\$77.62 per square foot
Benchmark Output Unit Cost	\$64.72 per square foot
Variance (\$)	-\$12.90
Variance (%)	(19.9%)
<b>COST EFFICIENCY SCORE</b>	<b>20</b>



Having started on 26 February 2019, the project was initially slated to be completed by the 3 December 2019, that is within 280 days. The project was actually completed on 7 June 2020. Adjusting these days based on the 28-day lockdown occurring in April 2020, the total adjusted recorded number of project days was therefore calculated as 439 (from 467). In terms of assessment of time efficiency, the calculated output unit time was an average of 6 square feet made available per day, whereas the benchmark output unit time was an average of 10 square feet made available per day, using the expected schedule. This resulted in no points being assigned for Time Efficiency, as the actual outputs - square feet made available - produced within the timeframe (6 square feet made available per day) was less than the benchmark output unit time of 10 square feet made available per day (Table 4).

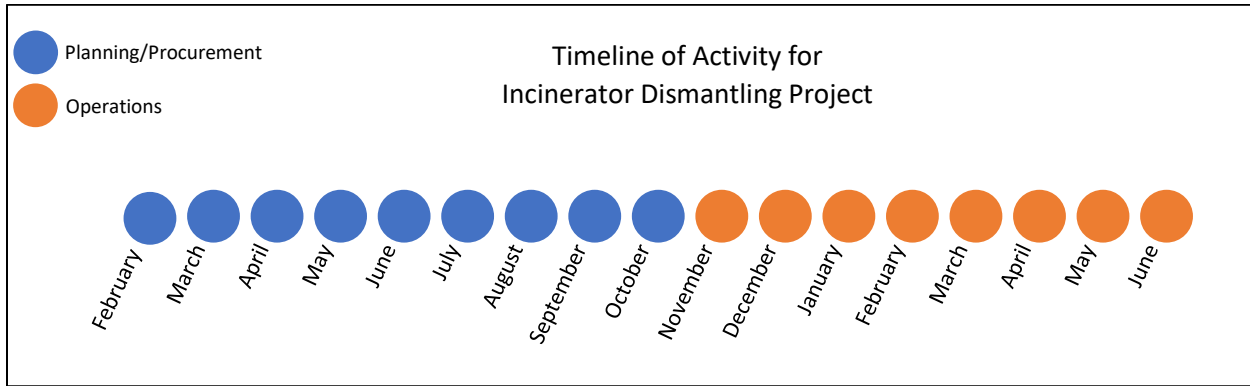
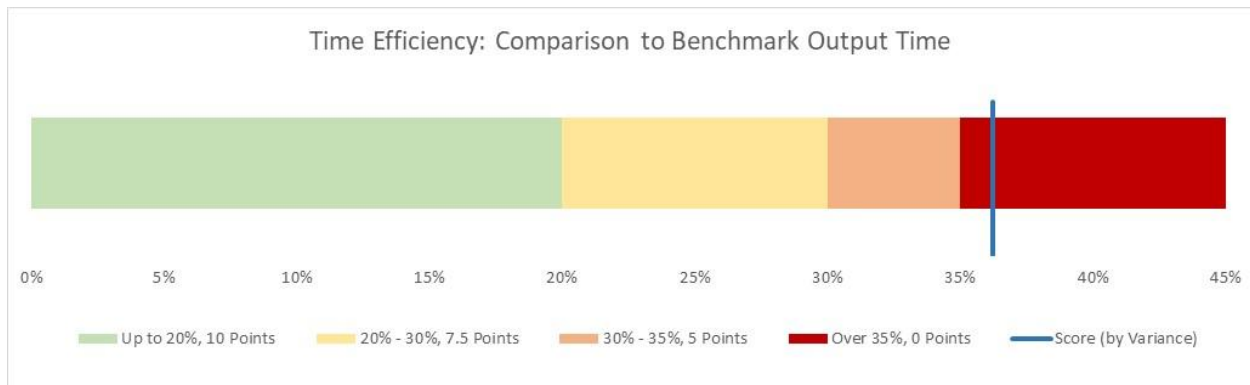


