Department *of* Treasury
and Finance

SHAREHOLDER VALUE ADDED

A DISCUSSION PAPER
FOR
GOVERNMENT BUSINESS ENTERPRISES
AND
STATE-OWNED COMPANIES

July 1999

Tasmania

PREFACE

The Tasmanian Government is committed to ensuring that its Government businesses operate as efficiently as possible, meet community expectations and provide adequate financial returns to help fund the Government's core programs.

Performance monitoring of Government businesses, which comprise Government Business Enterprises (GBEs) and State-owned Companies (SOCs), is an important element of the overall accountability framework within which they operate.

In order to improve its financial monitoring of GBEs/SOCs from a "shareholder" perspective, the Government is seeking to supplement traditional accounting measures with a value-based measure of GBE/SOC performance.

"Value" can be defined as the measurement of the wealth or worth of a business to the shareholders. For Tasmanian Government businesses, the ultimate shareholders are the people of Tasmania. Shareholder value is said to be created or "added" when the net return on assets held by the business exceeds the returns required by those who have contributed capital to the business (the Government on behalf of the people of Tasmania).

The *Shareholder Value Added (SVA)* Discussion Paper introduces the concept of SVA performance monitoring and discusses the shortcomings of traditional performance monitoring methods. The Discussion Paper also notes that there are benefits from Boards and management of GBEs/SOCs adopting value-based management practices so that the focus of the business is more closely aligned with shareholder interests. These are the same interests as the shareholder in a private or publicly listed company, that is maximising shareholder value, obtaining a commercial return on the resources invested and receiving an appropriate dividend distribution each financial year.

The Discussion Paper outlines a framework for discussion between the Department of Treasury and Finance and all Government businesses, with a view to developing a consistent approach to the financial assessment of business performance and capital investment programs using SVA concepts. SVA based monitoring should improve the quality of advice to the Shareholder and result in a greater focus on the effective use of capital within its Government businesses. The SVA approach specifically takes into account the costs attached to approved Community Service Obligations and Community Service Activities in order that the SVA calculation has appropriate regard for the Government's policy objectives.

In preparing the Discussion Paper, the Department of Treasury and Finance has undertaken a review of the application of SVA concepts to Government businesses in other State jurisdictions and the Commonwealth.

D W Challen
SECRETARY

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EXECUTIVE SUMMARY

Increasingly, Government businesses are subject to competitive market forces or to regulatory frameworks that require more efficient delivery of goods and services at a fair price to customers.

Like private sector enterprises, Government businesses are expected to maximise value for their owner (the Government on behalf of the Tasmanian community). This means that strategies developed by the Boards of Government Business Enterprises (GBEs) and State-owned Companies (SOCs) must be value driven. Each GBE or SOC should identify the source of value in its operations and the Board and Management should focus on decisions which add value for the shareholder.

The Shareholder Value-Added (SVA) methodology outlined in this discussion paper provides a concise and readily understandable basis for monitoring the performance of Government businesses from the shareholder's viewpoint. Whilst traditional accounting measures are valuable performance evaluation tools for GBE/SOC management, they do not recognise the opportunity cost to shareholders of equity invested in these businesses. The SVA framework is a widely accepted tool utilised in the private sector to overcome this issue and improve the alignment between shareholder and business goals.

The paper also makes it clear that the key consideration in analysing the performance of a GBE/SOC is the trend and movement in SVA over time, rather than just focusing on the current level of SVA generation.

For GBEs and SOCs, the SVA framework integrates strategic business issues with an analysis of the benefits of alternative strategies. In essence, it requires managers to calculate the financial performance of the business net of a charge for the cost of capital employed. SVA is, therefore, an estimate of the economic profit of a business. SVA also helps to identify strategies to increase this economic profit.

For the Government, SVA provides a performance measurement framework which ensures that shareholder value is (at least) maintained and actions are initiated to increase shareholder value.

The benefits of SVA are that it:

- focuses the GBE/SOC on increasing value and enhances accountability for new capital investments as well as the use of existing investments;
- highlights the value drivers and constraints on the GBE/SOC; and
- gives the shareholders, and GBE/SOC boards and management, a composite financial performance measure.

The SVA Discussion Paper provides an overview of the SVA methodology, discusses SVA as a basis for measuring the performance of GBEs/SOCs and outlines a number of critical success factors. The paper is supported by a number of appendices which outline in greater detail technical issues involved in the SVA methodology, as well as a worked example demonstrating the key steps involved in applying the SVA methodology.

1. INTRODUCTION

Government Business Enterprises (GBEs) and State-owned Companies (SOCs) together form an important part of the State public sector, supplying services to industry and the community. These include electricity, forestry, port, urban transport and interstate ferry and shipping services. A schedule of Government businesses is contained within Appendix 6.

In addition to the provision of such services, financial returns from Government businesses are an important component of Budget revenues used to fund essential Government services. For the 1999-00 year, total dividends, taxation equivalent and guarantee fee payments are projected to amount to $127.6 million, or approximately 6% of total Budget revenues. The performance of Government businesses, therefore, has a significant impact on the Tasmanian State Budget and the economy as a whole.

Performance monitoring is both sound management practice, and an important part of the governance framework in which Government businesses operate. Currently, a traditional approach to performance measurement is adopted for GBEs and SOCs utilising methods such as return on assets and return on equity. As part of a pursuit of best-practice monitoring methodologies, the Department of Treasury and Finance is now investigating the application of the Shareholder Value-Added (SVA) approach to performance measurement, incorporating commercially accepted concepts such as cost of capital.

The requirement for a return to the providers of debt capital, through interest payments, is widely accepted. However, the concept of a return to the Government (on behalf of the community) as a provider of equity capital for GBEs and SOCs remains less widely recognised or accepted.

As shareholder/owner of GBEs and SOCs, the Government has the same interest as an ordinary shareholder, that is maximising shareholder value, obtaining a commercial return on the resources invested and receiving an appropriate dividend each financial year. The pursuit of this objective is, of course, subject to compliance with a regulatory framework ensuring that the interests of the other stakeholders, such as customers and the Tasmanian community, are simultaneously optimised.

Chapter 12 of Budget Paper No1 for 1999-00 notes that the concept of SVA is being investigated by the Department of Treasury and Finance during the coming year with the view to assisting in the measurement of GBE and SOC performance.

1.1 GBE / SOC PERFORMANCE MONITORING

GBEs and SOCs are not subject to the same range of market disciplines or commercial incentives as private sector businesses. Furthermore, they operate in an environment where the Shareholder Ministers have political and social responsibilities, together with accountability to the Parliament. However, GBEs and SOCs are required by legislation to operate on a commercial footing and to provide returns to the Government for equity invested in these businesses.

Accordingly, a comprehensive commercial policy framework has been established in order to create an environment which recognises both the requirement for GBEs and SOCs to operate commercially, and the importance of their non-commercial and social activities.

For GBEs, the *Government Business Enterprises Act 1995* provides the overarching legislative framework. In respect of SOCs, each company is subject to specific enabling legislation, the Corporations Law and its Memorandum and Articles of Association.

Currently, GBEs and SOCs utilise traditional financial concepts such as return on assets and net operating margin as benchmarks by which performance is measured. These short to medium term measures have signification limitations in that:

- they are not consistent with certain private sector benchmarks (which incorporate risk-adjusted rates of return), whereas SVA has broad application within such markets;
- they do not consider the opportunity cost of capital and can therefore lead to a misallocation of resources within both Government and Government businesses; and
- they do not reveal whether the economic value of a Government business is increasing or decreasing for its shareholders.

The following tables highlight these limitations by analysing two differing investment decisions from a traditional accounting perspective and using a SVA framework:

Table 1.1.1	Existing Operations	+	Additional Investment	=	Expanded Operations	
Net Income	$ 300		$ 260		$ 560	
Total Assets	$ 1,000		$ 1,000		$ 2,000	
ROA	30%		26%		28%	↓
Cost of Capital	10%		10%		10%	
Capital Charge	$ 100		$ 100		$ 200	
SVA	$ 200		$ 160		$ 360	↑

Under the scenario in Table 1.1.1, management has the opportunity to improve value for shareholders, albeit at the same time reducing its performance as assessed by a traditional return on assets measure.

Table 1.1.2	Existing Operations	+	Additional Investment	=	Expanded Operations	
Net Income	$ 140		$ 90		$ 230	↑
Total Assets	$ 2,000		$ 1,000		$ 3,000	
ROA	7%		9%		8%	↑
Cost of Capital	10%		10%		10%	
Capital Charge	$ 200		$ 100		$ 300	
SVA	($ 60)		($ 10)		($ 70)	↓

Alternatively, under the scenario in Table 1.1.2, the SVA methodology would recognise that management can also erode value for its shareholders as a result of investing in a project that enables the business to improve it return on assets.

2. SVA METHODOLOGY

2.1 WHAT IS SHAREHOLDER VALUE ADDED (SVA) ?

SVA represents the economic profits generated by a business above and beyond the minimum return required by all providers of capital. “Value” is added when the overall net economic cash flow of the business exceeds the economic cost of all the capital employed to produce the operating profit. Therefore, SVA integrates financial statements of the business (profit and loss, balance sheet and cash flow) into one meaningful measure.

The SVA approach is a methodology which recognises that equity holders as well as debt financiers need to be compensated for the bearing of investment risk in Government businesses. Historically, it has been apparent that debt financiers have been explicitly compensated, however, this has not been the norm for providers of equity capital. Such inequalities can lead to inefficiencies in the allocation and use of capital.

The SVA methodology is a highly flexible approach to assist management in the decision making process. Its applications include performance monitoring, capital budgeting, output pricing and market valuation of the entity.

2.2 APPLICABILITY OF SVA TO GBES AND SOCS.

Since GBEs and SOCs are subject to competitive neutrality principles, involving corporate rates of taxation and commercial rates on borrowings, it is considered appropriate to further investigate the applicability of the SVA methodology to Government businesses.

Where a GBE/SOC has some community service obligations (CSOs) which may be funded on an avoidable cost basis, adjustment in nominal revenue to reflect a commercial rate of return may be required if the CSOs would have a material impact on the results of the SVA technique.

Businesses that are being run along commercial lines not only need to compete with their immediate competitors in their industry sector, but also need to be subject to the capital market disciplines. Boards of Management should expect to have the management contribution to the value of business assessed by the shareholder from an investment perspective.

The use of SVA gives an insight into the investment performance of the business by clearly identifying the opportunity cost of the investment, being the cost of capital, and comparing this to the return generated from the business.

2.3 COMPARISON WITH CONVENTIONAL PERFORMANCE MEASURES

Conventional ratio analysis based on accounting data, has historically been regarded as more useful to the management of a business rather than to the investor shareholders of the business.

Whereas accounting measures focus on residual profits after tax equivalents measured against the total asset base, the value-based income statement concentrates on the operating performance of the firm by adjusting net operating revenue (NOPAT) by the allocation of a capital charge incorporating the economic operations of the business.

As such, SVA takes into consideration one important variable that most traditional accounting measures do not - how much capital is being employed in the business. SVA combines income statement and balance sheet data to determine the excess returns available to all capital holders.

Additionally, through the use of a weighted average cost of capital (WACC), SVA implicitly addresses the concepts of risk and shareholder expectations.

The comparison with the traditional accounting formats are broadly summarised in the following tables.

Table 2.3.1

Traditional Operating Statement		**Value-Based Operating Statement**	
	Revenues		Revenues
less:	*Cost of Goods Sold*	less:	*Cost of Goods Sold*
equals:	Gross Profit	equals:	Gross Profit
less:	*Depreciation, Sales, Admin. & Other Expenses*	less:	*Depreciation, Sales, Admin. & Other Expenses*
equals:	Net Operating Profit Before Interest & Tax Equivalents	equals:	Net Operating Profit Before Interest & Tax Equivalents
less:	*Interest Expense*	less:	*Adjusted Tax Equivalents*
equals:	Profit Before Taxes	equals:	Net Operating Profit After Taxes **(NOPAT)**
less:	*Income Tax Equivalents*	less:	*Capital Charge*
equals:	**Net Profit After Taxes**	equals:	**Shareholder Value Added**

Table 2.3.2

Traditional Balance Sheet	**Value-Based Methodology**
Current Assets	Net Working Capital
plus: Non-Current Assets	plus: Fixed Assets (excl FITB)
equals: **Total Assets**	equals: **Net Operating Assets**
Current Liabilities	Bank OD less Cash and Investments
plus: Non-Current Liabilities	plus: Short term Debt + Long Term Debt
plus: Shareholder Funds	equals: **Net Debt**
equals: **Total Liabilities + S/holder Funds**	plus: Total Shareholder Funds
	plus: Current & Non-Current Provisions
	less: Future Income Tax Benefits (FITB)
	equals: **Total Capital Employed**
Total Assets = Total Liabilities + S/holder Funds	**Net Operating Assets = Total Capital Employed**

The value-based view explicitly recognises the capital charge associated with the use of capital. The bottom line under this format is, therefore, quite different from that under the traditional view. A positive bottom line (shareholder value added) signifies a superior performance because it accounts for all costs associated with the enterprise, including that associated with capital.