Table 4: Time Efficiency Assessment

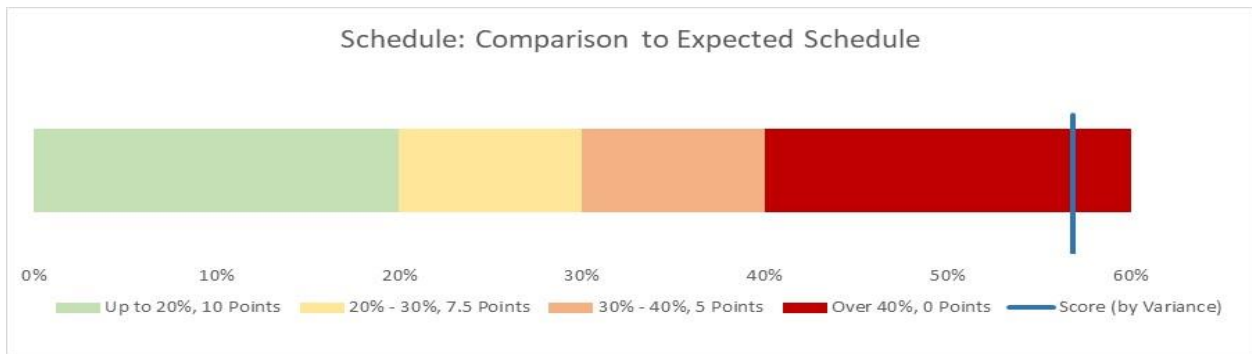
TIME EFFICIENCY ASSESSMENT: 0/10 POINTS	
Output Unit Time	Avg. 6.16 square feet deep cleaned per day
Benchmark Output Unit Time	Avg. 9.66 square feet deep cleaned per day
Variance (days)	(3.50)
Variance (%)	(36.22%)
<b>TIME EFFICIENCY SCORE</b>	<b>0</b>



In terms of schedule performance, given that there were 280 planned project days compared to a total adjusted number of actual project days at 439, this variance of 159 days meant that the project was 57% over its scheduled timeline, with 0 points thus awarded for the Schedule assessment (Table 5). With no points awarded for assessments based on time, a closer examination of the project revealed that time delays were in part caused by the delayed need to conduct specialist assessments on the technical specifications of the incinerator in order to properly plan dismantling and disposal of the equipment. Where these assessments were anticipated prior, adequate time to carry these out would have been factored into the project schedule.

Table 5: Schedule Assessment

SCHEDULE ASSESSMENT: 0/10 POINTS	
Planned Project Days	280 days
Actual Project Days	439 days
Variance (days)	(159 days)
Variance (%)	(56.8%)
<b>SCHEDULE SCORE</b>	<b>0</b>

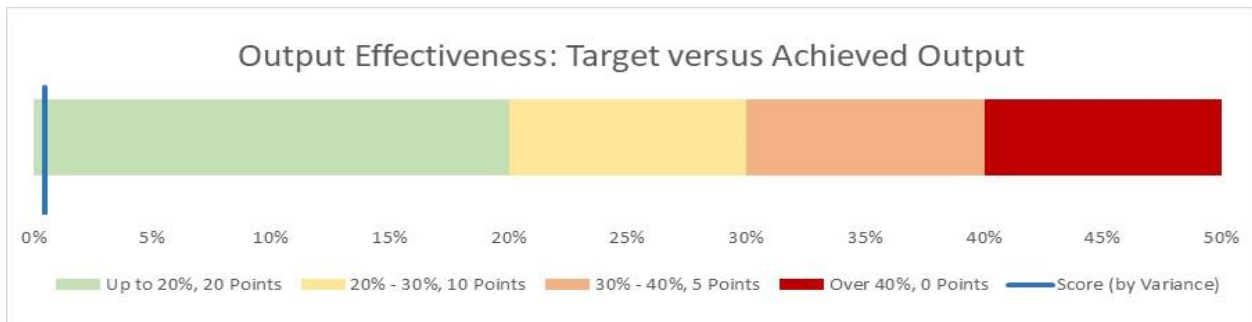


**6) EFFECTIVENESS (45 out of max 45 points)**

Output effectiveness is a measure which compares targeted output indicators to achieved output indicators. In the case of the Incinerator Dismantling project, the total square footage to be made available following dismantling and clearing of the old incinerator was 2,702 square feet. The project was able to make the targeted square footage available, and hence a full 20 points has been assigned for Output Effectiveness (Table 6).

Table 6: Target versus Achieved Output

OUTPUT EFFECTIVENESS ASSESSMENT: 20/20	
Targeted Outputs made available by dismantling	2,702 square feet
Achieved Outputs made available by dismantling	2,702 square feet
Variance	(0)
Variance (%)	(0%)
<b>OUTPUT EFFECTIVENESS SCORE</b>	<b>20</b>