It is important to recognise that SVA is not meant to be used in a vacuum as the sole measure of value, rather it is an additional measure which can be used in the decision making process.

2.4 CALCULATION OF SVA

As shown in Table 2.3.1, the profit that is of interest to investors is the profit remaining after deducting a charge for capital as defined in Appendix 2. This methodology may be expressed as follows:

$$\text{SVA} = \text{Net Operating Profit After Taxes (NOPAT)} - (\text{Capital} \times \text{WACC})$$

The first step in calculating SVA is to calculate NOPAT; the second step is to estimate capital employed; the third step is to estimate the appropriate WACC; the fourth step is to calculate the capital charge; and the fifth step is to calculate SVA.

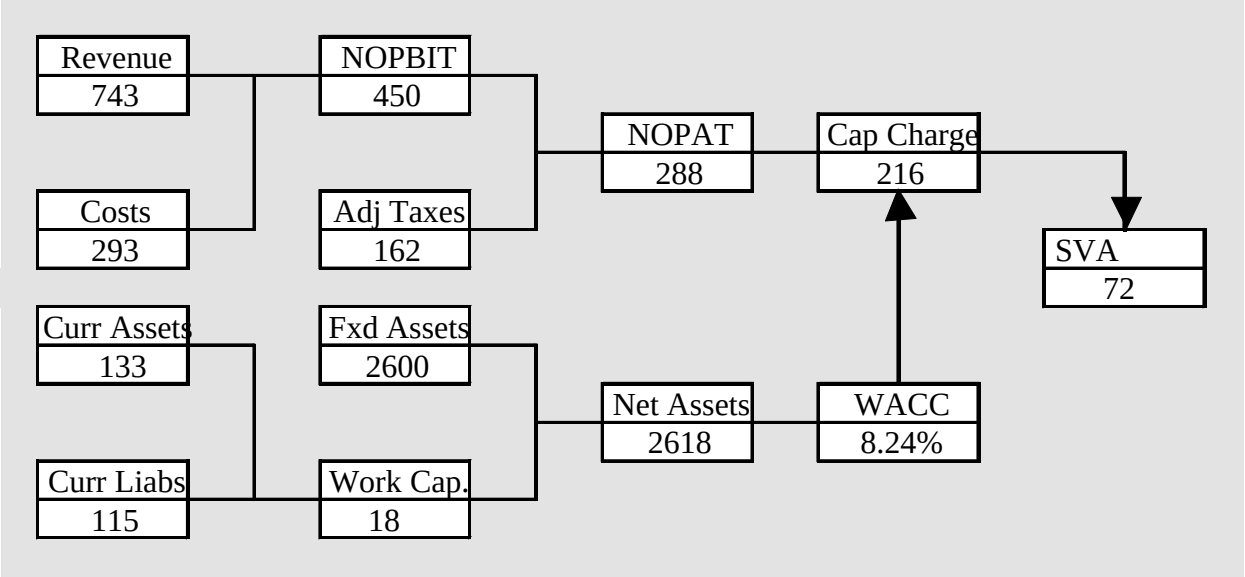
NOPAT is an operating performance measure after taking account of taxation, but before any financing costs. Interest is totally excluded from NOPAT as it appears implicitly in the capital charge. NOPAT also requires further equity-equivalent adjustments, examples of which are detailed in Appendix 2.

Capital costs include both the cost of debt finance and the cost of equity finance. The cost of these sources of finance is reflected by the return required by the funds provider, be they a lender or a shareholder. This capital cost is referred to as the Weighted Average Cost of Capital (WACC) and is determined having regard to the relative capital structure of the business. The WACC is used in SVA as the minimum hurdle rate of return the GBE needs to exceed for value to be added.

SVA is a useful concept as it enables both actual results and forecasts to be used to assess whether value has been added in the past and/or whether the financial forecasts and investment decisions will lead to value being added in the future. If forecasted balance sheet and income statements indicate that value will be diminished, the strategic decisions which underpin the forecasts will of course need to be reviewed. As such, SVA provides a further basis for evaluating the potential 'investor value impact' of forecasts and capital projects contained in Corporate Plans.

Appendix 3 sets out the steps involved in the calculation of SVA by way of a worked example, which can be summarised in Table 2.4.1.

Table 2.4.1



3. PERFORMANCE MEASUREMENT

3.1 SVA AS A BASIS FOR MANAGEMENT OF GBES AND SOCS

SVA has applicability to four areas of management concern: performance measurement, managerial decision making, cultural change, and organisational reform. The first of these areas, performance measurement, will provide an immediate method by which GBE/SOC managers can assess and maximise their performance, with the benefits of the other three areas flowing through GBEs and SOCs in the medium to longer term.

3.2 SVA AS A BASIS FOR PROVIDING ADVICE TO SHAREHOLDERS

The Department of Treasury and Finance provides the Shareholder Ministers with performance analysis and advice with regard to GBE / SOC financial strategies within the broader framework of the Government's fiscal strategy.

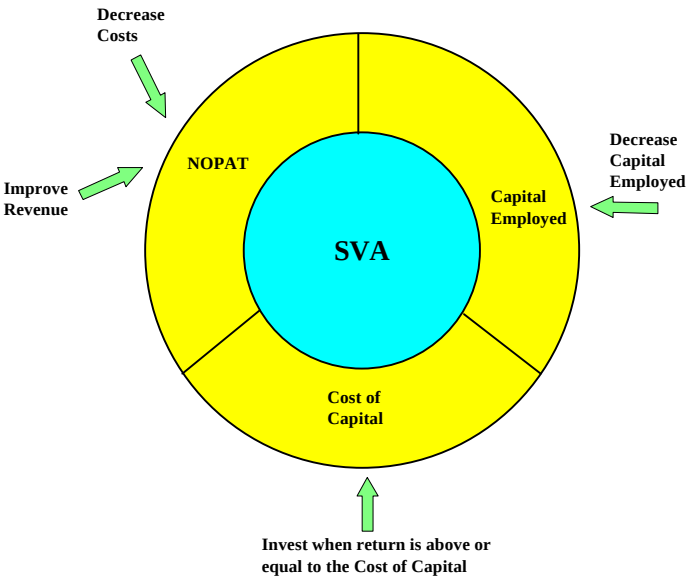
The integration of the SVA methodology within the existing monitoring and planning frameworks will complement and improve the quality of advice provided to the Shareholder Ministers. SVA will provide a basis for improved congruence between business and shareholder goals, and provide management with a definitive framework for formulation of business strategies.

In this respect, the SVA approach provides meaningful benchmarks by which managers and shareholders are able to focus on the financial and operational efficiencies required to add value. Accordingly, it is envisaged that such an ongoing focus has the potential to provide incremental improvements in the creation of shareholder value resulting from managerial effort.

3.3 DRIVERS OF SVA

As detailed in Figure 3.3.1, there are three ways that the shareholder value of a GBE/SOC can be improved.

Figure 3.3.1 SVA as a Basis for Decision Making



These are by:

- improving revenue and decreasing costs;
- ensuring that new capital investment returns at least the opportunity cost for the capital; and
- reducing non-productive assets.

The drivers which distinguish the value approach from the traditional (the use of accounting measures such as return on assets) are as follows:

· *Revenue Growth* - can improve NOPAT and thus SVA

· *Operating Margin* - revenue and cost efficiencies to maximise shareholder value

· *Working Capital* - management of inventory, debtors and creditors to optimise revenue growth and decrease costs.

· *Fixed Assets* - disposal of surplus/non-performing assets and investment in assets which will create returns in excess of WACC.

· *WACC* - optimisation of the debt/equity mix to reduce overall costs of capital.

3.4 BENEFITS OF ADOPTING SVA

To create value, management must have an understanding of the variables that drive the value of the business. An organisation cannot act directly on value. It has to act on factors it can influence, such as client satisfaction, cost, capital expenditures, the debt / equity mix and so forth. Through an understanding of these drivers of value, management is able to establish a consistent dialogue, both internally and with the Shareholder Ministers, regarding what needs to be accomplished to create value.

The benefits of moving towards SVA for monitoring GBEs and SOCs include:

- Overall, value-based performance measures will result in greater accountability for the investment of new capital, as well as for the use of existing investments.
- GBEs/SOCs and Government will have the opportunity to apply a meaningful private sector benchmark to evaluate performance.
- GBE/SOC managers will be provided with an improved focus on maximising shareholder value.
- Improvement in the quality of advice GBEs/SOCs and Treasury are able to provide to Shareholder Ministers.

3.5 DRAWBACKS OF ADOPTING SVA

A limitation in the use of SVA as a performance measure is that, by nature, it is an aggregate measure. In order to analyse the underlying causes of any changes in calculated value between years, it is necessary to fully comprehend the value drivers and activities specific to a given firm.

This limitation is of particular relevance in the case of certain GBEs and SOCs, whereby if they are subject to any degree of price regulation then it may not be possible for management to adjust output prices to achieve a commercial return in response to upward movements in input prices.

Such a situation may result in SVA being reduced even though there may have been no decrease in overall efficiency. Similarly, a reduction in direct Government funding would result in a decrease in SVA.

Combined with the use of traditional accounting measures, a thorough knowledge of the value drivers of the business will assist in determining the underlying causes of fluctuations in the value-added measure. Again, the use of SVA is not a substitute for detailed analysis of business drivers, rather it is an additional measurement tool with an economic foundation.

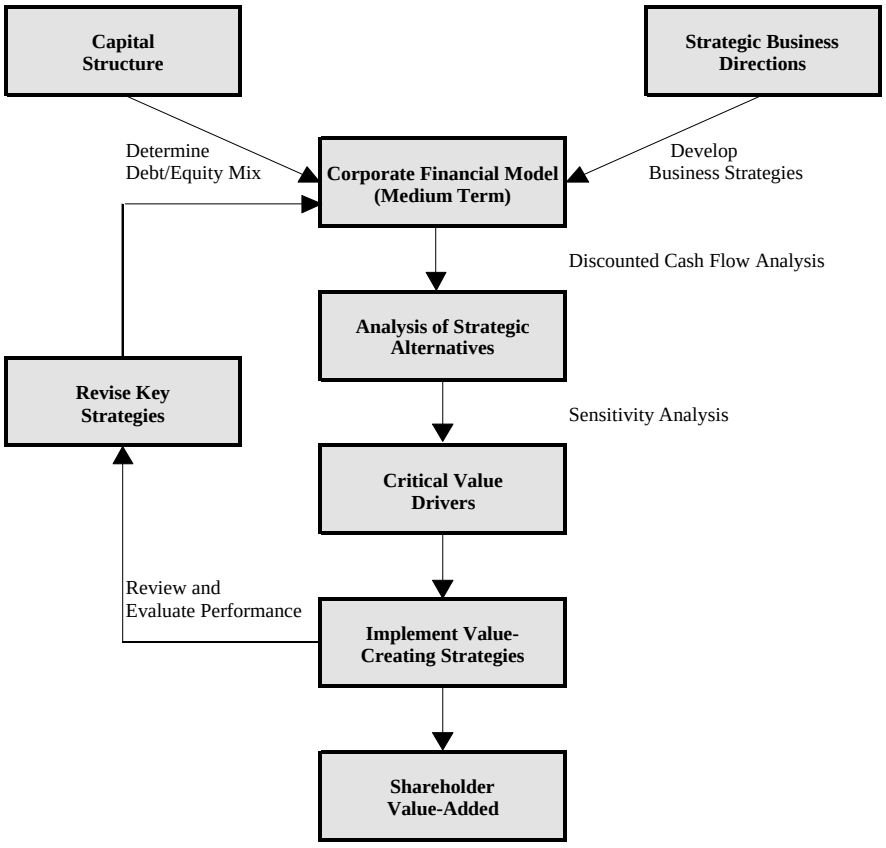
3.6 SVA AS A DECISION-MAKING TOOL

At the broadest level, the link between SVA and business strategy focuses on three main areas:

- improvement in operating decisions (procurement, production, marketing etc) to maintain and/or increase NOPAT;
- investment in projects which provide a positive contribution to SVA; and
- reducing capital which does not earn an economic profit. e.g. divesting loss making activities, or economising on working capital/assets.

From a SVA perspective, this business value creation process can be summarised as follows:

Figure 3.6.1 The Value Creation Process



In analysing the shareholder value added of a GBE/SOC, it is important to consider the trend, direction of the change and magnitude of the change, and not just focus on the current level of SVA generation.

The level of SVA in a single period can be misleading, if taken out of context. For example, a GBE making large capital investments may have a low SVA in the near term. Provided future returns from the investment are in excess of the cost of capital employed, then SVA should trend upward in the medium term.

In summary, SVA provides a clear direction for management initiative - to either grow the business, improve profitability and/or capital efficiency, and/or reduce investment.