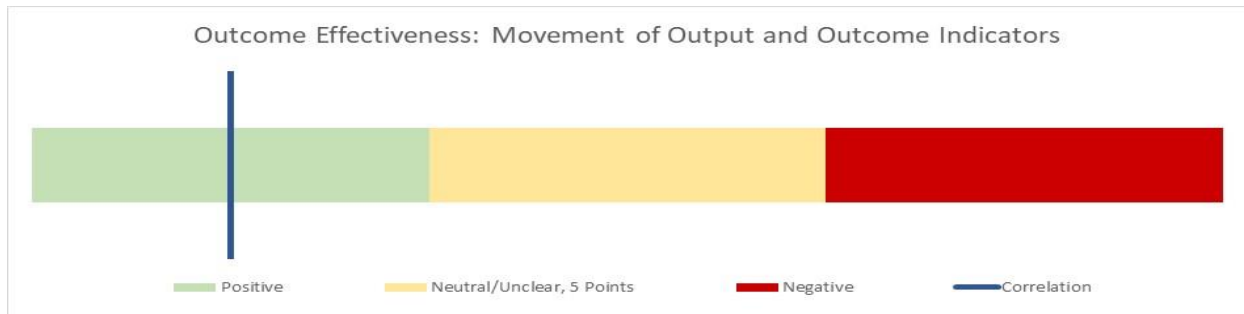
In terms of outcome effectiveness, the change relationship between the observed output and outcome has been used as a simple measure of outcome effectiveness. Using this methodology, the directional change in output is compared to the directional change in outcome. In the case of the Incinerator Dismantling project, both the output: square feet made available by dismantling incinerator; as well as the outcome: progress towards operational incinerator with 0 backlog of waste; moved positively due to the execution of this project, i.e. the dismantling and clearing of the old incinerator made space available for progress to be made on having 0 backlog of waste.

The change relationship between output and outcome has thus been deemed a positive correlation, and the maximum score of 15 points has been assigned (Table 7).



Table 7: Relationship between Outputs and Outcomes

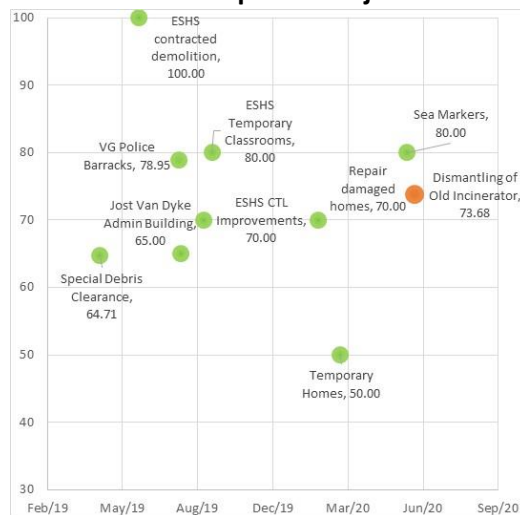
OUTCOME EFFECTIVENESS ASSESSMENT: 15/15	
Output Change: square feet made available by dismantling and clearing old incinerator	+2,702
Outcome Change: progress towards operational incinerator with 0 backlog of waste	+
Assessment of Change Relationship	Positive correlation
<b>OUTCOME EFFECTIVENESS SCORE</b>	<b>15</b>



There were no valid defects reported on this project at the end of November 2020, some five months following project completion in June 2020, and well-after the end of the project’s three-month defects and liabilities period. As such, the project was assessed to have met quality expectations, and has thus been assigned a full ten (10) points for quality.



Figure 2: VfM Score Comparison with Other Completed Projects



Lessons identified coming out of the Incinerator Dismantling project include:

- 1) Improving contractor consideration of health and safety management as integral to overall management of the project. The specifications of this particular project involved implications for the health and safety of workers on-site. While these were considered on an ongoing basis, sufficient forethought was not given to health and safety requirements prior to commencement of the demolition project that would have facilitated better preparation and more proactive management;
- 2) Ensuring specialist assessments which affect a project are either conducted prior to procurement, or are specifically stipulated within any relevant contract in order that the full complexities of a project are considered within a more refined cost estimate, and overruns in costs and time are prevented; and
- 3) Underlining the importance of whole-life asset management within the public sector which has implications for repair as well as demolition of existing fixed assets. This includes ensuring that adequate documentation on equipment specifications is maintained and readily accessible, which would better facilitate ongoing fixed asset management.

## **7) Conclusions**

This report has been prepared using the RDA's Value for Money Framework in assigning a VfM Score to the Incinerator Dismantling project based on Economy, Efficiency and Effectiveness (Equity was not scored for this project). The importance of keeping accurate, up-to-date, readily-accessible information on project budgets, schedules, spending and results has once again been underlined in the process of conducting this VfM assessment. The Monitoring and Evaluation Team continues to play an important role in reviewing the quality of this information, and collating data for calculation of projects' VfM scores.

Achieving 73.7 points out of 100, the Incinerator Dismantling project's VfM could have been enhanced through improved time management strategies, specifically in relation to securing the necessary specialist technical assessments. That said, the project was able to achieve its targeted outputs, contribute to a broader outcome and meet quality expectations, demonstrating perfect scores in Output and Outcome Effectiveness, and in Quality, as well as Cost Efficiency.