3.7 COMMUNITY SERVICE OBLIGATIONS AND TARGET SVAS

The Government recognises the importance of the Community Service Obligations (CSOs) and Community Service Activities (CSAs) delivered by GBEs and SOCs. The direct funding of CSOs/CSAs will be reflected in the SVA calculation to ensure that the SVA of Government businesses delivering these policy objectives is not distorted. The inclusion of CSOs/CSAs will permit a more accurate reflection of the actual performance of the business with respect to the return on total capital employed in the provision of commercial activities as well as CSOs/CSAs.

The NOPAT calculation provides for the inclusion of a notional CSO/CSA payment where CSOs/CSAs have been approved, but not fully funded.

However, where CSOs/CSAs are not approved, the SVA should not be adjusted for the non-commercial elements involved.

4. CRITICAL SUCCESS FACTORS

The use of SVA will be of significant benefit as an additional tool used to provide insightful advice to both management and shareholders. Given the move in methodology away from traditional accounting-based measures of performance, some factors critical to the success of any subsequent implementation project have been identified. These are discussed below:

4.1 CONSULTATION PROCESS

The use of the methodology in the Corporate Planning process will depend upon its acceptance by shareholders and GBE/SOC management as a decision making tool. If the WACC is used for investment decisions, ultimately the business will add value for the shareholder. Lack of ownership of the SVA concept by GBEs and SOCs throughout the process could ultimately lead to continuing disappointment by the shareholder due to the lack of alignment between the shareholder's measure of success and the hurdle for funds invested used by the business.

Given these acceptance issues, it is proposed the SVA methodology be initially progressed by way of a pilot study in selected GBEs and SOCs. This will assist in resolution of all critical implementation and operational issues prior to application to all Government businesses.

4.2 INFORMATION SYSTEMS AND SOFTWARE APPLICATIONS

The heart of any performance monitoring system is the quality, timeliness, usefulness and consistency of the data collected. The core characteristics should be that data provided to Treasury:

- Valid - measures what it is intended to measure;
- Reliable - measures the same outcome when successive measures are taken;
- Not Redundant - does not duplicate other available information;
- Meaningful - measures important criteria utilised for performance monitoring; and
- Cost Efficient - is collected and provided in a cost efficient manner.

To complement any current management accounting systems which are in place, it is envisaged that the provision of a SVA software application to convert accounting formats to value-based formats be investigated as part of the implementation process. Such software should enable management to:

- undertake value-based adjustments to traditional management accounts;
- determine SVA and changes in SVA over time;
- analyse the value drivers of the business;
- perform sensitivity analysis; and
- present results in both numerical and graphical form.

4.3 MANAGEMENT CULTURE

Historically, Government businesses have been operationally focused whereby the internal needs of the organisation may not have been balanced with the needs of capital providers. This lack of congruence has in effect insulated management from the full impacts of operating in a commercial environment, not the least being a requirement to enhance the overall value of the business for its owners.

Implementation of the SVA approach will provide a framework to assist GBE/SOC management in the development of both a commercial focus and achievement of commercial returns by:

- promoting an "ownership" mindset amongst managers of GBEs and SOCs;
- encouraging the development of a performance-focus within GBEs and SOCs;
- mitigating the effects of any insulation from the market's full competitive forces; and
- encouraging the achievement of best-practice performance levels.

4.4 EDUCATION AND TRAINING

The successful development and implementation of a value-based framework will require appropriate training for GBE/SOC management, Treasury officers, and shareholders in its concepts and applications.

It is proposed that training initially be provided to key personnel as part of the pilot study. This training would also form a pilot for subsequent training, whereby all issues are explored and resolved prior to any decision being made to implement SVA across all Government businesses.

4.5 TRANSITIONAL CONSIDERATIONS

Financial performance targets will be developed through a further process of consultation between the GBE/SOC and the Shareholder Ministers. Initially, discussions would be held between GBE/SOC managers and Treasury officers to consider a number of underlying parameters and assumptions, including:

- financial projections;
- capital structure;
- capital expenditure program;
- weighted average cost of capital (WACC);
- asset valuation;
- working capital requirements;
- past investment decisions (sunk costs);
- pricing policy;

- economic and business environment; and

- level of uneconomic activities and CSOs

It is recognised that setting financial performance targets will not automatically lead to improvements in a business' efficiency and productivity. Complementary pricing policies, policies to maintain service standards at levels acceptable to Government and other performance measures will be integral to achieving these improvements.

4.6 INDICATIVE IMPLEMENTATION TIMETABLE

It is proposed that SVA will undergo a rigorous assessment process as to its broader applicability across all Government businesses prior to seeking the Treasurer's approval to proceed to implementation. The Department of Treasury and Finance will adopt a consultative approach to this process, initially by evaluation of feedback resulting from the issuance of this Discussion Paper to all GBEs and SOCs.

Inviting selected GBEs and SOCs to participate in a Pilot Study, will further assist in the consultative process and assist in the identification of all issues involved in the application of SVA methodologies to differing Government businesses.

It is foreseen this consultative process will proceed along the following timetable:

- Issue SVA Discussion Paper to Government businesses — 30 June 1999
- Collate comments and provide a report to the Treasurer — 31 August 1999

Subject to the Treasurer's approval:

- Invite selected GBEs and SOCs to participate in a Pilot Study — 30 September 1999
- Complete Pilot Study and evaluate outcomes — 31 December 1999
- Report to Treasurer on outcomes of Pilot Study — 31 March 2000
- Finalise and Issue Guidelines for Treasurer's approval — 30 June 2000

Subject to the Treasurer's further approval:

- Conduct appropriate training for key personnel — 31 August 2000
- Implement SVA in Quarterly Performance Monitoring — 30 September 2000

5. CONCLUSION

The Boards of GBEs and SOCs are charged with the stewardship of substantial and valuable economic resources, and must apply these resources in the most economically productive manner. GBEs and SOCs have traditionally set financial performance targets as part of the approval process for annual Corporate Plans by the Shareholder Ministers. Government businesses are expected to operate profitably, and distribute to the Government, as owner, a proportion of the profits they make.

The SVA methodology complements the conventional methods of analysing GBE/SOC performance. It will be a useful tool for GBE/SOC management in understanding the real factors driving value in the business and become a focus for managerial decisions.

The use of SVA will also be of significant benefit to Treasury in analysing GBE/SOC performance and providing more insightful advice to the Shareholding Ministers.

APPENDIX 1: METHODOLOGY FOR WACC CALCULATION

The target rates of return will vary for each GBE/SOC according to factors such as the risk of the industry in which it operates.

In order to align the required asset return from a GBE/SOC with the return on alternative investments available to the Government, the required rate of return calculated on a nominal, pre-financing and before company tax-equivalent basis, will equal the cost of capital (that is, debt and equity) to the enterprise, weighted by the proportions of debt and equity in its balance sheet.

The sources of information and methodology used to derive the target SVA as measured by the "weighted average cost of capital", are discussed in detail in the publication by the Steering Committee on National Performance Monitoring of GTEs *An Economic Framework for Assessing the Financial Performance of Government Trading Enterprises* released in July 1996.

Weighted Average Cost of Capital

The required economic rate of return on assets (the "hurdle" rate) calculated on a nominal after company tax-equivalent basis, will be equal to the business' weighted average cost of capital (WACC):

$$WACC = Rd*(1-t)*D/V + [Re/(1-t(1-a))]*E/V$$

where:

Rd = before company tax-equivalent cost of debt.

Re = after company tax-equivalent expected cost of equity.

D = net debt (obtained from SVA adjusted balance sheet)

E = total equity employed (obtained from SVA adjusted balance sheet)

V = total capital employed (obtained from SVA adjusted balance sheet)

a = the portion of imputation credits that can be used by shareholders

t = the effective rate of tax collected at the company level

The introduction of dividend imputation has reduced the double taxation of dividends (ie investors receive franking credits for the tax paid by the company, which can then be used to offset personal tax liability). If the shareholder can fully utilise the tax credits (a=1), and timing impacts are ignored, dividend imputation essentially removes all company tax. For GBEs and SOCs the owner Government (shareholder) and taxing authority are one in the same. Therefore, the Steering Committee has recommended that the full value of dividend imputation should be assumed, ie a=1. Given these two assumptions, the above equation becomes:

$$WACC = Rd*(1-t)*D/V + Re*E/V$$

Cost of Equity Capital

The cost of equity capital equals the prevailing yield on 10 year Commonwealth bonds (the risk free rate) plus a risk premium appropriate to the GBE.

Re = Rf + ß (Rm - Rf)

Rf = yield on 10 year Commonwealth bonds (the risk free rate)

ß (beta) is a measure of the sensitivity of an equity share investment's return to, overall or general, changes in the market. An entity with a ß of 1 has returns that are perfectly correlated with the market.

For entities with no traded equity, and thus no observable ß, it is necessary to form a judgement on the appropriate ß. The estimated ß should reflect the level of risk perceived by the investor not the entity. In the case of GBEs and SOCs, this means the level of risk perceived by the Government not the GBE/SOC. The specific ß estimated for each entity will be typical of firms in its industry or similar industries, and which reflects those entities risk. The derivation of an entity's ß is discussed in more detail in the Steering Committee's publication.

Rm = expected return on the equity market.

Rm-Rf = the market risk premium, which is the difference between the average return achieved by the equities market (Rm) and the risk free rate. The Steering Committee recommends the use of 6.5% as an estimate of this risk premium.

Example 1. Calculation of Post Tax "Re"

Rf (10 year Bond Rate) = 5.1%

ß= 0.9

Thus: Re = 5.1% + 0.9*(6.5%)

= 5.1% + 5.85%

= **10.95%**

Cost of Debt

Cost of Debt is the post-tax weighted average of the costs of Net Debt, which is defined as the sum of long and short term debt, adjusted for the net effect of bank overdraft, cash and investments, i.e.:

Net Debt = Bank Overdraft *less* Cash and Investments

Plus Short Term Debt

Plus Long Term Debt

Net debt should be costed at the long term Tascorp borrowing rate plus any applicable guarantee fees.

Example 2 **Cost of Debt**

Assume:	Long Term Borrowing Rate	= 6.25%
	Guarantee Fee	= 0.55%
	Net Debt	= $ 1 075

Then Cost of Debt equals:

Rd = 6.25% + 0.55%

= 6.80%

Example 3 **Calculation of Weighted Average Cost of Capital**

Rd	=	6.80% (Pre tax marginal cost of GTE debt from Example 2)
Re	=	10.95% (from Example 1)
t	=	36.00% (Company taxation rate)
D	=	$1 075
E	=	$1 543
V	=	$2 618
Then: WACC	=	Rd*(1-t)*D/V + Re*E/V
	=	(6.80% * 0.64 * 1 075/2 618) + (10.95% * 1 543/2 618)
	=	1.79% + 6.45%
	=	8.24%

As can be seen from the formula, WACC is simply the average cost of equity and debt finance for a business, and is therefore the minimum rate of return required to meet a GBE's / SOC's true finance costs.

The above WACC is the minimum nominal after tax return required by shareholders from their investment in the GBE/SOC, having regard to the opportunity cost of debt and equity finance. It is important that this WACC only be used when making comparisons with nominal after tax cash flows, such as NOPAT in the SVA methodology.

APPENDIX 2: METHODOLOGY FOR SVA CALCULATION

As summarised by the following diagram, SVA is essentially a residual income or operating profit, less a charge to cover the cost of using the capital.

SVA = Net Operating Profit After Taxes (NOPAT) — (Capital x WACC)

Obtaining a company's NOPAT and Capital figures, however, is not as easy as taking numbers from its financial statements, as certain adjustments are required to be made. These are outlined below and as per Appendix 3.

Calculation of Net Operating Profit After Taxes (NOPAT)

NOPAT is an operating performance measure after taking account of taxation but before financing cost (i.e. interest is excluded).

NOPAT requires further adjustments for non-cash accounting entries. Adjustments are made to reported accounting results to eliminate distortions encountered in measuring the true economic performance. Examples of adjustments include:

- Interest expenses (including finance leases) are excluded in the calculation of NOPAT. Interest is included as part of the capital charge (cost of debt).
- Interest revenue is also excluded, along with investments themselves in cases where these are not considered core activities of the GBE/SOC.
- Provisions like the provision for doubtful debts, the provision for taxes and the provision for employee entitlements are excluded. These are recognised only when they occur.
- The estimated value of assets used by the GBE / SOC through operating leases are included in the Balance Sheet and the operating lease expense is adjusted to exclude interest payments.

Calculation of Capital Component

The two different classes of capital, debt and equity, are utilised in the financing of the net assets of the business. That is, under the SVA methodology, Net Assets = Net Debt + Total Equity Employed.

One significant issue which may occur with the introduction of an SVA framework is that of asset valuation, whereby it may not be appropriate to apply a commercial rate of return on an accounting base which reflects the outcomes of historical investment decisions, both good and bad.

Should the nature of asset valuation materially impact on the outcomes of analysis, then consultation will need to be undertaken with the GBE/SOC to ensure realistic outcomes are provided under the SVA framework.

NSW Treasury has developed an approach to resolve this problem with asset valuation by adopting a "line in the sand" (LIS) approach reflecting the current rate of return being generated from the historical asset base. The LIS approach is recognised as being consistent with the

"Deprival Value" asset valuation methodology required by the Council of Australian Governments.

In essence, the LIS approach determines an opening market value proxy for capital employed using the rate of return generated by the existing price path. All new capital investments purchased after the LIS are required to earn at least the business' WACC.

Tasmanian Government businesses are currently required to ensure that all new capital investments earn at least the business' WACC. This is a requirement in the Ministerial Charter for each GBE and in the business plans of SOCs.

Equity Equivalent Adjustments

In obtaining a company's Capital and NOPAT figures in order to calculate SVA, certain adjustments must be made to numbers contained within its financial statements.

The adjustments to capital are necessary to more accurately reflect the base amount upon which shareholders expect to earn returns. Whilst the adjustments to NOPAT are necessary to more realistically measure the cash flow generated during the period from the business' recurring activities.

Some examples of these adjustments are as follows:

Adjustments to Compute Capital	**Adjustments to Compute NOPAT**
Add to Capital for SVA Calculation • Cumulative Goodwill Amortisation • Net capitalised intangibles • Other reserves such as: - Bad Debt Reserve - Deferred Income Reserve	*Add to NOPAT for SVA Calculation* • Goodwill amortisation • Increase in (net) capitalised intangibles • Increase in other reserves

APPENDIX 3: WORKED EXAMPLE IN THE USE OF SVA

In this appendix, sample calculations for the SVA measures described in appendices 1 and 2 are provided for a fictional firm whose financial forecasts are included for reference as Appendix 4. No adjustments have been made to traditional accounting statements as such adjustments require an appropriate level of knowledge of the firm's activities.

Accordingly, the actual numbers and outcomes for these measures should be considered as illustrative of the calculation methodology rather than as definitive results.

Step 1: Calculation of NOPAT

The first step in determining SVA is to calculate NOPAT from accounting-based data provided. In this example, we have assumed the corporate tax rate of 36% will apply to EBIT.

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Revenue	743	630	578	548	544
Operating Expenses	242	163	154	146	142
Depreciation	51	51	55	59	62
Earnings Before Interest & Taxes	**450**	**416**	**369**	**343**	**340**
Income Tax Equivalents	162	150	133	124	122
NOPAT	**288**	**266**	**236**	**220**	**217**

Step 2: Calculation of Capital Employed

From the Balance Sheet:

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Current Assets (excl. Cash + Investments)	133	144	162	174	178
less Current Liabs (excl.STD & Provisions)	115	115	115	115	115
equals Working Capital	**18**	**29**	**47**	**59**	**63**
add Non-Current Assets (excl FITB)	2,600	2,799	2,994	3,185	3,373
equals Net Operating Assets	**2,618**	**2,828**	**3,041**	**3,244**	**3,436**

Step 3: Calculation of Capital Charge

Using the after tax nominal WACC figure calculated in Appendix 1, the capital charge can be determined as follows:

	Year 1	Year 2	Year 3	Year 4	Year 5
Total Capital Employed	2,618	2,828	3,041	3,244	3,436
WACC	8.24%	8.24%	8.24%	8.24%	8.24%
Capital Charge	**216**	**233**	**251**	**267**	**283**

Step 4: Calculation of SVA

SVA is calculated as NOPAT minus capital charge.

	Year 1	Year 2	Year 3	Year 4	Year 5
NOPAT	288	266	236	220	217
Less: Capital Charge	216	233	251	267	283
SVA	**72**	**33**	**-14**	**-48**	**-66**

The firm has shown positive earnings and positive SVA over the first two years of the planning period. However, from year three the negative value for SVA means that shareholder value is being destroyed. Figure 3.3.1 helps to analyse what is occurring with the business. Key factors contributing to the decline in shareholder value over the period are the falling revenues and the increase in net operating assets. On the basis of the five years of data it appears that new investments are not earning the WACC. Under such circumstances, the Board and management should revise their key business strategies in line with the process outlined in Figure 3.6.1.

Comparison with Traditional Accounting Measures

	Year 1	Year 2	Year 3	Year 4	Year 5
SVA	72	33	-14	-48	-66
SVA as a % of Total Capital Employed	2.76%	1.17%	-0.47%	-1.47%	-1.92%
Traditional Accounting Measures					
Return on Assets	8.44%	7.03%	5.42%	4.43%	3.93%
Return on Equity	16.81%	14.20%	11.15%	9.28%	8.38%
Gearing	49.82%	50.51%	51.37%	52.28%	53.15%
NPAT / Total Revenue	32.13%	34.45%	31.23%	28.73%	27.30%
Current Ratio	0.82	1.08	1.27	1.44	1.60
Interest Times Cover	6.51	6.08	4.87	4.13	3.74

Traditional accounting measures do not recognise that equity capital has an economic cost, that being the opportunity cost incurred by the shareholder when investing in the business, whereas the value based view explicitly recognises the capital charge associated with the use of equity capital.

Possible results of management not considering the opportunity cost of capital include a misallocation of resources and therefore divergence between business and shareholder goals. This is highlighted by the above table where traditional accounting measures (such as Return on Assets, profitability, liquidity and interest coverage) remain positive, although decline, over the five year period.

Given this divergence between traditional accounting results and SVA outcomes, it would appear that the SVA framework has the potential to further assist management in its decision making processes and improve alignment between shareholder and business goals.

As an aggregate measure, SVA incorporates the principles of traditional accounting measures, within a framework providing a single measurement outcome. A comparison of traditional measures and SVA principles is as follows:

Traditional Measure	**Incorporated into SVA by way of**
Return on Assets	NOPAT and Total Capital Employed
Return on Equity	NOPAT and Total Equity Employed
Profitability	NOPAT and Net Operating Assets
Gearing	Total Capital Employed
Liquidity	Total Capital Employed

APPENDIX 4: SAMPLE FINANCIAL FORECASTS

	Year 1	Year 2	Year 3	Year 4	Year 5
Current Assets					
Cash	40	88	115	141	174
Investments	15	15	15	15	15
Debtors	112	112	112	112	112
Stock	7	18	36	48	52
Other	14	14	14	14	14
Total	**188**	**248**	**293**	**330**	**367**
Non-Current Assets					
Land & Buildings	2,600	2,799	2,994	3,185	3,373
Plant & Equipment					
Future Income Tax Benefits	42	42	42	42	42
Total	**2,642**	**2,841**	**3,036**	**3,227**	**3,415**
TOTAL ASSETS	**2,830**	**3,089**	**3,329**	**3,558**	**3,782**
Current Liabilities					
Overdraft					
Short Term Debt	55	55	55	55	55
Creditors	97	97	97	97	97
Provisions	60	60	60	60	60
Other	18	18	18	18	18
Total	**230**	**230**	**230**	**230**	**230**
Non-Current Liabilities					
Long term debt	1,075	1,225	1,375	1,525	1,675
Provisions	105	105	105	105	105
Other	-	-	-	-	-
Total	**1,180**	**1,330**	**1,480**	**1,630**	**1,780**
Shareholders Funds					
Capital	1,000	1,000	1,000	1,000	1,000
Reserves					
Retained Earnings	420	529	619	698	772
Total	**1,420**	**1,529**	**1,619**	**1,698**	**1,772**
TOTAL LIABILITIES & S/HOLDER FUNDS	**2,830**	**3,089**	**3,329**	**3,558**	**3,782**
Total Assets = Total Liabs + S/Holder Funds					

	Year 1	Year 2	Year 3	Year 4	Year 5
Current Assets (excl. Cash + Investments)	133	144	162	174	178
less Current Liabs (excl.STD & Provisions)	115	115	115	115	115
equals Working Capital	**18**	**29**	**47**	**59**	**63**
add Non-Current Assets (excl FITB)	2,600	2,799	2,994	3,185	3,373
equals Net Operating Assets	**2,618**	**2,828**	**3,041**	**3,244**	**3,436**
or Total Capital Employed					
multiplied by WACC	8.24%	8.24%	8.24%	8.24%	8.24%
equals Capital charge	216	233	251	267	283
Bank Overdraft less Cash & Investments	-55	-103	-130	-156	-189
Add Short Term Debt	55	55	55	55	55
Add Long Term Debt	1,075	1,225	1,375	1,525	1,675
equals Net Debt	**1,075**	**1,177**	**1,300**	**1,424**	**1,541**
add Total Shareholders Funds	1,420	1,529	1,619	1,698	1,772
add Current Provisions	60	60	60	60	60
add Non-Current Provisions	105	105	105	105	105
less FITB	-42	-42	-42	-42	-42
equals Total Equity Employed	**1,543**	**1,652**	**1,742**	**1,821**	**1,895**
Total Capital Employed	**2,618**	**2,828**	**3,041**	**3,244**	**3,436**
Net Operating Assets = Total Capital Employed					

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	**662**	**571**	**525**	**505**	**504**
Cost Of Goods Sold	-	-	-	-	-
Gross Profit	**662**	**571**	**525**	**505**	**504**
Other Income	81	59	53	43	40
Total Revenue	**743**	**630**	**578**	**548**	**544**
Operating Expenses	242	163	154	146	142
Interest	77	77	87	97	107
Depreciation	51	51	55	59	62
Provisions					
Net Profit Before Tax	**373**	**339**	**282**	**246**	**232**
Income Tax Equivalents	134	122	102	89	84
Net Profit After Tax	**239**	**217**	**181**	**157**	**149**
Dividends	119	109	90	79	74
Retained Earnings	**119**	**109**	**90**	**79**	**74**

	Year 1	Year 2	Year 3	Year 4	Year 5
Revenue	**662**	**571**	**525**	**505**	**504**
Cost Of Goods Sold	-	-	-	-	-
Gross Profit	**662**	**571**	**525**	**505**	**504**
Other Income	81	59	53	43	40
Total Revenue	**743**	**630**	**578**	**548**	**544**
Operating Expenses	242	163	154	146	142
Depreciation	51	51	55	59	62
Earnings Before Interest and Tax	**450**	**416**	**369**	**343**	**340**
Income Tax Equivalents	162	150	133	124	122
Net Op. Profit After Tax (NOPAT)	**288**	**266**	**236**	**220**	**217**
Less Capital Charge	216	233	251	267	283
Shareholder Value Added	**72**	**33**	**-14**	**-48**	**-66**

	Year 1	Year 2	Year 3	Year 4	Year 5
Operating Cash flows					
Net profit after tax	239	217	181	157	149
Depreciation	51	51	55	59	62
Movement in Provisions					
Total	**290**	**268**	**235**	**216**	**211**
Investing Cashflows					
Capital expenditure	-250	-250	-250	-250	-250
Total	**-250**	**-250**	**-250**	**-250**	**-250**
Financing Cashflows					
Dividends		-119	-109	-90	-79
Change in borrowings		150	150	150	150
Total		**31**	**41**	**60**	**71**
Movement in cash balance	**40**	**49**	**27**	**26**	**32**

APPENDIX 5: GLOSSARY OF TERMS

Cost of Capital

The cost of capital is measured by the weighted average cost of capital (WACC) and represents the minimum rate of return on capital required to compensate debt and equity providers for the bearing of risk. The cost of capital is the sum of the weighted cost of debt and the weighted cost of equity.

Income Tax Equivalents

= Income Tax Expense - Increase in Deferred Tax + Increase in Future Tax Benefits + Tax Shelter of Interest

Income Tax Expense

The amount of tax charged against profits, based on accounting income which has been adjusted for only permanent differences.

Net Operating Profit After Tax (NOPAT)

The after-tax operating profits of a business unaffected by financing issues.

NOPAT = Net Operating Profit Before Tax *minus* income tax equivalents.

Net Operating Profit Before Tax

The operating profit of a business before interest and tax.

Shareholder Value Added

SVA represents the economic profits generated by a business over and above the minimum return required by all providers of capital, and is calculated using the residual income method outlined in Annexure 2.

Total Capital Employed

The financing components of a business, consisting of the net debt, shareholders' equity and other non operating financing items. For SVA calculation purposes the Capital Charge should be based on the average Total Capital Employed, rather than its opening or closing values.

APPENDIX 6: SCHEDULE OF GOVERNMENT BUSINESSES

State-owned Companies

Aurora Energy Pty Ltd

Burnie Port Corporation Pty Ltd

Hobart Ports Corporation Pty Ltd

Metro Tasmania Pty Ltd

Port of Devonport Corporation Pty Ltd

Port of Launceston Pty Ltd

Transend Networks Pty Ltd

TT Line Company Pty Ltd

Government Business Enterprises

Civil Construction Services Corporation

Egg Marketing Board

Forestry Tasmania

Hydro-Electric Corporation

Motor Accidents Insurance Board

North West Regional Water Authority

Port Arthur Historic Site Management Authority

Printing Authority of Tasmania

Rivers and Water Supply Commission

Southern Regional Cemetery Trust

Stanley Cool Stores Board

Tasmanian Dairy Industry Authority

Tasmanian Grain Elevators Board

Tasmanian International Velodrome Management Authority

Tasmanian Public Finance Corporation

Totalizator Agency Board

The Public Trustee

APPENDIX 7: ADDITIONAL SOURCES FOR REFERENCE

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